

## **I. INTRODUCTION**

Providing for our transportation needs is a dynamic and complex effort. Changes in travel demand, technology, funding, regulations, and other factors influence decisions. Likewise, the desire for the transportation system to support quality of life and other long-term and short-term goals is another factor affecting these decisions.

The Hawaii Statewide Transportation Plan (HSTP) intends to provide transportation professionals and decision makers with a framework to be used in the planning of Hawaii's transportation system. Integral to the plan's development was an extensive public involvement and outreach effort that included a broad and diverse range of participants. The plan was also a product of collaboration with the modal divisions of the State of Hawaii Department of Transportation (HDOT) and its county partners. A detailed research effort was also conducted to ensure that all technical issues associated with the plan were fully analyzed and considered, and that applicable federal and state regulations were satisfied.

Thus, the process of developing the plan could be described as a grass-roots effort since it focused on public input while incorporating on-going and previously completed division-specific and county planning efforts and activities. In turn, the plan provides the statewide and interregional policy context for future transportation plans and programs.

### **A. CURRENT AND FUTURE CONDITIONS OF THE STATE**

The development of a long-range transportation plan requires a look into a twenty-plus year planning horizon. The planning framework provided by a document such as the Hawaii Statewide Transportation Plan (HSTP) must address the modal transportation plans' needs, which are directed at developing plans, programs, and services that satisfy the future transportation needs of each community, each county, and the state. The transportation demands that must be satisfied in these long-range plans are ultimately derived from the cumulative needs of individuals and

businesses. Demographic and economic trends, therefore, can significantly affect the demand for transportation services. Knowledge of past, present, and future trends is essential in planning a balanced and efficient transportation system.

## **1. Demographic Trends**

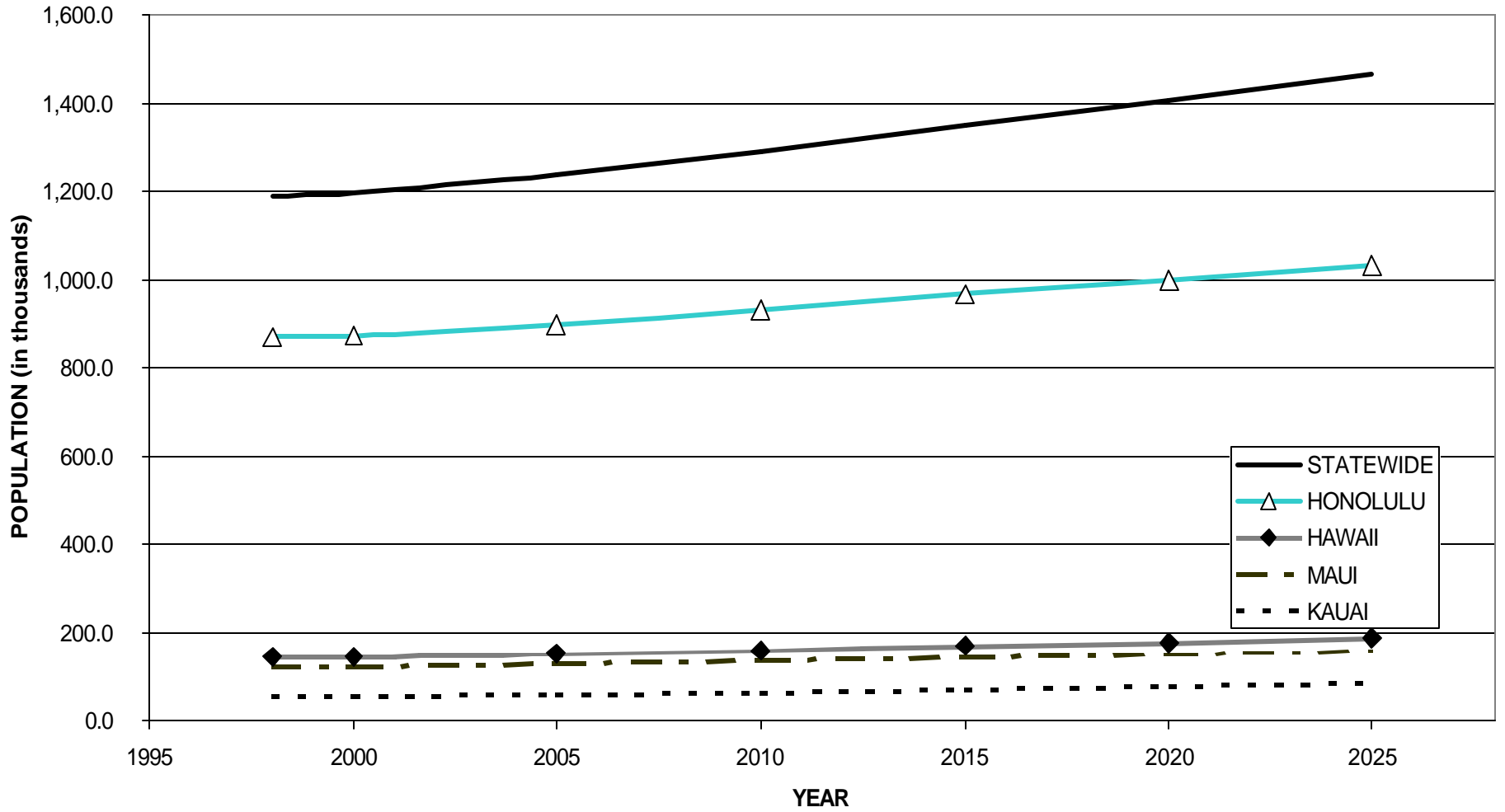
The resident population of the State of Hawaii, which is currently 1,211,537 according to the 2000 census, is anticipated to increase to 1,461,600 by 2025. As illustrated in Figure I-1, which provides population trends for each county, the statewide resident population is expected to increase by over 250,000 persons between 2000 and 2025. This represents a 20.6% increase and translates directly into increased travel demand for work, school, shopping, and other activities within each island. The increased population will also require the importation of additional consumer goods from outside the state. Additionally, the higher population on the neighbor islands could be assumed to create an increase in the demand for inter-island travel. However, this may be offset by decreased inter-island travel by visitors, resulting from an increase in direct visitor flights to the neighbor islands and in cruise ships porting on the neighbor islands.

The nature of this population is also expected to change over time. Age distribution, for example, is expected to shift toward an older population, as illustrated in Figure I-2. An older population could directly affect the demands placed on the transportation system. First, more of the population will be of working and driving age, increasing potential demands on the highway and public transportation systems. Second, as the elderly population increases, there may be an increased demand for specialized transportation services as well as more off-peak travel demands.

## **2. Economic Trends**

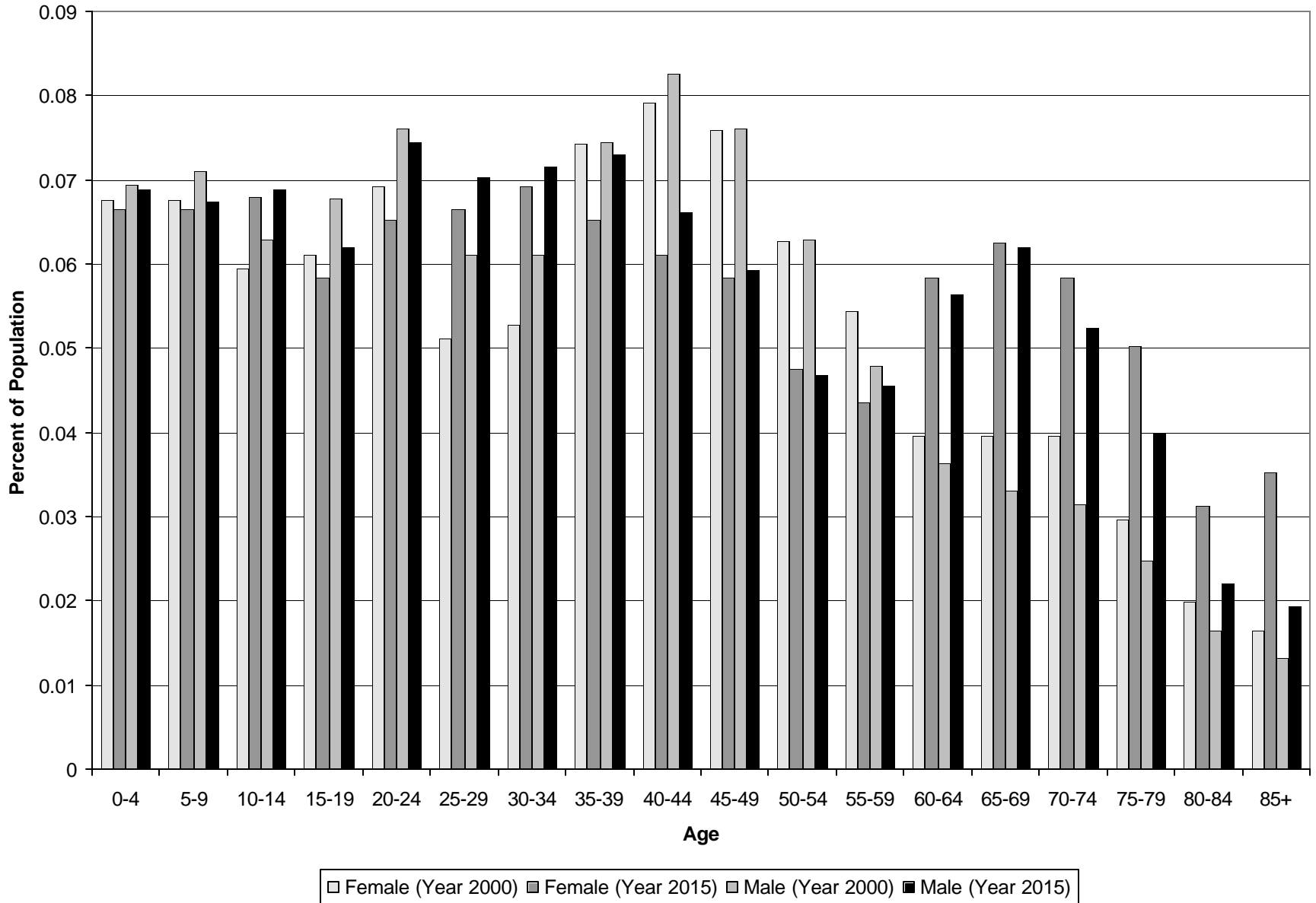
The numbers and types of jobs available to this population significantly affect transportation planning. Table I-1 provides a historical perspective of the job count in Hawaii between 1996 and 2000. The table lists the jobs by the categories used by the Hawaii State Department of Labor and Industrial Relations. The job count has

**FIGURE I-1  
RESIDENT POPULATION PROJECTIONS, BY COUNTIES:  
1998 TO 2025**



Source: Hawaii State Department of Business, Economic Development & Tourism, Population and Economic Projections for the State of Hawaii to 2025 (Series DBEDT 2025) (February 2000)

**Figure I-2  
Resident Population, by Age and Sex: 2000 and 2015**



**Table I-1 -- JOBCOUNT, BY INDUSTRY: ANNUAL AVERAGES,  
1996 TO 2000**

[Data rounded to nearest 50. Totals may not add due to rounding or residual categories]

Industry	1996	1997	1998	1999	2000
Nonagriculture, wage and salary	530,750	531,500	531,250	1/ 535,050	551,500
Construction, mining	23,650	22,300	21,650	1/ 21,650	23,500
Manufacturing	16,650	16,550	16,450	1/ 16,550	17,200
Durable goods	3,450	3,300	3,300	3,400	3,650
Nondurable goods	13,200	13,300	13,150	1/ 13,150	13,550
Food processing 2/	6,300	6,400	6,500	1/ 6,600	6,700
Textile, apparel	2,150	(NA)	(NA)	(NA)	(NA)
Printing, publishing	3,200	3,100	3,050	3,050	3,200
Transp., commun., utilities	41,050	41,300	41,150	1/ 41,200	42,400
Transportation 3/	31,000	31,150	31,000	1/ 31,250	32,500
Communication	6,400	6,600	6,750	1/ 6,600	6,500
Utilities	3,700	3,550	3,400	1/ 3,350	3,400
Trade	135,200	134,350	132,200	1/ 133,150	136,950
Wholesale	21,400	20,950	21,000	1/ 21,150	21,600
Retail	113,850	113,350	111,200	1/ 112,000	115,400
Finance, insur., real estate	36,900	36,150	35,500	1/ 34,800	33,400
Services and miscellaneous	166,650	169,200	172,200	1/ 174,900	183,400
Hotels	38,350	38,350	37,750	37,100	38,450
Health services	34,100	34,700	35,300	1/ 35,800	36,700
Government	110,550	111,700	112,200	112,800	114,600
Federal	31,100	30,650	30,400	1/ 30,300	30,950
Air Force	2,100	2,050	2,050	2,050	2,100
Army	4,850	5,000	4,900	4,700	4,700
Navy	9,850	9,250	9,100	9,000	8,750
State	62,800	64,250	64,950	65,800	66,950
Local 3/	16,600	16,750	16,850	16,650	16,700
Agriculture, wage and salary	7,400	7,200	7,550	7,700	7,850
Labor disputes	-	-	50		-

NA Not available.

1/ Revised.

2/ Data beginning with 1994 are not directly comparable with data for earlier years.

3/ Data for 1995 are not directly comparable with data for earlier years.

Source: Hawaii State Department of Labor and Industrial Relations Internet site <http://www.hawaii.gov/workforce/ces.htm#jci>, accessed March 2, 2001.

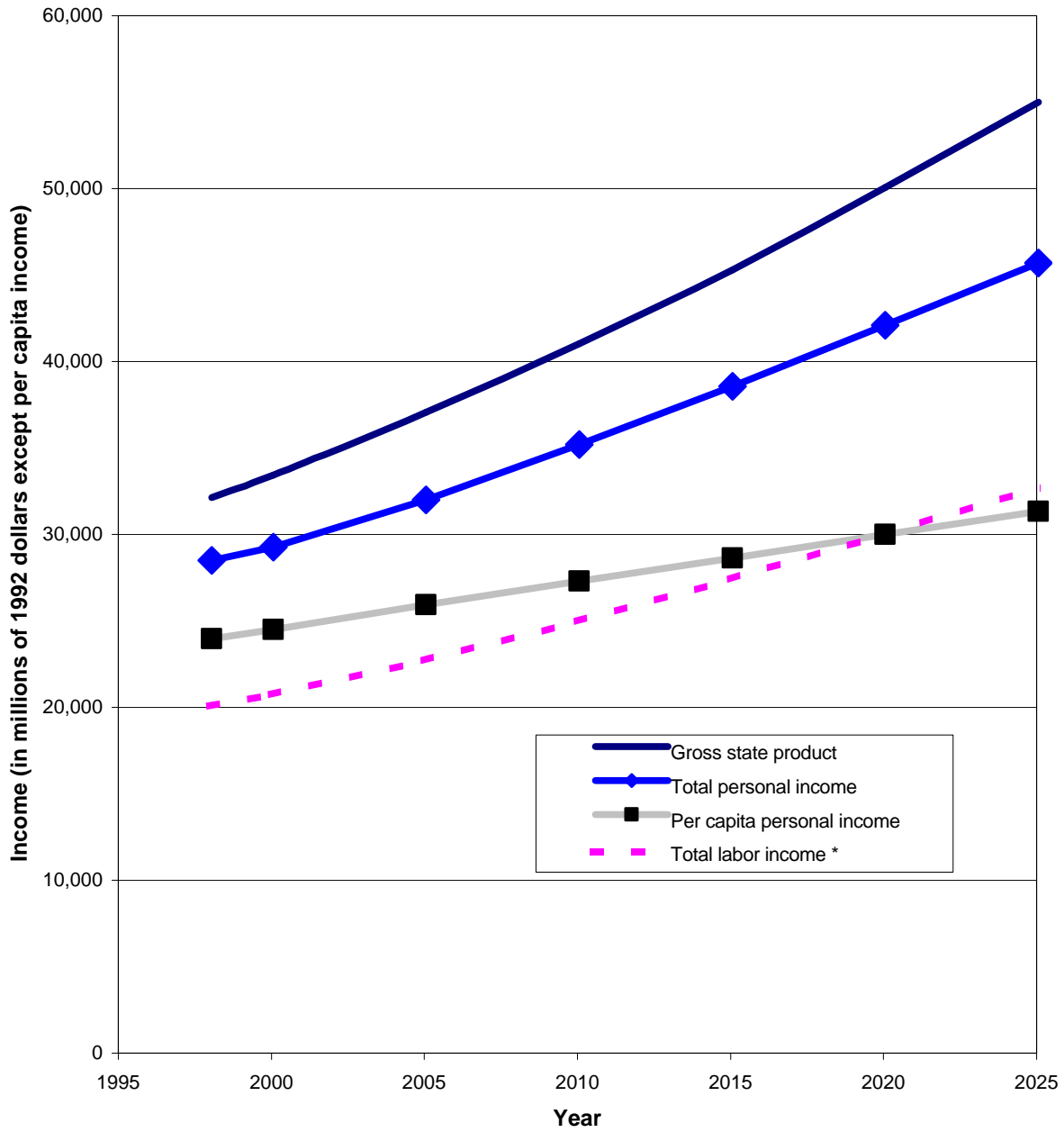
been relatively flat during this period, increasing from a 1995 figure of 532,850 to a 1999 figure of 533,700 jobs. The data in the table indicates that the job category with the most significant increase during this period was “Services and Miscellaneous.” “Government” jobs continued to provide a high level of employment, remaining at about 112,000 jobs throughout this period. Continued growth in service industry employment could have a substantial impact on the future transportation system. First, service and retail employment is characterized by non-traditional work schedules that alter the demands placed on land transportation systems. Second, this type of employment depends heavily on the visitor industry. Consequently, it is based on the expectation that the visitor population would also increase substantially. This increased activity must be accommodated by the air, land, and water transportation systems.

Figure I-3 provides an assessment of the projected economic conditions in Hawaii from 1998 to 2025 using several indicators. These include gross state product, personal income as a total and per capita, and total labor income. Figure I-4 provides a projection for total civilian employment, indicating the total civilian employment is projected to increase to 732,300 persons in 2025. This would be an increase of 28.1% from the level of employment in 2000.

### **3. Visitor Industry Trends**

The most relevant indicator of increases in the visitor industry and total visitor expenditures for the period from 1990 to 2000 is illustrated in Figure I-5. The level of visitor expenditure grew steadily from 1990 to 1995, reaching a peak of over \$11.1 billion. The visitor expenditures decreased in 1996 and have fluctuated at levels well below the 1995 peak since then. A review of Table I-2, which provides the expenditures by country for this period, indicates that this decrease in Hawaii visitor expenditures (from the peak in 1995) is primarily due to the reduction in expenditures by visitors from Japan. The impacts of the visitor industry on the transportation system are numerous, directly affecting the demand for travel by air, land, and water transportation. Indirect impacts filter throughout the economy, ranging from visitor-industry employment to additional need for importation of consumer goods.

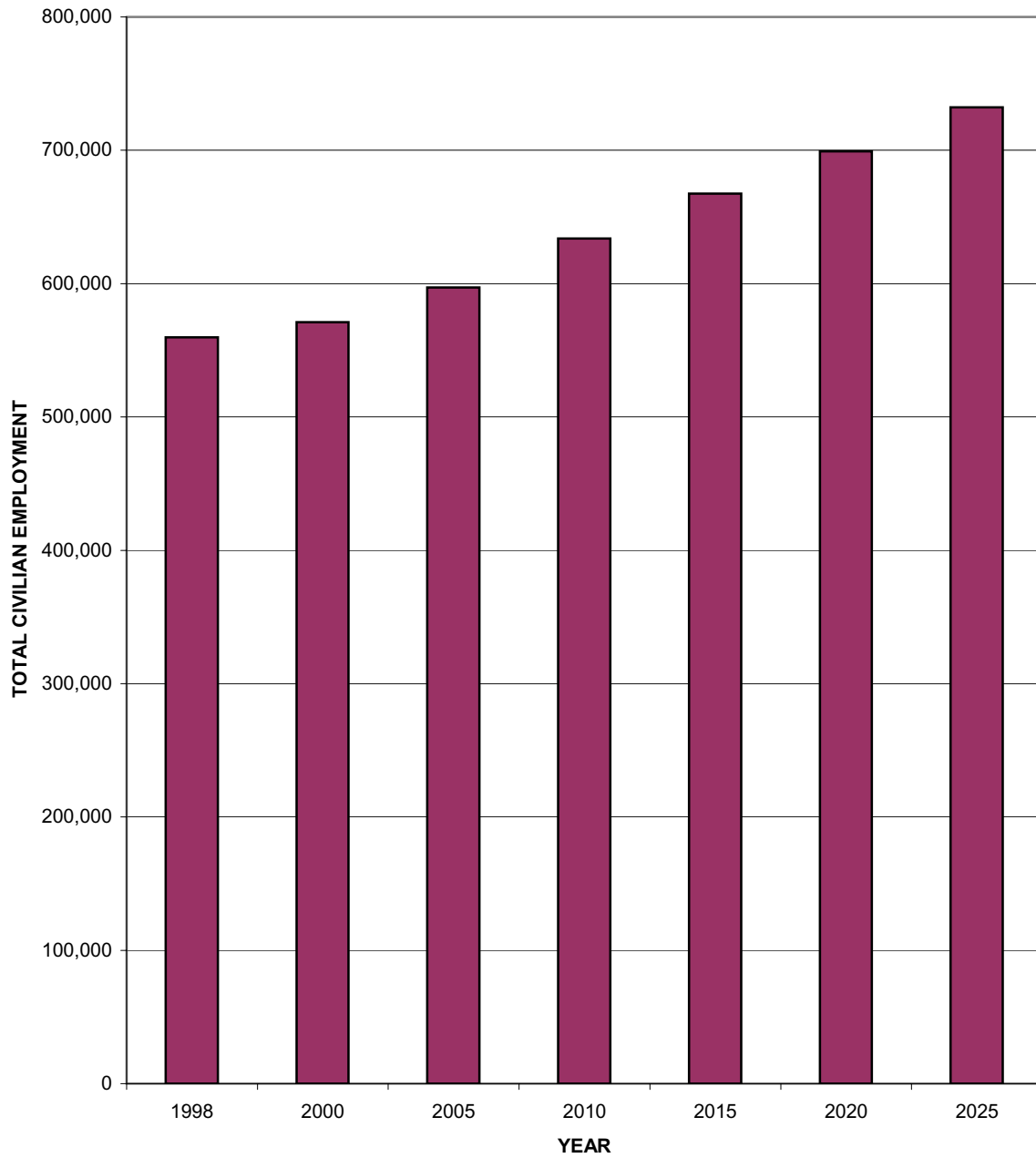
**Figure I-3  
ECONOMIC ESTIMATES AND PROJECTIONS:  
1998 TO 2025**



\* Labor income is the sum of wage and salary disbursements, other labor income, and proprietors' income.

Source: Hawaii Department of Business, Economic Development & Tourism, *Population and Economic Projections for the State of Hawaii to 2025, DBEDT 2025 Series*, February 2000.

**Figure I-4  
TOTAL CIVILIAN EMPLOYMENT:  
1998 TO 2025**



Source: Hawaii Department of Business, Economic Development & Tourism, *Population and Economic Projections for the State of Hawaii to 2025, DBEDT 2025 Series*, February 2000.



**Figure I-5  
TOTAL VISITOR EXPENDITURES,  
1990 TO 2000**

[In billions of dollars]



Source: Hawaii State Department of Business, Economic Development and Tourism, Tourism Research Branch, *Annual Visitor Research Report* (annual) and records.

**Table I-2**  
**VISITOR EXPENDITURES, BY COUNTRY OF RESIDENCE:**  
**1990 TO 2000**

[In thousands of dollars]

Year	Total expenditures	Personal (diary) expenditures				
		All countries	United States	Japan	Canada	Other countries
1990	9,082,130	8,706,772	5,041,774	2,572,284	306,867	785,847
1991	9,817,697	9,004,163	5,019,993	2,895,278	334,673	754,219
1992	9,310,860	8,613,581	3,969,014	3,349,276	276,632	1,018,660
1993	8,472,267	7,808,307	3,655,465	3,151,487	252,868	748,487
1994	10,253,911	9,544,014	4,504,806	3,768,143	349,484	921,581
1995	11,107,203	10,067,050	4,449,797	4,370,717	363,914	882,622
1996	10,166,844	9,568,828	4,651,449	3,531,913	351,511	1,033,954
1997	10,490,965	10,102,123	5,290,584	3,402,139	382,771	1,026,628
1998	10,309,191	9,910,271	5,327,957	2,932,547	346,211	1,303,556
1999	10,279,675	9,843,993	5,776,260	2,359,243	479,568	1,228,923
2000	10,918,136	10,395,854	6,452,691	2,370,355	451,457	1,121,352

Source: Hawaii State Department of Business, Economic Development and Tourism, Tourism Research Branch, *Annual Visitor Research Report* (annual) and records.

#### **4. Defense Department Trends**

Table F1 also provides a summary of recent military employment levels in Hawaii. According to the Federal Department of Defense, no significant changes have occurred between 1996 and 2000. This sector of the state's economy still constitutes a significant proportion of the employment and has an impact on the transportation needs of the state. Since the state has essentially no control over the size of the military population or activity, this sector of the economy must be recognized for its potential variability and unpredictability. The impact of military employment on the transportation needs of the state can be monitored and potentially evaluated, but any attempts to forecast changes or future requirements are not possible.

#### **5. Transportation System Trends**

The transportation system in the State of Hawaii is a diverse multi-modal system that supports a significant population and an economy fueled by many elements, including the visitor industry and the military. The ability of the transportation system to satisfy the state's demands can be described in terms of factors such as motor vehicles registered, miles of roadway provided, gallons of fuel consumed, tonnage of cargo moved through the state's harbors, and passengers and cargo moved through the state's airports.

As of Year 2000, there were 964,738 motor vehicles registered in Hawaii. Of these, 759,840 were passenger vehicles; 165,104 were vans, pickups, and trucks under 6,500 pounds in personal use; and the remainder were ambulances, buses, truck tractors, truck cranes, and motorcycles. The breakdown of motor vehicles by county is as follows:

- City and County of Honolulu           626,737
- County of Hawaii                       138,616
- County of Kauai                         63,831
- County of Maui                         135,554

Motor vehicle fuel consumption and vehicle miles of travel have steadily increased in the state over the years, growing from 395.185 million gallons of highway fuel consumed in 1990 to 428.425 million gallons consumed in 2000. Total vehicle miles of travel increased during that same period from 8,065.4 million vehicle miles in 1990 to 8,525.7 million vehicle miles in 2000. Highway fuel consumption and vehicle miles of travel in Year 2000 by county is as follows:

**Year 2000 Vehicle Usage Statistics**

County	Highway Fuel Consumption (million gallons of fuel)	Vehicle Miles of Travel (million miles of travel)
City and County of Honolulu	268.841	5,402.7
County of Hawaii	72.382	1,295.0
County of Kauai	26.604	645.4
County of Maui	60.598	1,182.6

The Honolulu Harbor, which is the focal point for all shipping activity in the state, accepted 5,382,309 tons of cargo from overseas ports in 2000 and 1,959,455 tons of cargo from interisland ports.

The airports in the statewide system had 7,699,676 passengers deplane from overseas airports in 1999. Interisland airports had 10,173,069 passengers deplaned in 1999. The airports also accepted 179,714 tons of cargo from overseas airports and 69,184 tons of cargo from interisland airports. The airport system also accepted 55,488 tons of mail from overseas airports and 23,893 tons of mail from interisland airports.

**B. STATEWIDE TRANSPORTATION PLANNING**

Planners, engineers, and elected and appointed officials will be faced with many challenges in their quest to provide an integrated, multi-modal transportation system for Hawaii. To meet these challenges, substantial investments of time and money will be required. With a renewed emphasis on comprehensive transportation planning, it is necessary to forecast both the technological changes that may help

frame the solutions to future problems and the societal changes that those solutions may in turn create. With sound long-range planning, the opportunity exists to anticipate future needs and make appropriate adjustments to the transportation landscape.

The Hawaii State Plan is the starting point for the statewide transportation planning process. It is a tool used to identify changes in public priorities and to provide a process for dealing positively with these changes. The Hawaii Statewide Transportation Plan links broad policy goals with specific action items by providing the foundation that connects these action items with the transportation planning done at the regional and county levels. The plan is a product of collaboration with HDOT and its three operating divisions as well as with the transportation planning partners at the county levels. This collaboration used input from various sources, including the users of the transportation system, the stakeholders, and providers.

The HSTP is *not* a listing of specific transportation projects at either the statewide or local level. Rather, the HSTP sets the stage and provides the context for the development of transportation programs that, when implemented, will help achieve one or more of Hawaii's transportation goals. It identifies transportation directions and the range of key elements to be considered in the development, management, and operation of Hawaii's transportation systems. It is within these parameters that the search for solutions can begin. HDOT will update the plan every five years to assess its progress and to make adjustments as appropriate.