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ENCYCLOPEDIA OF HAWAII

XXII. TRANSPORTATION

Under general direction of the Governor of the State of Hawaii, the Department of Transportation plans, directs and coordinates the various activities of the Department within laws and established policies and regulations, to include supervision of the operation of the airports of the State of Hawaii.

A. Airports Division

1. Present Conditions

a. General

State airports in Hawaii are controlled by Airports Division of the Department of Transportation, State of Hawaii. Airports Division is made up of a Chief, Airports Division, his staff and the five Airport Districts headed by District Airports Superintendents and including all State airports and State airports personnel of their respective Districts.

b. Airports Division

(1) General

This Division consists of the Chief, the Engineer Branch, General Aviation Branch and Visitors Information Branch. In addition, the Chief is supported by a Staff Services Officer and a secretary.

Airports Division handled 16,269,991 passengers in 1973-1974. It operates fourteen airports and one heliport. These installations will be discussed under their respective Districts in detail. In 1974, there were about 400 personnel positions in the entire Division.

(2) Division Staff

The Division is directed by the Chief, Airports Division, assisted by three Branches, the Engineer, General Aviation and Visitor Information Branches and the Staff Services Office.

(a) Office of the Chief

The Chief, Airports Division, directs, coordinates, and maintains the operations of the airports program of the state government by providing for, equipping, regulating and protecting the state system of public airports and related facilities; plans, designs, develops, acquires, and constructs new and expanded airports and facilities as well as reconstructing existing airports and facilities; encourages, fosters and assists in the development of aeronautics in the State; provides for the protection and promotion of safety in aeronautics. Ensures by inspection that all pertinent state and federal laws and regulations relating to airports are observed throughout the State Airports System.

(b) Engineer Branch

This Branch supervises the planning, design, construction and maintenance of facilities for the State Airports System. The Engineer Branch is headed by an Airports Engineer who directs the activities of a Planning Section, a Design and Construction Section and a Special Maintenance Section.

The Engineer Branch had 23 personnel positions in 1974 and had no installations of its own.

The Planning Section of Engineer Branch had only two engineers assigned to it in 1974 but was seeking an additional two positions.

The Design and Construction Section consisted of a Section Chief supervising the work of Units A and B. Each Unit consisted of three engineers giving the Section a total strength of seven.

The Special Maintenance Section consisted of a Section Chief, three engineers and six draftsmen positions. One new engineer position was being sought.

(c) General Aviation Branch

This Branch provides for the development and encouragement of general aviation throughout the State of Hawaii; plans and coordinates the activities of general aviation; maintains liaison with military officials, federal government, public and private organizations on matters

concerning general aviation; fosters aviation education programs in the State; develops and implements plans for light aircraft landing fields and related facilities; develops flying safety programs in coordination with the Federal Aviation Administration; provides technical advice, assistance and information regarding general aviation facilities. It recommends policies for use and occupancy of all general aviation facilities.

(d) Visitor Information Branch

This Branch develops, plans and promotes a program that welcomes passengers arriving at the State airports and harbors; provides information, linguistic and other assistance to visitors at state airport and harbor facilities; encourages neighbor island travel and promotes the "Aloha spirit." It develops this program on a state-wide basis, devises standards and training techniques to maintain the performance of VIP personnel. It coordinates its work with that of other agencies dealing with tourism and economic development. It provides public relations services and promotions for Airports Division.

(e) Staff Services Office

This office consists of a Staff Services Officer and one stenographer. The Staff Services Officer advises the Chief, Airports Division, and furnishes functional guidance to the Financial Management Staff, Personnel Staff,

Property Management Staff and Methods, Standards and Evaluation Staff. He maintains and improves management plans and control systems and monitors programs to ensure their effectiveness. He conducts liaison on legislative and administrative matters, reviews and consolidates the divisional budget.

[1] Financial Management Staff

The Financial Management Staff directs and coordinates the fiscal activities of the division to meet program objectives, provides accounting for the Division's appropriations, allotments, receipts and expenditures. It provides financial statements and statistical reports of the Division's fiscal operations, collects airport and terminal use charges and charges for aircraft storage; provides special fund accounting as required by the bond indentures; conducts cost accounting in accordance with lease agreements; audits external financial records pursuant to contracts and prepares audit reports. It prepares projections of income and expenditures to include establishing landing fee rates. It prepares the annual operating budget, provides internal controls and maintains material inventories. The Financial Management Staff was organized into an Accounting Unit, an Audit Unit, a Budget, Statistics, Inventory and Purchasing Unit. The Financial Management Staff is directed by a Fiscal Officer VI.

[2] Personnel Staff

The Personnel Staff is responsible for personnel transactions and the maintenance of personnel records of Airports Division. It assists divisional units in personnel matters and advises personnel on matters pertaining to their welfare and the application of personnel policies and procedures to their specific problems.

[3] Property Management Staff

The Property Management Staff provides property management services to the division and its districts. It maintains an inventory of available properties and facilities, and endeavors to gain a maximum benefit to the State of Hawaii by renting and leasing properties and facilities of Airports Division.

It prepares and concludes leases, contracts and permits for use of the Division's properties and recommends rates of charges for their use.

[4] Methods, Standards and Evaluation Staff

This office develops, standardizes, inspects and evaluates airport operations, develops work measurements, and establishes Airports Division's operational requirements.

It advises and recommends amendments to Airports Rules & Regulations.

It establishes standards and procedures throughout the State Airports System, and conducts periodic and thorough airports inspections, reporting non-compliance with standards, procedures and policies to the Division Chief. The office evaluates over-all effectiveness of programs, initiating amendments to Rules and Regulations as necessary.

The office coordinates all Civil Defense for the Division and conducts Civil Defense liaison on the part of the Division with other civil defense authorities of the State, County, military and other federal agencies.

(3) South Hawaii District

South Hawaii District supervises the second gateway to Hawaii at General Lyman Field at Hilo on the Island of Hawaii.

The General Lyman Field staff consisted of four Sections, Security Section, Visitor Information Section, Crash Fire Section and General Maintenance Services Section.

The Security Section consisted of three County Police Officers who served the District on a reimbursable basis. Although not directly under these police officers, the security obligations of the District under Federal Aviation Administration requirements were satisfied by the employment of contractual security services who used especially trained and deputized men as Law Enforcement Officers as described in Federal Aviation Regulations, Part 107.

General Lyman Field has an Operational Certificate which it holds from the Federal Aviation Administration.

The Information Section provides visitor information services for passengers at the airport.

The Crash Fire Section was comprised of three County firemen, serving the District on a reimbursable basis and twenty volunteers who are paid for drill attendance and emergencies.

This section performs daily operational and maintenance checks on crash fire equipment; conducts crash/fire drills; has charge of crash/fire crew in actual emergencies; maintains protective clothing; makes recommendations for improvements and changes in crash/fire procedures and inspects runways.

The General Maintenance Services Section is headed by a General Construction & Maintenance Foreman. His Section is subdivided into a Grounds Unit, a General Maintenance Unit and an Electrical Unit.

The total manpower authorized for General Lyman Field was 42.

General Lyman Field, two miles east of Hilo, has two runways, both paved. Runway 8-26 is 150 feet wide and 9,800 feet long, while Runway 3-21, also 150 feet wide is 5,600 feet long.

It has a FAA Control Tower operating 24 hours per day, three crash fire rescue vehicles, and, in 1974, had an operating terminal and freight building with fire station south west of the intersection of the runways. A new terminal was under construction south of the midsection of Runway 8-26.

General Lyman Field had a total number of aircraft take-offs and landings of 50,333 operations in 1973, and handled 54,955,281 pounds of cargo and 5,620,917 pounds of mail. Passengers handled were 1,358,018.

(4) North Hawaii District

North Hawaii District consists of (1) Ke-ahole Airport (2) Waimea-Kohala Airport and (3) Upolu Airport. Ke-ahole and Waimea-Kohala have Operating Certificates from the FAA. Twenty-one employees are authorized for the North Hawaii District.

(a) Ke-ahole Airport consisted of a Crash Fire Section, Visitor Information Section, Electrical Unit, General Maintenance Unit and a Security Section.

Ke-ahole Airport has one runway (17-35) 150 feet wide and 6,500 feet long, paved. There is a control tower operating from 6:00 a.m. to 10:00 p.m., taxiways and aprons. Ke-ahole had a total of 32,214 landings and take-offs in 1973, handled 728,200 passengers, 6,496,996 pounds of cargo and 1,486,261 pounds of mail.

It is served by two crash fire trucks.

The beauty award-winning terminal is east of the northern half of the runway. Ke-ahole Airport is 7.2 miles northwest of Kailua-Kona.

(b) Waimea-Kohala Airport

Waimea-Kohala Airport is under the direct supervision of the District Airport Superintendent. Waimea-Kohala has two Airport Operations and Maintenance men and is served by six volunteer firemen. Its responsibilities for security under Federal Aviation Regulations, Part 107 are satisfied by a properly deputized contractual Law Enforcement Officer.

The Airport is situated at an altitude of 2,671 feet and is 1.2 miles south-south west of Kamuela. It has one runway (4-22) 100 feet wide and 5,200 feet long, paved. There is no control tower. It is equipped with one crash fire truck and has a small terminal and freight building. In 1973, it handled 97,628 passengers, 705,469 pounds of cargo and 486,715 pounds of mail.

(c) Upolu Airport

Upolu Airport is unmanned and serviced by the personnel at Waimea-Kohala Airport and Ke-ahole Airport.

It is three miles north-west of Hawi and consists of one paved, lighted runway (7-25) 150 feet wide and 4,000 feet long. It has no passenger facilities.

(5) Maui District

Maui District is responsible for (a) Kahului Airport; (b) Hana Airport; (c) Molokai Airport; (d) Kalaupapa Airport, and (e) Lanai Airport. Kahului, Molokai and Lanai Airports hold FAA Operating Certificates. Thirty-seven employees are authorized for the Maui District.

(a) Kahului Airport

This airport is the second busiest in the State of Hawaii after Honolulu International Airport and had 75,467 aircraft movements in 1973. It handled 1,867,819 passengers, 21,873,195 pounds of cargo and 5,393,784 pounds of mail.

Maintenance support is provided through an Office Services Staff and a Maintenance Section. The Maintenance Section consists of the Auto Mechanic Unit, the Electrical Maintenance Unit and the General Maintenance Unit. Operations support is provided by a Custodial Unit, Security Services Unit, Crash Fire Unit and a Visitors Information Unit.

Kahului Airport is 2.5 miles east of Kahului and has two open and one closed runway, a 24-hour a day tower, adequate aprons, a terminal and freight buildings.

Runway 2-20 is 150 feet wide and 7,000 feet long, Runway 5-23 is 150 feet wide and 5,000 feet long. Runway 17-35 is closed. All runways are paved. There

are three crash fire vehicles. The terminal, scheduled for expansion, is an attractive one, but overcrowded. Expansion was scheduled in 1974.

(b) Hana Airport

Hana Airport is 3 miles northwest of Hana, has no control tower and one paved, lighted runway (8-26) 100 feet wide by 3,600 feet long. It has one crash fire vehicle and a single attendant. It is served by non-scheduled small aircraft only. In 1973, it handled 14,963 passengers, 23,178 pounds of cargo and 14,798 pounds of mail.

(c) Molokai Airport

Molokai Airport is 6.75 miles northwest of Kaunakakai and has a combined passenger and freight terminal at the northwest side of Runway 5-23. Runway 5-23, one of two intersecting paved runways is 100 feet wide and 4,500 feet long and Runway 17-35 which is 100 feet wide and 3,100 feet long. There is no control tower. It has two crash fire vehicles and three attendants. The fire vehicles are manned by station complement augmented by volunteers. Security is contractual. In 1973, it handled 145,174 passengers, 1,699,338 pounds of cargo and 423,998 pounds of mail.

(d) Kalaupapa Airport

Kalaupapa Airport serves the Hansen disease settlement of Kalaupapa. The Airport is 1 mile north of the colony of Kalaupapa. It consists of one paved runway and a

small terminal. While the airport itself has no beacon, there is a strong surface navigational lighthouse within 1/2 mile east of the runway. The runway is 50 feet wide and 2,760 feet long. There is a single attendant and one small fire vehicle. There were 5,885 passengers handled by the airport in 1973.

(e) Lanai Airport

Lanai Airport is the only airport on Lanai and is 4 miles southwest of Lanai City. It consists of a single runway and a terminal for passengers and a freight building. The runway (3-21) is 150 feet wide and 5,000 feet long and is paved and lighted. There is no control tower. Two attendants provide maintenance support. The attendants are supplemented by volunteer firemen who operate the crash fire vehicle and security is contractual. In 1973, it handled 40,447 passengers, 1,266,516 pounds of cargo and 190,965 pounds of mail.

(6) Oahu District

Oahu District consists of a District Headquarter which operates Honolulu International Airport, Dillingham Field, Ford Island Landing Field and the Ala Wai Heliport. In 1974, Honolulu Airport was still in the throes of a great expansion program, not expected to end until 1985. In 1974, Honolulu International Airport consisted of the Main Terminal with a single story Y-concourse, two Gull Wing Terminals

with loading bridges for wide-bodied jets, a parking structure and numerous building housing a variety of General aviation and other airport-oriented enterprises. Landscaping of the newly constructed areas was partially completed and was recognized by the FAA for airport beautification in 1974. A State of Hawaii civil service crash fire rescue team was being formed to relieve the USAF team while construction continued.

(a) Honolulu International Airport

The District Airport Superintendent is assisted by Office Services, Security Services, Management Relief Services and by an Operations Section and a Maintenance Section.

The Security Services consist of 26 City and County of Honolulu Police Officers serving on a reimbursable basis. The other security requirements, those of Federal Airports Regulations, Part 107, are satisfied by the employment of contractual security service, whose men are duly deputized and can act as Law Enforcement Officers (LEO) under provisions of the Federal Aviation Regulations.

Management Relief Services consist of five positions which provide 24-hour supervision for the airport.

Operations Section was headed by an Operations officer, who supervised a Custodial and Terminal Building Unit, an Airport Operations Unit and an Visitor Information Unit.

The Airport Operations Unit provides ramp control services to control aircraft parking and to enforce operational regulations.

The Information Unit was divided into a Flight Information Display Sub-Unit and a Visitors Information Sub-unit.

The Flight Information Display Sub-Unit operates the switchboard, public address system and the flight information system. The Visitors Information provides assistance and linguistic support to travelers and promotes travel to the Neighbor Islands.

The Maintenance Section, headed by a Construction and Maintenance Superintendent, is made up of a Clerical and Warehousing Unit, a Landscape Maintenance Unit, a Facilities Maintenance Unit and an Electrical Maintenance Unit.

A total of 354 positions are authorized for Honolulu International Airport.

Honolulu International Airport was listed as being 4 miles west-northwest of Honolulu, but by 1974 elements of the City had begun to envelope it.

The Airport consisted of four runways, one main terminal and two gull-wing terminals for wide-bodied jets, a large parking structure and parking areas, inter-island terminals, cargo terminals, oil storage areas,

hangar and general aviation areas as well as numerous buildings leased to airport-oriented activities. The main Honolulu Post Office is situated adjacent to Honolulu International Airport grounds.

All runways are paved and lighted and are as follows:

8-26	(200 feet wide, 12,380 feet long)
4R-22L	(150 feet wide, 9,000 feet long)
4L-22R	(200 feet wide, 6,950 feet long)
4S	(60 feet wide, 2,400 feet long)

In addition, a 12,000 foot long runway is under construction on the reef adjacent to the airport and will be in service in 1976.

There is a 24-hour tower and all amenities and equipment to be expected at a large international airport.

In 1973, Honolulu International Airport handled 10,109,483 passengers; 62,563,368 pounds of cargo and 15,949,596 pounds of mail.

In 1974, its own crash fire rescue unit was forming and had only one crash rescue vehicle on hand, but was under the protection of the Hickam Field Crash Fire Unit whose adequacy of coverage in vehicles and firefighting capacity was eight times that required by Federal Aviation Regulations.

This force was available to the Honolulu International Airport under a Joint-Use Agreement.

Honolulu International Airport was a United States Port of Entry and thus had Customs, Immigration, Public Health, Plant Inspection and a Quarantine Station for humans and animals. It holds an Operational Certificate from the FAA.

(b) Dillingham Field

Dillingham Field is used by glider and soaring organizations, parachute jumpers, General aviation and by military aircraft. There is one regular attendant and two contractual radio communicators on duty and they have two small crash fire vehicles. The Airport is 5.25 miles west of Haleiwa on Oahu's North Coast. It has one paved runway (8-26) 100 feet wide and 9,000 feet long.

(c) Ford Island Landing Field

This student landing and take-off area is leased from the Navy and manned by contractual communications personnel. It is situated in the middle of Pearl Harbor. It has one paved runway 200 feet wide and 4,000 feet long.

(d) Ala Wai Heliport

This unmanned installation is located at the Diamond Head-Makai corner of the Ala Wai Boat Harbor in Waikiki and is maintained by personnel from Honolulu International Airport as necessary.

(7) Kauai District

Kauai District is comprised of Lihue Airport and Port Allen Airport and directed by a District Airport Superintendent. The District is supported by an Office Services Unit, a Visitors Information Section, a Maintenance Services Section, a Crash Fire Unit, Custodial Section and a Security Services Section.

The Maintenance Services Section is headed by a General Construction and Maintenance Foreman who supervises a General Maintenance Unit, an Electrical and Mechanical Maintenance Unit and a Grounds Maintenance Unit.

The Crash Fire Unit in 1974 was manned by volunteers.

The Security Services Section contained four Patrolmen of the State Airports Division since the County of Kauai was unable to assign policemen to Lihue Airport. Lihue Airport, like all the rest discharged its obligations to Federal Aviation Regulations, Part 107 (Airport Security), by utilizing contractual services, deputized, security personnel.

The Kauai District was authorized 25 positions.

(a) Lihue Airport

Lihue Airport is 1.5 miles east of Lihue and consists of a single runway, taxiways, apron, terminal,

tower, hangars, and concessionaires installations. The one runway (3-21) is paved and lighted and is 100 feet wide and 6,000 feet long. The tower is in operation 24 hours per day. There are two crash fire vehicles and volunteers to man them are available from 6:00 a.m. until 11:00 p.m. It has an Operational Certificate from the FAA and had 34,316 air operations in 1973. In 1973, it handled 1,845,233 passengers, 11,909,134 pounds of cargo and 3,520,076 pounds of mail.

(b) Port Allen Airport

This unmanned airport is one mile southwest of Port Allen and is maintained from Lihue Airport. There is no tower. The airport consists of one runway, paved and lighted. The runway (9-27) is 60 feet wide and 2,500 feet long. There is a lighthouse for surface navigation about 1/2 mile south of the midpoint of runway 9-27.

2. Beginnings

a. General

(1) Early Flights

The first aircraft flight in Hawaii was made at Kapiolani Park in 1911 by Bud Mars. An army plane made the first inter-island flight in 1919, Oahu to Hawaii.

Due to its location in the eastern half of the Pacific Ocean at about 20° from the Equator, Hawaii has been looked upon as a key to Pacific air movement since 1925. In that year, the U. S. Navy sent Commander John Rodgers, commanding a Navy PN-9 flying boat from the mainland to Hawaii. The flying boat was forced down short of Honolulu but was sailed into Nawiliwili Harbor on Kauai, using torn off wing fabric for sails and was undetected during a 9 day search by the entire Pacific Fleet which was on maneuver in Hawaiian waters at the time. The plane and crew had been given up for lost by the time they reached the Kauai coast. There they were taken in tow by a submarine and finally entered Nawiliwili Harbor only after the towing submarine ran aground.

On 14 June 1927, Ernest L. Smith and Emory Bronte took off from Oakland Airport in a Travelair monoplane "City of Oakland" for the first attempted land plane flight to Hawaii. They were forced down near Kaunakakai, Molokai, by lack of fuel.

On 29 June 1927, the U. S. Army tri-motor Fokker monoplane "Bird of Paradise" flown by Lieutenants

Maitland and Hagenberger landed at Wheeler Field, Oahu, after 25 hours 50 minutes in the air. This was the first completely successful flight from the mainland to Hawaii.

On 16 August 1927, five airplanes took off from Oakland Airport for Wheeler Field, Oahu, in a race known as the "Dole Derby." The race was won by Art Goebel, pilot, and Lieutenant Davis, navigator in a Travelair monoplane named "Woolaroc" in 26 hours 18 minutes. Martin Jensen, pilot and Captain Schluter, navigator, came in second. The other three planes were lost. As the result of this loss, no further attempts at the mainland-Hawaii flight was made by land planes until 1934.

On 31 May 1928, Captain Kingsford-Smith landed at Wheeler Field in the tri-motor Fokker monoplane "Southern Cross" enroute to Brisbane Australia via Hawaii and Fiji.

There were no more flights from the mainland until January 10, 1934, when the U. S. Navy sent a mass flight of Consolidated sea planes from San Francisco to Pearl Harbor. This flight was commanded by Lt. Commander McGinnis and all aircraft made the trip without incident. On November 3, 1934, Kingsford-Smith made the first eastbound flight from Hawaii to the mainland in a single-engine Lockheed monoplane "Lady Southern Cross" as the last leg of a crossing of the Pacific from Australia.

On 11 January 1935, Amelia Earhart flew from Wheeler Field to Oakland Airport in a Lockheed Vega, the first solo flight between Hawaii and the mainland. Also, in 1935, Pan American Airways, with the intent of establishing regular trans-Pacific passenger service, made its first survey flight from San Francisco to Pearl Harbor. The aircraft was a Sikorsky S-42 seaplane piloted by Captain Musick, a veteran PAA pilot. This flight marked the beginning of an orderly development of air transportation between Hawaii and the mainland, and the beginning of further Pacific air transportation.

On 22 November 1935, Pan American Airways inaugurated regular flights when the Martin M-130 flying boat "China Clipper" departed from Alameda, California, on the first scheduled air mail flight across the Pacific, an event attended by Governor Merriman of California and Postmaster General Farley.

Service by Martin flying boats was augmented by the larger Boeing "Clippers" of PAA in 1941. The Navy took over PAA operations and facilities in June 1942, operating them under the Naval Air Transportation Service. United Air Lines and Consolidated Air Craft Company provided trans-pacific contract service for the Army Transportation Corps.

(2) Development of Aviation in Hawaii

As early as 1915 the Territorial Legislature promulgated aeronautical regulations. Act 14,

Session Laws of Hawaii 1915, approved by Governor Lucius E. Pinkham on March 22, 1915, prohibited the operation of aeroplanes, balloons and other aircraft in the Territory of Hawaii without license, excepting pilots of the Army, Navy or National Guard.

Act 109, Session Laws of Hawaii 1923, covered sovereignty of air space, lawfulness of flight, damage to land, dangerous flying, licensing of aircraft and airmen and hunting from aircraft.

Act 176, Session Laws of Hawaii 1925, appropriated \$10,000 for 100 acres at Hilo and \$45,000 for an airfield near Honolulu provided that a sum of \$20,000 be raised by public subscription and paid into the Territorial Treasury. From these funds, 119.3 acres of land and 766 acres under water near Honolulu were acquired from the S. M. Damon Estate at a cost of \$27,410. The airport was dedicated March 21, 1927, by the Honorable E. P. Warner, Assistant Secretary of the Navy. The airport was named for the late Commander John Rodgers who had been Commanding Officer, Naval Air Station at Pearl Harbor 1923-1925 and who commanded the Navy's historical flight between the mainland and Hawaii in 1925.

Act 238, Session Laws of Hawaii 1927, created a Territorial Aeronautical Commission of not less than five nor more than seven members (at least three to be licensed pilots) to be appointed by the Governor. The commission was

to prepare, promulgate and enforce aviation rules and regulations, which, after approval by the Governor, had the force of law. They were to examine and license airmen and aircraft, establish and charter airways, and exercise exclusive control and operation of all Territorially-owned or leased airports. Military aviators were eligible for membership on the Commission. The Act appropriated \$10,000 for expenses of the Commission for the period 1927-1929.

Act 257, Session Laws, Territory of Hawaii 1927, appropriated money for airports at Honolulu (\$75,000), at Hilo (\$25,000), and on Maui (\$15,000) and Molokai (\$5,000). Land at Molokai was set aside for airport development by Executive Order of the Governor.

The Honolulu Star-Bulletin of July 7, 1928, showed thirteen airfields in Hawaii, seven of which were Army airfields. They were Barking Sands, Port Allen and Wailua on Kauai; Luke Field, Wheeler Field, John Rodgers Airport, Waimanalo (Bellows Field) and Kawaihoa (Haleiwa) on Oahu; Hoolehua (Homestead Field) on Molokai; and Hilo Airport Upolu Point and South Point (Morse Field) on Hawaii; and Lanai City Airport on Lanai. Maui, at this time, did not have an officially designated airport.

In January 1929, Inter-Island Steam Navigation Company announced the formation of a subsidiary company, Inter-Island Airways which on October 29, 1929, made two pre-inaugural flights to Hilo. These were made by

Lt. Cover and C. I. Elliot flying two of the company's Sikorsky S-38 amphibians carrying passengers. Regular service began November 11, 1929.

In March 1930, Edward H. Peacock was appointed Superintendent of Territorial Airports; in July 1930, the U. S. Weather Bureau established reporting stations at Hilo, Laupahoehoe, Kukuihaela, Maalea and Port Allen while on July 12, 1930, Governor Judd approved the first Territorial Airport Rules and Regulations.

Act 17, Special Session of the Territorial Legislature abolished the Territorial Aeronautical Commission and transferred its functions to the Superintendent of Public Works.

In 1934, Inter-Island Airways received a Post Office Department contract to carry airmail.

In 1938, Puunene Airport was opened.

During 1941, Inter-Island Airways changed its name to Hawaiian Airlines and inaugurated DC-3 land plane service to the Neighbor Islands.

In 1941, layout was completed and work begun on dredging Keehi Lagoon and using the spoil to augment Honolulu Airport, using over \$5,000,000 appropriated by Congress.

(3) War Years 1941 - 1945

Upon the outbreak of War in 1941, all airports in the Territory of Hawaii were taken over by the armed forces of the United States.

Civil aircraft, originally grounded, soon began making flights under military control.

Hilo Airport, originally taken over by the Army, was later developed by the Navy as Naval Air Station Hilo, for carrier pilot training. Upolu was operated as an auxiliary field to NAS, Hilo.

Puunene Airport, Maui, was taken over by the Navy and greatly expanded and operated as Naval Air Station Puunene, Maui.

Molokai Airport was taken over by the Army but was not expanded or developed to the extent of Hilo or Puunene.

Honolulu Airport (John Rodgers Field) was taken over by the Army at the beginning of the war and used as a troop transport base while runway construction was in progress.

In August 1943, the Navy took over the installation and undertook more construction to turn the installation into a base for seaplane and land plane operations, principally for the Naval Air Transport Service. Although the airport was officially designated as Naval Air Station Honolulu, the Army staged B-29s and many other planes through this installations.

(a) South Hawaii District

[1] General Lyman Field

In 1927, the Territorial Legislature appropriated funds for airport development by Act 257. \$25,000 of these funds were for an airport at Hilo.

In February 1928, Major Clarence M. Young, then Secretary of Aeronautics, U. S. Department of Commerce, came to Hawaii to inspect aviation facilities and to promote commercial aviation in the Territory. On February 11, 1928, Major Young was flown to Hilo in the "Bird of Paradise" for the purpose of dedicating the new airport. The "Bird of Paradise" was the plane used by Lieutenants Maitland and Hagenberger to make the first successful flight to Hawaii June 29, 1927.

Hilo Airport was developed on land belonging to the Hawaiian Homes Commission.

Before 1937, the Works Progress Administration (W.P.A.) expended \$34,148 on the landing area and, in 1937, W.P.A. funds were used to begin an accelerated airport development program. From 1937 to 1941, \$261,613 were invested in Hilo Airport. The expansion of Hilo Airport in 1938 required relocation of the prison camp and the hangar and office of Inter-Island Airways.

In 1941, the Civil Aeronautics Administration contributed \$314,000 of national defense funds to Hilo Airport, and the Territorial Department of Public Works'

Annual Report of June 30, 1941 stated that \$125,243 of Territorial money had been spent on the airport from 1927 in addition to the foregoing federal funds.

At the outbreak of World War II, Hilo Airport was taken over by the Army and an Air Corps fighter squadron was stationed there. U. S. Army Engineers constructed military installations and continued the expansion of runways, taxiways and parking aprons. In 1943, the Navy moved on to the airport under agreement with the Army and constructed a Naval Air Station on which to base and train two full air groups. While the Navy had more extensive installations and greater use of the field, the Army Air Corps continued to operate the control tower, and from Army installations serviced a sizeable air transport operation conducted by the 19th Troop Transport Squadron. The Naval Air Station also serviced a similar Navy activity. Civilian passenger service continued under the Army.

The name of Hilo Airport was changed to General Lyman Field by Joint Resolution of the Territorial Legislature on April 19, 1943. General Lyman, a graduate of the U. S. Military Academy from Hilo died in service and had been promoted posthumously from Colonel to Brigadier General.

(b) North Hawaii District

[1] Kona Airport - Ke-ahole Airport

Neither of these airports were built until after World War II.

[2] Waimea-Kohala Airport

During World War II, the Marine Corps built a small airstrip near Kamuela, Hawaii. It was a graded and oiled strip 3,000 feet long for small aircraft, and was named Bordelon Field. It was built on Parker Ranch land. After the war, the Hawaii Aeronautics Commission leased this installation from Parker Ranch. Service was supplied by non-scheduled operators.

[3] Upolu Airport

In the early days of aviation in Hawaii, Upolu Airport was an airstrip known as Suiter Field. The U. S. Army Signal Corps maintained a communication station there. Inter-Island Airways used the field as an emergency stop on their route to Hilo, as well as to provide air service to the Kohala District.

Suiter Field was maintained by the Territory with Federal Emergency Recovery Act and Works Progress Administration funds prior to 1937. From 1937 to 1939, additional W.P.A. funds were expended in extending the runway to 3,500 feet and in making other improvements.

During World War II, the Navy established a weather and communications facility at Upolu and

used it as an auxiliary field to the Naval Air Station, Hilo for training of carrier pilots. The runway was extended to 4,000 feet and housing was provided for the personnel operating the airfield.

Upolu was returned to the Territory by the Navy after the war and civilian air service was resumed, with the Navy buildings used for terminal facilities.

In 1950, the Civil Aeronautics Administration installed a "VOR" beacon near the field and the Hawaii Aeronautics Commission installed temporary runway lights and a rotating beacon.

Upolu's subsurface drainage is inadequate, causing the run-off from the slopes above to be trapped in the clay foundation, causing settling and break-up of runway surface.

(c) Maui District

[1] Kahului Airport (Maalaea and Puunene)

On November 11, 1929, the first scheduled air service from Honolulu to Maui was inaugurated, using Sikorsky S-38 amphibians capable of carrying eight passengers. The Maalaea Airport was a level dirt field near the sea and was unusable in wet weather. When the airline began

using larger aircraft in 1935, the field became too small. In addition, the proximity of the mountains of West Maui rendered it unsafe.

In September 1936, the Works Progress Administration (W.P.A.) conducted wind studies on an alternate site at Puunene.

In January 1938, the Chief Inspector, Bureau of Air Commerce condemned Maalaea Airport.

A temporary permit was granted to allow use of Maalaea by small aircraft only.

Since construction did not start at Puunene Airport until June 1, 1938, Maui was without adequate air service until Puunene was completed.

Between June 30, 1939 and December 7, 1941, Puunene was gradually enlarged and improved. The Navy took over Puunene during the war and expanded it further.

However, Puunene was not adequate, and the Navy found it necessary to establish another large air station on Maui. 1,341 acres of cane land near Kahului were selected and construction of Kahului Naval Air Station was begun in 1942.

[2] Hana Airport

The original Hana Airport was a small grass field located at Hamoa. It was served by Inter-

Island Airways with 8-passenger amphibians from May 1935 to the outbreak of World War II. As the size of aircraft increased, the field at Hamoa became too small and scheduled flights were suspended. Hana was thus served only by unscheduled flights until the postwar construction of Hana Airport.

[3] Molokai Airport

On December 15, 1927, the Governor set aside 204.8 acres of Territorial land for an airport at Hoolehua, Molokai.

Inter-Island Airways started scheduled operations to Molokai November 11, 1929.

Between 1927 and 1942, the Works Progress Administration helped the Territory to enlarge and improve the field which was originally a dirt strip.

The U. S. Army established a radio station in 1935 and moved it to a new location in 1938.

During 1940, a tract of 14.69 acres was set aside for the Navy who still use the facility.

During World War II, the Army made extensive improvements such as paving runways, taxiways and aprons and lighting of runway 5-23.

[4] Kalaupapa Airport

Kalaupapa was opened to operations in 1934 and was served by Inter-Island Airways, now Hawaiian Airlines. Service was begun using S-38 Sikorsky

eight-passenger amphibian aircraft. When the company changed its equipment to the larger S-43s and DC-3s, they found Kalaupapa too small and too rough for their use. During World War II, Gambo Flying Service was authorized by the Army to furnish emergency service direct to Kalaupapa from Honolulu.

[5] Lanai Airport

In 1930, Inter-Island Airways, now Hawaiian Airlines, began operations into Lanai with Sikorsky S-38, eight-passenger amphibian planes.

During 1935, the airline started to replace the S-38s with 16-passenger Sikorsky S-43s and in 1941, this equipment was being replaced by DC-3s of 24 passenger capacity. The field at Lanai was not big enough for either the S-43s or DC-3s, and when the last of the S-38s were phased out shortly after the start of World War II, air service to Lanai ceased.

(d) Oahu District

[1] Honolulu International Airport

By Act 176, Session Laws of Hawaii 1925, \$45,000 was appropriated for the acquisition and development of an airport on the Island of Oahu within a reasonable distance of Honolulu. The amount appropriated was not to be expended until the sum of \$20,000 had been raised by private subscription and paid into the Territorial Treasury. For the sum of \$27,410, an area of 119.3 acres of land and 766

acres of inundated land was acquired from the S. M. Damon Estate as an airport site. A small area was cleared and the airport was dedicated 21 March 1927. The field was named in honor of the late Commander John Rodgers, who commanded the Navy's historical flight from the West Coast to Hawaii in 1925.

Act 238, Session Laws of Hawaii 1927, created a Territorial Aeronautical Commission and Act 257 of the same Legislature appropriated \$75,000 for the further development of John Rodgers Airport.

As a result of the policy adopted by the Legislature to foster aviation by the development of airfields, there was a boom in aviation in Hawaii. According to the Star-Bulletin of July 7, 1928, there had been six separate attempts to launch an inter-island air service in the past three months.

Inter-Island Airways was organized in 1929 and began service to the Neighbor Islands on November 11th of that year with three eight-passenger S-38 Sikorsky amphibians as original equipment. Thus, the first dependable air transportation service was inaugurated in Hawaii while air pioneers were still struggling to establish themselves on the mainland. In 1934, Inter-Island Airways won a Post Office Department contract to carry air mail among the islands. This became an important milestone in air service to the outlying islands.

On April 16, 1935, Pan American Airways made their first survey flight from San Francisco Bay to Hawaii in a Sikorsky S-42 flying boat. The flight to Pearl Harbor was made in 17 hours 14 minutes. This flight was the beginning of an orderly development of Pacific air transportation.

After a series of test flights, on November 22, 1935, scheduled airmail and passenger service was inaugurated from the mainland to Oahu. Postmaster General Farley came from Washington to witness what he characterized as "the beginning of the ----- most significant achievement in the development of air transportation."

These early operations were conducted from a company base at Pearl City, on the shore of Pearl Harbor. The first service was provided by Martin "Clippers" which were augmented in 1941 by larger Boeing "Clippers."

Due to hazards presented by surface craft, and for security reasons, Pearl Harbor in the pre-World War II days was not suitable as a base for commercial flying boat operations and planning started for the development of a "seaplane harbor" at Keehi Lagoon. Prior to 1939, a Federal appropriation of nine million dollars had been authorized for this development and for development of other Territorial airports. Three million three hundred thousand dollars was authorized by Congress in 1940 for dredging Keehi

Lagoon. In 1941 the sum of one million nine hundred thousand dollars was authorized for the development of John Rodgers Airport in conjunction with the seaplane project. This enabled the coral and earth produced by dredging to be used as fill to raise the level of the previously inundated lands of John Rodgers Airport and formed the basis for later expansion of the airport. Layout of operating facilities for this combined airport and seadrome, as submitted by Mr. Robert Campbell, CAA Airport Engineer, was essentially carried out by the U. S. Army Engineers and the Navy in the wartime development of John Rodgers Airport.

Upon the outbreak of the war, all airports in Hawaii were taken over by the armed forces of the United States and all civil aircraft were grounded. However, in a few days, the scheduled inter-island carrier was making emergency flights under military direction carrying engineers, medicines, munitions and supplies to the outlying islands. Travel control and passenger priority supervision was exercised by the Army for security purposes and for expedition of war priority transportation. Gambo Flying Service was authorized by the Army to furnish emergency transportation of medical supplies and relief supplies to Kalaupapa Leper Settlement in view of its isolation. All other private planes were impounded.

As Pearl Harbor became congested with ships in 1942, work was rushed on Keehi Seadrome so that seaplane transport operations could be removed from Pearl Harbor.

The Navy joined the U. S. Army Engineers in expediting this project. In order to provide necessary shore facilities, the Navy in June 1943, obtained from the Territory, a permit to "enter and construct" in the area. In 1944, the Navy completed construction of a terminal building, control tower and maintenance hangars for land planes operated by the Naval Air Transport Service. On the north side of the field, the Navy built the Naval Air Station Honolulu to support the Naval Air Transport operations and to house about five thousand of its men.

On November 16, 1945, Pan American Airways resumed commercial operations with their Boeing Clipper which had been leased to the Navy during the war.

John Rodgers Airport and Keehi Seadrome, as constructed by the U. S. Army Engineers and the Navy, consisted of a total area amounting to 4,020 acres with four paved runways 200 feet wide and with lengths varying from 6,150 feet to 7,650 feet. There were also three seaplane channels 1,000 feet wide, varying from 10,560 feet to 15,827 feet in length.

(e) Kauai District

[1] Lihue Airport

Lihue Airport was built after World War II.

Air service to Kauai was inaugurated on November 12, 1929, with two flights weekly to Port Allen.

Fifteen thousand dollars was appropriated for purchase of land at Port Allen to establish an airport. The Army Air Corps named the installation "Burns Field."

In 1931, the Legislature appropriated \$35,000 for an airport more centrally located at Wailua. Inter-Island Airways schedules were increased to three a week, serving both Wailua and Port Allen. With the advent of S-43 and DC-3 aircraft on the run, operations were shifted back to Port Allen, which remained Kauai's terminal until World War II when Port Allen was closed and Kauai was served through the Army Air Corps field at Barking Sands.

[2] Port Allen Airport

Port Allen Airport, formerly known as Burns Field, was used in the 1920's as a landing facility by the U. S. Army Signal Corps and the U. S. Army Air Corps. A Signal Corps reservation adjoining the airstrip housed personnel operating a communication station on the airfield.

The first air passenger service to Kauai was inaugurated by Inter-Island Airways on November 12, 1929, on a twice weekly schedule to Port Allen Airport.

For a time, Port Allen shared the service from Honolulu with an airport at Wailua but in 1938, the CAA found Wailua unsafe for larger aircraft and all operations were moved back to Port Allen.

Port Allen served Inter-Island Airways until its closure on the outbreak of World War II.

Prior to the war, \$127,000 had been spent on various W.P.A. projects in clearing, grading and paving at Port Allen Airport. After release of Port Allen to the Territory by the military in 1946, the runways were repaired at a cost of \$33,456 of which the Federal government contributed \$17,500.

During the war, civilian operations were handled at the Army Air Corps at Barking Sands. After the war, these operations returned to Port Allen Airport.

Construction of Lihue Airport caused the gradual disuse of Port Allen by non-scheduled operators and in 1974, the airport is used very little.

3. Post-War Years

By Act 31, Session Laws of Hawaii 1947, the names of John Rodgers Airport and Keehi Lagoon Seaplane Harbor were changed to "Honolulu Airport."

Space had been requested by 11 firms expecting to operate trans-Pacific routes and by 13 more who expected to operate within Hawaii.

By Act 32, Session Laws of Hawaii 1947, the Hawaii Aeronautics Commission was re-established and management and control of all airports used for commercial aviation in the Territory were transferred from the Superintendent of Public Works to the new Commission as of July 1, 1947.

As of June 30, 1948, the following airports were under the management of the Hawaii Aeronautics Commission:

<u>Name</u>	<u>Location</u>
Honolulu Airport	Oahu
Bellows Field	Oahu
Haleiwa Airport	Oahu
Port Allen Airport	Kauai
Kalaupapa Airport	Molokai
Molokai Airport	Molokai
Hamoia Airport (Hana)	Maui
Lanai Airport	Lanai
General Lyman Field (Hilo Airport)	Hawaii
Kamuela Airport	Hawaii
Upolu Airport	Hawaii
Morse Field (South Cape)	Hawaii

In addition three new airports were under construction to be added to the list above on completion. They were:

Lihue Airport	Kauai
Kailua (Kona) Airport	Hawaii
Hana Airport	Maui

It will be noticed that there was no civil airport at Kahului, that site still being a Naval Air Station at the time. Puunene still served as Maui Airport.

a. Airports Division and Division Staff

This organization is a direct lineal descendant of the Hawaii Aeronautics Commission, re-established

by Act 32, Session Laws of Hawaii 1947. During 1949-1950, the Hawaii Aeronautics Commission administered contracts for \$701,619. In 1951-1952, \$1,072,065 was spent on airports.

By 1952-1953, the Hawaii Aeronautics Commission had delegated supervision of \$1,171,739 of airport contracts to Hawaii Public Works. In that year, an additional \$512,739 worth of airport work was underway.

In June 1953, Hawaii Aeronautics Commission had asked the Hawaii Public Works to become its planning agency as well as supervising airport contracts.

In 1953-1954, the Hawaii Public Works supervised twelve contracts for the Hawaii Aeronautics Commission to the amount of \$992,373. By 1954-1955, this dropped to \$263,717 rising to \$876,315 in 1955-1956 when fourteen construction contracts were underway involving repair, installation of lights and construction of hangars. In 1956-1957, the amount rose to \$1,043,070.

Under the Act organizing the government of the State of Hawaii accompanying statehood in 1959, the Hawaii Aeronautics Commission was placed under the State Department of Transportation, and all commissioners' terms of office expired December 31, 1959. The Reorganization Act abolished the Hawaii Aeronautics Commission as of July 1, 1961 when its functions were taken over by the Department of Transportation. To bridge the gap from 1959 to 1961, temporary commissioners were appointed.

Under the Department of Transportation, the Airports Division was organized as a successor to the Hawaii Aeronautics Commission, and it was organized into Districts, originally analogous to the Counties of the State, and was headed by a Division Staff. In 1962, the Airports Division administered the Districts of Hawaii, Maui, Oahu and Kauai. The airports belonging to the Hawaii District were General Lyman Field, Kona (before opening Ke-ahole), Kamuela, and Upolu. Maui District administered Kahului, Hana, Molokai, Kalaupapa and Lanai Airports. Oahu had Honolulu International Airport and some aspects of Dillingham Field while Kauai District had Lihue Airport and Port Allen Airport.

The Hawaii Visitors Program was established July 1, 1962, to welcome visitors, encourage travel to all islands and to provide information to travelers. In 1963-1964, the Visitors Information Program was incorporated into Airports Division where it still remains, even though some of its functions are exercised at State harbors.

During fiscal year 1963-1964, night flights were inaugurated by both Aloha and Hawaiian Airlines.

During 1965-1966, Airports Division had supervision over twenty construction projects with a total cost of \$2.7 million. This rose to a point in 1968-1969 where contracts for \$28,580,646 were let. Contracts underway were worth \$1,909,748 and contracts completed during the year came to \$3,863,640.

In 1971-1972, the Federal Aviation Administration inaugurated its Certification Program. This was a program based on Federal law, requiring all airport operators to meet Federal Aviation Administration standards of operation in order to gain and retain operating certificates for their airports. The standards were published and enforced by inspections. Failure to qualify for or to retain an operating certificate meant that scheduled airlines could not use the offending airport.

Due to a rash of aircraft hijackings, the Federal Aviation Administration also promulgated and enforced a security program at this time. The security program required a search of all persons and their baggage before boarding scheduled air carriers. It required Airports Division to construct fencing, lighting and "sterile" areas within its terminals and to provide armed deputized law enforcement officers to stand by while additional security personnel from the airline performed their searches of passengers and baggages.

The impact of these programs on Airports Division, the Department of Transportation and on the State of Hawaii was more far-reaching than the necessity of establishing approved standards and to attain these standards by increased construction and operations costs. These programs transferred decision-making on safety and security measures from the State to the Federal Government. While the State could refuse to

comply with Federal direction in these fields, it could only do so by losing the services of scheduled airlines to the airport or airports concerned. The construction, operations and administrative costs of these programs was substantial, notwithstanding Federal aid, and these expenses were mandatory.

b. An outline of the financial administration of Airports Division in recent years has been briefly described previously. Essentially, Airports Division pays its own expenses and provides for debt servicing out of its various receipts and then returns or charges the airlines any overcharges or deficits in the operating expenses for each year.

Prior to 1962, the major source of operating revenue for the Airport Special Fund was the aviation fuel tax.

Although landing fees were collected, the amounts were very small ranging from a high of \$2.00 for aircraft weighing more than 27,000 pounds down to a minimum of \$0.25 for aircraft under 5,000 pounds.

(1) Fuel Tax, Landing Fees and Total Revenues
by Fiscal Years

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total Revenues	\$1,900,590	\$1,924,630	\$2,182,785	\$3,086,651
Fuel Tax	1,286,373	1,376,451	1,547,013	2,116,799
Percent of Total Revenues	68%	72%	71%	69%
Landing Fee	66,053	70,265	71,651	92,478
Percent of Total Revenues	3.5%	3.7%	3.3%	3.0%

During this period, the fuel tax rate was 3-1/2 cents per gallon. The tax began at 5 cents, was lowered to 3.5 cents in 1954 and to 1 cent in 1962 where it remains today as established by Section 243-4(a) (2) of the Hawaii Revised Statutes.

In 1962, long-term leases were negotiated by the Department of Transportation with the scheduled airlines operating at Honolulu. Leases were granted to the following airlines:

Aloha Airlines

British Overseas Airways Corp.

Canadian Pacific Air Lines

Hawaiian Airlines

Japan Air Lines

Northwest Airlines

Pan American World Airways

Philippine Air Lines

Qantas Empire Airways

United Air Lines

The term of the Airport-Airline lease is for twenty years with two five-year options to extend the lease. If the options are exercised, the Lease will be terminated in 1992.

An integral part of the Lease negotiations was the concept of airport financing by landing fees to replace the aviation fuel tax. The landing fee was called Airport Use Charge and the procedures for its computation are detailed in

Exhibit One of the Lease. The Lease provides for re-negotiation of Exhibit One at the end of the 6th, 10th and 15th year of the Lease and at the end of 20th and 25th year if the options for extension are exercised by the airline.

To calculate the Airport Use Charge at the beginning of the fiscal year, the difference between estimated expenditures and revenues, excluding airport use charges, is divided by the total thousand pounds of landing weight anticipated for the fiscal year. Revenues from all airports were combined to calculate revenues except for Airport Use Charges or Airport Use Charge Deficiencies, revenues derived from airport properties other than Honolulu International Airport, and funds paid to the State to repay for the original cost of a facility.

Among other items of expense for each fiscal year, a sum of \$570,000 for maintenance and operation of airports other than Honolulu International Airport and \$150,000 for capital improvements at all airports was used in the computation of the Airport Use Charge. In other words, the maximum that could be expended for O&M and CIP at neighbor island airports was \$720,000 per year. From July 1, 1968 to June 30, 1970, this amount was increased by \$19,079. At the end of the fiscal year, if there are any deficiencies in revenues, the lessees are obligated to pay to the State sufficient amounts to make up for the deficiency. If there is an excess of revenues over

expenses, the excess becomes an item of revenue for the following fiscal year.

The Plan also provides that inter-island airlines shall pay a reduced airport use charge which is 9% of the Airport Use Charge collected from overseas carriers.

The lease provides for crediting aviation fuel taxes paid by the Lessee against airport use charges, and if any excess credits are available, the credits may then be applied against rentals. Any excess credits remaining after airport use charge and rental fees have been applied become surplus revenues of the special fund.

At the end of the 6th year of the Lease, the Department entered into negotiations with the airlines. The principal changes were the elimination of the fixed annual amounts for maintenance and capital improvements for airports other than Honolulu International Airport, the computation of the airport use charge based on total airport system requirements, the deletion of provisions allowing airlines to use fuel tax payments as credits against rentals for land and building spaces and the return of excess airport use charges to the airlines instead of treating it as a revenue item for the following year.

In support of the negotiations conducted by the Department of Transportation, S.B. 444 was passed by the 1968 Session of the Legislature and enacted into law as Act 20,

SLH 1968. Act 20 clarified Legislative intent to grant the Department authority to establish landing fees by rules and regulations.

Following route awards to additional airlines by the President in 1969, leases similar to the 1968 leases were tendered in 1970 to:

Braniff International

Continental Airlines

Western Airlines

Trans World Airlines

American Airlines

Air New Zealand

Union de Transports Aeriens

Air Siam and Korean Airlines were later granted leases similar to the 1970 leases.

(2) Aviation Fuel Tax

As shown in the table for fuel taxes and landing fees, about 70% of revenues for the period prior to the execution of the Airport-Airline Lease were generated by fuel taxes. During fiscal year 1974, nearly two and one-fourth times as much fuel was sold than in 1959.

The federal government collects a 7 cents per gallon tax on aviation gasoline and non-commercial jet fuel to provide a portion of the funds for the Airport and Airways Development Act Trust Fund. This fund is used for federal-aid to airports.

Fuel taxes are not a major source of income for air carrier airports other than Hawaii. As long as the Department of Transportation has the authority to establish fees, the only reason to keep a fuel tax is to meet the requirements of the airport revenue bond covenants pledging the aviation fuel tax for airport purposes and as provided in Section 39-53(5), HRS.

(3) Landing Fees

Charges based on the weight of the aircraft are considered the most equitable system for recovering the cost of providing airfield facilities. Airports throughout the world use this method with differences depending on the cost items that are included in the fees. Foreign areas tend to charge more than that of the U. S. since the cost of navigational aids, air traffic control and border clearance is usually included in the fee.

From the brief preceding discussion, it is obvious there is a danger in comparing dollar amounts of landing fees. However, it would be interesting to note fees for the landing of a Boeing 707-320 aircraft at representative airports in the U. S. For the major U. S. airports, the cost per landing of the B-707 ranged from a low of \$16 at New Orleans to a high of \$94 at Fairbanks in 1968. Honolulu's fee for that year was \$88, second highest in the nation. By 1974, New Orleans was still the lowest at \$37 and Seattle was the highest at \$344. Honolulu's fee was \$222 and exceeded only

by Seattle for the airports in the comparison. It should be noted that the Honolulu fee reflects the computed Airport Use Charge based on estimated revenues and expenses for the fiscal year.

(4) Hawaii's enplaned passengers for calendar year 1973 were:

Honolulu International Airport	4,649,649
General Lyman Field	684,727
Kahului Airport	928,720
Lihue Airport	922,847
Ke-ahole Airport	357,743
Waimea-Kohala Airport	48,167
Molokai Airport	71,694
Lanai Airport	20,012

At Honolulu International Airport, 63% of revenues came from non-aeronautical sources and 37% from airport users such as the airlines. With its large sales to foreign passengers at the duty free shop, Honolulu has a much higher percentage when compared to the national average of 44%. At General Lyman Field, concession revenues at 21% are below the national average of 40%, while Kahului and Lihue are almost the same as airports of comparable size. Ke-ahole, Waimea-Kohala, Molokai and Lanai concession revenues are far below average with nearly 90% of revenues coming from users.

At the latter airports, revenues for systems and services are primarily for airport security payments from the airlines.

(5) Airport Special Fund Payments to the General Fund

As required of all special funds, the Airport Special Fund pays 5% of its gross receipts, less debt service, to the General Fund for central services. During the Fiscal Year 1974, this amounted to \$834,437.

c. South Hawaii District

(1) General Lyman Field

After the war, military operations at Hilo decreased and in September 1946, the Airport was returned to the Territory for operation as a civil airport, although operational control was retained by the Army Air Corps. Operation of the control tower was taken over by the Air Force when that organization was formed from the Army Air Corps on July 1, 1947 and continued until October 1948 when it was turned over to the Hawaii Aeronautics Commission who funded tower operation by Civil Aeronautics Administration personnel. Federal funds for tower operation became available from July 1, 1949.

No major projects were undertaken at General Lyman Field in 1948 and 1949 due to the uncertainty of the tenure of the Aeronautical Commission who used airport facilities under a thirty-day revocable permit.

During 1951, improvements were made to the main entrance and access road.

On April 8, 1952, the Airport was returned to civilian control of the Territory by the Federal Government.

In 1952, a new maintenance area was constructed and in July ground was broken for a new terminal and a contract was let for high intensity lights on Runway 8-26.

In 1953, bids were opened for construction of roads, aprons and a parking area as well as a freight terminal. The terminal was dedicated August 25, 1953, and the entire airport was dedicated December 5, 1953. The freight terminal was completed in 1954.

On February 13, 1964, there was a runway overrun by an inter-island carrier.

General Lyman Field achieved jet capacity in 1965 when its runway (8-26) was lengthened to 9,800 feet, but it was not until October 1, 1967 that Pan American World Airways and United Air Lines began direct scheduled flights from the mainland to Hilo. A new taxiway and apron project was completed in April 1967 to prepare General Lyman Field for jet traffic and in March 1967 bids were opened for terminal alterations.

On July 4, 1969, the \$775,000 overseas interim terminal was dedicated. This building is to give relief until construction of a complete new terminal is accomplished.

In 1970, Governor Burns appointed the Hilo Airport Advisory Committee composed of business and civic leaders of Hilo to make recommendations for the long-range development of General Lyman Field. This commission recommended construction of a new terminal on the south side of Runway 8-26 with an apron capable of accommodating four inter-island jets and eight 707 size aircraft and strong enough to support 747 type aircraft. The first 747 jumbo jet to land at General Lyman Field arrived on February 6, 1971.

Construction of the new terminal was delayed by the necessity of Federal approval of environmental impact statements and ground was finally broken for the project in July 1974.

d. North Hawaii District

(1) Ke-ahole Airport

The 1947 Territorial Legislature recognizing the need for an airport to serve the Kona area, officially designated an area parallel to the beach and known as Kailua airstrip to become Kona Airport. In May 1948, bids were opened for the construction of a paved runway 100 feet wide and 3,500 feet long. Work started June 10, 1948. Construction of a terminal was begun April 1, 1949. Opening ceremonies were held on July 10, 1949 for the new Kona Airport.

In 1949, fencing was installed to keep cattle off the runway and the runway was lengthened to 3,800 feet. This was later extended to 4,400 feet.

In 1951, temporary runway lights and a rotating beacon were added.

Proposals to extend the airport encountered much opposition and by 1954, a new location was sought.

In 1968, the terminal was expanded.

The site of Ke-ahole was selected for an airport to replace Kona Airport and the contract for construction of Ke-ahole Airport was let September 3, 1969.

On July 1, 1970, Ke-ahole Airport was dedicated and Kona Airport was closed after its last scheduled flight on June 30, 1970.

Ke-ahole Airport opened with a 6,500 foot runway, a parallel taxiway, one high-speed turnoff, wide aprons and ample parking area. The terminal consists of a cluster of high-beam polynesian-style buildings topped with shake roofs.

Occupying an ample site on State lands, Ke-ahole is capable of expansion to serve international jet traffic, should the need develop.

It was the first airport ever built for the State of Hawaii with a consultant firm furnishing the total project management. The Bechtel Corporation, through its contract with the State, provided a complete package of services, including preliminary engineering, detailed design, drawings and specifications, assistance in contract award, construction inspection and other services usually performed by State employees.

The design services for architectural and civil engineering work were provided under the basic Bechtel contract by local architects and engineers under subcontract to the Bechtel Corporation.

The contract relationship has been similar to that between the State and the Ralph M. Parsons Company for the expansion of Honolulu International Airport.

The services of these companies has enabled the Department to sidestep staffing problems and meet

pressing deadlines posed by booming tourist travel and the newest developments in air technology.

Ke-ahole Airport was constructed within 13 months after the first 1,000-pound dynamite charge was exploded on the lava beds on May 27, 1969. Crews worked 12-hour shifts, six days a week, to accomplish this feat.

The Federal Aviation Administration Control Tower at Ke-ahole Airport was dedicated April 21, 1971, and on May 6, 1971, Governor Burns accepted the Federal Aviation Administration's Beautification Award for Ke-ahole Airport.

In October 1970, Ke-ahole, Waimea-Kohala and Upolu Airports were placed under the control of the new North Hawaii District.

(2) Waimea-Kohala

As Bordelon Field was not suitable for development as a modern airport, a new site was sought. From September 1949 to September 1950, data on winds, ceilings and visibility was collected. Preliminary plans for the new airport were approved by the Hawaii Aeronautical Commission in April 1951 and in October 1951 bids were called for the first phase of construction to include grading, paving of runway, fencing, and water supply to the airport. Construction was begun February 20, 1952. Construction of the terminal began in April 1953. Scheduled air service commenced July 2, 1953 and the airport was dedicated August 30, 1953 although the terminal

was not finished until October 1953. This airport was completed entirely with Territorial funds without Federal aid.

In 1970, Edward Sullam was commissioned to draw up architectural plans for additions to the terminal, and the contract for this work was awarded in May 1971 for \$389,700 and completed August 16, 1972 at a cost of \$413,361.

In 1970, the Mayor of Hawaii, Shunichi Kimura, reflecting the desires of the County Council and residents around Kamuela, asked that the name of the airport be changed from Kamuela Airport to Waimea-Kohala Airport. This was approved by Governor Burns.

On October 1, 1970, North Hawaii District was formed and Ke-ahole, Waimea-Kohala and Upolu were placed in the North Hawaii District.

In 1970 and 1971, contracts were awarded to resurface the runway and make additions and alterations to the terminal.

e. Maui District

October 1, 1946 marked the entrance the Territory of Hawaii into full scale operation of airports. Puunene was taken over at this time under a permissive agreement with the Navy and in December 1948, Puunene reverted to the Territory under Quitclaim Deed.

No major improvements were undertaken at Puunene Airport since the Aeronautical Commission planned to use Kahului Naval Air Station as the principal airport on Maui.

Extensive negotiations were begun with the Navy and on May 25, 1951, the Commission transferred all airline operations from Puunene to Kahului.

(1) Kahului Airport

Much work was necessary before Kahului could be made usable for commercial airline operations. A passenger terminal was constructed, a shop building was remodeled to produce an air freight building with refrigeration facilities, a passenger protection fence, rotating beacon, and runway lights were installed, obstruction lights erected, and paving repairs undertaken. Paving of a new entrance to the automobile parking lot was completed and small aircraft hangars opened.

By June 1952, full commercial airline operations were being conducted at Kahului and Puunene was virtually abandoned.

A new control tower begun in 1957 was completed October 1958 and additional lighting was installed in the operational areas.

An all-weather instrument runway was opened at Kahului November 9, 1963, making Kahului the first Neighbor Island Airport to have all-weather instrument landing capability.

Vladimir Ossipoff and Associates were selected to design a new terminal at Kahului which was to have been completed in 1965. It was actually dedicated on

June 25, 1966. Additions to the new terminal were made in 1970-1971 and a contract for drainage and improvements was let June 30, 1969 for \$1,049,626, while an air cargo building costing \$85,336 was completed February 13, 1970.

A significant improvement was effected by apron rehabilitation and further lighting completed August 16, 1972 at a cost of \$1,832,162.

(2) Hana Airport

With the growth of Hotel Hana-Maui and increase in the population of the Hana area, the need for better service became apparent.

On land owned by the Territory of ~~Hawaii and on land donated for airport use by the Hana Ranch~~ Company, a new airport was built and opened to scheduled traffic November 11, 1950.

When completed, Hana Airport occupied 125 acres and had a single runway (8-26) 100 feet wide and 3,600 feet long, a passenger terminal and a freight terminal, paved runway and taxiways, and paved plane parking area. The original cost was only \$419,160.

(3) Molokai Airport

The Territory assumed responsibility for operation and maintenance of the airport in 1947, but the property did not revert to the Territory until April 15, 1952.

A rotating beacon, obstruction lights and flashing hazard beacons were installed. In September 1953,

a new drainage system was installed and a new terminal was completed in June 1957. Improvements on the terminal were made in September 1969 and in July 1972.

Extensive rehabilitation of runways has been necessary and there are safety obstructions. In 1974, consideration was being given to relocating Molokai Airport.

(4) Kalaupapa Airport

After the war, Andrew Flying Service and Cockett Airlines began serving Kalaupapa on a daily basis, flying in Beechcraft and Cessna planes. Although Kalaupapa peninsula was under the jurisdiction of the Board of Health, it was agreed that the then Hawaii Aeronautical Commission would accept the responsibility for airport maintenance and operations.

In 1951, a small passenger terminal with a rest house was completed. Prior to that time, there had been no passenger facilities. The field was sod on sand and was very rough causing discomfort to passengers and wear on aircraft using the facility. In spite of the fact that Kalaupapa strip is adjacent to the windward beach of Kalaupapa peninsula and thus subject to heavy salt spray from wind blown surf, the Aeronautical Commission thought the roughness could be alleviated by a good stand of grass. Accordingly, water storage and pipeline with hose bibs were installed. This was not sufficient to overcome the problems of salt spray, poor nourishment and erosion from high winds and propeller blast.

In 1951, a small paved warm-up apron was constructed. This eliminated the warm-up area problems but did nothing for the runway problems.

In 1954, a paved runway with sodded shoulders was constructed.

1970-1971, the runway was extended from 1,658 feet to 2,750 feet.

Although the number of people at Kalaupapa is small and ordinarily would not justify such an airport, it must be borne in mind that air service is now almost the only means of transportation between the peninsula and the outside world. Even though the patients now can leave Kalaupapa, most have chosen to remain. Barge service is irregular, the peninsular is exposed to rough onshore wind and sea conditions, and all the daily needs of the colony, such as mail, beach, vegetables, newspapers and milk are supplied by air.

(5) Lanai Airport

It was not until 1946, when a new airport site was chosen and the land donated to the Territory by the Hawaiian Pineapple Company, that air service was resumed. On September 18, 1946, Hawaiian Airlines began operations into Lanai with Douglas DC-3's. The field was an unpaved sod strip and, as a result, was practically unusable in wet weather and almost untenable due to dust and dirt in day weather. In

view of these conditions, air service was not reliable, and it was therefore decided in 1948 to pave the runway and taxiway. Lanai Airport was the first airport in Hawaii to be constructed by the Hawaii Aeronautical Commission with the assistance of Federal funds appropriated under the Federal Airport Act. Paving was completed in May 1951.

When it was found that erosion was occurring due to high winds and propeller blast, a warm-up pad was built and taxiways were widened.

In 1952, an air freight terminal building was built. On October 14, 1966, an extension of runway, resurfacing and widening of existing runway, construction of taxiway and apron and a new terminal building as well as the relocation of existent freight terminal building was accomplished at a cost of \$817,000. The General Aviation Officer of Airports Division, State of Hawaii, Department of Transportation, organized a "fly-in" of small-plane owners for the Department's most colorful dedication of the year --- the official opening ceremonies for Lanai Airport's newly extended runway and expanded facilities October 16, 1966.

A contract for installation of runway and taxiway lights was awarded November 4, 1969. Work was completed November 16, 1972.

A contract to erect an addition to the terminal was awarded September 21, 1970 and work was completed in January 1971.

Air conditioning of the terminal was completed March 16, 1973.

f. Oahu District

(1) Honolulu International Airport

The airport was returned to the Territory by the Navy on October 1, 1946, for operation and maintenance. The Navy retained certain areas and buildings to service the operations of the Naval Air Transport Service. The Navy retained operational control and maintenance of the Seadrome.

As John Rodgers Airport, by common use, became known as "Honolulu Airport," the 1947 Legislature officially changed its name. Designation of airports by geographical names eliminates confusion in world-wide communications.

Shortly after the Territory assumed control of the Airport, it was necessary to make improvements to accommodate the various airlines and governmental agencies. Contracts were let by the Department of Public Works for building alterations, painting and of rehabilitation of Runway 4-R.

In the post-war surge of interest in commercial aviation, every foot of frontage for fixed-base operators at Honolulu Airport was optioned by mid-1946. Space in the overseas terminal was at a premium. In addition, space for CAA Control Tower, Airways Traffic Control and Communication

Center, U. S. Customs, U. S. Immigration, U. S. Department of Agriculture, U. S. Public Health and the U. S. Weather Bureau had to be provided. Act 32 of the 1947 Legislature recreated the Hawaii Aeronautics Commission and transferred jurisdiction of all Territorial airports from the Superintendent of Public Works to the new Commission. New Rules and Regulations for the Territorial Airport System were promulgated by this Commission and approved by Acting Governor Oren E. Long on June 2, 1948.

Upon assumption of operational control of Honolulu Airport, the Aeronautics Commission obtained the services, under contract, of CAA personnel to operate the control tower until Federal funds became available for this purpose. The Navy moved their crash-fire equipment from the south side of the Airport to their main fire station on the north side. The Commission hired a crash-fire crew to work with two pieces of equipment procured from the Navy and to function in coordination with Navy crash fire activity on the Airport.

A guard force was recruited for public safety, but was replaced by members of the Honolulu Police Department under contractual arrangements.

In 1947, the Civil Aeronautics Administration moved their communications facilities to the third floor of the then terminal building and the U. S. Weather Bureau established an airport weather station.

In January 1950, the Navy turned over 75 buildings in the Naval Air Facility to the Territorial Aeronautical Commission which derived considerable revenue therefrom.

The outbreak of the Korean War in June 1950 had a great impact on Honolulu Airport. The number of aircraft landings increased from 6,900 in June 1950 to 8,600 in July 1950. The already inadequate overseas passenger terminal was taxed to capacity.

In March 1951, an area of about 104 acres of the Hickam Field reservation was leased by the Hawaii Aeronautics Commission for 20 years. This lease enabled the Commission to pave a 540-foot connecting link with the new Hickam extension to runway 8-26, making a runway 200 feet wide and 13,104 feet long. At the time, this was one of the longest runways in the world. During this period, Honolulu International Airport was the third busiest airport in the United States.

In August 1951, due to closure of Hickam Field to traffic and diversion of military traffic to Honolulu and to a simultaneous step-up in airlift to support the Korean War, Honolulu International Airports traffic count soared to 13,000 a month. However, a fall off of Korean traffic and re-opening of Hickam Field brought the count down to 5,100 in May 1952. Commercial traffic continued to increase even if military traffic declined.

During this period (1951 - 1952), a more permanent place of business was offered to the lei sellers, removing them as a traffic hazard and giving Honolulu Airport a distinctive flavor.

The terminal building at that time was engaged by an addition to the lobby and a fire sprinkler system was installed in the overseas terminal.

Figures for the period show that twice as many visitors arrived from overseas by air as by ship. Overseas air passengers increased from 63,055 in 1947 to 153,598 for the year ending June 30, 1952.

During 1952-1953, modernization runway lighting system was begun. Progress on the planning of a new terminal was delayed by problems associated with land use. Both inter-island and overseas flights increased. Increased tourist traffic from the mainland was stimulated by the low tourist fares.

Convair 340 planes carrying 44 passengers were put into inter-island service requiring alterations of passenger handling facilities.

In the year 1953-1954, there were 127,690 landings compared to the 97,062 of the previous year. Overseas passenger traffic increased 12.7% to 205,840. Inter-island passengers increased at 2.8% to 570,263. Honolulu International Airport was ranked as the fourth busiest in the United States in this year.

Plans for the new terminal at Honolulu International Airport were completed in December 1954 for an architect's fee of \$63,000.

In 1954, plans were made to stockpile 700,000 cubic feet of coral on the airport. This material was to be dredged from Keehi Lagoon. The storage project was completed in 1956-1957.

In February 1959, the parking lot for overseas arrivals and departures was completed and Stage I of the new terminal construction was underway with an estimated completion date of November 1959.

In August 1959, Qantas inaugurated commercial jet flight at Honolulu International Airport followed by Pan American Airways in September 1959 and United Air Lines in March 1960. Qantas and Pan American used Boeing 707's and United flew DC-8's.

Stage I for the new terminal was completed in December 1959 and Stage II was begun immediately. This consisted of construction of the terminal and its taxiways. Completion of the terminal was scheduled for 1961.

At this point in the history (FY 1959-1960) of Honolulu International Airport, the total aircraft operations at this busy hub of the Hawaii State Aviation System were 262,596. These operations were divided into 87,719 carrier operations, 42,264 general aviation and 136,005 military.

The total passengers handled were 1,535,262. Of these 765,106 were outgoing and 770,156 incoming. These were further divided into 404,179 outgoing interisland; 360,927 outgoing overseas; 407,762 incoming interisland and 362,394 incoming overseas. The total cargo handled at Honolulu International Airport was 45,181,428 pounds.

On July 22, 1962 at 11:19 p.m., the "Empress of Lima," a four-engine turboprop aircraft crashed and burned on the approach to the Hickam Field portion of Runway 8 at Honolulu International Airport. Twenty-seven persons died in the accident and thirteen survived in Hawaii's worst air disaster to date.

The new terminal was dedicated August 22, 1962 during the annual conference of the Airport Operator's Council International at Honolulu. Najeeb Halaby, Administrator of the Federal Aviation Administration was the keynote speaker at the dedication.

All operations were transferred from the old terminal to the new terminal at midnight, October 14, 1962.

The new terminal represented an investment of \$38 million at that time.

During the fiscal year 1962-1963, work was completed on additions to the new terminal. Construction was also completed on the Ramp Control Tower, Aloha Airlines lounges and an office building.

There were also additions to Ramp Building 4, construction of taxiways and aprons, construction of new lei vendors stands, landscaping, construction of elevated walkways, and ground level holding rooms, installation of a paging system, hangar construction, repair of operational areas and service roads and the construction of a cargo building. A contract was let to destroy the old terminal building.

A new crash fire building was dedicated June 9, 1966.

In fiscal year 1968-1969, work was begun on the satellite terminals to Honolulu International Airport. These were designed to be two stores high and to house loading bridges to fit the new wide-bodied jets.

On March 3, 1970, Pan American initiated 747 service to Honolulu and found the Diamond Head "gull-wing" satellite terminal completed with two loading bridges to serve it. The Ewa "gull-wing" extension had two gates and holding rooms completed by the end of July 1970 and a third was put into service there July 7, 1970 bringing the total at that time to five.

When the first Pan American 747 arrived at Honolulu and found a completed 747 gate and loading bridge waiting, it meant that Honolulu International Airport was one of the first airports in the world to have facilities especially designed for 747s available upon their arrival.

Each of the five new holding rooms in the two satellite "gull-wing" terminals has two floors, a main and a mezzanine, is served by bus trains at the main or second level. When completed, departing passengers will travel by bus on one level and arriving passengers on the other. In addition to holding rooms, bus access and loading bridges, the gates have complete fueling facilities. Ground level of the gates is used to store airline equipment and as office space.

To accompany the development of the main terminal, the Inter-Island Terminal was modified, enlarged and partially air-conditioned by November 1969.

Domestic Arrivals area was expanded and additional area allocated for an interim International Arrivals Terminal.

A 2,000 car, five-story parking structure was completed in February 1970.

Bus trains, each carrying 120 persons began their task of moving people from one point to another within the airport.

Runway 4R-22L was rebuilt and lengthened to 9,000 feet.

On March 3, 1970, the same day as the first 747 arrival, the Queen of England stopped briefly at Honolulu International Airport enroute to New Zealand.

On April 18, 1970, the joint arrival of President Nixon and Astronauts Lovell, Swigert and Hoise was celebrated with ceremonies on the ramp area near Lagoon Drive.

To relieve traffic at Honolulu International Airport by student pilots, the 4,500-foot runway on Ford Island in Pearl Harbor was leased from the Navy and opened February 2, 1970.

In fiscal year 1970-1971, model studies of the proposed reef runway were completed favorably.

In May 1971, the Solari centralized system of visual presentation of arrival and departure data was inaugurated. This system is operated by the State and was the first such centralized system in the world.

On May 16, 1972, the \$12.5 million Ewa (westward) extension of the John Rodgers Terminal at Honolulu International Airport was opened. This provided another 360,000 square feet of terminal space for handling passengers.

The Reef Runway Project, a project to increase volume capacity of the airport and to divert heavy and noisy aircraft from the city of Honolulu was approved by the Federal Aviation Administration.

The Visual Solari System, making paging unnecessary, was completed at a cost of \$1,260,000 and the airport added 3,900 new parking stalls.

The institution of the Airport Certification Program by the Federal Aviation Administration in May 1972 brought the airport to federal standards and it was awarded a Certificate of Operation. At the same time, imposition of the Security Program by the same agency resulted in the posting of guards, erection of barriers, fences, gates and lighting.

The new, three-level international arrivals terminal became operational on May 16, 1973, but progress on the reef runway was held up by an injunction secured by conservationists.

The newest three-level addition to the John Rodgers Terminal extends west of the three-level ticket lobby extension dedicated, coincidentally enough, May 16, 1972.

The new addition provides operational and office space for all U. S. border agency personnel at the airport at no cost to the Federal Government. It also provides space for processing entries of all passengers arriving from outside the United States.

Also completed at this time were pedestrian overpasses between the terminal and parking structure, installation of elevators and escalators and rehabilitation of older lobby space.

Landscaping and coordination of signs in the terminal began the beautification of the terminal where work to expand the Diamond Head "gull-wing" terminal continued into 1974.

Work was resumed on the reef runway and proceeded through 1974. At the end of the year, the appearance of Honolulu International Airport began to resemble that planned for it by 1985.

g. Kauai District

After the war, Port Allen was used by non-scheduled aircraft but scheduled airlines were required to continue service at Barking Sands due to CAA regulations.

(1) Lihue Airport

Land was acquired near Ahukini for the purpose of constructing Lihue Airport. In 1948, a contract for grading and paving a 3,750 foot runway was let for \$359,627. To complete the project, paving taxiways and parking areas brought the total to \$678,854. Grading and paving was completed in December 1950.

On September 1, 1949, the airport was opened to limited operation while the terminal was being built. This building was built for \$97,223 and was dedicated January 8, 1950. The water system cost an additional \$55,564. Upon completion of a rotating beacon and obstruction lights, night schedules were started April 4, 1950.

In August 1950, a contract was let for the construction of a freight terminal and maintenance shop. Temporary runway lights were replaced by medium intensity runway lights and a fully automatic emergency generating system in September 1951.

Before Convair 340 aircraft could use this airport, it was necessary to lengthen the runway and taxiway from 3,750 feet to 5,100 feet. This was completed in October 1952 at a cost of \$178,697.

Increased passenger flow and the necessity of housing increased CAA and Weather Bureau activities led to alterations and extension of the terminal in 1952 for \$110,122.

In October 1958, a parking lot was added to the existing terminal area and a restaurant building connected to the terminal was completed in March 1959.

Additions were made to the terminal in 1962 and hangars were erected.

The increasing number of hotels on Kauai made it an attractive tourist destination and the Department of Transportation Annual Report of 1973 claimed a more than 25% gain over the preceding year and gave the number of take-offs and landings as 34,316 for the year.

By 1974, it was evident that the passenger flow at Lihue had exceeded the physical capabilities of the terminal and there were increasing reports of clogged sewers and inoperative utilities. The airlines decision to buy larger aircraft made construction of a second runway necessary and a new terminal was also planned.

(2) Port Allen Airport

Prior to World War II, \$127,000 had been spent on various W.P.A. construction projects at this airport, then known as Burns Field.

After release of Port Allen Airport to the Territory by the Army in 1946, the runways, which had been blocked, were repaired at a cost of \$33,457 of which the Federal Government contributed \$17,500.

During the war, movements by air to and from Kauai went through the Army Air Corps field at Barking Sands. After the post-war rehabilitation mentioned above, the civil air operations on Kauai were largely at Port Allen Airport although other small airfields existed.

The construction of Lihue Airport took away scheduled traffic, and non-scheduled operators also gradually shifted to Lihue. By 1974 the airport is seldom used.

4. Plans for the Future

a. Airports Division

The demands for expended facilities in the future can be expected. Whether the volume of air operations and passenger flow will remain constant, grow or shrink, depend on many factors. World economics climate, political stability and peace immediately spring to mind as imponderables which make forecasting difficult.

Nevertheless, a certain amount of orderly airport expansion is planned for the State Airports System in the next decade 1975-1985. Improvements to passenger terminal facilities for inter-island traffic and cargo terminals for air freight are planned for this period.

Yet to be evaluated is the influence of inter-island ferries on inter-island air passengers. A hydrofoil ferry is supposed to go into service in 1975.

b. South Hawaii District

(1) At the time of writing, construction of the new terminal at General Lyman Field is underway. In the next few years, plans for this airport call for an extension of Runway 8-26 to 10,500 feet in length with an accompanying extension of its taxiway.

A high speed access between Runway 8-26 and taxiway Alpha will be constructed and the terminal expanded if needed. There is a requirement to construct new airport access roads.

c. North Hawaii District

(1) Ke-ahole Airport

No major expansion of Ke-ahole is planned.

(2) Waimea-Kohala Airport

No major expansion of this airport is planned.

(3) Upolu Airport

Improvements to the operating areas are expected to be normal, but it is planned to erect a new building. If commercial activity should expand in the North Kohala area, it is conceivable that this airport's improvement could be accelerated.

d. Maui District

(1) Kahului Airport

A considerable enlargement of the existing terminal is foreseen for the 1975-1985 period since the present terminal is too small for the existing passenger flow.

Runway 2-20 may be extended in length and a taxiway parallel to runway 5-23 is likely to be constructed.

Plans exist to build an area for General Aviation use on the east ramp at Kahului.

Access roads must be improved and a major alteration to runway 2-20 and to the county road immediately adjacent to it is probable.

A new maintenance facility is to be constructed.

(2) Hana Airport

No major expansion or alteration is planned for Hana Airport.

(3) Molokai Airport

The coming decade probably holds more change for Molokai Airport than for any other since two new

sites for this airport are under consideration. One site is one mile north of the existing airport and the other site is on the northwest end of Molokai. Moving to either site will necessitate construction of a completely new airport. Some of the noisier prospects for Molokai of late have predicted a rise in population from 3,000 to 30,000 but the lack of adequate fresh water on the island would indicate a much slower growth. Even a small growth could lead to a larger terminal and a more modern configuration than that now existing. A new tower is to be erected soon.

(4) Kalaupapa Airport

There are no future plans for Kalaupapa Airport.

(5) Lanai Airport

Construction of resort hotels on Lanai is now planned, and, if carried out, will necessitate improvements to Lanai Airport. These improvements will be an extension of the runway by 2,000 feet with the construction of a parallel taxiway and the construction of a new terminal.

e. Oahu District

(1) Honolulu International Airport

Honolulu International Airport's expansion will continue until 1985 at least. A vertical expansion of the Y-concourse of the Main Terminal to two or

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Bibliography

ENCYCLOPEDIA OF HAWAII

XXII. TRANSPORTATION

Under general direction of the Governor of the State of Hawaii, the Department of Transportation plans, directs and coordinates the various activities of the Department within laws and established policies and regulations, to include supervision of the operation of the airports of the State of Hawaii.

A. Airports Division

1. Present Conditions

a. General

State airports in Hawaii are controlled by Airports Division of the Department of Transportation, State of Hawaii. Airports Division is made up of a Chief, Airports Division, his staff and the five Airport Districts headed by District Airports Superintendents and including all State airports and State airports personnel of their respective Districts.

b. Airports Division

(1) General

This Division consists of the Chief, the Engineer Branch, General Aviation Branch and Visitors Information Branch. In addition, the Chief is supported by a Staff Services Officer and a secretary.

Airports Division handled 16,269,991 passengers in 1973-1974. It operates fourteen airports and one heliport. These installations will be discussed under their respective Districts in detail. In 1974, there were about 400 personnel positions in the entire Division.

(2) Division Staff

The Division is directed by the Chief, Airports Division, assisted by three Branches, the Engineer, General Aviation and Visitor Information Branches and the Staff Services Office.

(a) Office of the Chief

The Chief, Airports Division, directs, coordinates, and maintains the operations of the airports program of the state government by providing for, equipping, regulating and protecting the state system of public airports and related facilities; plans, designs, develops, acquires, and constructs new and expanded airports and facilities as well as reconstructing existing airports and facilities; encourages, fosters and assists in the development of aeronautics in the State; provides for the protection and promotion of safety in aeronautics. Ensures by inspection that all pertinent state and federal laws and regulations relating to airports are observed throughout the State Airports System.

(b) Engineer Branch

This Branch supervises the planning, design, construction and maintenance of facilities for the State Airports System. The Engineer Branch is headed by an Airports Engineer who directs the activities of a Planning Section, a Design and Construction Section and a Special Maintenance Section.

The Engineer Branch had 23 personnel positions in 1974 and had no installations of its own.

The Planning Section of Engineer Branch had only two engineers assigned to it in 1974 but was seeking an additional two positions.

The Design and Construction Section consisted of a Section Chief supervising the work of Units A and B. Each Unit consisted of three engineers giving the Section a total strength of seven.

The Special Maintenance Section consisted of a Section Chief, three engineers and six draftsmen positions. One new engineer position was being sought.

(c) General Aviation Branch

This Branch provides for the development and encouragement of general aviation throughout the State of Hawaii; plans and coordinates the activities of general aviation; maintains liaison with military officials, federal government, public and private organizations on matters

concerning general aviation; fosters aviation education programs in the State; develops and implements plans for light aircraft landing fields and related facilities; develops flying safety programs in coordination with the Federal Aviation Administration; provides technical advice, assistance and information regarding general aviation facilities. It recommends policies for use and occupancy of all general aviation facilities.

(d) Visitor Information Branch

This Branch develops, plans and promotes a program that welcomes passengers arriving at the State airports and harbors; provides information, linguistic and other assistance to visitors at state airport and harbor facilities; encourages neighbor island travel and promotes the "Aloha spirit." It develops this program on a state-wide basis, devises standards and training techniques to maintain the performance of VIP personnel. It coordinates its work with that of other agencies dealing with tourism and economic development. It provides public relations services and promotions for Airports Division.

(e) Staff Services Office

This office consists of a Staff Services Officer and one stenographer. The Staff Services Officer advises the Chief, Airports Division, and furnishes functional guidance to the Financial Management Staff, Personnel Staff,

Property Management Staff and Methods, Standards and Evaluation Staff. He maintains and improves management plans and control systems and monitors programs to ensure their effectiveness. He conducts liaison on legislative and administrative matters, reviews and consolidates the divisional budget.

[1] Financial Management Staff

The Financial Management Staff directs and coordinates the fiscal activities of the division to meet program objectives, provides accounting for the Division's appropriations, allotments, receipts and expenditures. It provides financial statements and statistical reports of the Division's fiscal operations, collects airport and terminal use charges and charges for aircraft storage; provides special fund accounting as required by the bond indentures; conducts cost accounting in accordance with lease agreements; audits external financial records pursuant to contracts and prepares audit reports. It prepares projections of income and expenditures to include establishing landing fee rates. It prepares the annual operating budget, provides internal controls and maintains material inventories. The Financial Management Staff was organized into an Accounting Unit, an Audit Unit, a Budget, Statistics, Inventory and Purchasing Unit. The Financial Management Staff is directed by a Fiscal Officer VI.

[2] Personnel Staff

The Personnel Staff is responsible for personnel transactions and the maintenance of personnel records of Airports Division. It assists divisional units in personnel matters and advises personnel on matters pertaining to their welfare and the application of personnel policies and procedures to their specific problems.

[3] Property Management Staff

The Property Management Staff provides property management services to the division and its districts. It maintains an inventory of available properties and facilities, and endeavors to gain a maximum benefit to the State of Hawaii by renting and leasing properties and facilities of Airports Division.

It prepares and concludes leases, contracts and permits for use of the Division's properties and recommends rates of charges for their use.

[4] Methods, Standards and Evaluation Staff

This office develops, standardizes, inspects and evaluates airport operations, develops work measurements, and establishes Airports Division's operational requirements.

It advises and recommends amendments to Airports Rules & Regulations.

It establishes standards and procedures throughout the State Airports System, and conducts periodic and thorough airports inspections, reporting non-compliance with standards, procedures and policies to the Division Chief. The office evaluates over-all effectiveness of programs, initiating amendments to Rules and Regulations as necessary.

The office coordinates all Civil Defense for the Division and conducts Civil Defense liaison on the part of the Division with other civil defense authorities of the State, County, military and other federal agencies.

(3) South Hawaii District

South Hawaii District supervises the second gateway to Hawaii at General Lyman Field at Hilo on the Island of Hawaii.

The General Lyman Field staff consisted of four Sections, Security Section, Visitor Information Section, Crash Fire Section and General Maintenance Services Section.

The Security Section consisted of three County Police Officers who served the District on a reimbursable basis. Although not directly under these police officers, the security obligations of the District under Federal Aviation Administration requirements were satisfied by the employment of contractual security services who used especially trained and deputized men as Law Enforcement Officers as described in Federal Aviation Regulations, Part 107.

General Lyman Field has an Operational Certificate which it holds from the Federal Aviation Administration.

The Information Section provides visitor information services for passengers at the airport.

The Crash Fire Section was comprised of three County firemen, serving the District on a reimbursable basis and twenty volunteers who are paid for drill attendance and emergencies.

This section performs daily operational and maintenance checks on crash fire equipment; conducts crash/fire drills; has charge of crash/fire crew in actual emergencies; maintains protective clothing; makes recommendations for improvements and changes in crash/fire procedures and inspects runways.

The General Maintenance Services Section is headed by a General Construction & Maintenance Foreman. His Section is subdivided into a Grounds Unit, a General Maintenance Unit and an Electrical Unit.

The total manpower authorized for General Lyman Field was 42.

General Lyman Field, two miles east of Hilo, has two runways, both paved. Runway 8-26 is 150 feet wide and 9,800 feet long, while Runway 3-21, also 150 feet wide is 5,600 feet long.

It has a FAA Control Tower operating 24 hours per day, three crash fire rescue vehicles, and, in 1974, had an operating terminal and freight building with fire station south west of the intersection of the runways. A new terminal was under construction south of the midsection of Runway 8-26.

General Lyman Field had a total number of aircraft take-offs and landings of 50,333 operations in 1973, and handled 54,955,281 pounds of cargo and 5,620,917 pounds of mail. Passengers handled were 1,358,018.

(4) North Hawaii District

North Hawaii District consists of (1) Ke-ahole Airport (2) Waimea-Kohala Airport and (3) Upolu Airport. Ke-ahole and Waimea-Kohala have Operating Certificates from the FAA. Twenty-one employees are authorized for the North Hawaii District.

(a) Ke-ahole Airport consisted of a Crash Fire Section, Visitor Information Section, Electrical Unit, General Maintenance Unit and a Security Section.

Ke-ahole Airport has one runway (17-35) 150 feet wide and 6,500 feet long, paved. There is a control tower operating from 6:00 a.m. to 10:00 p.m., taxiways and aprons. Ke-ahole had a total of 32,214 landings and take-offs in 1973, handled 728,200 passengers, 6,496,996 pounds of cargo and 1,486,261 pounds of mail.

It is served by two crash fire trucks.

The beauty award-winning terminal is east of the northern half of the runway. Ke-ahole Airport is 7.2 miles northwest of Kailua-Kona.

(b) Waimea-Kohala Airport

Waimea-Kohala Airport is under the direct supervision of the District Airport Superintendent. Waimea-Kohala has two Airport Operations and Maintenance men and is served by six volunteer firemen. Its responsibilities for security under Federal Aviation Regulations, Part 107 are satisfied by a properly deputized contractual Law Enforcement Officer.

The Airport is situated at an altitude of 2,671 feet and is 1.2 miles south-south west of Kamuela. It has one runway (4-22) 100 feet wide and 5,200 feet long, paved. There is no control tower. It is equipped with one crash fire truck and has a small terminal and freight building. In 1973, it handled 97,628 passengers, 705,469 pounds of cargo and 486,715 pounds of mail.

(c) Upolu Airport

Upolu Airport is unmanned and serviced by the personnel at Waimea-Kohala Airport and Ke-ahole Airport.

It is three miles north-west of Hawi and consists of one paved, lighted runway (7-25) 150 feet wide and 4,000 feet long. It has no passenger facilities.

(5) Maui District

Maui District is responsible for (a) Kahului Airport; (b) Hana Airport; (c) Molokai Airport; (d) Kalaupapa Airport, and (e) Lanai Airport. Kahului, Molokai and Lanai Airports hold FAA Operating Certificates. Thirty-seven employees are authorized for the Maui District.

(a) Kahului Airport

This airport is the second busiest in the State of Hawaii after Honolulu International Airport and had 75,467 aircraft movements in 1973. It handled 1,867,819 passengers, 21,873,195 pounds of cargo and 5,393,784 pounds of mail.

Maintenance support is provided through an Office Services Staff and a Maintenance Section. The Maintenance Section consists of the Auto Mechanic Unit, the Electrical Maintenance Unit and the General Maintenance Unit. Operations support is provided by a Custodial Unit, Security Services Unit, Crash Fire Unit and a Visitors Information Unit.

Kahului Airport is 2.5 miles east of Kahului and has two open and one closed runway, a 24-hour a day tower, adequate aprons, a terminal and freight buildings.

Runway 2-20 is 150 feet wide and 7,000 feet long, Runway 5-23 is 150 feet wide and 5,000 feet long. Runway 17-35 is closed. All runways are paved. There

are three crash fire vehicles. The terminal, scheduled for expansion, is an attractive one, but overcrowded. Expansion was scheduled in 1974.

(b) Hana Airport

Hana Airport is 3 miles northwest of Hana, has no control tower and one paved, lighted runway (8-26) 100 feet wide by 3,600 feet long. It has one crash fire vehicle and a single attendant. It is served by non-scheduled small aircraft only. In 1973, it handled 14,963 passengers, 23,178 pounds of cargo and 14,798 pounds of mail.

(c) Molokai Airport

Molokai Airport is 6.75 miles northwest of Kaunakakai and has a combined passenger and freight terminal at the northwest side of Runway 5-23. Runway 5-23, one of two intersecting paved runways is 100 feet wide and 4,500 feet long and Runway 17-35 which is 100 feet wide and 3,100 feet long. There is no control tower. It has two crash fire vehicles and three attendants. The fire vehicles are manned by station complement augmented by volunteers. Security is contractual. In 1973, it handled 145,174 passengers, 1,699,338 pounds of cargo and 423,998 pounds of mail.

(d) Kalaupapa Airport

Kalaupapa Airport serves the Hansen disease settlement of Kalaupapa. The Airport is 1 mile north of the colony of Kalaupapa. It consists of one paved runway and a

small terminal. While the airport itself has no beacon, there is a strong surface navigational lighthouse within 1/2 mile east of the runway. The runway is 50 feet wide and 2,760 feet long. There is a single attendant and one small fire vehicle. There were 5,885 passengers handled by the airport in 1973.

(e) Lanai Airport

Lanai Airport is the only airport on Lanai and is 4 miles southwest of Lanai City. It consists of a single runway and a terminal for passengers and a freight building. The runway (3-21) is 150 feet wide and 5,000 feet long and is paved and lighted. There is no control tower. Two attendants provide maintenance support. The attendants are supplemented by volunteer firemen who operate the crash fire vehicle and security is contractual. In 1973, it handled 40,447 passengers, 1,266,516 pounds of cargo and 190,965 pounds of mail.

(6) Oahu District

Oahu District consists of a District Headquarter which operates Honolulu International Airport, Dillingham Field, Ford Island Landing Field and the Ala Wai Heliport. In 1974, Honolulu Airport was still in the throes of a great expansion program, not expected to end until 1985. In 1974, Honolulu International Airport consisted of the Main Terminal with a single story Y-concourse, two Gull Wing Terminals

with loading bridges for wide-bodied jets, a parking structure and numerous building housing a variety of General aviation and other airport-oriented enterprises. Landscaping of the newly constructed areas was partially completed and was recognized by the FAA for airport beautification in 1974. A State of Hawaii civil service crash fire rescue team was being formed to relieve the USAF team while construction continued.

(a) Honolulu International Airport

The District Airport Superintendent is assisted by Office Services, Security Services, Management Relief Services and by an Operations Section and a Maintenance Section.

The Security Services consist of 26 City and County of Honolulu Police Officers serving on a reimbursable basis. The other security requirements, those of Federal Airports Regulations, Part 107, are satisfied by the employment of contractual security service, whose men are duly deputized and can act as Law Enforcement Officers (LEO) under provisions of the Federal Aviation Regulations.

Management Relief Services consist of five positions which provide 24-hour supervision for the airport.

Operations Section was headed by an Operations officer, who supervised a Custodial and Terminal Building Unit, an Airport Operations Unit and an Visitor Information Unit.

The Airport Operations Unit provides ramp control services to control aircraft parking and to enforce operational regulations.

The Information Unit was divided into a Flight Information Display Sub-Unit and a Visitors Information Sub-unit.

The Flight Information Display Sub-Unit operates the switchboard, public address system and the flight information system. The Visitors Information provides assistance and linguistic support to travelers and promotes travel to the Neighbor Islands.

The Maintenance Section, headed by a Construction and Maintenance Superintendent, is made up of a Clerical and Warehousing Unit, a Landscape Maintenance Unit, a Facilities Maintenance Unit and an Electrical Maintenance Unit.

A total of 354 positions are authorized for Honolulu International Airport.

Honolulu International Airport was listed as being 4 miles west-northwest of Honolulu, but by 1974 elements of the City had begun to envelope it.

The Airport consisted of four runways, one main terminal and two gull-wing terminals for wide-bodied jets, a large parking structure and parking areas, inter-island terminals, cargo terminals, oil storage areas,

hangar and general aviation areas as well as numerous buildings leased to airport-oriented activities. The main Honolulu Post Office is situated adjacent to Honolulu International Airport grounds.

All runways are paved and lighted and are as follows:

8-26	(200 feet wide, 12,380 feet long)
4R-22L	(150 feet wide, 9,000 feet long)
4L-22R	(200 feet wide, 6,950 feet long)
4S	(60 feet wide, 2,400 feet long)

In addition, a 12,000 foot long runway is under construction on the reef adjacent to the airport and will be in service in 1976.

There is a 24-hour tower and all amenities and equipment to be expected at a large international airport.

In 1973, Honolulu International Airport handled 10,109,483 passengers; 62,563,368 pounds of cargo and 15,949,596 pounds of mail.

In 1974, its own crash fire rescue unit was forming and had only one crash rescue vehicle on hand, but was under the protection of the Hickam Field Crash Fire Unit whose adequacy of coverage in vehicles and firefighting capacity was eight times that required by Federal Aviation Regulations.

This force was available to the Honolulu International Airport under a Joint-Use Agreement.

Honolulu International Airport was a United States Port of Entry and thus had Customs, Immigration, Public Health, Plant Inspection and a Quarantine Station for humans and animals. It holds an Operational Certificate from the FAA.

(b) Dillingham Field

Dillingham Field is used by glider and soaring organizations, parachute jumpers, General aviation and by military aircraft. There is one regular attendant and two contractual radio communicators on duty and they have two small crash fire vehicles. The Airport is 5.25 miles west of Haleiwa on Oahu's North Coast. It has one paved runway (8-26) 100 feet wide and 9,000 feet long.

(c) Ford Island Landing Field

This student landing and take-off area is leased from the Navy and manned by contractual communications personnel. It is situated in the middle of Pearl Harbor. It has one paved runway 200 feet wide and 4,000 feet long.

(d) Ala Wai Heliport

This unmanned installation is located at the Diamond Head-Makai corner of the Ala Wai Boat Harbor in Waikiki and is maintained by personnel from Honolulu International Airport as necessary.

(7) Kauai District

Kauai District is comprised of Lihue Airport and Port Allen Airport and directed by a District Airport Superintendent. The District is supported by an Office Services Unit, a Visitors Information Section, a Maintenance Services Section, a Crash Fire Unit, Custodial Section and a Security Services Section.

The Maintenance Services Section is headed by a General Construction and Maintenance Foreman who supervises a General Maintenance Unit, an Electrical and Mechanical Maintenance Unit and a Grounds Maintenance Unit.

The Crash Fire Unit in 1974 was manned by volunteers.

The Security Services Section contained four Patrolmen of the State Airports Division since the County of Kauai was unable to assign policemen to Lihue Airport. Lihue Airport, like all the rest discharged its obligations to Federal Aviation Regulations, Part 107 (Airport Security), by utilizing contractual services, deputized, security personnel.

The Kauai District was authorized 25 positions.

(a) Lihue Airport

Lihue Airport is 1.5 miles east of Lihue and consists of a single runway, taxiways, apron, terminal,

tower, hangars, and concessionaires installations. The one runway (3-21) is paved and lighted and is 100 feet wide and 6,000 feet long. The tower is in operation 24 hours per day. There are two crash fire vehicles and volunteers to man them are available from 6:00 a.m. until 11:00 p.m. It has an Operational Certificate from the FAA and had 34,316 air operations in 1973. In 1973, it handled 1,845,233 passengers, 11,909,134 pounds of cargo and 3,520,076 pounds of mail.

(b) Port Allen Airport

This unmanned airport is one mile southwest of Port Allen and is maintained from Lihue Airport. There is no tower. The airport consists of one runway, paved and lighted. The runway (9-27) is 60 feet wide and 2,500 feet long. There is a lighthouse for surface navigation about 1/2 mile south of the midpoint of runway 9-27.

2. Beginnings

a. General

(1) Early Flights

The first aircraft flight in Hawaii was made at Kapiolani Park in 1911 by Bud Mars. An army plane made the first inter-island flight in 1919, Oahu to Hawaii.

Due to its location in the eastern half of the Pacific Ocean at about 20° from the Equator, Hawaii has been looked upon as a key to Pacific air movement since 1925. In that year, the U. S. Navy sent Commander John Rodgers, commanding a Navy PN-9 flying boat from the mainland to Hawaii. The flying boat was forced down short of Honolulu but was sailed into Nawiliwili Harbor on Kauai, using torn off wing fabric for sails and was undetected during a 9 day search by the entire Pacific Fleet which was on maneuver in Hawaiian waters at the time. The plane and crew had been given up for lost by the time they reached the Kauai coast. There they were taken in tow by a submarine and finally entered Nawiliwili Harbor only after the towing submarine ran aground.

On 14 June 1927, Ernest L. Smith and Emory Bronte took off from Oakland Airport in a Travelair monoplane "City of Oakland" for the first attempted land plane flight to Hawaii. They were forced down near Kaunakakai, Molokai, by lack of fuel.

On 29 June 1927, the U. S. Army tri-motor Fokker monoplane "Bird of Paradise" flown by Lieutenants

Maitland and Hagenberger landed at Wheeler Field, Oahu, after 25 hours 50 minutes in the air. This was the first completely successful flight from the mainland to Hawaii.

On 16 August 1927, five airplanes took off from Oakland Airport for Wheeler Field, Oahu, in a race known as the "Dole Derby." The race was won by Art Goebel, pilot, and Lieutenant Davis, navigator in a Travelair monoplane named "Woolaroc" in 26 hours 18 minutes. Martin Jensen, pilot and Captain Schluter, navigator, came in second. The other three planes were lost. As the result of this loss, no further attempts at the mainland-Hawaii flight was made by land planes until 1934.

On 31 May 1928, Captain Kingsford-Smith landed at Wheeler Field in the tri-motor Fokker monoplane "Southern Cross" enroute to Brisbane Australia via Hawaii and Fiji.

There were no more flights from the mainland until January 10, 1934, when the U. S. Navy sent a mass flight of Consolidated sea planes from San Francisco to Pearl Harbor. This flight was commanded by Lt. Commander McGinnis and all aircraft made the trip without incident. On November 3, 1934, Kingsford-Smith made the first eastbound flight from Hawaii to the mainland in a single-engine Lockheed monoplane "Lady Southern Cross" as the last leg of a crossing of the Pacific from Australia.

On 11 January 1935, Amelia Earhart flew from Wheeler Field to Oakland Airport in a Lockheed Vega, the first solo flight between Hawaii and the mainland. Also, in 1935, Pan American Airways, with the intent of establishing regular trans-Pacific passenger service, made its first survey flight from San Francisco to Pearl Harbor. The aircraft was a Sikorsky S-42 seaplane piloted by Captain Musick, a veteran PAA pilot. This flight marked the beginning of an orderly development of air transportation between Hawaii and the mainland, and the beginning of further Pacific air transportation.

On 22 November 1935, Pan American Airways inaugurated regular flights when the Martin M-130 flying boat "China Clipper" departed from Alameda, California, on the first scheduled air mail flight across the Pacific, an event attended by Governor Merriman of California and Postmaster General Farley.

Service by Martin flying boats was augmented by the larger Boeing "Clippers" of PAA in 1941. The Navy took over PAA operations and facilities in June 1942, operating them under the Naval Air Transportation Service. United Air Lines and Consolidated Air Craft Company provided trans-pacific contract service for the Army Transportation Corps.

(2) Development of Aviation in Hawaii

As early as 1915 the Territorial Legislature promulgated aeronautical regulations. Act 14,

Session Laws of Hawaii 1915, approved by Governor Lucius E. Pinkham on March 22, 1915, prohibited the operation of aeroplanes, balloons and other aircraft in the Territory of Hawaii without license, excepting pilots of the Army, Navy or National Guard.

Act 109, Session Laws of Hawaii 1923, covered sovereignty of air space, lawfulness of flight, damage to land, dangerous flying, licensing of aircraft and airmen and hunting from aircraft.

Act 176, Session Laws of Hawaii 1925, appropriated \$10,000 for 100 acres at Hilo and \$45,000 for an airfield near Honolulu provided that a sum of \$20,000 be raised by public subscription and paid into the Territorial Treasury. From these funds, 119.3 acres of land and 766 acres under water near Honolulu were acquired from the S. M. Damon Estate at a cost of \$27,410. The airport was dedicated March 21, 1927, by the Honorable E. P. Warner, Assistant Secretary of the Navy. The airport was named for the late Commander John Rodgers who had been Commanding Officer, Naval Air Station at Pearl Harbor 1923-1925 and who commanded the Navy's historical flight between the mainland and Hawaii in 1925.

Act 238, Session Laws of Hawaii 1927, created a Territorial Aeronautical Commission of not less than five nor more than seven members (at least three to be licensed pilots) to be appointed by the Governor. The commission was

to prepare, promulgate and enforce aviation rules and regulations, which, after approval by the Governor, had the force of law. They were to examine and license airmen and aircraft, establish and charter airways, and exercise exclusive control and operation of all Territorially-owned or leased airports. Military aviators were eligible for membership on the Commission. The Act appropriated \$10,000 for expenses of the Commission for the period 1927-1929.

Act 257, Session Laws, Territory of Hawaii 1927, appropriated money for airports at Honolulu (\$75,000), at Hilo (\$25,000), and on Maui (\$15,000) and Molokai (\$5,000). Land at Molokai was set aside for airport development by Executive Order of the Governor.

The Honolulu Star-Bulletin of July 7, 1928, showed thirteen airfields in Hawaii, seven of which were Army airfields. They were Barking Sands, Port Allen and Wailua on Kauai; Luke Field, Wheeler Field, John Rodgers Airport, Waimanalo (Bellows Field) and Kawaiiloa (Haleiwa) on Oahu; Hoolehua (Homestead Field) on Molokai; and Hilo Airport Upolu Point and South Point (Morse Field) on Hawaii; and Lanai City Airport on Lanai. Maui, at this time, did not have an officially designated airport.

In January 1929, Inter-Island Steam Navigation Company announced the formation of a subsidiary company, Inter-Island Airways which on October 29, 1929, made two pre-inaugural flights to Hilo. These were made by

Lt. Cover and C. I. Elliot flying two of the company's Sikorsky S-38 amphibians carrying passengers. Regular service began November 11, 1929.

In March 1930, Edward H. Peacock was appointed Superintendent of Territorial Airports; in July 1930, the U. S. Weather Bureau established reporting stations at Hilo, Laupahoehoe, Kukuihaela, Maalea and Port Allen while on July 12, 1930, Governor Judd approved the first Territorial Airport Rules and Regulations.

Act 17, Special Session of the Territorial Legislature abolished the Territorial Aeronautical Commission and transferred its functions to the Superintendent of Public Works.

In 1934, Inter-Island Airways received a Post Office Department contract to carry airmail.

In 1938, Puunene Airport was opened.

During 1941, Inter-Island Airways changed its name to Hawaiian Airlines and inaugurated DC-3 land plane service to the Neighbor Islands.

In 1941, layout was completed and work begun on dredging Keehi Lagoon and using the spoil to augment Honolulu Airport, using over \$5,000,000 appropriated by Congress.

(3) War Years 1941 - 1945

Upon the outbreak of War in 1941, all airports in the Territory of Hawaii were taken over by the armed forces of the United States.

Civil aircraft, originally grounded, soon began making flights under military control.

Hilo Airport, originally taken over by the Army, was later developed by the Navy as Naval Air Station Hilo, for carrier pilot training. Upolu was operated as an auxiliary field to NAS, Hilo.

Puunene Airport, Maui, was taken over by the Navy and greatly expanded and operated as Naval Air Station Puunene, Maui.

Molokai Airport was taken over by the Army but was not expanded or developed to the extent of Hilo or Puunene.

Honolulu Airport (John Rodgers Field) was taken over by the Army at the beginning of the war and used as a troop transport base while runway construction was in progress.

In August 1943, the Navy took over the installation and undertook more construction to turn the installation into a base for seaplane and land plane operations, principally for the Naval Air Transport Service. Although the airport was officially designated as Naval Air Station Honolulu, the Army staged B-29s and many other planes through this installations.

(a) South Hawaii District

[1] General Lyman Field

In 1927, the Territorial Legislature appropriated funds for airport development by Act 257. \$25,000 of these funds were for an airport at Hilo.

In February 1928, Major Clarence M. Young, then Secretary of Aeronautics, U. S. Department of Commerce, came to Hawaii to inspect aviation facilities and to promote commercial aviation in the Territory. On February 11, 1928, Major Young was flown to Hilo in the "Bird of Paradise" for the purpose of dedicating the new airport. The "Bird of Paradise" was the plane used by Lieutenants Maitland and Hagenberger to make the first successful flight to Hawaii June 29, 1927.

Hilo Airport was developed on land belonging to the Hawaiian Homes Commission.

Before 1937, the Works Progress Administration (W.P.A.) expended \$34,148 on the landing area and, in 1937, W.P.A. funds were used to begin an accelerated airport development program. From 1937 to 1941, \$261,613 were invested in Hilo Airport. The expansion of Hilo Airport in 1938 required relocation of the prison camp and the hangar and office of Inter-Island Airways.

In 1941, the Civil Aeronautics Administration contributed \$314,000 of national defense funds to Hilo Airport, and the Territorial Department of Public Works'

Annual Report of June 30, 1941 stated that \$125,243 of Territorial money had been spent on the airport from 1927 in addition to the foregoing federal funds.

At the outbreak of World War II, Hilo Airport was taken over by the Army and an Air Corps fighter squadron was stationed there. U. S. Army Engineers constructed military installations and continued the expansion of runways, taxiways and parking aprons. In 1943, the Navy moved on to the airport under agreement with the Army and constructed a Naval Air Station on which to base and train two full air groups. While the Navy had more extensive installations and greater use of the field, the Army Air Corps continued to operate the control tower, and from Army installations serviced a sizeable air transport operation conducted by the 19th Troop Transport Squadron. The Naval Air Station also serviced a similar Navy activity. Civilian passenger service continued under the Army.

The name of Hilo Airport was changed to General Lyman Field by Joint Resolution of the Territorial Legislature on April 19, 1943. General Lyman, a graduate of the U. S. Military Academy from Hilo died in service and had been promoted posthumously from Colonel to Brigadier General.

(b) North Hawaii District

[1] Kona Airport - Ke-ahole Airport

Neither of these airports were built until after World War II.

[2] Waimea-Kohala Airport

During World War II, the Marine Corps built a small airstrip near Kamuela, Hawaii. It was a graded and oiled strip 3,000 feet long for small aircraft, and was named Bordelon Field. It was built on Parker Ranch land. After the war, the Hawaii Aeronautics Commission leased this installation from Parker Ranch. Service was supplied by non-scheduled operators.

[3] Upolu Airport

In the early days of aviation in Hawaii, Upolu Airport was an airstrip known as Suiter Field. The U. S. Army Signal Corps maintained a communication station there. Inter-Island Airways used the field as an emergency stop on their route to Hilo, as well as to provide air service to the Kohala District.

Suiter Field was maintained by the Territory with Federal Emergency Recovery Act and Works Progress Administration funds prior to 1937. From 1937 to 1939, additional W.P.A. funds were expended in extending the runway to 3,500 feet and in making other improvements.

During World War II, the Navy established a weather and communications facility at Upolu and

used it as an auxiliary field to the Naval Air Station, Hilo for training of carrier pilots. The runway was extended to 4,000 feet and housing was provided for the personnel operating the airfield.

Upolu was returned to the Territory by the Navy after the war and civilian air service was resumed, with the Navy buildings used for terminal facilities.

In 1950, the Civil Aeronautics Administration installed a "VOR" beacon near the field and the Hawaii Aeronautics Commission installed temporary runway lights and a rotating beacon.

Upolu's subsurface drainage is inadequate, causing the run-off from the slopes above to be trapped in the clay foundation, causing settling and break-up of runway surface.

(c) Maui District

[1] Kahului Airport (Maalaea and Puunene)

On November 11, 1929, the first scheduled air service from Honolulu to Maui was inaugurated, using Sikorsky S-38 amphibians capable of carrying eight passengers. The Maalaea Airport was a level dirt field near the sea and was unusable in wet weather. When the airline began

using larger aircraft in 1935, the field became too small. In addition, the proximity of the mountains of West Maui rendered it unsafe.

In September 1936, the Works Progress Administration (W.P.A.) conducted wind studies on an alternate site at Puunene.

In January 1938, the Chief Inspector, Bureau of Air Commerce condemned Maalaea Airport.

A temporary permit was granted to allow use of Maalaea by small aircraft only.

Since construction did not start at Puunene Airport until June 1, 1938, Maui was without adequate air service until Puunene was completed.

Between June 30, 1939 and December 7, 1941, Puunene was gradually enlarged and improved. The Navy took over Puunene during the war and expanded it further.

However, Puunene was not adequate, and the Navy found it necessary to establish another large air station on Maui. 1,341 acres of cane land near Kahului were selected and construction of Kahului Naval Air Station was begun in 1942.

[2] Hana Airport

The original Hana Airport was a small grass field located at Hamoa. It was served by Inter-

Island Airways with 8-passenger amphibians from May 1935 to the outbreak of World War II. As the size of aircraft increased, the field at Hamoa became too small and scheduled flights were suspended. Hana was thus served only by unscheduled flights until the postwar construction of Hana Airport.

[3] Molokai Airport

On December 15, 1927, the Governor set aside 204.8 acres of Territorial land for an airport at Hoolehua, Molokai.

Inter-Island Airways started scheduled operations to Molokai November 11, 1929.

Between 1927 and 1942, the Works Progress Administration helped the Territory to enlarge and improve the field which was originally a dirt strip.

The U. S. Army established a radio station in 1935 and moved it to a new location in 1938.

During 1940, a tract of 14.69 acres was set aside for the Navy who still use the facility.

During World War II, the Army made extensive improvements such as paving runways, taxiways and aprons and lighting of runway 5-23.

[4] Kalaupapa Airport

Kalaupapa was opened to operations in 1934 and was served by Inter-Island Airways, now Hawaiian Airlines. Service was begun using S-38 Sikorsky

eight-passenger amphibian aircraft. When the company changed its equipment to the larger S-43s and DC-3s, they found Kalaupapa too small and too rough for their use. During World War II, Gambo Flying Service was authorized by the Army to furnish emergency service direct to Kalaupapa from Honolulu.

[5] Lanai Airport

In 1930, Inter-Island Airways, now Hawaiian Airlines, began operations into Lanai with Sikorsky S-38, eight-passenger amphibian planes.

During 1935, the airline started to replace the S-38s with 16-passenger Sikorsky S-43s and in 1941, this equipment was being replaced by DC-3s of 24 passenger capacity. The field at Lanai was not big enough for either the S-43s or DC-3s, and when the last of the S-38s were phased out shortly after the start of World War II, air service to Lanai ceased.

(d) Oahu District

[1] Honolulu International Airport

By Act 176, Session Laws of Hawaii 1925, \$45,000 was appropriated for the acquisition and development of an airport on the Island of Oahu within a reasonable distance of Honolulu. The amount appropriated was not to be expended until the sum of \$20,000 had been raised by private subscription and paid into the Territorial Treasury. For the sum of \$27,410, an area of 119.3 acres of land and 766

acres of inundated land was acquired from the S. M. Damon Estate as an airport site. A small area was cleared and the airport was dedicated 21 March 1927. The field was named in honor of the late Commander John Rodgers, who commanded the Navy's historical flight from the West Coast to Hawaii in 1925.

Act 238, Session Laws of Hawaii 1927, created a Territorial Aeronautical Commission and Act 257 of the same Legislature appropriated \$75,000 for the further development of John Rodgers Airport.

As a result of the policy adopted by the Legislature to foster aviation by the development of airfields, there was a boom in aviation in Hawaii. According to the Star-Bulletin of July 7, 1928, there had been six separate attempts to launch an inter-island air service in the past three months.

Inter-Island Airways was organized in 1929 and began service to the Neighbor Islands on November 11th of that year with three eight-passenger S-38 Sikorsky amphibians as original equipment. Thus, the first dependable air transportation service was inaugurated in Hawaii while air pioneers were still struggling to establish themselves on the mainland. In 1934, Inter-Island Airways won a Post Office Department contract to carry air mail among the islands. This became an important milestone in air service to the outlying islands.

On April 16, 1935, Pan American Airways made their first survey flight from San Francisco Bay to Hawaii in a Sikorsky S-42 flying boat. The flight to Pearl Harbor was made in 17 hours 14 minutes. This flight was the beginning of an orderly development of Pacific air transportation.

After a series of test flights, on November 22, 1935, scheduled airmail and passenger service was inaugurated from the mainland to Oahu. Postmaster General Farley came from Washington to witness what he characterized as "the beginning of the ----- most significant achievement in the development of air transportation."

These early operations were conducted from a company base at Pearl City, on the shore of Pearl Harbor. The first service was provided by Martin "Clippers" which were augmented in 1941 by larger Boeing "Clippers."

Due to hazards presented by surface craft, and for security reasons, Pearl Harbor in the pre-World War II days was not suitable as a base for commercial flying boat operations and planning started for the development of a "seaplane harbor" at Keehi Lagoon. Prior to 1939, a Federal appropriation of nine million dollars had been authorized for this development and for development of other Territorial airports. Three million three hundred thousand dollars was authorized by Congress in 1940 for dredging Keehi

Lagoon. In 1941 the sum of one million nine hundred thousand dollars was authorized for the development of John Rodgers Airport in conjunction with the seaplane project. This enabled the coral and earth produced by dredging to be used as fill to raise the level of the previously inundated lands of John Rodgers Airport and formed the basis for later expansion of the airport. Layout of operating facilities for this combined airport and seadrome, as submitted by Mr. Robert Campbell, CAA Airport Engineer, was essentially carried out by the U. S. Army Engineers and the Navy in the wartime development of John Rodgers Airport.

Upon the outbreak of the war, all airports in Hawaii were taken over by the armed forces of the United States and all civil aircraft were grounded. However, in a few days, the scheduled inter-island carrier was making emergency flights under military direction carrying engineers, medicines, munitions and supplies to the outlying islands. Travel control and passenger priority supervision was exercised by the Army for security purposes and for expedition of war priority transportation. Gambo Flying Service was authorized by the Army to furnish emergency transportation of medical supplies and relief supplies to Kalaupapa Leper Settlement in view of its isolation. All other private planes were impounded.

As Pearl Harbor became congested with ships in 1942, work was rushed on Keehi Seadrome so that seaplane transport operations could be removed from Pearl Harbor.

The Navy joined the U. S. Army Engineers in expediting this project. In order to provide necessary shore facilities, the Navy in June 1943, obtained from the Territory, a permit to "enter and construct" in the area. In 1944, the Navy completed construction of a terminal building, control tower and maintenance hangars for land planes operated by the Naval Air Transport Service. On the north side of the field, the Navy built the Naval Air Station Honolulu to support the Naval Air Transport operations and to house about five thousand of its men.

On November 16, 1945, Pan American Airways resumed commercial operations with their Boeing Clipper which had been leased to the Navy during the war.

John Rodgers Airport and Keehi Seadrome, as constructed by the U. S. Army Engineers and the Navy, consisted of a total area amounting to 4,020 acres with four paved runways 200 feet wide and with lengths varying from 6,150 feet to 7,650 feet. There were also three seaplane channels 1,000 feet wide, varying from 10,560 feet to 15,827 feet in length.

(e) Kauai District

[1] Lihue Airport

Lihue Airport was built after World War II.

Air service to Kauai was inaugurated on November 12, 1929, with two flights weekly to Port Allen.

Fifteen thousand dollars was appropriated for purchase of land at Port Allen to establish an airport. The Army Air Corps named the installation "Burns Field."

In 1931, the Legislature appropriated \$35,000 for an airport more centrally located at Wailua. Inter-Island Airways schedules were increased to three a week, serving both Wailua and Port Allen. With the advent of S-43 and DC-3 aircraft on the run, operations were shifted back to Port Allen, which remained Kauai's terminal until World War II when Port Allen was closed and Kauai was served through the Army Air Corps field at Barking Sands.

[2] Port Allen Airport

Port Allen Airport, formerly known as Burns Field, was used in the 1920's as a landing facility by the U. S. Army Signal Corps and the U. S. Army Air Corps. A Signal Corps reservation adjoining the airstrip housed personnel operating a communication station on the airfield.

The first air passenger service to Kauai was inaugurated by Inter-Island Airways on November 12, 1929, on a twice weekly schedule to Port Allen Airport.

For a time, Port Allen shared the service from Honolulu with an airport at Wailua but in 1938, the CAA found Wailua unsafe for larger aircraft and all operations were moved back to Port Allen.

Port Allen served Inter-Island Airways until its closure on the outbreak of World War II.

Prior to the war, \$127,000 had been spent on various W.P.A. projects in clearing, grading and paving at Port Allen Airport. After release of Port Allen to the Territory by the military in 1946, the runways were repaired at a cost of \$33,456 of which the Federal government contributed \$17,500.

During the war, civilian operations were handled at the Army Air Corps at Barking Sands. After the war, these operations returned to Port Allen Airport.

Construction of Lihue Airport caused the gradual disuse of Port Allen by non-scheduled operators and in 1974, the airport is used very little.

3. Post-War Years

By Act 31, Session Laws of Hawaii 1947, the names of John Rodgers Airport and Keehi Lagoon Seaplane Harbor were changed to "Honolulu Airport."

Space had been requested by 11 firms expecting to operate trans-Pacific routes and by 13 more who expected to operate within Hawaii.

By Act 32, Session Laws of Hawaii 1947, the Hawaii Aeronautics Commission was re-established and management and control of all airports used for commercial aviation in the Territory were transferred from the Superintendent of Public Works to the new Commission as of July 1, 1947.

As of June 30, 1948, the following airports were under the management of the Hawaii Aeronautics Commission:

<u>Name</u>	<u>Location</u>
Honolulu Airport	Oahu
Bellows Field	Oahu
Haleiwa Airport	Oahu
Port Allen Airport	Kauai
Kalaupapa Airport	Molokai
Molokai Airport	Molokai
Hamoia Airport (Hana)	Maui
Lanai Airport	Lanai
General Lyman Field (Hilo Airport)	Hawaii
Kamuela Airport	Hawaii
Upolu Airport	Hawaii
Morse Field (South Cape)	Hawaii

In addition three new airports were under construction to be added to the list above on completion. They were:

Lihue Airport	Kauai
Kailua (Kona) Airport	Hawaii
Hana Airport	Maui

It will be noticed that there was no civil airport at Kahului, that site still being a Naval Air Station at the time. Puunene still served as Maui Airport.

a. Airports Division and Division Staff

This organization is a direct lineal descendant of the Hawaii Aeronautics Commission, re-established

by Act 32, Session Laws of Hawaii 1947. During 1949-1950, the Hawaii Aeronautics Commission administed contracts for \$701,619. In 1951-1952, \$1,072,065 was spent on airports.

By 1952-1953, the Hawaii Aeronautics Commission had delegated supervision of \$1,171,739 of airport contracts to Hawaii Public Works. In that year, an additional \$512,739 worth of airport work was underway.

In June 1953, Hawaii Aeronautics Commission had asked the Hawaii Public Works to become its planning agency as well as supervising airport contracts.

In 1953-1954, the Hawaii Public Works supervised twelve contracts for the Hawaii Aeronautics Commission to the amount of \$992,373. By 1954-1955, this dropped to \$263,717 rising to \$876,315 in 1955-1956 when fourteen construction contracts were underway involving repair, installation of lights and construction of hangars. In 1956-1957, the amount rose to \$1,043,070.

Under the Act organizaing the government of the State of Hawaii accompanying statehood in 1959, the Hawaii Aeronautics Commission was placed under the State Department of Transportation, and all commissioners' terms of office expired December 31, 1959. The Reorganization Act abolished the Hawaii Aeronautics Commission as of July 1, 1961 when its functions were taken over by the Department of Transportation. To bridge the gap from 1959 to 1961, temporary commissioners were appointed.

Under the Department of Transportation, the Airports Division was organized as a successor to the Hawaii Aeronautics Commission, and it was organized into Districts, originally analogous to the Counties of the State, and was headed by a Division Staff. In 1962, the Airports Division administered the Districts of Hawaii, Maui, Oahu and Kauai. The airports belonging to the Hawaii District were General Lyman Field, Kona (before opening Ke-ahole), Kamuela, and Upolu. Maui District administered Kahului, Hana, Molokai, Kalaupapa and Lanai Airports. Oahu had Honolulu International Airport and some aspects of Dillingham Field while Kauai District had Lihue Airport and Port Allen Airport.

The Hawaii Visitors Program was established July 1, 1962, to welcome visitors, encourage travel to all islands and to provide information to travelers. In 1963-1964, the Visitors Information Program was incorporated into Airports Division where it still remains, even though some of its functions are exercised at State harbors.

During fiscal year 1963-1964, night flights were inaugurated by both Aloha and Hawaiian Airlines.

During 1965-1966, Airports Division had supervision over twenty construction projects with a total cost of \$2.7 million. This rose to a point in 1968-1969 where contracts for \$28,580,646 were let. Contracts underway were worth \$1,909,748 and contracts completed during the year came to \$3,863,640.

In 1971-1972, the Federal Aviation Administration inaugurated its Certification Program. This was a program based on Federal law, requiring all airport operators to meet Federal Aviation Administration standards of operation in order to gain and retain operating certificates for their airports. The standards were published and enforced by inspections. Failure to qualify for or to retain an operating certificate meant that scheduled airlines could not use the offending airport.

Due to a rash of aircraft hijackings, the Federal Aviation Administration also promulgated and enforced a security program at this time. The security program required a search of all persons and their baggage before boarding scheduled air carriers. It required Airports Division to construct fencing, lighting and "sterile" areas within its terminals and to provide armed deputized law enforcement officers to stand by while additional security personnel from the airline performed their searches of passengers and baggages.

The impact of these programs on Airports Division, the Department of Transportation and on the State of Hawaii was more far-reaching than the necessity of establishing approved standards and to attain these standards by increased construction and operations costs. These programs transferred decision-making on safety and security measures from the State to the Federal Government. While the State could refuse to

comply with Federal direction in these fields, it could only do so by losing the services of scheduled airlines to the airport or airports concerned. The construction, operations and administrative costs of these programs was substantial, notwithstanding Federal aid, and these expenses were mandatory.

b. An outline of the financial administration of Airports Division in recent years has been briefly described previously. Essentially, Airports Division pays its own expenses and provides for debt servicing out of its various receipts and then returns or charges the airlines any overcharges or deficits in the operating expenses for each year.

Prior to 1962, the major source of operating revenue for the Airport Special Fund was the aviation fuel tax.

Although landing fees were collected, the amounts were very small ranging from a high of \$2.00 for aircraft weighing more than 27,000 pounds down to a minimum of \$0.25 for aircraft under 5,000 pounds.

(1) Fuel Tax, Landing Fees and Total Revenues
by Fiscal Years

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total Revenues	\$1,900,590	\$1,924,630	\$2,182,785	\$3,086,651
Fuel Tax	1,286,373	1,376,451	1,547,013	2,116,799
Percent of Total Revenues	68%	72%	71%	69%
Landing Fee	66,053	70,265	71,651	92,478
Percent of Total Revenues	3.5%	3.7%	3.3%	3.0%

During this period, the fuel tax rate was 3-1/2 cents per gallon. The tax began at 5 cents, was lowered to 3.5 cents in 1954 and to 1 cent in 1962 where it remains today as established by Section 243-4(a) (2) of the Hawaii Revised Statutes.

In 1962, long-term leases were negotiated by the Department of Transportation with the scheduled airlines operating at Honolulu. Leases were granted to the following airlines:

Aloha Airlines

British Overseas Airways Corp.

Canadian Pacific Air Lines

Hawaiian Airlines

Japan Air Lines

Northwest Airlines

Pan American World Airways

Philippine Air Lines

Qantas Empire Airways

United Air Lines

The term of the Airport-Airline lease is for twenty years with two five-year options to extend the lease. If the options are exercised, the Lease will be terminated in 1992.

An integral part of the Lease negotiations was the concept of airport financing by landing fees to replace the aviation fuel tax. The landing fee was called Airport Use Charge and the procedures for its computation are detailed in

Exhibit One of the Lease. The Lease provides for re-negotiation of Exhibit One at the end of the 6th, 10th and 15th year of the Lease and at the end of 20th and 25th year if the options for extension are exercised by the airline.

To calculate the Airport Use Charge at the beginning of the fiscal year, the difference between estimated expenditures and revenues, excluding airport use charges, is divided by the total thousand pounds of landing weight anticipated for the fiscal year. Revenues from all airports were combined to calculate revenues except for Airport Use Charges or Airport Use Charge Deficiencies, revenues derived from airport properties other than Honolulu International Airport, and funds paid to the State to repay for the original cost of a facility.

Among other items of expense for each fiscal year, a sum of \$570,000 for maintenance and operation of airports other than Honolulu International Airport and \$150,000 for capital improvements at all airports was used in the computation of the Airport Use Charge. In other words, the maximum that could be expended for O&M and CIP at neighbor island airports was \$720,000 per year. From July 1, 1968 to June 30, 1970, this amount was increased by \$19,079. At the end of the fiscal year, if there are any deficiencies in revenues, the lessees are obligated to pay to the State sufficient amounts to make up for the deficiency. If there is an excess of revenues over

expenses, the excess becomes an item of revenue for the following fiscal year.

The Plan also provides that inter-island airlines shall pay a reduced airport use charge which is 9% of the Airport Use Charge collected from overseas carriers.

The lease provides for crediting aviation fuel taxes paid by the Lessee against airport use charges, and if any excess credits are available, the credits may then be applied against rentals. Any excess credits remaining after airport use charge and rental fees have been applied become surplus revenues of the special fund.

At the end of the 6th year of the Lease, the Department entered into negotiations with the airlines. The principal changes were the elimination of the fixed annual amounts for maintenance and capital improvements for airports other than Honolulu International Airport, the computation of the airport use charge based on total airport system requirements, the deletion of provisions allowing airlines to use fuel tax payments as credits against rentals for land and building spaces and the return of excess airport use charges to the airlines instead of treating it as a revenue item for the following year.

In support of the negotiations conducted by the Department of Transportation, S.B. 444 was passed by the 1968 Session of the Legislature and enacted into law as Act 20;

SLH 1968. Act 20 clarified Legislative intent to grant the Department authority to establish landing fees by rules and regulations.

Following route awards to additional airlines by the President in 1969, leases similar to the 1968 leases were tendered in 1970 to:

Braniff International

Continental Airlines

Western Airlines

Trans World Airlines

American Airlines

Air New Zealand

Union de Transports Aeriens

Air Siam and Korean Airlines were later granted leases similar to the 1970 leases.

(2) Aviation Fuel Tax

As shown in the table for fuel taxes and landing fees, about 70% of revenues for the period prior to the execution of the Airport-Airline Lease were generated by fuel taxes. During fiscal year 1974, nearly two and one-fourth times as much fuel was sold than in 1959.

The federal government collects a 7 cents per gallon tax on aviation gasoline and non-commercial jet fuel to provide a portion of the funds for the Airport and Airways Development Act Trust Fund. This fund is used for federal-aid to airports.

Fuel taxes are not a major source of income for air carrier airports other than Hawaii. As long as the Department of Transportation has the authority to establish fees, the only reason to keep a fuel tax is to meet the requirements of the airport revenue bond covenants pledging the aviation fuel tax for airport purposes and as provided in Section 39-53(5), HRS.

(3) Landing Fees

Charges based on the weight of the aircraft are considered the most equitable system for recovering the cost of providing airfield facilities. Airports throughout the world use this method with differences depending on the cost items that are included in the fees. Foreign areas tend to charge more than that of the U. S. since the cost of navigational aids, air traffic control and border clearance is usually included in the fee.

From the brief preceding discussion, it is obvious there is a danger in comparing dollar amounts of landing fees. However, it would be interesting to note fees for the landing of a Boeing 707-320 aircraft at representative airports in the U. S. For the major U. S. airports, the cost per landing of the B-707 ranged from a low of \$16 at New Orleans to a high of \$94 at Fairbanks in 1968. Honolulu's fee for that year was \$88, second highest in the nation. By 1974, New Orleans was still the lowest at \$37 and Seattle was the highest at \$344. Honolulu's fee was \$222 and exceeded only

by Seattle for the airports in the comparison. It should be noted that the Honolulu fee reflects the computed Airport Use Charge based on estimated revenues and expenses for the fiscal year.

(4) Hawaii's enplaned passengers for calendar year 1973 were:

Honolulu International Airport	4,649,649
General Lyman Field	684,727
Kahului Airport	928,720
Lihue Airport	922,847
Ke-ahole Airport	357,743
Waimea-Kohala Airport	48,167
Molokai Airport	71,694
Lanai Airport	20,012

At Honolulu International Airport, 63% of revenues came from non-aeronautical sources and 37% from airport users such as the airlines. With its large sales to foreign passengers at the duty free shop, Honolulu has a much higher percentage when compared to the national average of 44%. At General Lyman Field, concession revenues at 21% are below the national average of 40%, while Kahului and Lihue are almost the same as airports of comparable size. Ke-ahole, Waimea-Kohala, Molokai and Lanai concession revenues are far below average with nearly 90% of revenues coming from users.

At the latter airports, revenues for systems and services are primarily for airport security payments from the airlines.

(5) Airport Special Fund Payments to the General Fund

As required of all special funds, the Airport Special Fund pays 5% of its gross receipts, less debt service, to the General Fund for central services. During the Fiscal Year 1974, this amounted to \$834,437.

c. South Hawaii District

(1) General Lyman Field

After the war, military operations at Hilo decreased and in September 1946, the Airport was returned to the Territory for operation as a civil airport, although operational control was retained by the Army Air Corps. Operation of the control tower was taken over by the Air Force when that organization was formed from the Army Air Corps on July 1, 1947 and continued until October 1948 when it was turned over to the Hawaii Aeronautics Commission who funded tower operation by Civil Aeronautics Administration personnel. Federal funds for tower operation became available from July 1, 1949.

No major projects were undertaken at General Lyman Field in 1948 and 1949 due to the uncertainty of the tenure of the Aeronautical Commission who used airport facilities under a thirty-day revocable permit.

During 1951, improvements were made to the main entrance and access road.

On April 8, 1952, the Airport was returned to civilian control of the Territory by the Federal Government.

In 1952, a new maintenance area was constructed and in July ground was broken for a new terminal and a contract was let for high intensity lights on Runway 8-26.

In 1953, bids were opened for construction of roads, aprons and a parking area as well as a freight terminal. The terminal was dedicated August 25, 1953, and the entire airport was dedicated December 5, 1953. The freight terminal was completed in 1954.

On February 13, 1964, there was a runway overrun by an inter-island carrier.

General Lyman Field achieved jet capacity in 1965 when its runway (8-26) was lengthened to 9,800 feet, but it was not until October 1, 1967 that Pan American World Airways and United Air Lines began direct scheduled flights from the mainland to Hilo. A new taxiway and apron project was completed in April 1967 to prepare General Lyman Field for jet traffic and in March 1967 bids were opened for terminal alterations.

On July 4, 1969, the \$775,000 overseas interim terminal was dedicated. This building is to give relief until construction of a complete new terminal is accomplished.

In 1970, Governor Burns appointed the Hilo Airport Advisory Committee composed of business and civic leaders of Hilo to make recommendations for the long-range development of General Lyman Field. This commission recommended construction of a new terminal on the south side of Runway 8-26 with an apron capable of accommodating four inter-island jets and eight 707 size aircraft and strong enough to support 747 type aircraft. The first 747 jumbo jet to land at General Lyman Field arrived on February 6, 1971.

Construction of the new terminal was delayed by the necessity of Federal approval of environmental impact statements and ground was finally broken for the project in July 1974.

d. North Hawaii District

(1) Ke-ahole Airport

The 1947 Territorial Legislature recognizing the need for an airport to serve the Kona area, officially designated an area parallel to the beach and known as Kailua airstrip to become Kona Airport. In May 1948, bids were opened for the construction of a paved runway 100 feet wide and 3,500 feet long. Work started June 10, 1948. Construction of a terminal was begun April 1, 1949. Opening ceremonies were held on July 10, 1949 for the new Kona Airport.

In 1949, fencing was installed to keep cattle off the runway and the runway was lengthened to 3,800 feet. This was later extended to 4,400 feet.

In 1951, temporary runway lights and a rotating beacon were added.

Proposals to extend the airport encountered much opposition and by 1954, a new location was sought.

In 1968, the terminal was expanded.

The site of Ke-ahole was selected for an airport to replace Kona Airport and the contract for construction of Ke-ahole Airport was let September 3, 1969.

On July 1, 1970, Ke-ahole Airport was dedicated and Kona Airport was closed after its last scheduled flight on June 30, 1970.

Ke-ahole Airport opened with a 6,500 foot runway, a parallel taxiway, one high-speed turnoff, wide aprons and ample parking area. The terminal consists of a cluster of high-beam polynesian-style buildings topped with shake roofs.

Occupying an ample site on State lands, Ke-ahole is capable of expansion to serve international jet traffic, should the need develop.

It was the first airport ever built for the State of Hawaii with a consultant firm furnishing the total project management. The Bechtel Corporation, through its contract with the State, provided a complete package of services, including preliminary engineering, detailed design, drawings and specifications, assistance in contract award, construction inspection and other services usually performed by State employees.

The design services for architectural and civil engineering work were provided under the basic Bechtel contract by local architects and engineers under subcontract to the Bechtel Corporation.

The contract relationship has been similar to that between the State and the Ralph M. Parsons Company for the expansion of Honolulu International Airport.

The services of these companies has enabled the Department to sidestep staffing problems and meet

pressing deadlines posed by booming tourist travel and the newest developments in air technology.

Ke-ahole Airport was constructed within 13 months after the first 1,000-pound dynamite charge was exploded on the lava beds on May 27, 1969. Crews worked 12-hour shifts, six days a week, to accomplish this feat.

The Federal Aviation Administration Control Tower at Ke-ahole Airport was dedicated April 21, 1971, and on May 6, 1971, Governor Burns accepted the Federal Aviation Administration's Beautification Award for Ke-ahole Airport.

In October 1970, Ke-ahole, Waimea-Kohala and Upolu Airports were placed under the control of the new North Hawaii District.

(2) Waimea-Kohala

As Bordelon Field was not suitable for development as a modern airport, a new site was sought. From September 1949 to September 1950, data on winds, ceilings and visibility was collected. Preliminary plans for the new airport were approved by the Hawaii Aeronautical Commission in April 1951 and in October 1951 bids were called for the first phase of construction to include grading, paving of runway, fencing, and water supply to the airport. Construction was begun February 20, 1952. Construction of the terminal began in April 1953. Scheduled air service commenced July 2, 1953 and the airport was dedicated August 30, 1953 although the terminal

was not finished until October 1953. This airport was completed entirely with Territorial funds without Federal aid.

In 1970, Edward Sullam was commissioned to draw up architectural plans for additions to the terminal, and the contract for this work was awarded in May 1971 for \$389,700 and completed August 16, 1972 at a cost of \$413,361.

In 1970, the Mayor of Hawaii, Shunichi Kimura, reflecting the desires of the County Council and residents around Kamuela, asked that the name of the airport be changed from Kamuela Airport to Waimea-Kohala Airport. This was approved by Governor Burns.

On October 1, 1970, North Hawaii District was formed and Ke-ahole, Waimea-Kohala and Upolu were placed in the North Hawaii District.

In 1970 and 1971, contracts were awarded to resurface the runway and make additions and alterations to the terminal.

e. Maui District

October 1, 1946 marked the entrance the Territory of Hawaii into full scale operation of airports. Puunene was taken over at this time under a permissive agreement with the Navy and in December 1948, Puunene reverted to the Territory under Quitclaim Deed.

No major improvements were undertaken at Puunene Airport since the Aeronautical Commission planned to use Kahului Naval Air Station as the principal airport on Maui.

Extensive negotiations were begun with the Navy and on May 25, 1951, the Commission transferred all airline operations from Puunene to Kahului.

(1) Kahului Airport

Much work was necessary before Kahului could be made usable for commercial airline operations. A passenger terminal was constructed, a shop building was remodeled to produce an air freight building with refrigeration facilities, a passenger protection fence, rotating beacon, and runway lights were installed, obstruction lights erected, and paving repairs undertaken. Paving of a new entrance to the automobile parking lot was completed and small aircraft hangars opened.

By June 1952, full commercial airline operations were being conducted at Kahului and Puunene was virtually abandoned.

A new control tower begun in 1957 was completed October 1958 and additional lighting was installed in the operational areas.

An all-weather instrument runway was opened at Kahului November 9, 1963, making Kahului the first Neighbor Island Airport to have all-weather instrument landing capability.

Vladimir Ossipoff and Associates were selected to design a new terminal at Kahului which was to have been completed in 1965. It was actually dedicated on

June 25, 1966. Additions to the new terminal were made in 1970-1971 and a contract for drainage and improvements was let June 30, 1969 for \$1,049,626, while an air cargo building costing \$85,336 was completed February 13, 1970.

A significant improvement was effected by apron rehabilitation and further lighting completed August 16, 1972 at a cost of \$1,832,162.

(2) Hana Airport

With the growth of Hotel Hana-Maui and increase in the population of the Hana area, the need for better service became apparent.

On land owned by the Territory of ~~Hawaii and on land donated for airport use by the Hana Ranch~~ Company, a new airport was built and opened to scheduled traffic November 11, 1950.

When completed, Hana Airport occupied 125 acres and had a single runway (8-26) 100 feet wide and 3,600 feet long, a passenger terminal and a freight terminal, paved runway and taxiways, and paved plane parking area. The original cost was only \$419,160.

(3) Molokai Airport

The Territory assumed responsibility for operation and maintenance of the airport in 1947, but the property did not revert to the Territory until April 15, 1952.

A rotating beacon, obstruction lights and flashing hazard beacons were installed. In September 1953,

a new drainage system was installed and a new terminal was completed in June 1957. Improvements on the terminal were made in September 1969 and in July 1972.

Extensive rehabilitation of runways has been necessary and there are safety obstructions. In 1974, consideration was being given to relocating Molokai Airport.

(4) Kalaupapa Airport

After the war, Andrew Flying Service and Cockett Airlines began serving Kalaupapa on a daily basis, flying in Beechcraft and Cessna planes. Although Kalaupapa peninsula was under the jurisdiction of the Board of Health, it was agreed that the then Hawaii Aeronautical Commission would accept the responsibility for airport maintenance and operations.

In 1951, a small passenger terminal with a rest house was completed. Prior to that time, there had been no passenger facilities. The field was sod on sand and was very rough causing discomfort to passengers and wear on aircraft using the facility. In spite of the fact that Kalaupapa strip is adjacent to the windward beach of Kalaupapa peninsula and thus subject to heavy salt spray from wind blown surf, the Aeronautical Commission thought the roughness could be alleviated by a good stand of grass. Accordingly, water storage and pipeline with hose bibs were installed. This was not sufficient to overcome the problems of salt spray, poor nourishment and erosion from high winds and propeller blast.

In 1951, a small paved warm-up apron was constructed. This eliminated the warm-up area problems but did nothing for the runway problems.

In 1954, a paved runway with sodded shoulders was constructed.

1970-1971, the runway was extended from 1,658 feet to 2,750 feet.

Although the number of people at Kalaupapa is small and ordinarily would not justify such an airport, it must be borne in mind that air service is now almost the only means of transportation between the peninsula and the outside world. Even though the patients now can leave Kalaupapa, most have chosen to remain. Barge service is irregular, the peninsular is exposed to rough onshore wind and sea conditions, and all the daily needs of the colony, such as mail, beach, vegetables, newspapers and milk are supplied by air.

(5) Lanai Airport

It was not until 1946, when a new airport site was chosen and the land donated to the Territory by the Hawaiian Pineapple Company, that air service was resumed. On September 18, 1946, Hawaiian Airlines began operations into Lanai with Douglas DC-3's. The field was an unpaved sod strip and, as a result, was practically unusable in wet weather and almost untenable due to dust and dirt in dry weather. In

view of these conditions, air service was not reliable, and it was therefore decided in 1948 to pave the runway and taxiway. Lanai Airport was the first airport in Hawaii to be constructed by the Hawaii Aeronautical Commission with the assistance of Federal funds appropriated under the Federal Airport Act. Paving was completed in May 1951.

When it was found that erosion was occurring due to high winds and propeller blast, a warm-up pad was built and taxiways were widened.

In 1952, an air freight terminal building was built. On October 14, 1966, an extension of runway, resurfacing and widening of existing runway, construction of taxiway and apron and a new terminal building as well as the relocation of existent freight terminal building was accomplished at a cost of \$817,000. The General Aviation Officer of Airports Division, State of Hawaii, Department of Transportation, organized a "fly-in" of small-plane owners for the Department's most colorful dedication of the year --- the official opening ceremonies for Lanai Airport's newly extended runway and expanded facilities October 16, 1966.

A contract for installation of runway and taxiway lights was awarded November 4, 1969. Work was completed November 16, 1972.

A contract to erect an addition to the terminal was awarded September 21, 1970 and work was completed in January 1971.

Air conditioning of the terminal was completed March 16, 1973.

f. Oahu District

(1) Honolulu International Airport

The airport was returned to the Territory by the Navy on October 1, 1946, for operation and maintenance. The Navy retained certain areas and buildings to service the operations of the Naval Air Transport Service. The Navy retained operational control and maintenance of the Seadrome.

As John Rodgers Airport, by common use, became known as "Honolulu Airport," the 1947 Legislature officially changed its name. Designation of airports by geographical names eliminates confusion in world-wide communications.

Shortly after the Territory assumed control of the Airport, it was necessary to make improvements to accommodate the various airlines and governmental agencies. Contracts were let by the Department of Public Works for building alterations, painting and of rehabilitation of Runway 4-R.

In the post-war surge of interest in commercial aviation, every foot of frontage for fixed-base operators at Honolulu Airport was optioned by mid-1946. Space in the overseas terminal was at a premium. In addition, space for CAA Control Tower, Airways Traffic Control and Communication

Center, U. S. Customs, U. S. Immigration, U. S. Department of Agriculture, U. S. Public Health and the U. S. Weather Bureau had to be provided. Act 32 of the 1947 Legislature recreated the Hawaii Aeronautics Commission and transferred jurisdiction of all Territorial airports from the Superintendent of Public Works to the new Commission. New Rules and Regulations for the Territorial Airport System were promulgated by this Commission and approved by Acting Governor Oren E. Long on June 2, 1948.

Upon assumption of operational control of Honolulu Airport, the Aeronautics Commission obtained the services, under contract, of CAA personnel to operate the control tower until Federal funds became available for this purpose. The Navy moved their crash-fire equipment from the south side of the Airport to their main fire station on the north side. The Commission hired a crash-fire crew to work with two pieces of equipment procured from the Navy and to function in coordination with Navy crash fire activity on the Airport.

A guard force was recruited for public safety, but was replaced by members of the Honolulu Police Department under contractual arrangements.

In 1947, the Civil Aeronautics Administration moved their communications facilities to the third floor of the then terminal building and the U. S. Weather Bureau established an airport weather station.

In January 1950, the Navy turned over 75 buildings in the Naval Air Facility to the Territorial Aeronautical Commission which derived considerable revenue therefrom.

The outbreak of the Korean War in June 1950 had a great impact on Honolulu Airport. The number of aircraft landings increased from 6,900 in June 1950 to 8,600 in July 1950. The already inadequate overseas passenger terminal was taxed to capacity.

In March 1951, an area of about 104 acres of the Hickam Field reservation was leased by the Hawaii Aeronautics Commission for 20 years. This lease enabled the Commission to pave a 540-foot connecting link with the new Hickam extension to runway 8-26, making a runway 200 feet wide and 13,104 feet long. At the time, this was one of the longest runways in the world. During this period, Honolulu International Airport was the third busiest airport in the United States.

In August 1951, due to closure of Hickam Field to traffic and diversion of military traffic to Honolulu and to a simultaneous step-up in airlift to support the Korean War, Honolulu International Airports traffic count soared to 13,000 a month. However, a fall off of Korean traffic and re-opening of Hickam Field brought the count down to 5,100 in May 1952. Commercial traffic continued to increase even if military traffic declined.

During this period (1951 - 1952), a more permanent place of business was offered to the lei sellers, removing them as a traffic hazard and giving Honolulu Airport a distinctive flavor.

The terminal building at that time was engaged by an addition to the lobby and a fire sprinkler system was installed in the overseas terminal.

Figures for the period show that twice as many visitors arrived from overseas by air as by ship. Overseas air passengers increased from 63,055 in 1947 to 153,598 for the year ending June 30, 1952.

During 1952-1953, modernization runway lighting system was begun. Progress on the planning of a new terminal was delayed by problems associated with land use. Both inter-island and overseas flights increased. Increased tourist traffic from the mainland was stimulated by the low tourist fares.

Convair 340 planes carrying 44 passengers were put into inter-island service requiring alterations of passenger handling facilities.

In the year 1953-1954, there were 127,690 landings compared to the 97,062 of the previous year. Overseas passenger traffic increased 12.7% to 205,840. Inter-island passengers increased at 2.8% to 570,263. Honolulu International Airport was ranked as the fourth busiest in the United States in this year.

Plans for the new terminal at Honolulu International Airport were completed in December 1954 for an architect's fee of \$63,000.

In 1954, plans were made to stockpile 700,000 cubic feet of coral on the airport. This material was to be dredged from Keehi Lagoon. The storage project was completed in 1956-1957.

In February 1959, the parking lot for overseas arrivals and departures was completed and Stage I of the new terminal construction was underway with an estimated completion date of November 1959.

In August 1959, Qantas inaugurated commercial jet flight at Honolulu International Airport followed by Pan American Airways in September 1959 and United Air Lines in March 1960. Qantas and Pan American used Boeing 707's and United flew DC-8's.

Stage I for the new terminal was completed in December 1959 and Stage II was begun immediately. This consisted of construction of the terminal and its taxiways. Completion of the terminal was scheduled for 1961.

At this point in the history (FY 1959-1960) of Honolulu International Airport, the total aircraft operations at this busy hub of the Hawaii State Aviation System were 262,596. These operations were divided into 87,719 carrier operations, 42,264 general aviation and 136,005 military.

The total passengers handled were 1,535,262. Of these 765,106 were outgoing and 770,156 incoming. These were further divided into 404,179 outgoing interisland; 360,927 outgoing overseas; 407,762 incoming interisland and 362,394 incoming overseas. The total cargo handled at Honolulu International Airport was 45,181,428 pounds.

On July 22, 1962 at 11:19 p.m., the "Empress of Lima," a four-engine turboprop aircraft crashed and burned on the approach to the Hickam Field portion of Runway 8 at Honolulu International Airport. Twenty-seven persons died in the accident and thirteen survived in Hawaii's worst air disaster to date.

The new terminal was dedicated August 22, 1962 during the annual conference of the Airport Operator's Council International at Honolulu. Najeeb Halaby, Administrator of the Federal Aviation Administration was the keynote speaker at the dedication.

All operations were transferred from the old terminal to the new terminal at midnight, October 14, 1962.

The new terminal represented an investment of \$38 million at that time.

During the fiscal year 1962-1963, work was completed on additions to the new terminal. Construction was also completed on the Ramp Control Tower, Aloha Airlines lounges and an office building.

There were also additions to Ramp Building 4, construction of taxiways and aprons, construction of new lei vendors stands, landscaping, construction of elevated walkways, and ground level holding rooms, installation of a paging system, hangar construction, repair of operational areas and service roads and the construction of a cargo building. A contract was let to destroy the old terminal building.

A new crash fire building was dedicated June 9, 1966.

In fiscal year 1968-1969, work was begun on the satellite terminals to Honolulu International Airport. These were designed to be two stores high and to house loading bridges to fit the new wide-bodied jets.

On March 3, 1970, Pan American initiated 747 service to Honolulu and found the Diamond Head "gull-wing" satellite terminal completed with two loading bridges to serve it. The Ewa "gull-wing" extension had two gates and holding rooms completed by the end of July 1970 and a third was put into service there July 7, 1970 bringing the total at that time to five.

When the first Pan American 747 arrived at Honolulu and found a completed 747 gate and loading bridge waiting, it meant that Honolulu International Airport was one of the first airports in the world to have facilities especially designed for 747s available upon their arrival.

Each of the five new holding rooms in the two satellite "gull-wing" terminals has two floors, a main and a mezzanine, is served by bus trains at the main or second level. When completed, departing passengers will travel by bus on one level and arriving passengers on the other. In addition to holding rooms, bus access and loading bridges, the gates have complete fueling facilities. Ground level of the gates is used to store airline equipment and as office space.

To accompany the development of the main terminal, the Inter-Island Terminal was modified, enlarged and partially air-conditioned by November 1969.

Domestic Arrivals area was expanded and additional area allocated for an interim International Arrivals Terminal.

A 2,000 car, five-story parking structure was completed in February 1970.

Bus trains, each carrying 120 persons began their task of moving people from one point to another within the airport.

Runway 4R-22L was rebuilt and lengthened to 9,000 feet.

On March 3, 1970, the same day as the first 747 arrival, the Queen of England stopped briefly at Honolulu International Airport enroute to New Zealand.

On April 18, 1970, the joint arrival of President Nixon and Astronauts Lovell, Swigert and Hoise was celebrated with ceremonies on the ramp area near Lagoon Drive.

To relieve traffic at Honolulu International Airport by student pilots, the 4,500-foot runway on Ford Island in Pearl Harbor was leased from the Navy and opened February 2, 1970.

In fiscal year 1970-1971, model studies of the proposed reef runway were completed favorably.

In May 1971, the Solari centralized system of visual presentation of arrival and departure data was inaugurated. This system is operated by the State and was the first such centralized system in the world.

On May 16, 1972, the \$12.5 million Ewa (westward) extension of the John Rodgers Terminal at Honolulu International Airport was opened. This provided another 360,000 square feet of terminal space for handling passengers.

The Reef Runway Project, a project to increase volume capacity of the airport and to divert heavy and noisy aircraft from the city of Honolulu was approved by the Federal Aviation Administration.

The Visual Solari System, making paging unnecessary, was completed at a cost of \$1,260,000 and the airport added 3,900 new parking stalls.

The institution of the Airport Certification Program by the Federal Aviation Administration in May 1972 brought the airport to federal standards and it was awarded a Certificate of Operation. At the same time, imposition of the Security Program by the same agency resulted in the posting of guards, erection of barriers, fences, gates and lighting.

The new, three-level international arrivals terminal became operational on May 16, 1973, but progress on the reef runway was held up by an injunction secured by conservationists.

The newest three-level addition to the John Rodgers Terminal extends west of the three-level ticket lobby extension dedicated, coincidentally enough, May 16, 1972.

The new addition provides operational and office space for all U. S. border agency personnel at the airport at no cost to the Federal Government. It also provides space for processing entries of all passengers arriving from outside the United States.

Also completed at this time were pedestrian overpasses between the terminal and parking structure, installation of elevators and escalators and rehabilitation of older lobby space.

Landscaping and coordination of signs in the terminal began the beautification of the terminal where work to expand the Diamond Head "gull-wing" terminal continued into 1974.

Work was resumed on the reef runway and proceeded through 1974. At the end of the year, the appearance of Honolulu International Airport began to resemble that planned for it by 1985.

g. Kauai District

After the war, Port Allen was used by non-scheduled aircraft but scheduled airlines were required to continue service at Barking Sands due to CAA regulations.

(1) Lihue Airport

Land was acquired near Ahukini for the purpose of constructing Lihue Airport. In 1948, a contract for grading and paving a 3,750 foot runway was let for \$359,627. To complete the project, paving taxiways and parking areas brought the total to \$678,854. Grading and paving was completed in December 1950.

On September 1, 1949, the airport was opened to limited operation while the terminal was being built. This building was built for \$97,223 and was dedicated January 8, 1950. The water system cost an additional \$55,564. Upon completion of a rotating beacon and obstruction lights, night schedules were started April 4, 1950.

In August 1950, a contract was let for the construction of a freight terminal and maintenance shop. Temporary runway lights were replaced by medium intensity runway lights and a fully automatic emergency generating system in September 1951.

Before Convair 340 aircraft could use this airport, it was necessary to lengthen the runway and taxiway from 3,750 feet to 5,100 feet. This was completed in October 1952 at a cost of \$178,697.

Increased passenger flow and the necessity of housing increased CAA and Weather Bureau activities led to alterations and extension of the terminal in 1952 for \$110,122.

In October 1958, a parking lot was added to the existing terminal area and a restaurant building connected to the terminal was completed in March 1959.

Additions were made to the terminal in 1962 and hangars were erected.

The increasing number of hotels on Kauai made it an attractive tourist destination and the Department of Transportation Annual Report of 1973 claimed a more than 25% gain over the preceding year and gave the number of take-offs and landings as 34,316 for the year.

By 1974, it was evident that the passenger flow at Lihue had exceeded the physical capabilities of the terminal and there were increasing reports of clogged sewers and inoperative utilities. The airlines decision to buy larger aircraft made construction of a second runway necessary and a new terminal was also planned.

(2) Port Allen Airport

Prior to World War II, \$127,000 had been spent on various W.P.A. construction projects at this airport, then known as Burns Field.

After release of Port Allen Airport to the Territory by the Army in 1946, the runways, which had been blocked, were repaired at a cost of \$33,457 of which the Federal Government contributed \$17,500.

During the war, movements by air to and from Kauai went through the Army Air Corps field at Barking Sands. After the post-war rehabilitation mentioned above, the civil air operations on Kauai were largely at Port Allen Airport although other small airfields existed.

The construction of Lihue Airport took away scheduled traffic, and non-scheduled operators also gradually shifted to Lihue. By 1974 the airport is seldom used.

4. Plans for the Future

a. Airports Division

The demands for expended facilities in the future can be expected. Whether the volume of air operations and passenger flow will remain constant, grow or shrink, depend on many factors. World economics climate, political stability and peace immediately spring to mind as imponderables which make forecasting difficult.

Nevertheless, a certain amount of orderly airport expansion is planned for the State Airports System in the next decade 1975-1985. Improvements to passenger terminal facilities for inter-island traffic and cargo terminals for air freight are planned for this period.

Yet to be evaluated is the influence of inter-island ferries on inter-island air passengers. A hydrofoil ferry is supposed to go into service in 1975.

b. South Hawaii District

(1) At the time of writing, construction of the new terminal at General Lyman Field is underway. In the next few years, plans for this airport call for an extension of Runway 8-26 to 10,500 feet in length with an accompanying extension of its taxiway.

A high speed access between Runway 8-26 and taxiway Alpha will be constructed and the terminal expanded if needed. There is a requirement to construct new airport access roads.

c. North Hawaii District

(1) Ke-ahole Airport

No major expansion of Ke-ahole is planned.

(2) Waimea-Kohala Airport

No major expansion of this airport is planned.

(3) Upolu Airport

Improvements to the operating areas are expected to be normal, but it is planned to erect a new building. If commercial activity should expand in the North Kohala area, it is conceivable that this airport's improvement could be accelerated.

d. Maui District

(1) Kahului Airport

A considerable enlargement of the existing terminal is foreseen for the 1975-1985 period since the present terminal is too small for the existing passenger flow.

Runway 2-20 may be extended in length and a taxiway parallel to runway 5-23 is likely to be constructed.

Plans exist to build an area for General Aviation use on the east ramp at Kahului.

Access roads must be improved and a major alteration to runway 2-20 and to the county road immediately adjacent to it is probable.

A new maintenance facility is to be constructed.

(2) Hana Airport

No major expansion or alteration is planned for Hana Airport.

(3) Molokai Airport

The coming decade probably holds more change for Molokai Airport than for any other since two new

sites for this airport are under consideration. One site is one mile north of the existing airport and the other site is on the northwest end of Molokai. Moving to either site will necessitate construction of a completely new airport. Some of the noisier prospects for Molokai of late have predicted a rise in population from 3,000 to 30,000 but the lack of adequate fresh water on the island would indicate a much slower growth. Even a small growth could lead to a larger terminal and a more modern configuration than that now existing. A new tower is to be erected soon.

(4) Kalaupapa Airport

There are no future plans for Kalaupapa Airport.

(5) Lanai Airport

Construction of resort hotels on Lanai is now planned, and, if carried out, will necessitate improvements to Lanai Airport. These improvements will be an extension of the runway by 2,000 feet with the construction of a parallel taxiway and the construction of a new terminal.

e. Oahu District

(1) Honolulu International Airport

Honolulu International Airport's expansion will continue until 1985 at least. A vertical expansion of the Y-concourse of the Main Terminal to two or

three stories is planned. This expansion will enable the Y-concourse to service wide-bodied jets with loading bridges to supplement those in the Diamond Head and Ewa "gull-wing" concourses.

The 1974-1975 International Arrivals portion of the Main Terminal will be expanded into the 1975 Inter-Island Terminal areas. This expansion will force a relocation of the Inter-Island Terminals. Inter-Island Terminals will be established at the Diamond Head end of the main runways.

The reef runway, under construction in 1975, will be completed with its attendant taxiways and a fire station to serve it.

An additional parking structure is planned to the Ewa side of the 1975 structure. The purpose of this parking structure is to service the traffic increase in the immediate area expected to result from the expanded International Arrivals.

In the Main Terminal, the Diamond Head Ticket Lobby will be extended and additional baggage claim areas will be installed.

Honolulu International Airport roadways will be expanded and a highway interchange erected.

A cargo center will be built on the South Ramp, and an Air Taxi, Group Tour and Fleet Service Station will also be located there.

Maintenance areas will be expanded.

A reliever airport for Oahu is planned. This project is a necessary safety measure to separate the General Aviation traffic from the congested air carrier traffic characteristic of Honolulu International Airport. Attempts to establish such a reliever airport in the past have failed, largely due to opposition of the communities near the site of the proposed airports. In 1975, there was still some charge of Bellows Field's use as a reliever airport, but like the 1968 proposed Mililani Airport, resident objections are hardening in the Bellows neighborhood, organized around organizations of Waimanalo residents.

An effective smooth and rapid mass transit system from the Airport to the Waikiki area is an obviously needed improvement at Honolulu. Plans current in 1975 would provide mass transit from the Airport to the University, but does not appear to be the answer to passenger-moving unless a spur tract to Waikiki is added.

(2) Dillingham Field

Expansion of facilities at Dillingham Field is expected to be modes and occasioned by need.

f. Kauai District

(1) Lihue Airport

By 1975, Lihue Airport facilities had become the most overcrowded and least satisfactory in the State Airports System. Basic systems were seriously overloaded and no palliatives could disguise the fact that the systems were not designed for the loads imposed on them. Development of Kauai as a resort had resulted in heavy traffic through the airport, with no relief apparent.

As late as 1957, Kauai had only three major hotel destinations and was thus off the mainstream of resort traffic. By 1974, hotels had proliferated and the flow of travelers exceeded that even projected for the island.

Both inter-island airlines announced their intention, in 1974, of phasing in larger aircraft. The runway at Lihue would require modification to accept larger aircraft. However, plans for the expansion of facilities at Lihue Airport had anticipated some of the problems, and call for the construction of a second runway and a new terminal in what will be large scale construction projects.

(2) Port Allen

No significant changes are planned for Port Allen Airport.

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