CHAPTER 7
IMPLEMENTATION PLAN & ECONOMIC IMPLICATIONS

7.1 OVERVIEW

This chapter presents the recommended development phasing and estimated development costs to implement the recommended OGG MP. The development phasing plan is divided into a three (3) phase capital improvement program: Phase 1 (2015-2021), Phase 2 (2022-2027), and Phase 3 (Beyond 2035). Actual development of these facilities within each phase may vary due to funding limitations and/or changes in administrative priorities and policies. In addition, land use entitlement and environmental permitting requirements will need to be addressed before a specific project can proceed.

This chapter also describes the economic and financial implications of the recommended OGG MP. The historical financing of major capital improvement programs at the airport and the major documents that provide the framework for the financial operations of the State airport system are discussed. Base year cost estimates for the three (3) phase capital improvement program recommended for the airport are summarized, and the economic and financial implications of implementation are discussed in this chapter.

7.1.1 METHODOLOGY

Cost estimates are based on the State's experience with actual construction projects

completed or in progress at the OGG and other airports in the State that are also used. It is important to note that these figures are intended only as order-of-magnitude cost estimates and are for planning purposes only. These figures should be refined during design phases when specific quantities and unit costs that can be more accurately determined. The land acquisition costs are based on the tax assessed land values for residential, industrial, and agriculturally zoned areas surrounding the OGG. Where possible, the land values agreed upon in recent negotiations between the State and surrounding property owners have been used.

7.1.2 CURRENTLY PLANNED IMPROVEMENTS

As discussed in **Chapter 1**, the State has already planned and budgeted for certain improvements to be made at the OGG through Act 158, SLH 2008. Monies have been provided for both the new airport access road and the CONRAC facilities. Construction of the new airport access road and CONRAC is in progress.

7.2 DEVELOPMENT PHASING AND MASTER PLAN COST ESTIMATES

The recommended projects in **Chapter 6** are proposed for implementation in three (3) phases, allowing costs to be spread over a number of years and ensure a smooth transition to the new facilities. **Figure 7-1** on Page 7-3 identifies and shows the location of the recommended projects in each of the three (3) development phases. The projects listed in Phase 3 are outside of the planning time horizon and indicate "nice to have, but not essential in the project time horizon." **Table 7-1** summarizes the anticipated costs of the recommended capital improvement program; and cost breakdowns for each project. **Sections 7.2.1 through 7.2.3** identify the projects and total costs for each phase. The dollar amount is based on 2015 values.

7.2.1 PHASE 1 (2015-2021)	7.2.2 PHASE 2 (2022-2030)	7.2.3 PHASE 3 (Beyond 2035)
Estimated Project Cost: $403,427,000	**Estimated Project Cost: $136,526,068**	**Estimated Project Costs: $2,424,754,000**
• Runway 2-20 Extension plus taxiway upgrades and navigational aids	• North – Terminal Expansion	• Runway 2-20 Parallel Runway & Taxiway
• Taxiway "A" Extension	• Taxiway Realignment ("B", "F" & "G"	• East Ramp Access Road
• Temporary Runway 2-20, plus navaids	• Cell Phone/Employee Parking	• Helicopter Facilities
• Runway 2-20 Reconstruction	• Keolani Lease Lots	• Land Acquisition (for Runway 2-20 Parallel)
• Taxiway "M" Improvements	• Close Haleakalā Highway	• Cargo Expansion – East Ramp
• South Ramp Aviation Lease Lots	• Terminal Holdrooms – South	• Re-Align Hāna Highway
• Land Use Entitlements (State & County)		• Transient Aircraft Parking
• Relocate Terminal Art Work		• West of Runway 5-23
• East Ramp Relocation and Restoration		• Hāna Highway Realignment
		• Terminal Expansion – South
		• Keolani Bridge (over Kalialinui Canal)
Note: Colors correspond to Figure 7-1 Projects by Development Phase		

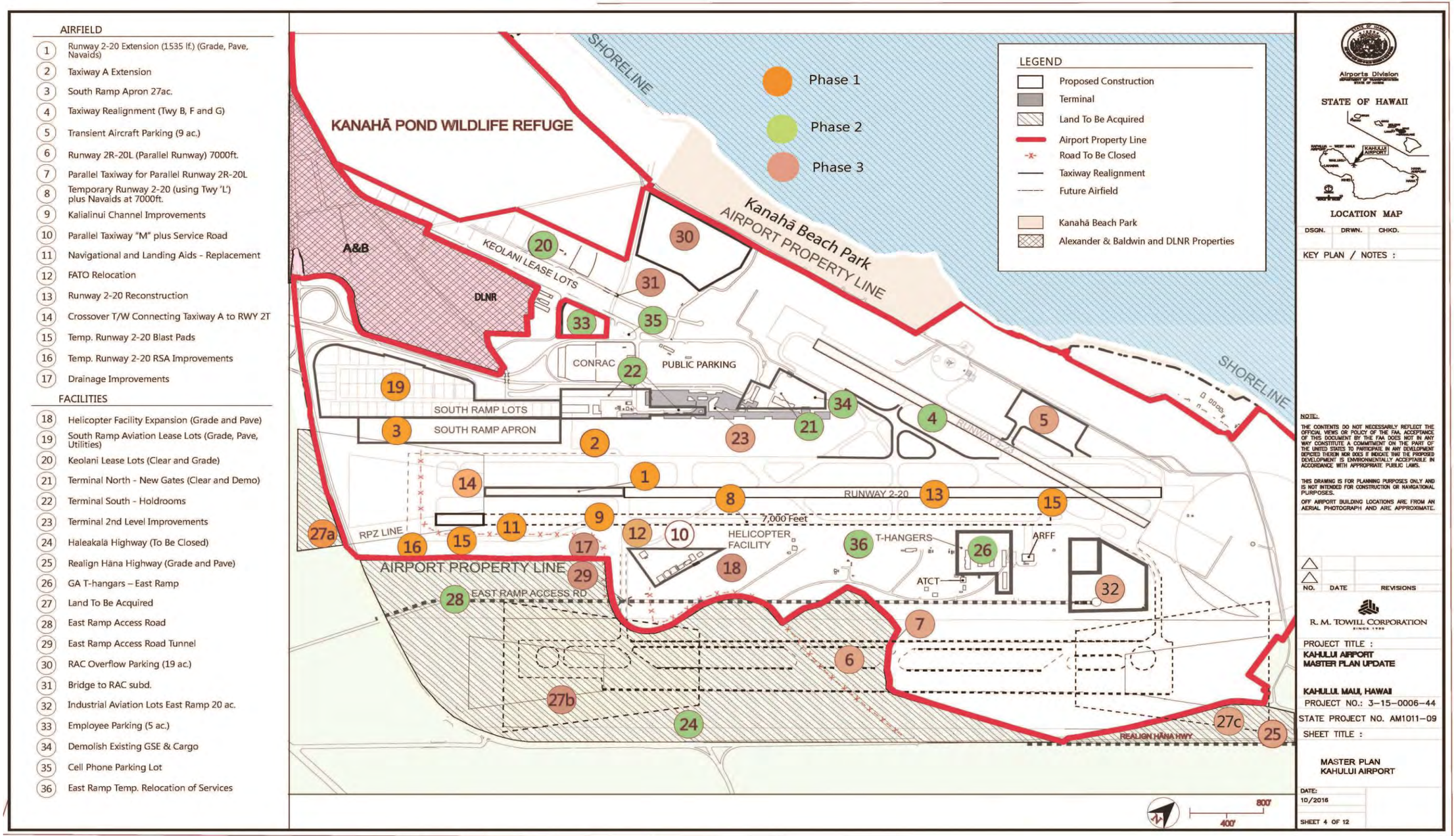

Figure 7-1` Project Phasing Plan

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		PHASE 1	PHASE 2	PHASE 3
		2015-2021	2022-2030	2035 +
Airfield				
1	Runway 2-20 - Extension 1535 lf. (grade, pave, exclude utilities/navaids)	$96,000,000		
2	Taxiway A Extension (excludes utilities and navaids)	$12,121,212		
3	South Ramp Apron 27 ac.	$5,184,000		
4	Taxiway Realignment (Twy B, F and G)			$3,008,264
5	Transient Aircraft Parking 9 ac,			$4,320,000
6	Runway 2R-20L (Parallel Runway) 7000 ft.			$768,000,000
7	Parallel Taxiway for Runway 2R-20L			$703,680,000
8	Temporary Runway 2-20T	$74,513,280		
9	Kalialinui Channel Improvements	$25,564,738		
10	Taxiway `M` Expansion and Upgrade	$37,152,000		
11	Navigational and Landing Aids - Replacement	TBD by FAA		
12	FATO Relocation	$960,000		
13	Runway 2-20 Reconstruction	$104,355,840		
14	Connecting Taxiways Between 2-20 and 2R-20L.			$19,200,000
15	Temp Runway 2-20 Blast Pads	$5,760,000		
16	Temp Runway 2-20 RSA Improvements	$3,840,000		
17	Drainage Improvement			$9,600,000
Terminal				
18	Helicopter Facility Expansion	$5,000,000		
19	South Ramp Aviation Lease Lots (grade, pave, utilities)	$32,976,000		
20	Keolani Lease Lots (Clear and Grade)		$17,760,000	
21	Terminal North - New Gates (clean and demo)		$7,200,000	
22	Terminal South - Holdrooms		$48,000,000	$48,000,000
23	Terminal South - 2nd Level Improvements			$773,625,600
24	Haleakalā Highway Closure		$6,363,636	
25	Realign Hāna Highway (Grade and Pave)			$19,365,289
26	GA T-Hangars – East Ramp		$16,726,911	
27	Land to be acquired			$24,499,200
28	East Ramp Access Road		$11,520,000	
29	East Ramp Access Road Tunnel			$21,600,000
30	RAC Overflow Parking (19 ac.)			$9,120,000
31	Kalialinui Bridge at RAC			$19,200,000
32	Industrial Aviation Lots East Ramp 20 acs.			$1,536,000
33	Employee Parking (5 ac.)		$14,400,000	
34	Demolish Existing GSE, Cargo		$960,000	
35	Cell Phone Parking Lot		$4,800,000	
36	East Ramp Temporary Relocation of Services		$8,795,520	
	TOTAL	**$403,427,070**	**$136,526,068**	**$2,424,754,353**

Table 7-1. Project Cost Estimate (subject to change)

7.3 AIRPORT FINANCING

7.3.1 BACKGROUND

The Statewide airport system is unique in that it is administered as a single, financially self-sustaining entity encompassing 15 airports. The DOTA is responsible for administering the system. No State general fund monies are used to support the operation of the airport system. Instead, user fees provide the primary source of revenue. Continuing operation of the system requires substantial, recurring capital expenditures. The primary sources of funds for capital improvements to the airport system include the following:

- Airport system revenue bonds
- Federal grants-in-aid
- User fees
- Passenger Facility Charges (PFC)
- Customer Facility Charges (CFC)

Historically, the State's long-term lease agreements with the airlines and other airport tenants has ensured a stable revenue flow which has allowed the DOTA to finance airport improvement projects at the airports and the key documents that provide the framework for the financial operation of the airport system.

7.3.2 AIRPORT SYSTEM REVENUE BONDS

The State issues airport system revenue bonds to finance capital improvements to the airport system under the provision of (1) the general bonding law for the issuance of revenue bonds by the State, and (2) the Certificate of the Director of Transportation providing for the issuance of State of Hawai'i airport system revenue bonds. All bonds must be authorized by a majority vote of the members of each house of the Legislature.

These revenue bonds are payable from and collateralized solely by the revenues generated by the State airport system, including all aviation fuel taxes levied. The Certificate established the following priority list for the use of these revenues as follows:

- Pay interest and principal on all bonds
- Payer provides for the payment of the costs of operation, maintenance and repair of the airport system properties
- Fund the major maintenance, renewal and replacement account
- Reimburse the General Fund of the State of Hawai'i for general obligation bonds used to fund projects intended to directly serve or benefit the airport system
- Provide for improvements to the airport system
- Provide special reserve funds and other special funds required by law
- Provide for any other purpose connected with or pertaining to the bonds or the airport system authorized by law

7.3.3 FEDERAL AVIATION AGENCY GRANTS-IN-AID

7.3.3.1 OVERVIEW OF THE FEDERAL PROGRAM

In 1970, Public Law 91-258 was enacted. This law was composed of Title 1, known as The Airport and Airway Development Act of 1970, and Title II, known as the Airport and Airway Revenue Act of 1970. These two (2) acts were passed to assist in meeting the modernization needs of the airways system. The Airport and Airway Development Act details the airport assistance programs and established the Airport and Airway Trust Fund and a financing program for airport grants. The Airport and Airway Revenue Act authorized aviation fuel, international departure, and waybill taxes required to furnish the financial resources with which to carry out the Title I programs. The Trust Fund provided revenues to the Airport Improvement Programs (AIP). Administered by the FAA, this freed airport and airway development from having to compete for General Treasury Funds.

The State airport system annually receives funds from the AIP. The apportionment of these funds is based on the following:

- Entitlements for the airports (based on the FAA's enplaned passenger formula)
- Cargo entitlements for several airports in the airport system
- "Statewide allocations" intended primarily for GA airport projects

The State collects these funds from airport users for eligible airport related projects. The State is also eligible to receive discretionary AIP funds.

The DOTA is contemplating certain projects for funding through the AIP listed in **Table 7-1** on Page 7-5. Projects that are under consideration for funding in the AIP are listed below.

- Runway 2-20 Extension
- Parallel Runway 2R-20L
- Taxiway Upgrade (Temporary Runway)

Further assessment of these projects before listing on the AIP may be required. This may include assessments such as a cost-benefit analysis.

7.3.3.2 PROJECT ELIGIBILITY AT OGG

The NPIAS is a nationwide plan published every two (2) years by the FAA, pursuant to Section 504 of the Airport and Airway Improvement Act of 1982. Classification and listing of an airport in the NPIAS makes it eligible to receive financial assistance for airport planning and development under the Airport and Airway Improvement Act of 1982. The OGG has been classified as a "Medium Hub-Primary Airport" in the NPIAS. Airports with this designation experience more than 10,000 enplaned passengers annually and are apportioned an entitlement grant based on the number of annually enplaned passengers, with a minimum entitlement of $300,000.

In addition to the entitlement grant, the airport is eligible to compete for discretionary funds.

7.3.4 USER FEES

User fees are received from airlines and other users conducting business at the airport. These businesses include services to the airlines and air cargo operators, and airline passengers. Examples of revenue generated from these forms of user fees include the following:

- Aircraft landing and takeoff fees
- Terminal space rentals to:
  - Airlines
  - Concessionaires
  - Retail businesses

7.3.5 PASSENGER FACILITY CHARGES

The Aviation Safety and Capacity Expansion Act of 1990, authorizes the Secretary of Transportation to approve a locally-imposed PFC of up to $4.50 per enplaned passenger. The proceeds from PFCs are to be used to finance eligible airport-related projects that preserve or enhance capacity, safety, or security; reduce noise or mitigate noise impacts resulting from an airport; or furnish opportunities for enhanced airline competition. PFCs may also be used to pay debt service related to the financing of eligible projects including debt service of bonds used for PFC-eligible projects at the airport.

7.3.6 CUSTOMER FACILITY CHARGES

Customer facility charges are fees paid by customers for services at the airport. Some examples of charges that are included in service fees are in the handing of airline baggage, and the rental of cars.

7.3.7 AIRLINE LEASE AGREEMENTS

Section 261-5, HRS, requires that "the Department [of Transportation]... generate sufficient revenues from its airport properties to meet all of the expenditures of the Statewide system of airports..." This mandates that the airport system operate on a self-sufficient basis, and is the principle underlying the fees that have been negotiated with airlines for use of the

airports in the State system. These are referred to as "Airline Agreements."

The DOTA has entered into Airport Airline Lease Agreements (Agreements) with 25 major air carriers. These Agreements, which remain in effect through amendments, provide the signatory airlines with the non-exclusive right to use the airport system facilities, equipment, improvements, and services, in addition to occupying certain premises and facilities.

The signatory airlines pay an "Airport Use Charge" based on a computed rate per 1,000-pound unit of approved maximum landing weight for each aircraft used in revenue landings. The rate is calculated by dividing the excess of estimated airport expenses over estimated airport revenues (both defined in the agreements) by the estimated approved maximum landing weight for all the Signatory Airlines for the fiscal year.

Allowable airport expenses to be used in calculating the Airport Use Charge include the following:

- Maintenance and operating expenses at the airports
- Administrative expenses relating to the operation of the airport system
- Bond debt service and coverage for all revenue bonds applicable to the airport system, including any reserves required [coverage is defined to be 0.35 times the principal and interest due on all airport revenue bonds issued subsequent to January 1, 1969]
- Write-offs in lieu of depreciation
- Any payments necessary to bring the balance of the Major Maintenance, Renewal, and Replacement Fund up to $6 mil.
- Central service charges required by Section 36-28.5, HRS
- Incurred or projected deficits at the other airports in the airport system

Airport revenues identified for the purpose of computing the Airport Use Charge consist of all rents, fees, interest income, aviation fuel taxes (less any credit or rebates), and other charges received during the fiscal year, excluding the following:

- Airport Use Charges paid by the Signatory Airlines
- Federal AIP grants or similar payments from public agencies that are restricted to a specific purpose or are reimbursements for prior expenditures or transfers
- Net rental (special facility) lease payments
- Interest income on monies received as AIP grants and certain unexpended bond proceeds to the extent that such interest income is applied to construction

7.4 ECONOMIC AND FINANCIAL IMPLICATIONS

To carry out Phase 1 of the recommended OGG MP, estimated to be $403 mil., together with other planned airport system capital improvement program projects, the State will likely have to: (1) incur new revenue bond debt; (2) dedicate the use of all of its coverage funds to pay for the cost of such capital projects; and/or (3) substantially increase building space rentals and Airport Use Charges to be paid by the Signatory Airlines serving the OGG. Therefore, the State needs to carefully consider the economic and financial implications of each individual project before proceeding.

7.4.1 ECONOMIC IMPLICATIONS

The economic aspects of a proposed project are usually considered in terms of costs and benefits. The potential financial costs associated with the recommended OGG MP and other capital improvement program projects have been documented herein. Most of the benefits derived from such projects, however, are subjective, and not readily quantified in dollar terms. Such benefits include the following:

- Benefits to Maui County residents visitors, and agricultural interests via employment opportunities and taxes paid
- Significantly greater ability to accommodate air cargo, with potential economic benefits to Maui Island producers and shippers
- Securing the land needed for long-range airport development and protection, including the land for a future parallel runway
- The availability of a longer runway that can accommodate increased aircraft stage lengths, particularly for non-stop passenger and all-cargo aircraft flights to the West Coast and Midwest
- More efficient, comfortable, and convenient passenger terminal operations
- Improved vehicular access, circulation, and parking operations
- Improved and expanded facilities for general aviation and commercial aviation activities
- The runway extension and new parallel runway would increase the load factor at OGG by removing existing penalties caused by limited runway length. The increased load factor would result in the generation of additional funds, which would increase revenue for OGG. (See **Table 4-1** and **Section 4.3.6.8** for the economic effect on OGG operations and how increased seat capacity will enhance the generation of revenue)

The consideration for costs and benefits of a given project depends on the perception of need for the project by the primary users, the traveling public, the airlines, and other airport users. The feasibility of any major program of capital improvements at an airport depends, in part, on the following:

- Establishing and maintaining a viable mechanism for financing the projects
- Negotiating a reasonable basis for adjusting tenant and user rentals, fees, and charges so that sufficient revenues will be available to pay operating expenses and service outstanding debt
- Demonstrating the need for the projects and obtaining the concurrence of the primary users (the airlines) as to that need
- Establishing tenant and user rates and charges that are "reasonable" in relation to the traffic market being served, and the revenues being generated, by those tenants and users

The DOTA has, over the years, consistently pursued a thorough and vigorous planning program for the airport system. The airlines have been involved in, and have made significant contributions to this planning. Future discussions will be particularly important in establishing a consensus as to the most appropriate timing of the specific projects included in this Master Plan Update.

7.4.2 FINANCIAL IMPLICATIONS

In any major program of airport capital improvements, it is important to consider the potential effect of the program on the future financial operations of the airport system, in particular, its effect on future user fees and charges. The existing mechanism for financing airport capital improvements are from airport system revenue bonds issued pursuant to the airport's Certificate and are secured, in part, by the Agreements. The use of these instruments have been successful and should serve the needs of the State in the future. The funding of 35% debt service coverage through Airport Use Charges and other airport system revenues provides the State with a substantial pay-as-you-go financing capability. This capability should be preserved in the future.

7.4.3 SUMMARY

As part of this MP Update, Martin Associates developed a baseline economic analysis of the OGG operations in 2010. The purpose of the study was to quantify the economic impacts

generated by passenger, freight, and GA activity at the OGG for the most recent year complete operational data was available, or 2010. In order to measure the impacts in the most defensible manner possible, the methodology utilized was based on interviews, local economic data, and airport statistics.

The impacts were quantified in terms of:

- Jobs
- Employee earnings
- Business revenue
- State and local taxes and Federal airport-specific taxes

The impacts were estimated for total OGG activity for calendar year 2010. In addition to the baseline impacts, an economic impact model was developed to estimate the impacts associated with capital construction and expansion projects identified in the recommended OGG MP. The model can be used for annual updates of the impacts as well as to test the sensitivity of impacts to changes in:

- Passenger levels
- Domestic versus international passengers
- Passenger trip purpose
- Peak hour flight levels and mix of aircraft
- Labor productivity and work rules
- Freight levels

This methodology was used by Martin Associates to estimate the economic impacts generated by airport activity. This methodology has been consistently applied in the analysis of other airports that have included:

- Hartsfield Atlanta International Airport (ATL)
- Miami International Airport (MIA)
- Denver's Stapleton International Airport (DEN)
- San Francisco International Airport (SFO)
- Portland International Airport (PDX)
- Minneapolis/St. Paul International Airport (MSP)
- Milwaukee's General Mitchell International Airport (MKE)
- Seattle-Tacoma International Airport (SEA)
- Toronto's Lester B. Pearson International Airport (YYZ)
- Washington Dulles International and Reagan National Airports (IAD)
- San Jose International Airport (STJ)
- Sacramento International Airport (SMF)
- Oakland International Airport (OAK)
- Bellingham, Washington International Airport (BDI)
- Harrisburg International Airport (MDT)

GA and Commuter Airports in:

- Harrisburg, Pennsylvania
- Lancaster, Pennsylvania
- Carlisle, Pennsylvania
- Milwaukee, Wisconsin
- San Jose, California
- Hillsboro, Oregon
- Troutdale, Oregon
- Mulino, Oregon
- 34 GA Airports in the State of Maryland

7.4.4 IMPACTS CREATED BY AIRPORT ACTIVITY IN 2011

In 2011, passenger and air freight activity at the OGG had the following impacts:

- Generated 2,682 direct, induced, and indirect jobs for residents of Maui and the state of Hawai'i. Of the 2,682 jobs, 1,824 were direct jobs, while 635 jobs were induced throughout the region to support the purchase of goods and services by the 1,824 directly dependent employees. An additional 222 indirect jobs were generated in the local economy due to $34.5 mil.

of local purchases by firms directly dependent on the airport.

- Generated $132.3 mil. of direct, induced and indirect personal income and consumption expenditures in Maui as a result of airport activity.
- Generated nearly $1.1 billion of business sales by airport activity, including $21.1 mil. of business revenue by air cargo activity.
- Provided $82.0 mil. to the Federal Government in airport-specific taxes from airport activity.
- Provided $12.7 mil. to State and local governments in tax revenues from airport activity.

In addition to these airport-generated impacts, it is estimated that 44,025 direct, induced, and indirect jobs were supported in the Maui visitor industry due to expenditures by the 2.1 mil. visitors to the region who arrived via the OGG. These visitors, who include both domestic as well as international travelers, spent about $2.8 billion on Maui-island hotels, restaurants, retail stores and entertainment establishments, which in turn generated jobs in the Maui visitor industry. As the result of visitors arriving via the OGG, $119.3 mil. of State and local tax revenues were generated.

With a combined economic impact of nearly 47,000 direct, induced, and indirect jobs, it is critical to maintain and invest in the airport infrastructure in order to sustain and grow the Maui economy.

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