

OVERVIEW: GENERAL AVIATION STUDY
ISLAND OF OAHU

Prepared for
STATE OF HAWAII
Department of Transportation

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OVERVIEW: GENERAL AVIATION STUDY
Island of Oahu

Within the next several months, the State of Hawaii intends to initiate a study program to develop a plan for a system of general aviation airports on the Island of Oahu. It is anticipated that this study will be funded under the Federal Aviation Administration (FAA) Planning Grant Program.

Background

The bulk of aviation activity in the State, both civil and military, is currently concentrated on Oahu. Almost all civil aviation activity--that of the overseas and domestic air carriers, the air taxis, and itinerant general aviation--as well as a high volume of local general aviation activity and military activity associated with Hickam Air Force Base, is accommodated at Honolulu International Airport. In 1972, some 297,861 aircraft operations were handled there.

The existing airports on Oahu are illustrated on Exhibit A. In addition to Honolulu International Airport, there are seven other airports on the Island, none of which is owned or operated by the State of Hawaii. Six of these accommodate some form of general aviation, mostly in the recreation/training category. Of these airports, five are military and one is a small privately owned, restricted-use airport--Kuilima Air Park--operated in conjunction with the new Kuilima resort hotel development. (The seventh--Bellows Field--accommodates only military helicopter operations.)

The State has joint-use rights at both Dillingham Field and Ford Island for use by general aviation. Dillingham Field is licensed on a year-to-year basis expiring in January 1974 and Ford Island has a semiannual license which expires on December 31, 1973. NAS Barbers Point, Wheeler Air Force Base, and MCAS Kaneohe Bay are used exclusively by the military and military flying clubs. Military flying clubs are made up of service personnel who fly as civilians in pursuit of training and recreation. Consequently, the activities of these military flying clubs is classified as general aviation activity and represent a civil aviation (rather than military) demand.

Between 1960 and 1969 local general aviation aircraft operations at Honolulu International more than tripled, growing from 17,166 operations in 1960 to 56,839 in 1969. Then with the opening of Ford Island for general aviation training on February 2, 1970,

- L E G E N D**
- NO. AIRPORT SITE
 - 1 HAWAII RACEWAY PARK
 - 2 HONOLULU
 - 3 KUKUI INTERCHANGE
 - 4 KUKUI
 - 5 KUKUI
 - 6 EKAMANUI
 - 7 WAIALUA
 - 8 WAIALUA
 - 9 WAIALUA
 - 10 WAIALUA
 - 11 WAIPIO
 - 12 WAIPIO
 - 13 WAIPIO
 - 14 KAPAPA
 - 15 KAPAPA
 - 16 MILLIARI
 - 17 MILLIARI
 - 18 WAIPIHU MIDDLE LOCH
 - 19 WAIPIHU WEST LOCH
 - 20 WAIPIO PENINSULA
 - 21 WAIPIO PENINSULA
 - 22 FORD ISLAND
 - 23 QUEEN'S HARBOR AREA
 - 24 UNIV. OF HAWAII AGRICULTURAL EXPERIMENT STATION
 - 25 BELLOWS FIELD
 - 26 SADDLE CITY AREA
 - 27 KAMANI SWAMP
 - 28 KULOA POINT
 - 29 KULOA AIR PARK
 - 30 KOLEWA
 - 31 HALEIWA
 - 32 DILLINGHAM FIELD
 - 33 WHEELER AFB
 - 34 MAS BARBERS POINT
 - 35 MCAS KANEHOE BAY

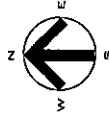
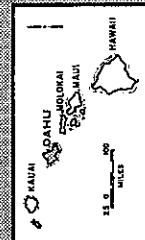
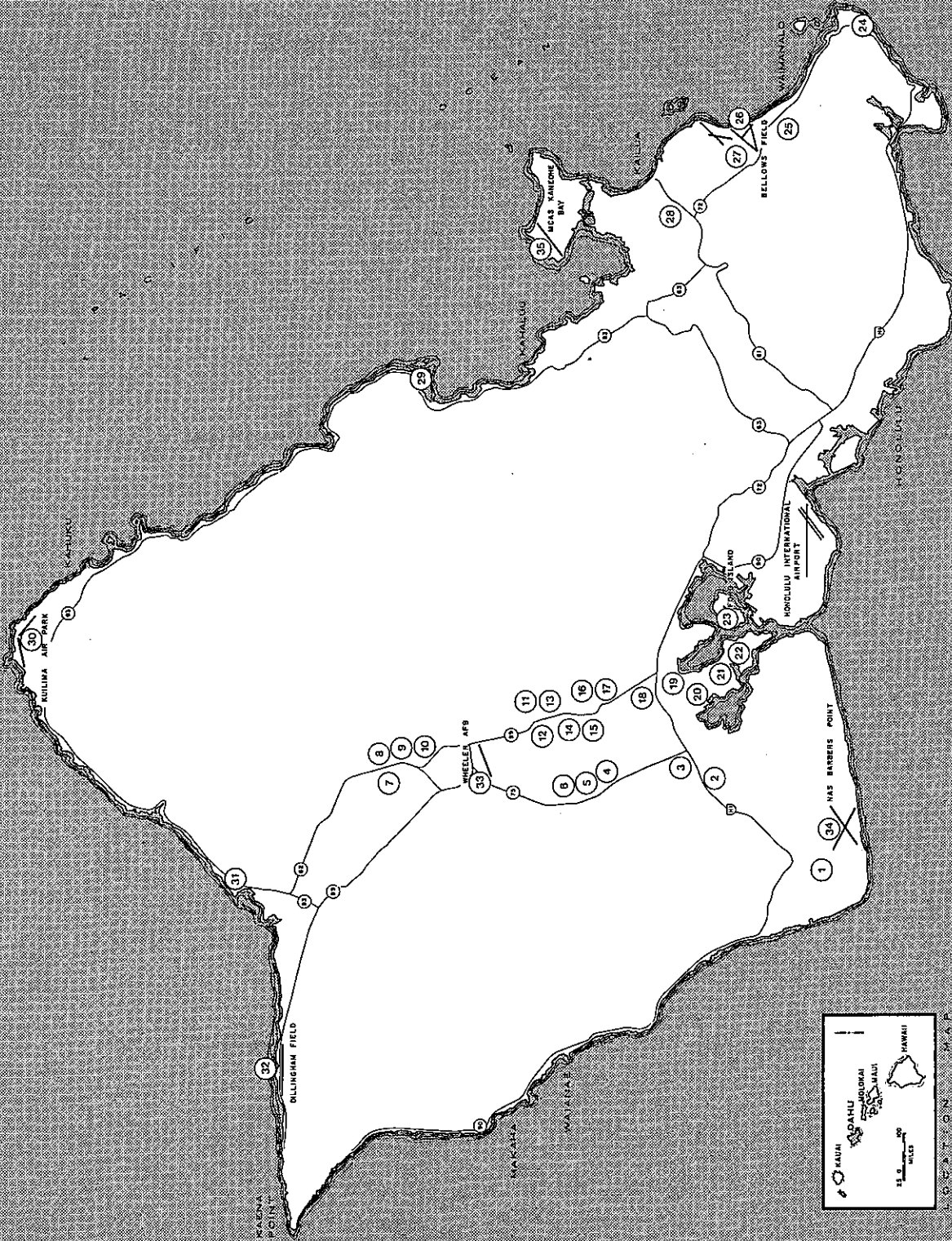


EXHIBIT B
GENERAL AVIATION AIRPORT SITES INVESTIGATED
ISLAND OF OAHU
 STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
 1977



the local operations at Honolulu International decreased sharply to 26,418 in 1970. During the first eleven months of use some 100,260 general aviation local operations were accommodated at Ford Island. By 1972, this number had increased to 167,478 local operations, while local operations at Honolulu International decreased further to 22,552 operations. In 1972, over 440,000 local general aviation operations were accommodated on Honolulu International Airport and the five military airports, as presented in Appendix A. Of this number, 95% were accommodated on the military airports and represent the training and recreational activity of general aviation pilots.

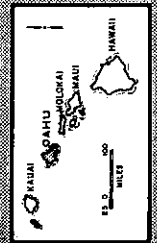
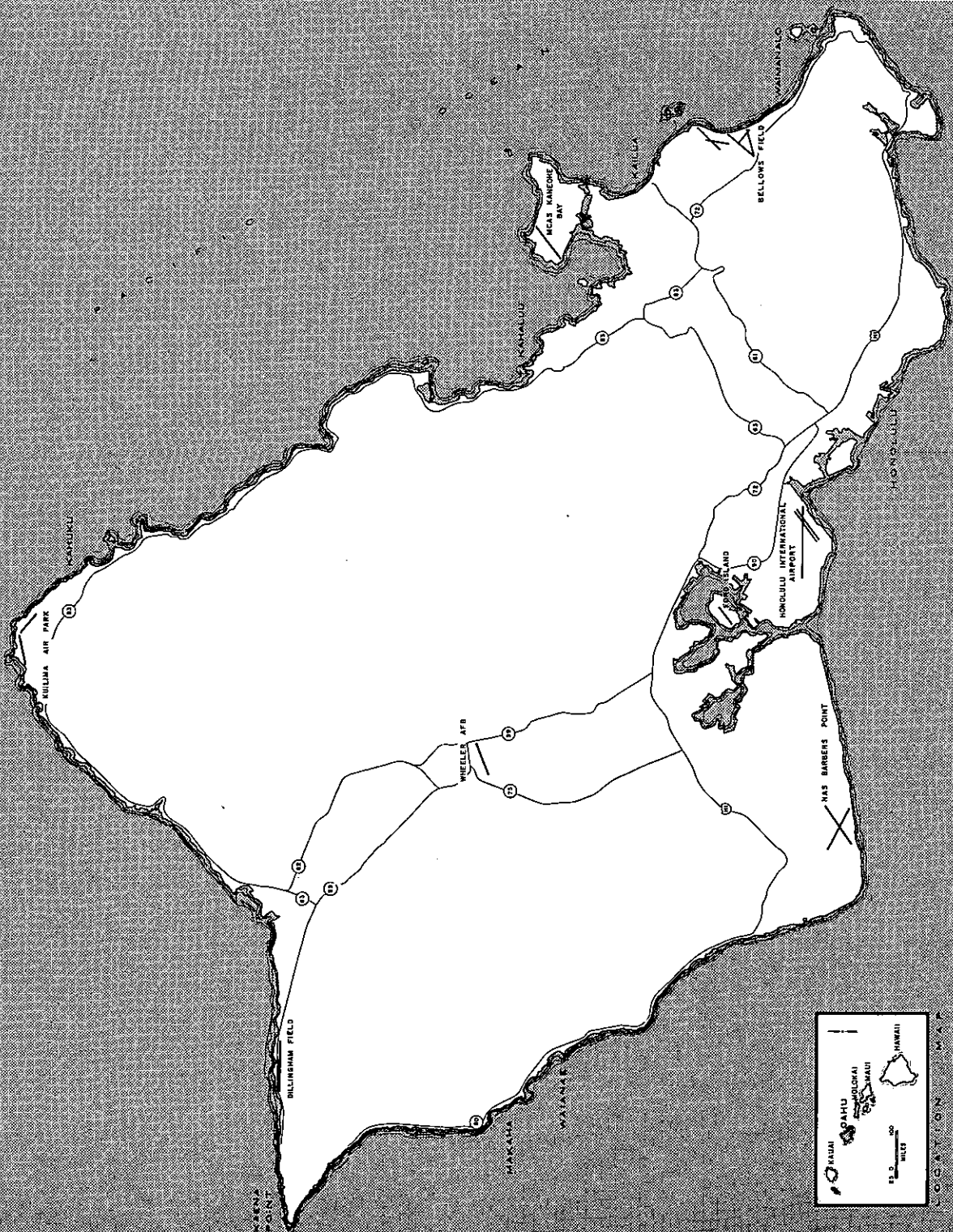
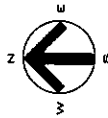
Based on the ever-increasing level of general aviation local operations over the last decade on Oahu, it is clear that there is a significant demand for permanent general aviation training and recreational facilities; it is likewise clear that the major portion of this demand is today being accommodated on military airports. Unfortunately, military facilities cannot be guaranteed indefinitely for use by civil operations. Even Dillingham Field and Ford Island, where the State has joint-use rights, presently operate on only a temporary basis with one-year and six-month licensing, respectively. In 1972 these two airports accommodated over 60% of the general aviation local operations on Oahu. Therefore, if each of the military facilities were withdrawn from civil use, it would be necessary to transfer in excess of 400,000 general aviation operations to Honolulu International--if existing demand were to be satisfied. The transfer of this level of activity to Honolulu International would far exceed that airport's capacity and two things would result: first, severe congestion at Honolulu International and, second, severe depression of general aviation demand (Honolulu International simply could not absorb the current level of general aviation local activity on the Island along with the airline/military demand).

Aside from any capacity considerations, the more important issue is the matter of safety of aircraft operations. Any transfer of general aviation local training activity to Honolulu International Airport would create an undesirable mix of aircraft. Honolulu International is a major airline/military airport whose primary purpose is to serve the large jet-powered aircraft (such as the B-747, DC-10, C-5A, etc.) which are not fully compatible by performance and operating characteristics with the small, single-engine and light twin-engine aircraft operated by the recreational flyer and training pilot. Consequently, it is essential in the interest of safety for all segments of aviation to separate to the extent possible the operations of airline/military aircraft from the small general aviation aircraft. Therefore, in the interest of operational efficiency and safety for all segments of aviation, these recreational and training

EXHIBIT A

EXISTING AIRPORTS
ISLAND OF OAHU

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
1972



activities should be accommodated on small airports that do not conflict with Honolulu International or other airports on the Island.

Because of the recognition of a continually growing need for general aviation recreation and training facilities and because of the equally important need to separate the small, single-engine and light twin-engine aircraft used by the recreational flyer and student pilot from the high-speed, multi-engine, high-performance jet aircraft used by the airlines and the military, the State has been attempting for more than ten years to develop a system of small, publicly owned general aviation airports on Oahu.

Public ownership is essential to the development and stabilization of a system of general aviation airports on the Island since public ownership is the only way to guarantee the continued existence and use of airport sites for airport purposes. The military airports which are currently handling a high level of general aviation operations cannot be relied upon indefinitely since they can be closed to civil activity at the decision of the military or, if declared surplus, can be disposed of for other uses unless the State takes them over for airport development.

In addition, capital investment in aviation facilities such as hangars and flight schools, etc. require long-term leases to permit amortization of investment. State ownership will therefore be required to allow this necessary ancillary development at the general aviation airports.

Altogether, the State has investigated some 35 sites on Oahu in its attempt to provide well-located general aviation airport facilities that will not conflict with aircraft operations at Honolulu International Airport or any of the military airports. These sites are illustrated on Exhibit B. However, to date, the State has been unsuccessful in acquiring and developing permanent general aviation airport sites.

In the interest of ensuring the continued efficient flow of traffic at Honolulu International Airport and in the interest of providing permanent airport facilities for the needs of the general aviation pilot, the State considers it essential to continue its quest to develop a system of small reliever airports designed specifically to accommodate student training and recreational activity--that segment of general aviation which is the least compatible with the traffic flow at a major airline airport such as Honolulu International.

Goals of the State Relative to General Aviation Airport Development

The primary goal of the State with regard to general aviation airport development is to provide a system of small, conveniently located airports, with limited airfield facilities, that would be compatible with the surrounding environment. These airports would be planned to accommodate the training and recreational activities of the small single-engine and light twin-engine general aviation aircraft under 12,500 pounds. The small reliever airports envisioned would provide a landing area where general aviation pilots could receive flight instruction and practice in their small aircraft away from the airspace and approach/departure patterns used by the high-performance jet aircraft operated by the airlines and the military at Honolulu International Airport. Within this primary goal, the objectives and policies of the State are as follows:

1. To divert from Honolulu International Airport to these small general aviation airports most general aviation training and recreational flights, thereby ensuring the continued safety of airline/air taxi/military operations at Honolulu International, as well as those of general aviation users. The high-performance airline/military jet aircraft operate at such speeds and weights that a small light aircraft could be overturned by wake turbulence generated by the larger aircraft. Consequently, separation of the operations of airline/military aircraft from the recreational and training operations of the small general aviation aircraft is considered essential to the safety of aircraft operations at any high-volume airline airport such as Honolulu International. (This problem is not unique to Honolulu International. The same situation exists at military airports where high-performance military jet aircraft operate.)
2. To prevent the buildup of aircraft delays on Honolulu International that would occur if it were necessary to accommodate a high volume of general aviation training/recreational activity along with the operations of the airlines/air taxis/military. Because of the wake turbulence created by the jet aircraft operated by the airlines and the military, the air traffic controllers must provide greater spacing between these aircraft and the small low-performance aircraft in both approach and departure procedures thereby increasing delays in the flow of aircraft operations.
3. To provide environmentally compatible general aviation airport facilities to accommodate the basing needs

and the training and recreational activities of the general aviation aircraft on the Island (presently about 250) and to accommodate itinerant activity from other Islands.

4. To limit runway development on the general aviation airports to permit the accommodation of non-turbojet aircraft under 12,500 pounds only, thereby minimizing noise levels. In addition, by policy, to restrict the use of general aviation airports to non-turbojet aircraft only.
5. To limit building development on the airports to those types of facilities that serve the recreational and training needs of general aviation--such as storage hangars, flight schools, flying clubs, service and maintenance facilities, Civil Air Patrol, fire station, tower, aviation activities of community colleges, and ancillary facilities. In addition, by policy, to prohibit the development of any industrial activities.
6. To establish, together with the State Land Use Commission and the City and County of Honolulu, compatible industrial land uses surrounding the general aviation airports.
7. To investigate possible regulations and controls of aircraft operations that will minimize adverse impacts on the areas surrounding general aviation airports.

Citizen Concerns

Over the years, a series of concerns have been expressed about the development of general aviation airports on Oahu. These concerns involve primarily safety, noise, the potential use of such airports by jet aircraft, and the possibility that such airports will stimulate undesirable industrial and commercial growth.

Safety. The Federal Aviation Administration is charged by law with establishing regulations and criteria to ensure the safety of aircraft operations. Any airport or airport site will be selected for inclusion in the system only if it meets FAA regulations and criteria for the safe operation of aircraft.

Noise. The general aviation airports to be developed in the system plan will be limited to non-turbojet aircraft under 12,500 pounds and will be used primarily for recreational and training activities. Since these aircraft generate the lowest sound of any aircraft, the possibility for the creation of undue noise levels will be minimized.

Use of Jet Aircraft. By State policy and by facility design, jet aircraft will be precluded from using the general aviation airports developed in the plan.

Stimulation of Industrial/Commercial Development. Contrary to a popular conception, general aviation airports--particularly recreational and training airports--do not in and of themselves generate industrial and commercial activity. (Major commercial airline airports such as Honolulu International Airport, on the other hand, do stimulate urban development.) As an example, within the State itself, the Molokai, Waimea-Kohala, and Lanai Airports, which accommodate some scheduled airline activity, have not generated industrial or commercial growth in their environs. Similarly, the smaller general aviation airports such as Port Allen, Upolu, Kalaupapa, and Hana--which are similar to the type of airports the State is attempting to develop on Oahu--have not stimulated commercial and industrial development.

Proposed Study Design

In its attempt to provide well-located general aviation airport facilities on Oahu, the State has investigated 35 possible sites, as shown on Exhibit B, over the last ten to twelve years. Of these sites, 25 have to date been eliminated from further consideration for development as publicly owned general aviation airports (eight have been developed for other uses; 17 were unacceptable for technical reasons such as airspace, unfavorable wind or weather conditions, topography, surrounding land use, etc.) The critical factors leading to the elimination of these 25 sites from further consideration are presented in Appendix B.

As a result of these previous studies, the following sites remain for further consideration as having some potential to accommodate general aviation activity.

Site 16 - Mililani	Site 31 - Haleiwa
Site 17 - Mililani	Site 32 - Dillingham Field
Site 23 - Ford Island	Site 33 - Wheeler AFB
Site 26 - Bellows Field	Site 34 - NAS Barbers Point
Site 30 - Kuilima Air Park	Site 35 - MCAS Kaneohe Bay

Formal letters have been sent by the State to the appropriate military authorities concerning the possibility of transferring Wheeler AFB, NAS Barbers Point, and MCAS Kaneohe Bay to the State for development as general aviation airports. The reaction of the U.S. Government was uniformly negative for reasons of national defense.

Within this framework, the objectives of the proposed general aviation airport system study are:

1. To review the prior studies conducted by the State as a basis for evaluating the long-term development of each of the proposed sites in a manner compatible with projected growth patterns, socioeconomic characteristics, and environmental considerations on the Island.
2. To determine any other potential sites that should be designated for inclusion in the Oahu general aviation airport system.
3. To determine the long-term facilities requirements (in general terms) for each of the airport sites proposed for inclusion in the system.
4. To establish a priority for the development of the sites.
5. To prepare Environmental Impact Statements for the recommended sites in the airport system as a basis for selecting a site(s) and supporting the transfer of land from the U.S. government to the State (in the case of the surplus military airfields) and/or the acquisition of land (in the case of any new airport site).

The development of an airport system plan (and the airports within it) is one of the most complex elements in community land use planning. From an aviation standpoint, an airport system plan should provide an integrated system of air transportation facilities that will serve all segments of aviation--air carrier, general aviation, and military--safely and conveniently. From the community standpoint, the plan should provide for a system of airport facilities, each of which is compatible with land use in its environs and each of which can be developed within the framework of existing and proposed land use patterns, including other transportation systems.

On the Island of Oahu, the location of any airport facility is complicated by the limited land resources available, by mountainous terrain, by the high volume of air traffic activity that is accommodated in limited airspace, and by the variety of aircraft types that use the airspace--from the large, high-speed, multi-engine aircraft operated by the airlines and the military to the small, single-engine and light twin-engine general aviation aircraft and military helicopters.

To assure the development of a general aviation airport system plan that will accommodate general aviation aeronautical requirements with the least impact on the community environment, the work program for the development of the general aviation airport system plan has been designed to include the following steps:

1. Inventory and analysis of all relevant aviation, economic and environmental data including existing and previously proposed airport sites on Oahu, environmental conditions and concerns for each site, historical aeronautical activity (with emphasis on general aviation), airspace and nav aids, comprehensive land use and transportation plans, population and socioeconomic trends, and financial resources.
2. Forecasts of general aviation demand.
3. Demand/capacity analysis for existing and potential airport sites.
4. Airspace analysis.
5. Determination of general aviation airport requirements.
6. Development of alternative general aviation airport system plans.
7. Evaluation of each plan with respect to consistency with existing and proposed land use and transportation plans, environmental impacts, and costs for development.
8. Recommendation of a specific plan for implementation, including a staging program and estimated costs for development.
9. Preparation of Environmental Impact Statements and public hearings on the proposed sites.
10. Development of a financial program.

Of particular importance in the study will be the preparation of Environmental Impact Statements for each of the sites selected for inclusion in the system. The environmental impact process is a part of any airport planning study (as it is a part of any major public works project). This process stems from the recognition and demand for a better living environment, which resulted in the passage of the National Environmental Policy Act (NEPA) in

January 1970. The Act declares a national policy of encouraging "productive and enjoyable harmony between man and his environment," and its intent is to ensure that future projects make environmental conditions and concerns a principal consideration in the planning process.

Section 16(c)(3) of the Airport and Airway Development Act of 1970 requires that fair consideration be given to the interest of communities near airport projects. In addition, under this Act, the airport sponsor must provide an opportunity for a public hearing to consider economic, social, and environmental effects of airport projects.

There are six primary environmental impacts associated with airports, as follows: aircraft noise, impacts on the community environment (land use, community attitudes, traffic congestion, archeological and historic sites, and induced growth), air pollution, water pollution, hydrologic impacts, and ecological impacts.

It is the purpose of the Environmental Impact Statements which will be prepared as a part of the general aviation airport system plan for Oahu to address each of these topics specifically--both as to the positive and negative impacts--and to provide, through the required public hearing process, community inputs with regard to the plan and its impacts on the environment. The final product will then be a system plan which is environmentally sound.

Appendix A

HISTORICAL GENERAL AVIATION ACTIVITY ON OAHU

Appendix A

HISTORICAL GENERAL AVIATION ACTIVITY ON OAHU

General Aviation Local Operations--Oahu

A record of the growth of general aviation aircraft local operations on Oahu (as represented by operations on Honolulu International and the five military airports) is presented on Table 1. Unfortunately, data are not available for all years for all airports that accommodated general aviation. Nevertheless, even with incomplete data (which would represent the minimum level of general aviation activity that has occurred), general aviation local aircraft operations on Oahu increased from an estimated 49,548 operations in 1960 to an estimated 442,169 operations in 1972, an awesome growth of almost 800% for the period.

As shown on the table, local general aviation aircraft operations at Honolulu International more than tripled between 1960 and 1969, growing from 17,166 operations in 1960 to 56,839 in 1969. In 1970, local operations decreased sharply--to 26,418--when Ford Island was opened for general aviation training on February 2, 1970. Although local operations at Honolulu International Airport continued to decline in 1972, current trends suggest that they will increase to a level of about 26,000 by the end of 1973.

During the first eleven months of use of Ford Island, some 100,260 general aviation training operations were accommodated at this joint-use military airport. By 1972, this number had increased to 167,478 training operations, up almost 67% in the two-year period.

A comparison of the volume of local activity on Ford Island with historical local general aviation activity at Honolulu International Airport appears to suggest the recognized incompatibility of general aviation training flights with those of the airline/military aircraft operating on Honolulu International. That is, since Ford Island attracted 100,260 training operations in its first year of general aviation use, it can be assumed that a demand on the order of 100,000 aircraft operations existed for a general aviation training facility prior to the opening of Ford Island. However, in the absence of such a training facility or facilities, this local training activity on Oahu has been depressed.

Table 1
GENERAL AVIATION AIRCRAFT LOCAL OPERATIONS^a
Island of Oahu Airports

Year	Airport						Total
	Honolulu International	Ford Island	Dillingham ^b	Wheeler AFB	NAS Barbers Point	MCAS Kaneohe Bay	
1960	17,166	--	--	32,382	--	--	49,548 ^c
1961	31,834	--	--	19,242	--	--	
1962	35,606	--	--	45,821		--	
1963	36,067	--	--			60	
1964	39,871	--	--			131	
1965	45,467	--	--	48,122		460	94,049 ^c
1966	43,779	--	--			3,023	
1967	51,208	--	--	66,915		13,884	
1968	48,199	--	--	44,777		8,896	
1969	56,839	--	--	66,768		8,021	
1970	26,418	100,260 ^d	--	74,426	6,214	3,973	
1971	24,398	131,780	108,000	105,806	16,446	3,381	389,811
1972	22,552	163,478	114,908	116,965	20,940	3,326	442,169 ^c

a. Assumes civil operations at military fields are local operations. (FAA estimates that at least 90% of these operations are local.)

b. Tower counts started in 1971.

c. Incomplete.

d. Includes some military.

Sources: Honolulu International--FAA.
Ford Island, 1960-71--FAA; 1972--U.S. Navy.
Dillingham--State of Hawaii, Department of Transportation.
Wheeler AFB--FAA.
NAS Barbers Point, 1960-62--FAA; 1965-72--U.S. Navy.
MCAS Kaneohe Bay--USMC.

All Aircraft Operations--Honolulu International Airport

In addition to the use of military facilities for general aviation training operations, it is useful to review the volume and character of general aviation activity at Honolulu International Airport within the framework of total aircraft operations handled there. A record of these operations since 1960 is presented on Table 2.

Total aircraft operations at Honolulu International--air carrier, military, and general aviation--increased from 253,742 in 1960 to a high of 340,059 operations in 1968; decreased to some 294,874 operations by 1971, and then increased slightly to 297,861 in 1972.

The overall decrease in total operations since 1968 is a result of decreases in all categories of aviation except general aviation itinerant and local military operations. Air carrier operations declined from 123,313 operations in 1968 to 112,403 operations in 1972; itinerant military operations decreased from 68,694 in 1969 to 45,215 operations in 1972; and local general aviation operations decreased from 48,199 in 1968 to 22,552 in 1972, by far the largest decrease in any category (with the major decrease occurring after Ford Island opened).

On the other hand, itinerant general aviation operations increased from 88,723 in 1968 to 105,341 in 1972 (of the 105,341 operations 27,363 were by air taxis). Military local operations also increased moderately from 11,130 in 1968 to 12,350 in 1972.

Table 2

AIRCRAFT OPERATIONS
Honolulu International Airport

Year	Air Carrier	Military		Total	General Aviation		GRAND TOTAL
		Itinerant	Local		Itinerant	Local	
1960	85,202	80,856	43,391	124,247	27,127	17,166	253,742
1961	76,815	75,953	42,660	118,613	30,423	31,834	257,685
1962	80,565	73,037	48,195	121,232	29,158	35,606	266,561
1963	85,202	65,946	45,518	111,464	26,136	36,067	258,869
1964	89,565	67,415	41,865	109,280	29,895	39,871	268,611
1965	95,385	71,388	27,826	99,214	48,222	45,467	288,288
1966	94,096	67,040	18,949	85,991	63,335	43,779	287,199
1967	107,199	63,912	15,199	79,111	68,059	51,208	305,577
1968	123,313	68,694	11,130	79,824	88,723	48,199	340,059
1969	127,787	60,092	10,818	70,910	84,109	56,839	339,645
1970	122,202	54,869	12,166	67,035	84,944	26,418	300,599
1971	113,093	45,904	13,957	59,861	97,522	24,398	294,874
1972	112,403	45,215	12,350	57,565	105,341	22,552	297,861

Source: FAA, Air Traffic Activity, for years noted.

Appendix B

PREVIOUS SITES INVESTIGATED BY THE STATE

ISLAND OF OAHU

Appendix B

PREVIOUS SITES INVESTIGATED BY THE STATE ISLAND OF OAHU

The critical factors in eliminating the different sites from further consideration were as follows:

<u>Site No.</u>	<u>Site</u>	<u>Evaluation</u>
1.	Hawaii Raceway Park	Air traffic conflict with NAS Barbers Point. FAA determined that an airport at this location would result in unsafe use of airspace.
2.	Honouliuli	Poor terrain making for a very expensive cost of development, controlled airspace.
3.	Kunia Interchange	Gulch across middle of site and therefore expensive cost of construction, nearby urbanization, controlled airspace, traffic pattern would be over a housing area.
4.	Kunia	Unable to obtain satisfactory alignment with prevailing wind because of terrain.
5.	Kunia	Cost of development and physical limitations of site preventing proper development.
6.	Ekahanui	Obstructions, marginal wind alignment, cost of development.
7.	Waialua	Controlled airspace, poor weather during winter months, low level overflights of the Wahiawa area. Higher costs due to increased acreage required.
8.	Waialua	Unacceptable obstructions. Poor weather.

Site No.	Site	Evaluation
9.	Waialua	Unacceptable obstructions, final approach directly over Poamoho Camp. Poor weather.
10.	Waialua	Take-off path over the edge of Whitmore Village. Poor weather.
11.	Waipio	Now part of Mililani Town.
12.	Waipio	Now part of Mililani Town.
13.	Waipio	Now part of Mililani Town.
14.	Kipapa	Now part of Mililani Town.
15.	Kipapa	Unacceptable powerlines throughout area; very long access road required.
16.	Mililani	Objection by residents 1-1/4 miles south of site. Site is developable for a general aviation airport based on previous studies.
17.	Mililani	Objection by residents 1-1/4 miles south of the site. Site developable for a general aviation airport based on previous studies.
18.	Waipahu	Take-off path directly over Crestview.
19.	Waipahu Middle Loch	The site of a City and County Golf Course. Overflight of Leeward Community College.
20.	Waipahu West Loch	Overflights of Waipahu. Site of City and County incinerator.
21.	Waipio Peninsula	Take-off path over Pearl City Peninsula Housing. On very marshy cane land. Dikes across the site.
22.	Waipio Peninsula	Within Naval Ammunitions Blast Zone. Dikes across the site.

Site No.	Site	Evaluation
23.	Ford Island	Potential site is presently in use by civil general aviation.
24.	Queen's Harbor Area	Adjacent to public beach. Poor wind coverage and turbulence.
25.	University of Hawaii Agricultural Experiment Station	Site now under cultivation by the University.
26.	Bellows Field	Potential site. The north runway presently used by U.S. Marine Corps helicopters. The south runway, which is excess to Air Force needs, is committed to the State of Hawaii for civil aviation use subject to certain conditions required to accommodate the U.S. Marine Corps; i.e., periodic use for troop exercises.
27.	Saddle City Area	Now the site of Olomana Golf Course.
28.	Kawainui Swamp	Take-offs would be over developed areas of Kailua. Turbulent winds in the area. Swampy area with soil of uncertain strength. Site of proposed City and County park.
29.	Kuloa Point	Near former P-38 landing strip area. Plans for the area to be developed as a City and County park. Airfield potential limited without Ocean or Molii Pond fill.
30.	Kuilima Air Park	Presently being used by Army, U.S. Marine Corps, and the public by prior request.
31.	Haleiwa	Former P-40 landing strip. Presently used by U.S. Army Aviation as auxiliary to Wheeler AFB. Close to existing beach homes.

<u>Site No.</u>	<u>Site</u>	<u>Evaluation</u>
32.	Dillingham Field	Potential site. Presently used by general aviation aircraft. The entire installation, 642 acres, is to be declared surplus by the Air Force of which approximately 296 acres, including the runway, is reserved for the State of Hawaii.
33.	Wheeler AFB	Active military airfield with 200 helicopters and 30 fixed wing aircraft based here.
34.	NAS Barbers Point	Active military airfield. Used by full range of military aircraft.
35.	MCAS Kaneohe Bay	Active military airfield. Used by heavy jet fighters and tactical helicopters.

Appendix C

GLOSSARY OF TERMS

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Appendix C

GLOSSARY OF TERMS

Outlined below is a glossary of terms used in this report to serve as a framework for the material presented:

Classes of Aircraft Operators

Air Carrier (Airline) includes the scheduled U.S. flag certificated route air carriers, the U.S. flag supplemental air carriers, the foreign flag international carriers (such as United Air Lines, Pan American Airways, World Airways, Japan Air Lines, etc.).

General Aviation includes all civil aviation except that of the air carriers.

Air Taxis include commercial operators of aircraft under 12,500 pounds maximum gross take-off weight that carry passengers, mail, or cargo for revenue.

Commuter Air Carriers are scheduled air taxis that operate under a Civil Aeronautics Board exemption permitting the holders of air taxi certificates to provide scheduled service on aircraft having a maximum gross take-off weight of 12,500 pounds.

Type of Aircraft Operations

An aircraft operation is an arrival at or departure from an airport of any aircraft--air carrier, general aviation, or military.

There are two types of operations--local and itinerant.

Local operations are performed by aircraft which (1) operate in a local traffic pattern or within sight of the airport, (2) are known to be departing for, or arriving from, flight in local practice areas located within a 20-mile radius of the airport, and (3) execute simulated instrument approaches or low passes at an airport.

Itinerant operations are all aircraft arrivals and departures other than local operations.