SMS Beyond Research, Intelligence

County of Hawai'i General Plan Comprehensive Review

October 2022

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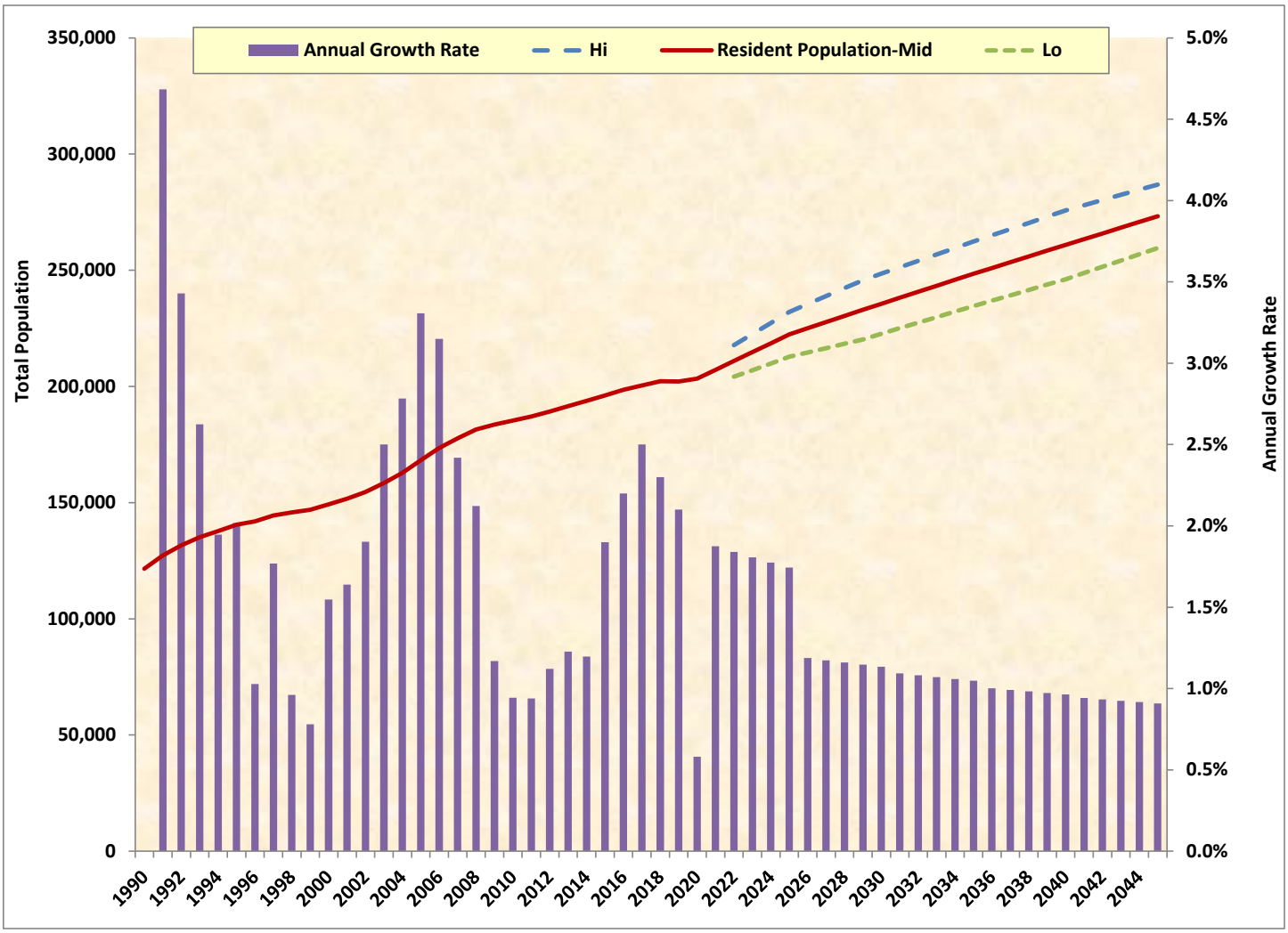
INTRODUCTION TO THE SUMMARY REPORT

This report provides a discussion of each forecasted variable. Each summary includes a graph showing the forecast variable and annual rates of change. For each variable of interest, the definition, data sources, and forecasting methods are only provided in cases where it differed from the methods utilized for the 2016 update.

Demographic Forecasts

RESIDENT POPULATION

FIGURE 1: RESIDENT POPULATION, COUNTY OF HAWAIʻI, 1990 THROUGH 2045



Discussion: The projected total population for the County of Hawaiʻi is based on the Department of Business, Economic Development and Tourism (DBEDT) Population and Economic Projections for the State of Hawaii to 2045 (DBEDT 2045). These projections were released in June 2018 with 2020 being the first year for which data was projected. Empirical data now available for 2020 indicates that the DBEDT 2045 projection of 209,000 Hawaiʻi County residents was roughly three percent higher than the actual number of 203,340.

Discussion: DBEDT is expected to publish new population and economic projections in the coming 12-18 months that will almost certainly reflect the lower population growth rates. Additionally, data from the Hawaiʻi Housing Planning Study 2023 will likely include an adjusted forecast of the total population for the County. It is recommended that updated population projections be incorporated in the General Plan model in order to assess the impact across all forecast elements.

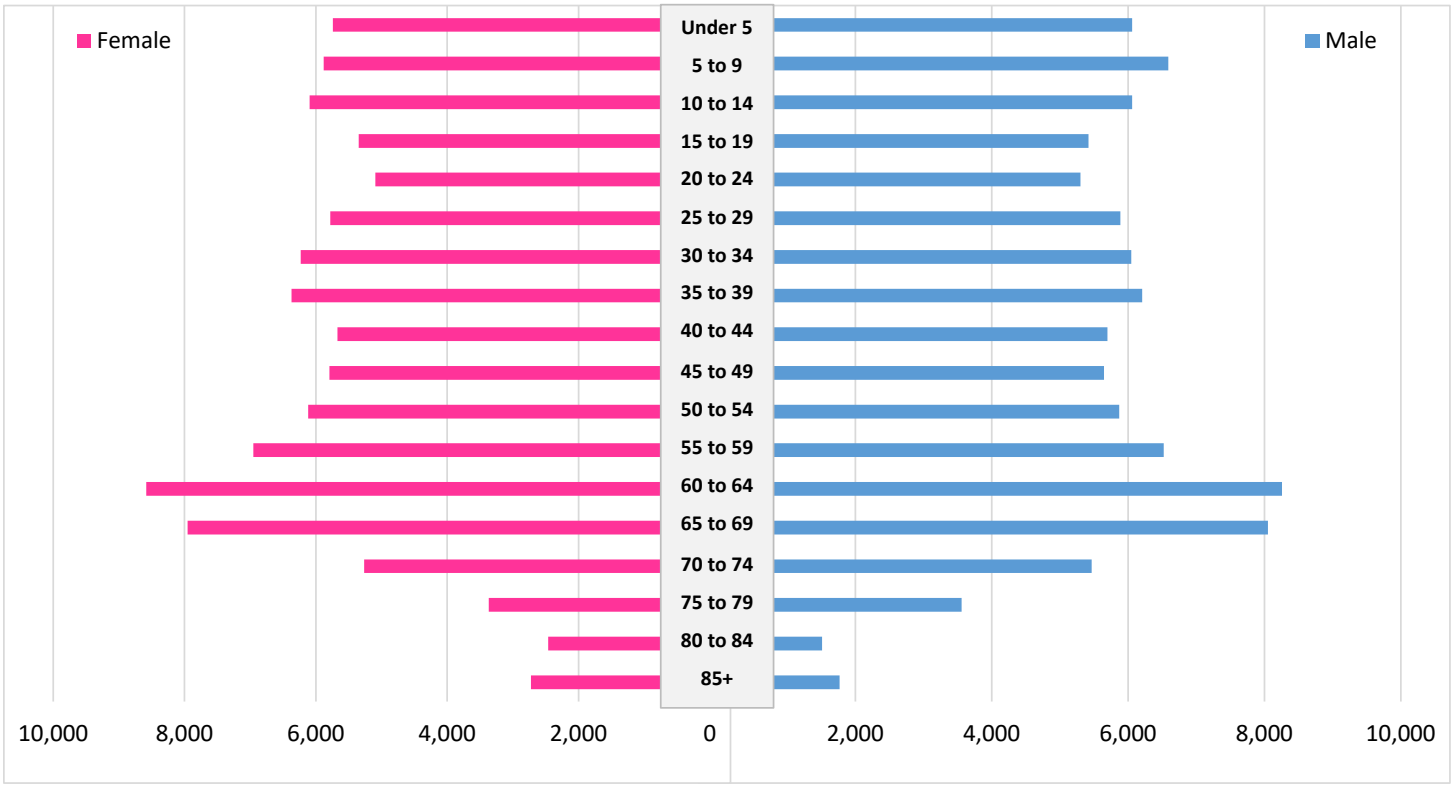
SMS provides a second possible midline population forecast in the model database based on the variation from the DBEDT 2045 forecast and empirical data for the years from 2016 through 2021. This forecast, provided in five-year increments, is equal to roughly 97 percent of the DBEDT projected population totals.

POPULATION PYRAMID

Ages are presented in five-year age groups called cohorts. Population pyramids are often viewed as the most effective way to graphically depict the age and gender distribution of a population.

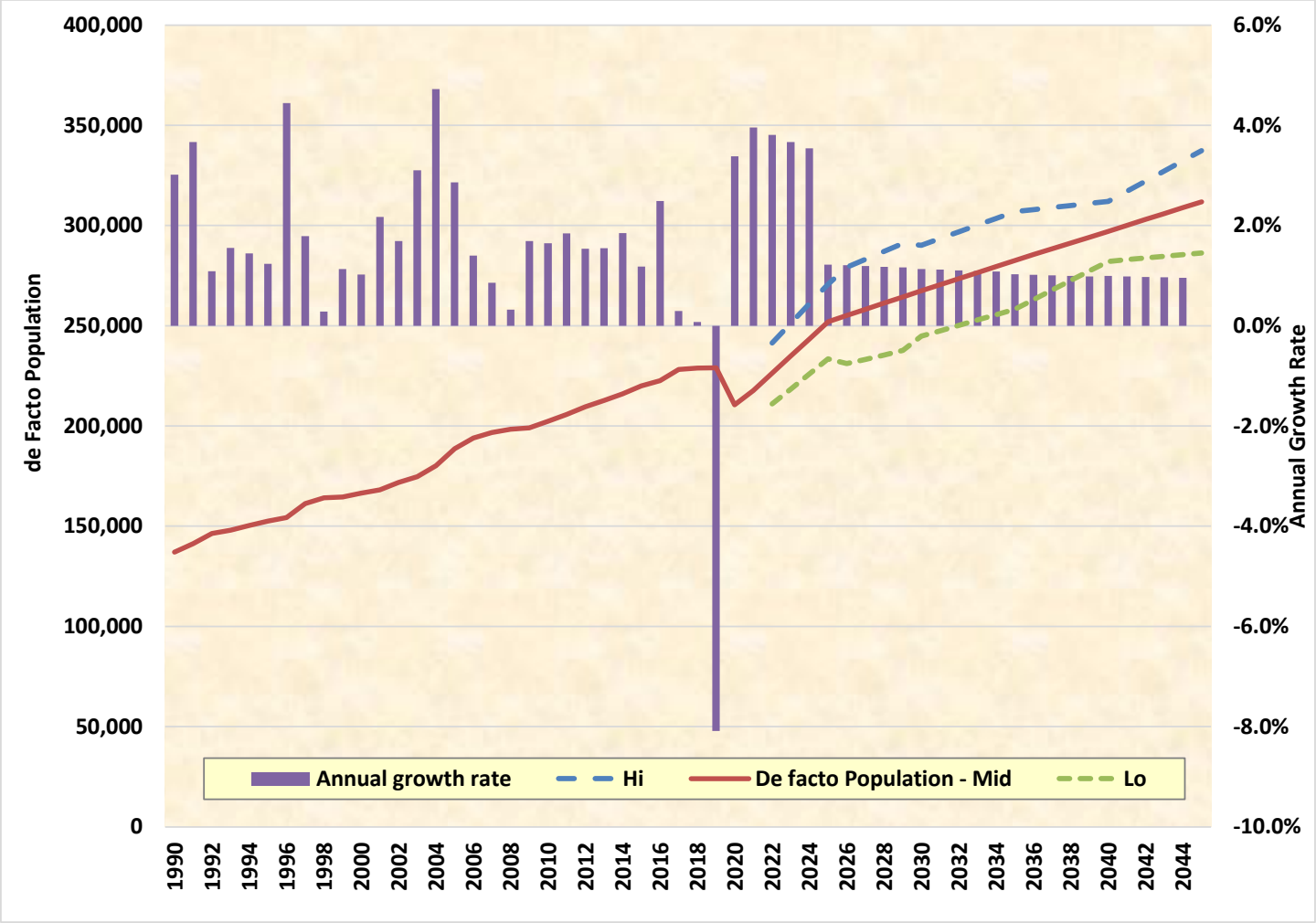
Rather than being in the shape of a pyramid, the population of the County of Hawai'i shown in Figure 2 displays similar numbers of residents for the age ranges from birth to 59 years of age. There is a bulge depicting the larger number of residents between the ages of 60 and 69. The graph then tapers for residents age 70 and older, with a slight increase among the oldest residents (85 years and over).

FIGURE 2: RESIDENT POPULATION AGE CATEGORIES, COUNTY OF HAWAI'I, 2020



DE FACTO POPULATION

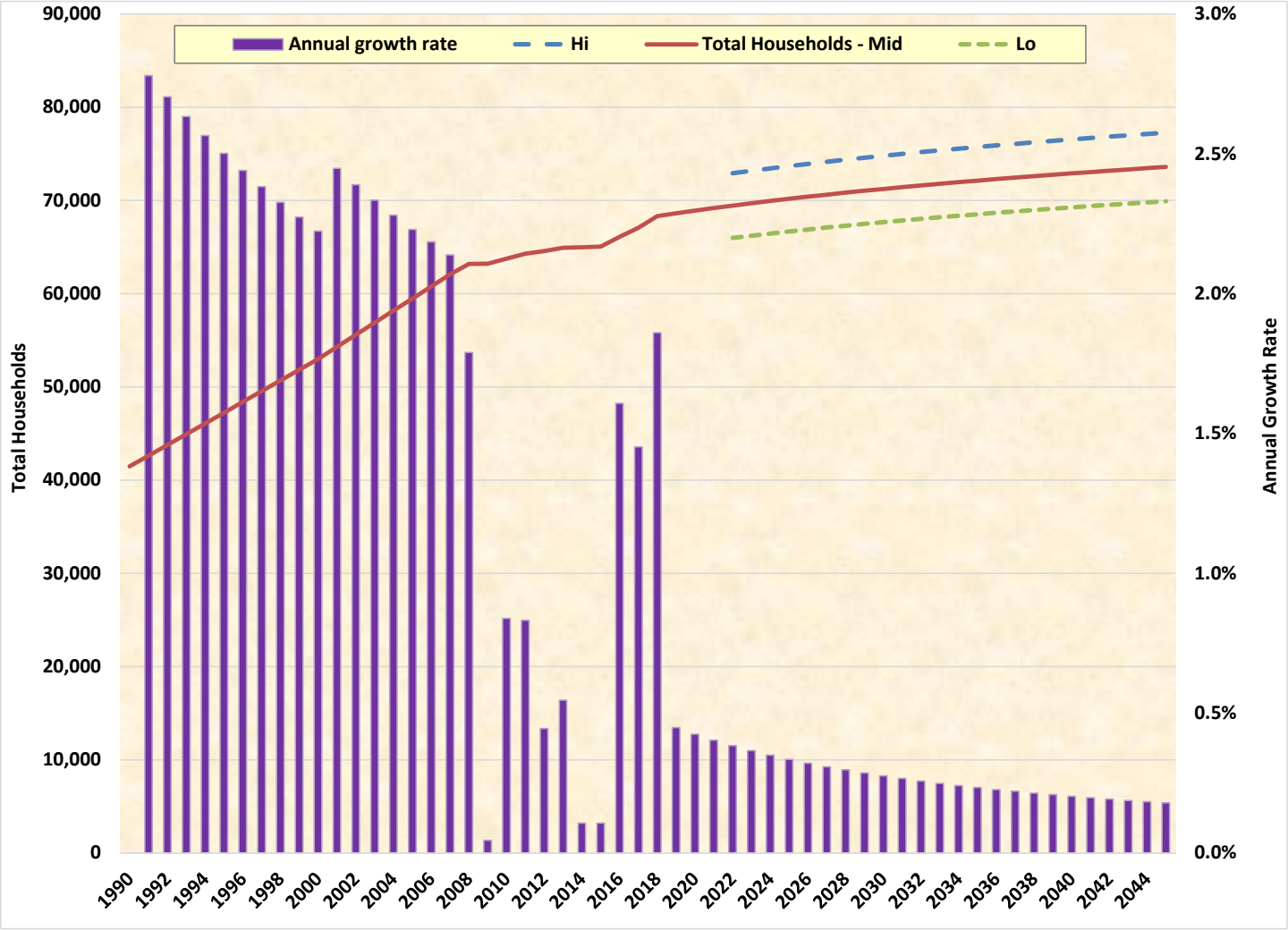
FIGURE 3: *DE FACTO* POPULATION, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: As the forecasting method for de facto population is simply the sum of the forecasts for resident population and the average daily visitor census for each year, it is more straightforward than other forecasts. While the annual growth rate clearly dips from 2019 to 2020 due to the significant decrease in the number of visitors, visitor counts are nearly back to pre-COVID levels and expected to trend in much the same manner an originally anticipated by the DBEDT 2045 forecast.

NUMBER OF HOUSEHOLDS

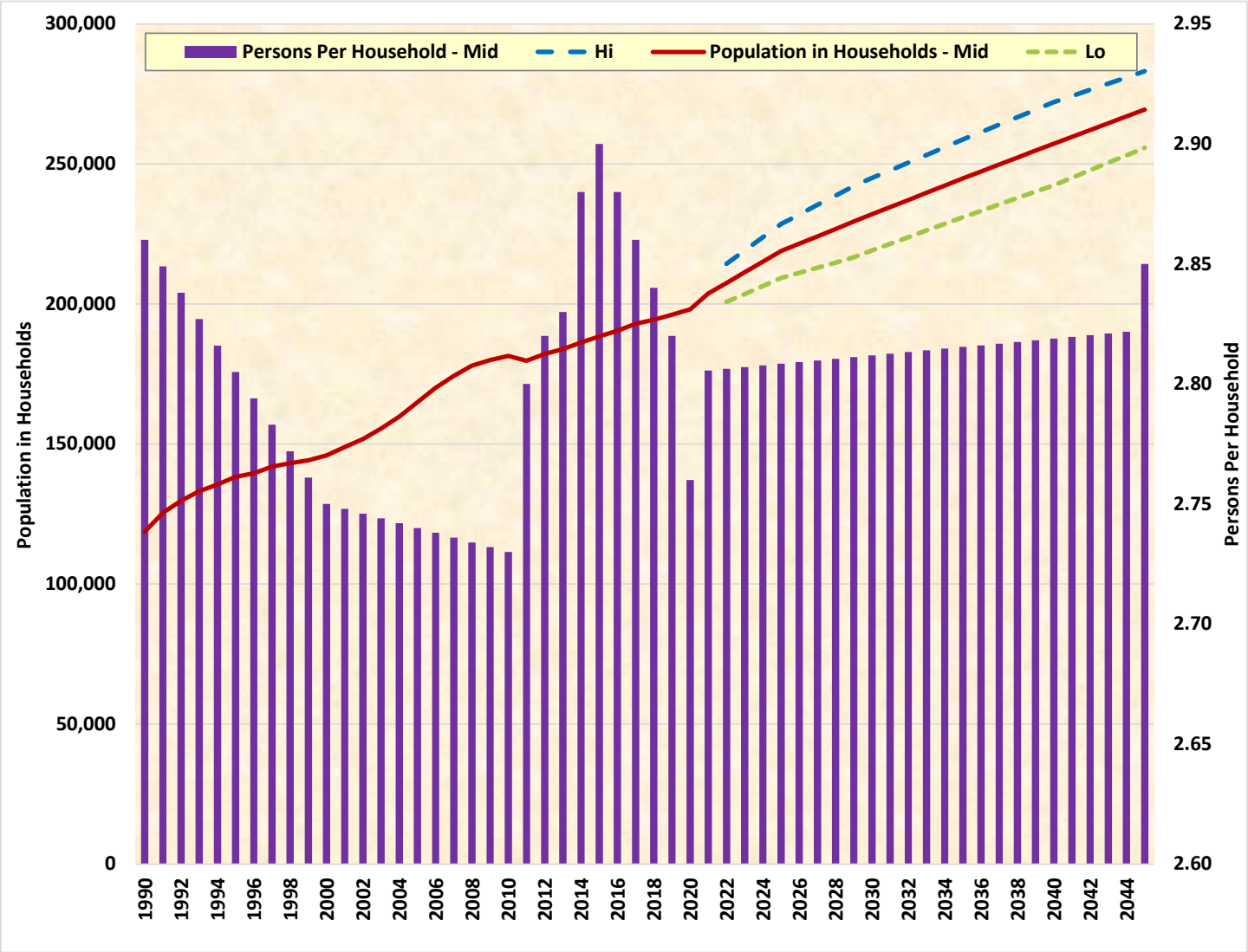
FIGURE 4: NUMBER OF HOUSEHOLDS, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: The series "number of households" follows the same trajectory as the resident population forecast. Any variation has the same relationship to the average trend line over time, and deviations from that line that are consistent with economic trends. In the case of the household trend, there is a relationship to housing supply as well, because the definition of a household requires that it equals the number of occupied housing units in the same geographic area.

PERSONS IN HOUSEHOLDS AND PERSONS PER HOUSEHOLD

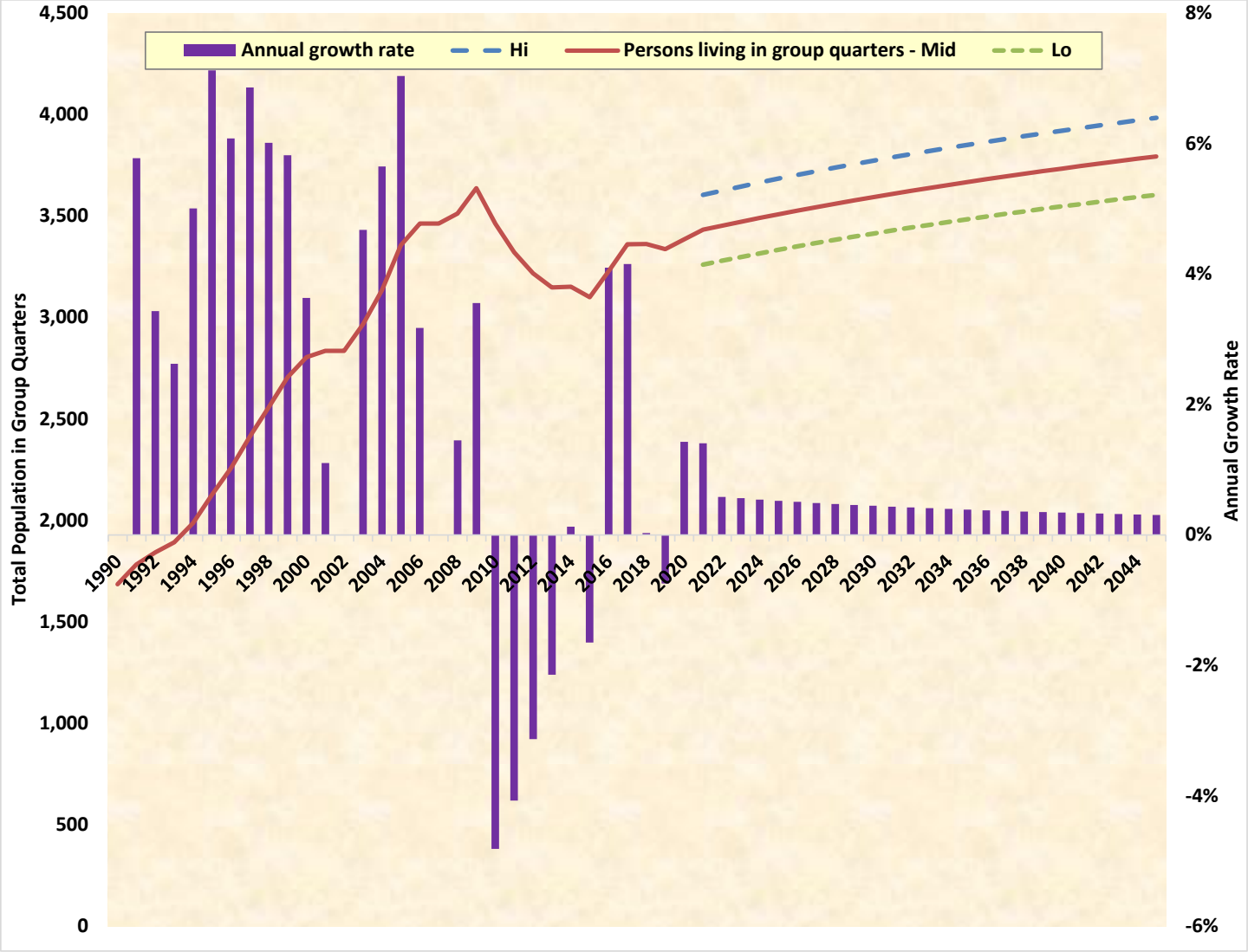
FIGURE 5: PERSONS IN HOUSEHOLDS & PERSONS PER HOUSEHOLD, COUNTY OF HAWAI'I, 2000-2045



Discussion: The series "persons in households" follows the same trajectory as the resident population forecast. They show a steady increase with some variation around the trend line. That variation again appears to be similar to the rise and fall of local economic conditions over time. It can also be interpreted as the impact of the economy on household formation rates. In a slow economy, the number of persons per household may rise as higher prices and lower supply work to increases crowding and decrease new household formation. In a rising economy, housing opportunities increase, crowded households empty out, and average household size decreases.

PERSONS LIVING IN GROUP QUARTERS

FIGURE 6: PERSONS LIVING IN GROUP QUARTERS, COUNTY OF HAWAI'I, 2000-2045

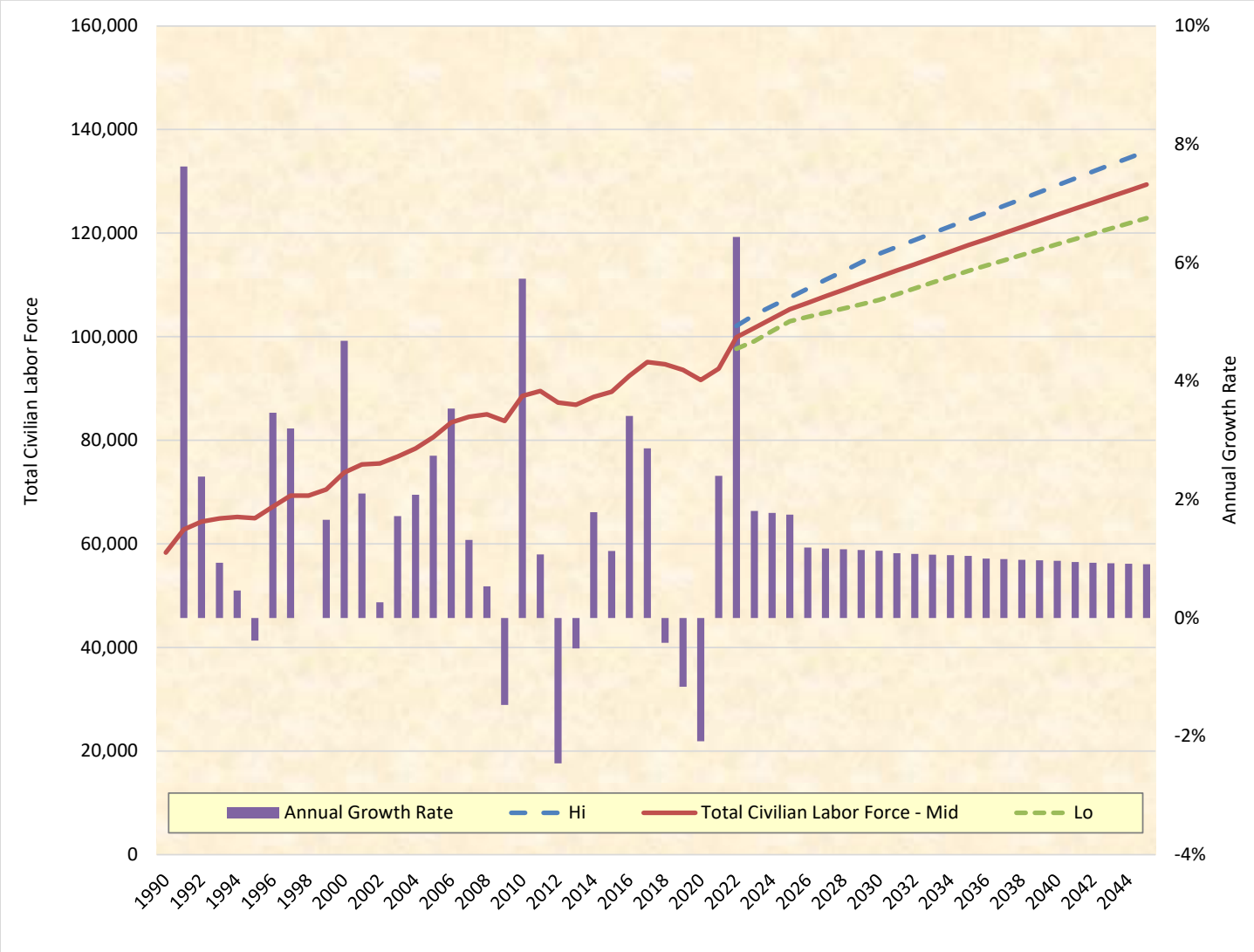


Discussion: The institutionalized group quarters population is in part, dependent on the number of institutionalized housing units in the County. Its growth may be hindered by barriers to supply and its growth rate may underestimate the number of people who need institutionalized housing.

Economic Forecasts

LABOR FORCE BY SECTOR, INDUSTRY, OCCUPATION

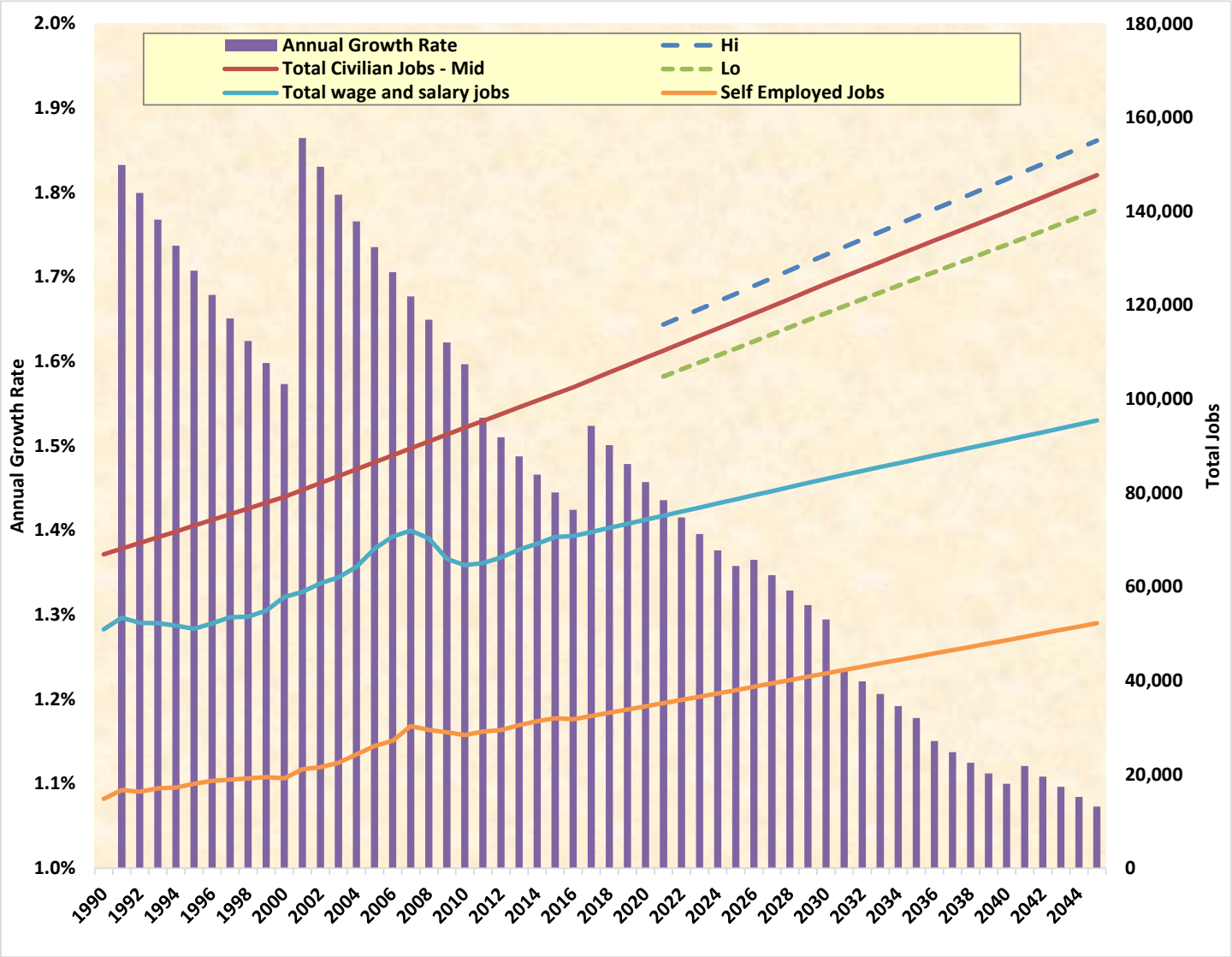
FIGURE 7: LABOR FORCE, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: The forecast is the most reliable that is available at this time and we believe it will serve the planning needs of the County for the short-run. This forecast will benefit greatly from new data available when the next editions of the DBEDT Forecast, the Intra-County I-O Model, the Housing Planning Study 2023, and the next editions of ACS data become available.

JOBS IN THE COUNTY OF HAWAIʻI

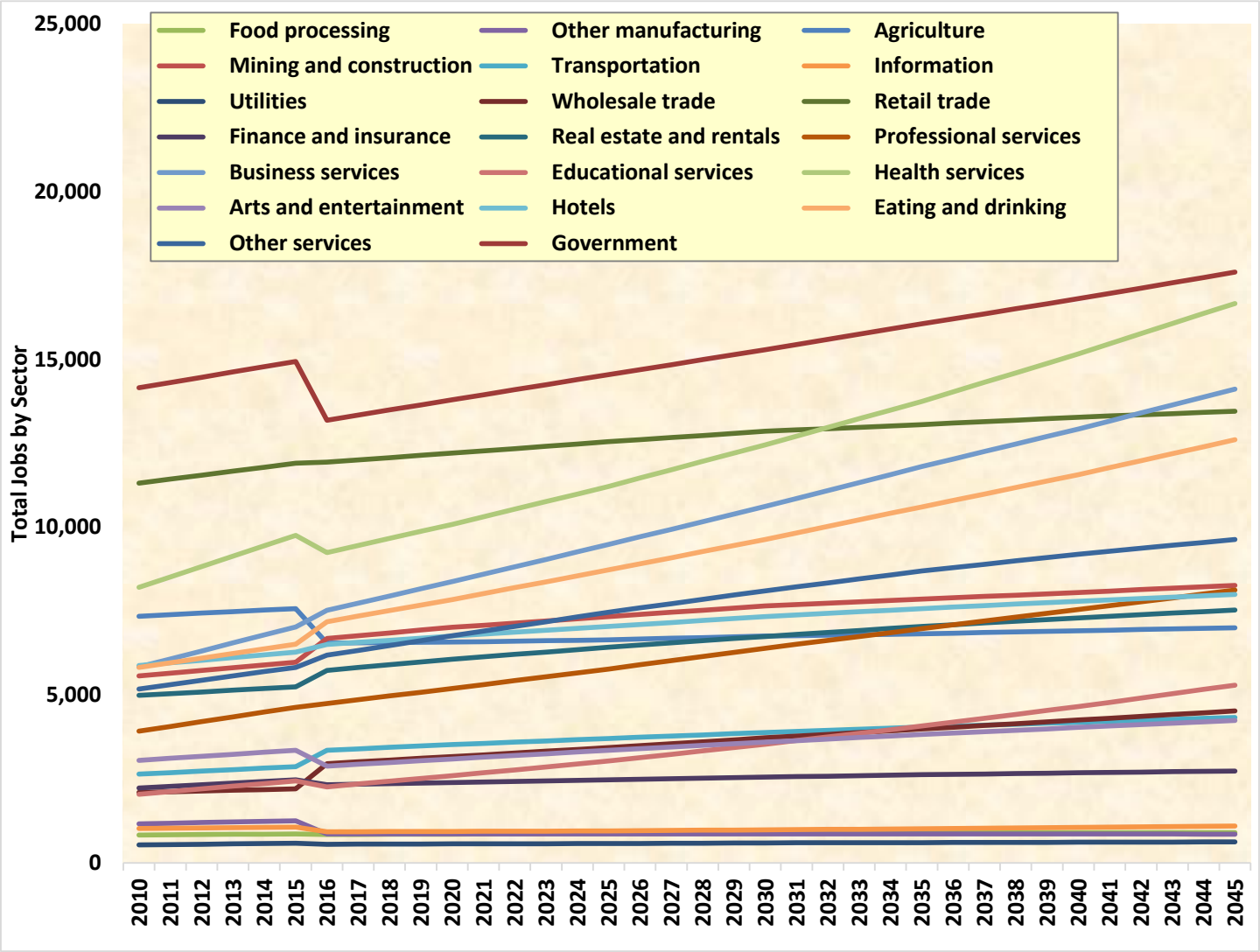
FIGURE 8: CIVILIAN JOBS, COUNTY OF HAWAIʻI, 1990 THROUGH 2045



Discussion: The civilian job count forecast seems to be a reasonable estimate and we found no alternative forecasts that suggested significant changes should be considered.

Jobs by Sector

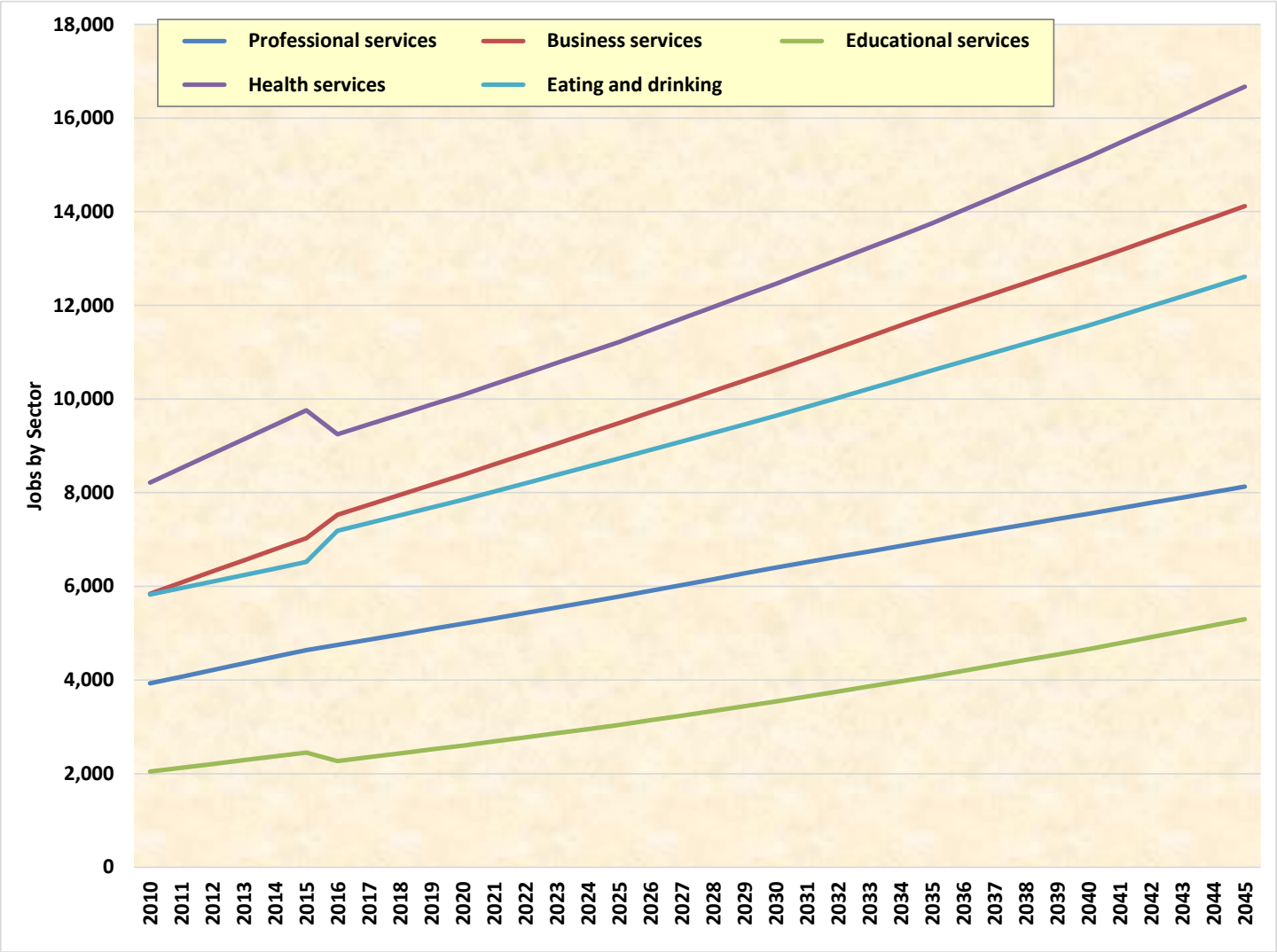
FIGURE 9: NUMBER OF JOBS BY SECTOR, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: Graphing twenty job categories over fifty years produces results that are difficult to read. The chart provides a rough overview of the historical and predicted growth patterns for wage and salary jobs in Hawai'i County. Figure 11 provides details regarding the five sectors from Figure 10 with the highest growth rates in DBEDT 2045. The top five growth sectors in the DBEDT 2045 forecast are Educational services, Business services, Health services, Eating and drinking, and Professional services.

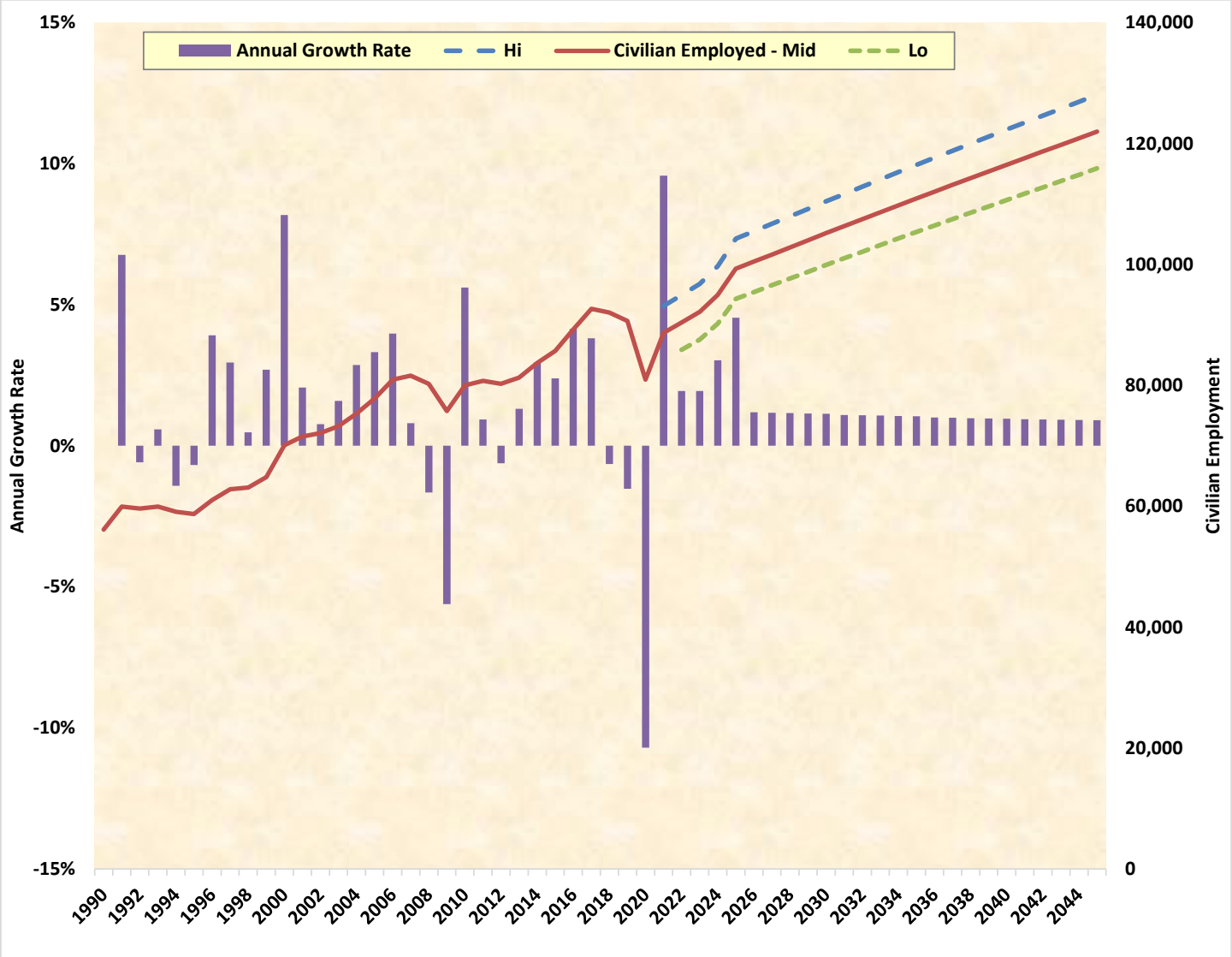
The jobs by sector trends and forecasts provided by DLIR and DBEDT should suffice for most planning decisions in the short-run. Prior to the next update of the DBEDT Forecasts, which may be available as early as 2023, planning decisions that depend heavily on sectors discussed above should be approached carefully.

FIGURE 10: TOP FIVE JOB GROWTH SECTORS, COUNTY OF HAWAI'I, 2010 THROUGH 2045



EMPLOYMENT IN THE COUNTY OF HAWAIʻI

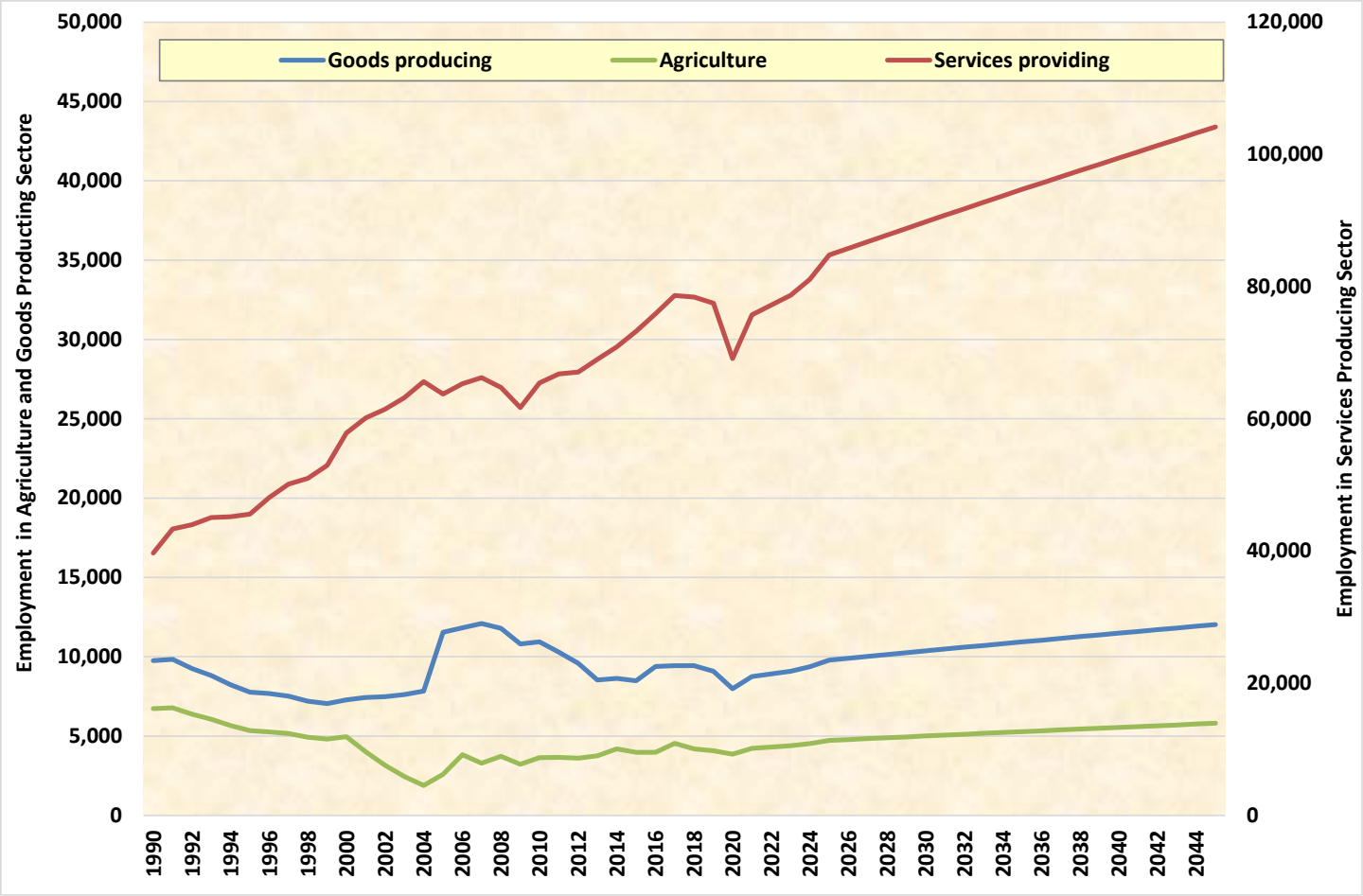
FIGURE 11: EMPLOYMENT, COUNTY OF HAWAIʻI, 1990 THROUGH 2045



Discussion: Employment trend and forecast data appear to be a reliable and accurate estimate for the County between 1990 and 2045. The COVID-19 pandemic clearly produced a spike in unemployment following the first shutdown in March 2020 and again after the second shutdown in late August 2020. Marked improvement in the unemployment rate was observed by December 2020. As of June 2022, the unemployment rate is 4.4 percent. The current rate is 1.2 percentage points lower than in the same period of the previous year and appears to be trending toward the 2.5 percent unemployment rate seen prior to the pandemic. As such, the DBEDT 2045 forecast is expected to be a fair representation of employment for the County to 2045.

Employment by Sector

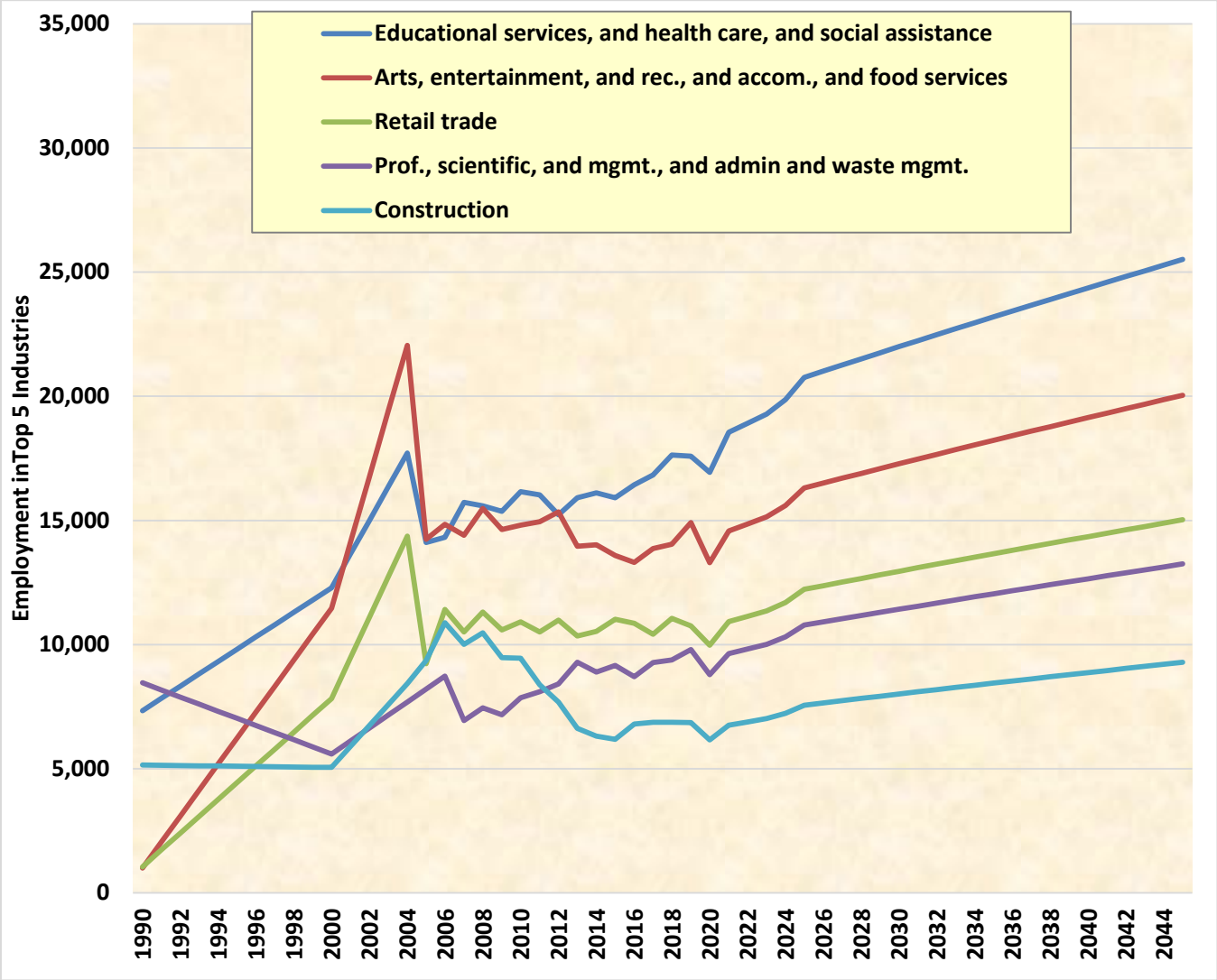
FIGURE 12: EMPLOYMENT BY SECTOR, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: As is historically the case, employment in Hawai'i County will continue to be skewed toward the services producing sector. In 2020, 85.4 percent of employment was in one of the industries classified as within the services producing sector. Roughly nine percent of employees worked in goods producing jobs, with the remainder working in agriculture.

Employment by Industry

FIGURE 13: EMPLOYMENT BY TOP FIVE INDUSTRIES, COUNTY OF HAWAI'I, 1990 THROUGH 2045

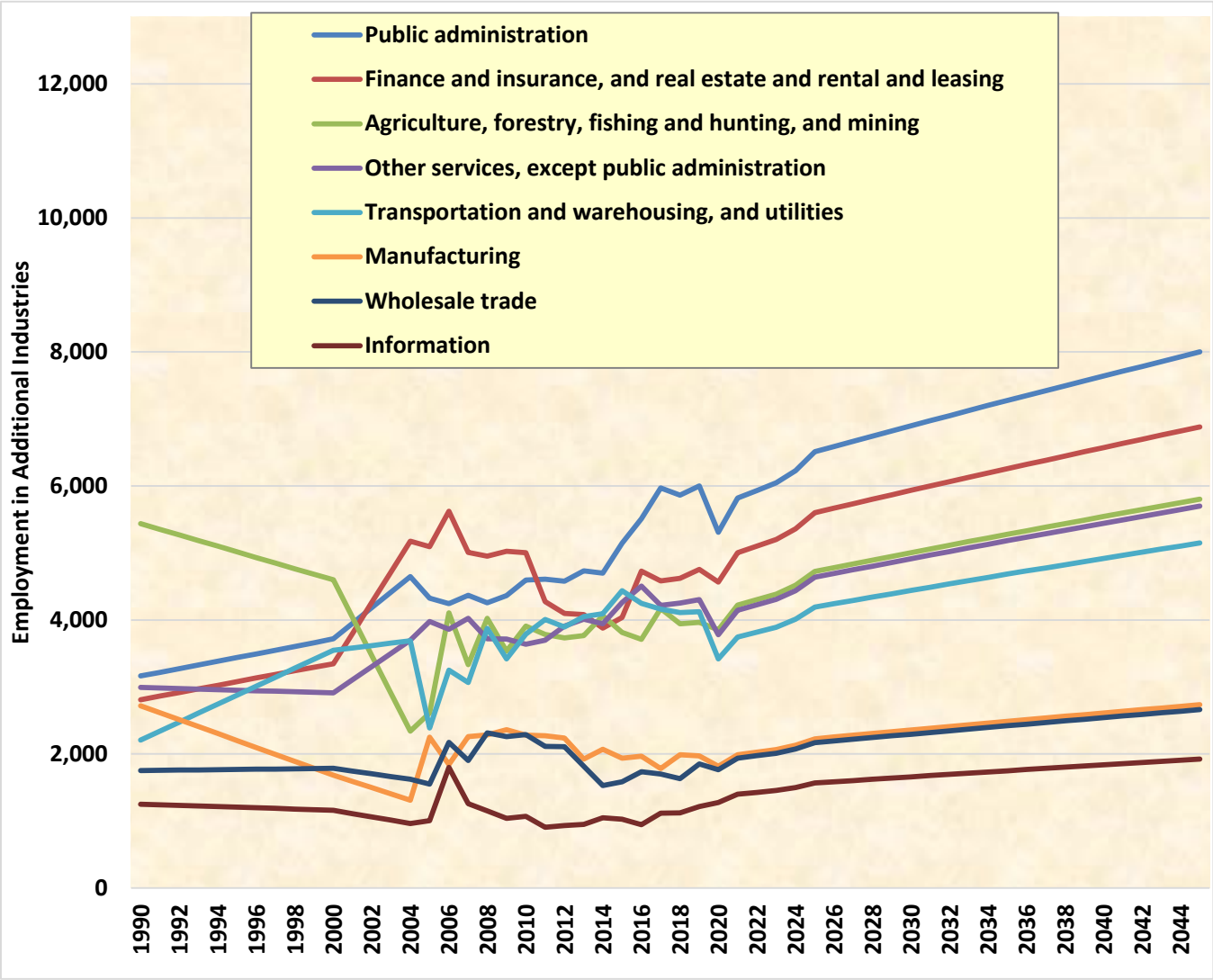


Discussion: At present, over 68 percent of the employed persons in the County of Hawai'i work in one of the following industries:

- Educational service, healthcare, and social assistance
- Arts, entertainment, recreation, accommodation, and food services
- Retail trade
- Professional, scientific, management, administrative, and waste management
- Construction

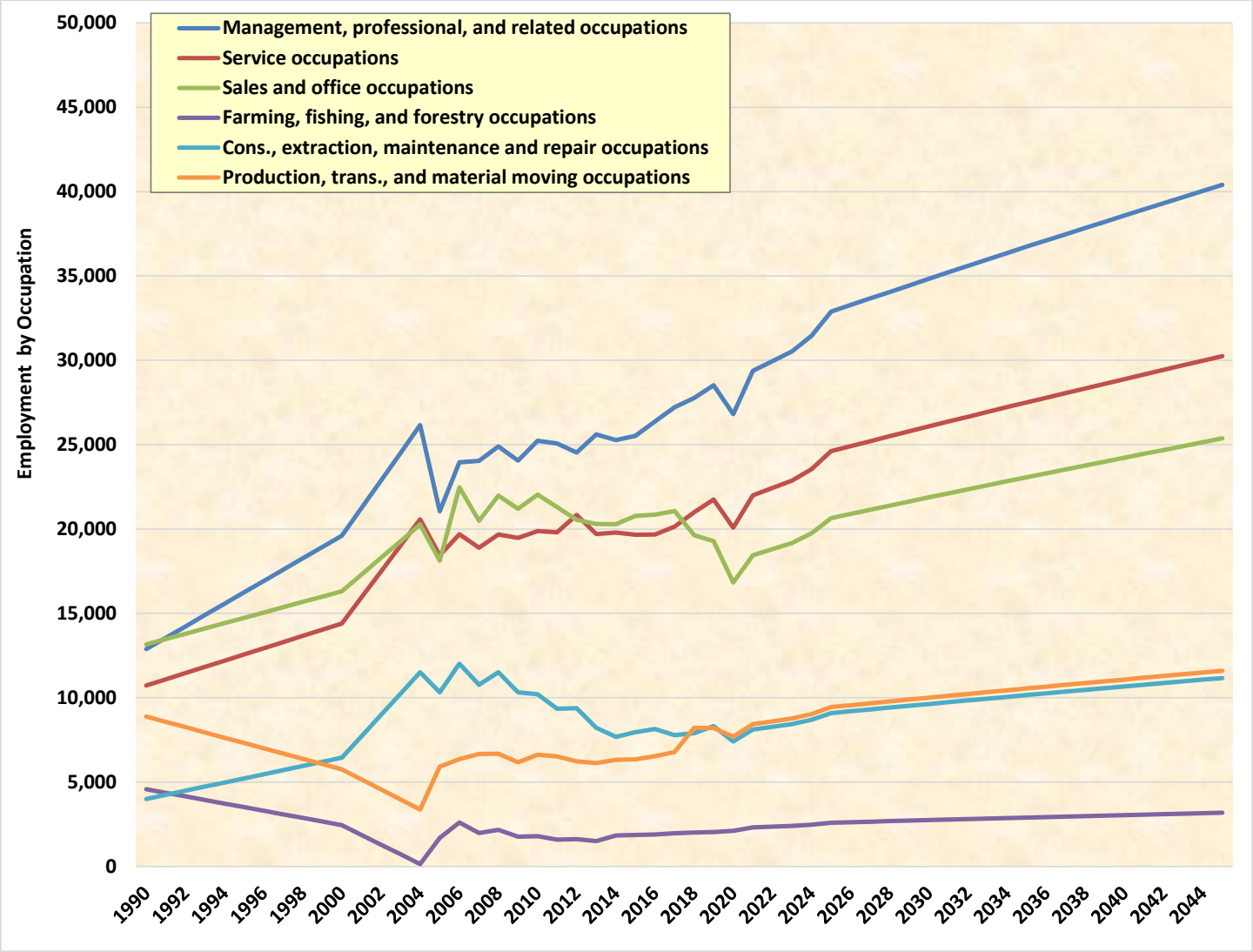
Employment in the construction industry continues to be the most volatile among the top industries, with notable spikes and dips in employment that generally correspond to fluctuations in the housing market.

FIGURE 14: EMPLOYMENT BY ADDITIONAL INDUSTRIES, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Employment by Occupation

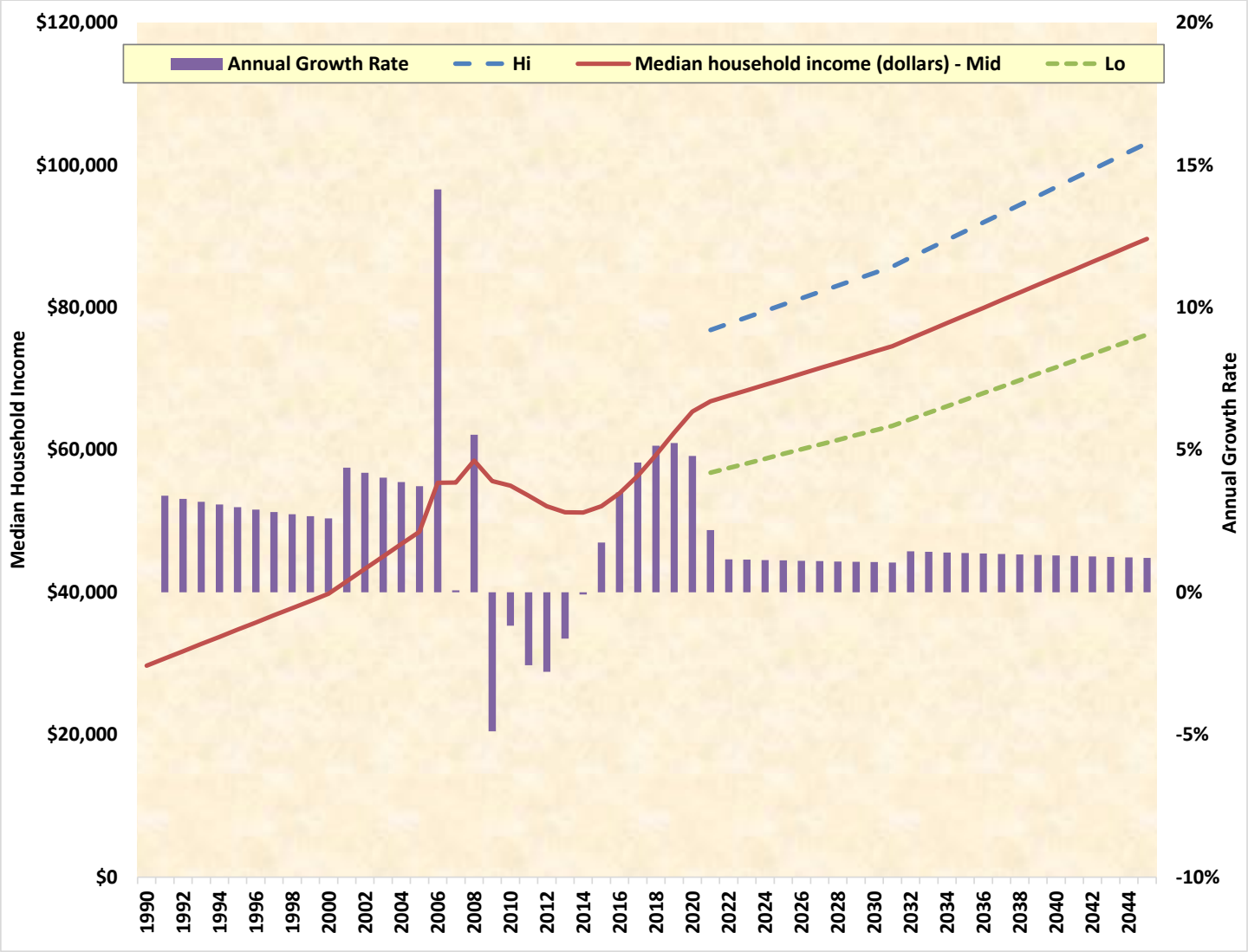
FIGURE 15: EMPLOYMENT BY OCCUPATION, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: Management, professional and related occupations account for the largest percentage of employed persons in the County of Hawaii (33.1 percent). Service occupations account for approximately one-quarter of all employed persons (24.8 percent), followed closely by Sales and office occupations (20.8 percent).

MEDIAN HOUSEHOLD INCOME

FIGURE 16: MEDIAN HOUSEHOLD INCOME, COUNTY OF HAWAI'I, 1990 THROUGH 2045



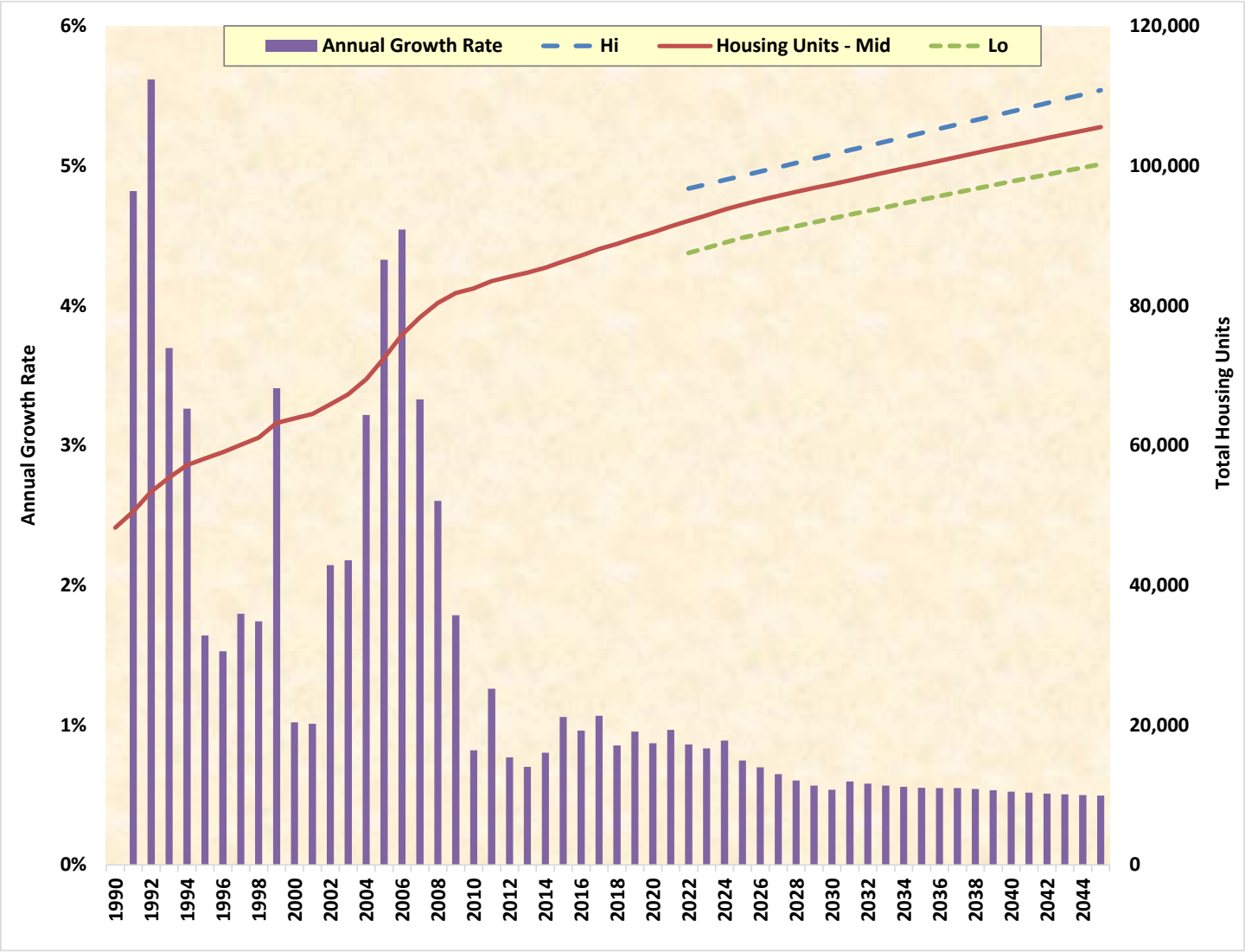
Discussion: Because forecasting household income is a highly imprecise undertaking, it is rarely attempted. The determinants of household income form a complex array including household formation and household characteristics, number of employed persons per household, the changing distribution of incomes over time and space, and the array of income sources throughout the household. Even when the median household income exhibits a clear and unchanging pattern over time, the component and independent variables may be shifting.

In all, the pattern of change in household income since 1990 is of interest and helps to understand the demographic, economic, and housing issues over those years. The forecast, on the other hand, is an acceptable indication of what might happen to household incomes between 2021 and 2045. Note that the high and low estimates incorporate a 15 percent margin or error, the highest among all the forecasts.

Real Estate Market and Housing

TOTAL HOUSING UNITS

FIGURE 17: TOTAL HOUSING UNITS, 1990 THROUGH 2045

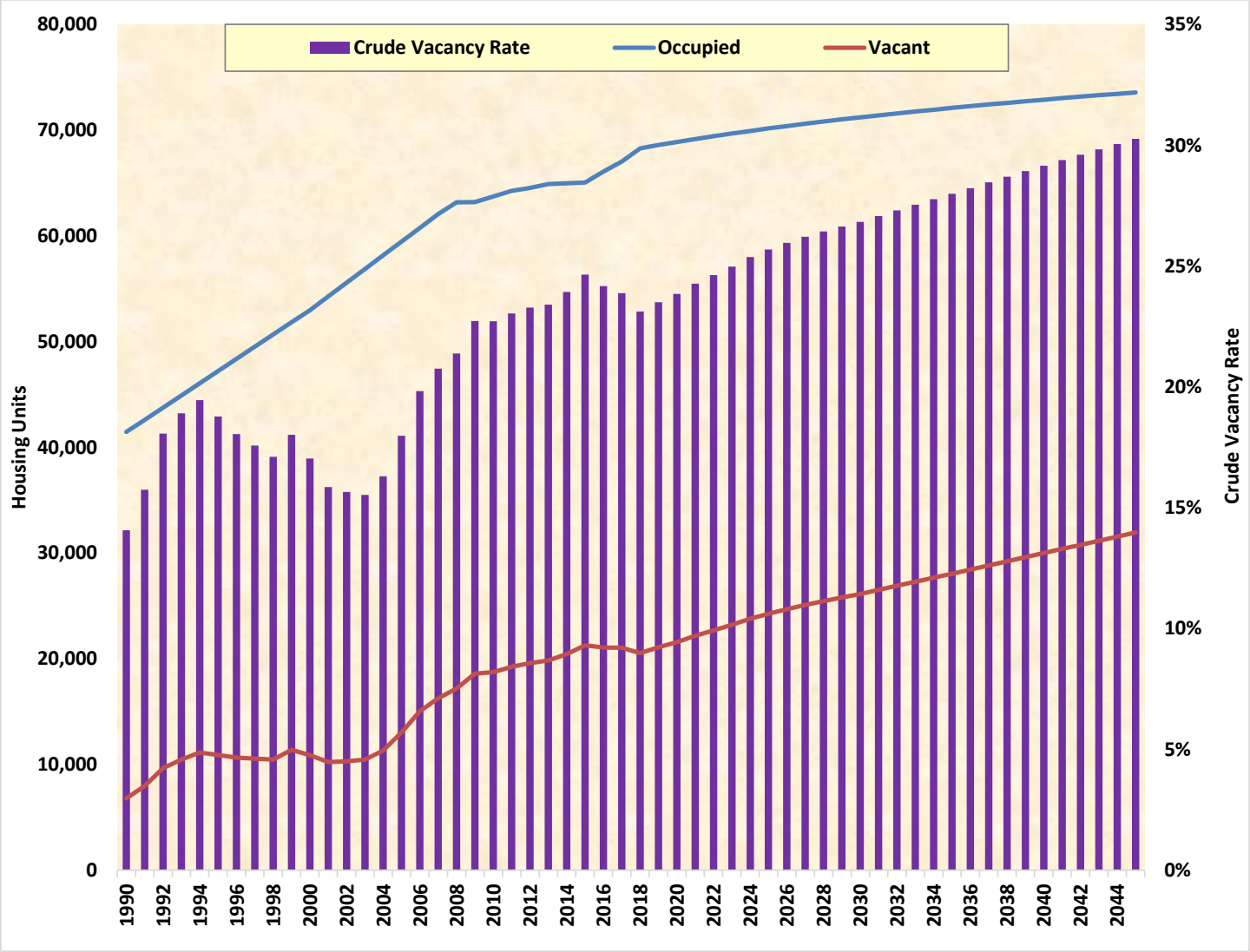


Discussion: The forecast is fairly straightforward and matched both the empirical and the existing forecast data. The forecast will continue to increase at a decreasing rate though the year 2045. We can safely assume that Hawai'i's volatile housing market will continue to produce significant growth rate variation around the projected trendline. Variation in the content and configuration of the housing stock may vary significantly based on housing demand and regulation over the next 25 years. Updated projections produced for the Hawai'i Housing Planning Study 2023 should be incorporated into the General Plan model when available.

The data was adjusted to reflect the loss of 612 housing units in Lower Puna in 2018 due to the lava flow. Close to 300 of the destroyed units were primary residences.

TOTAL HOUSING UNITS: OCCUPIED AND VACANT

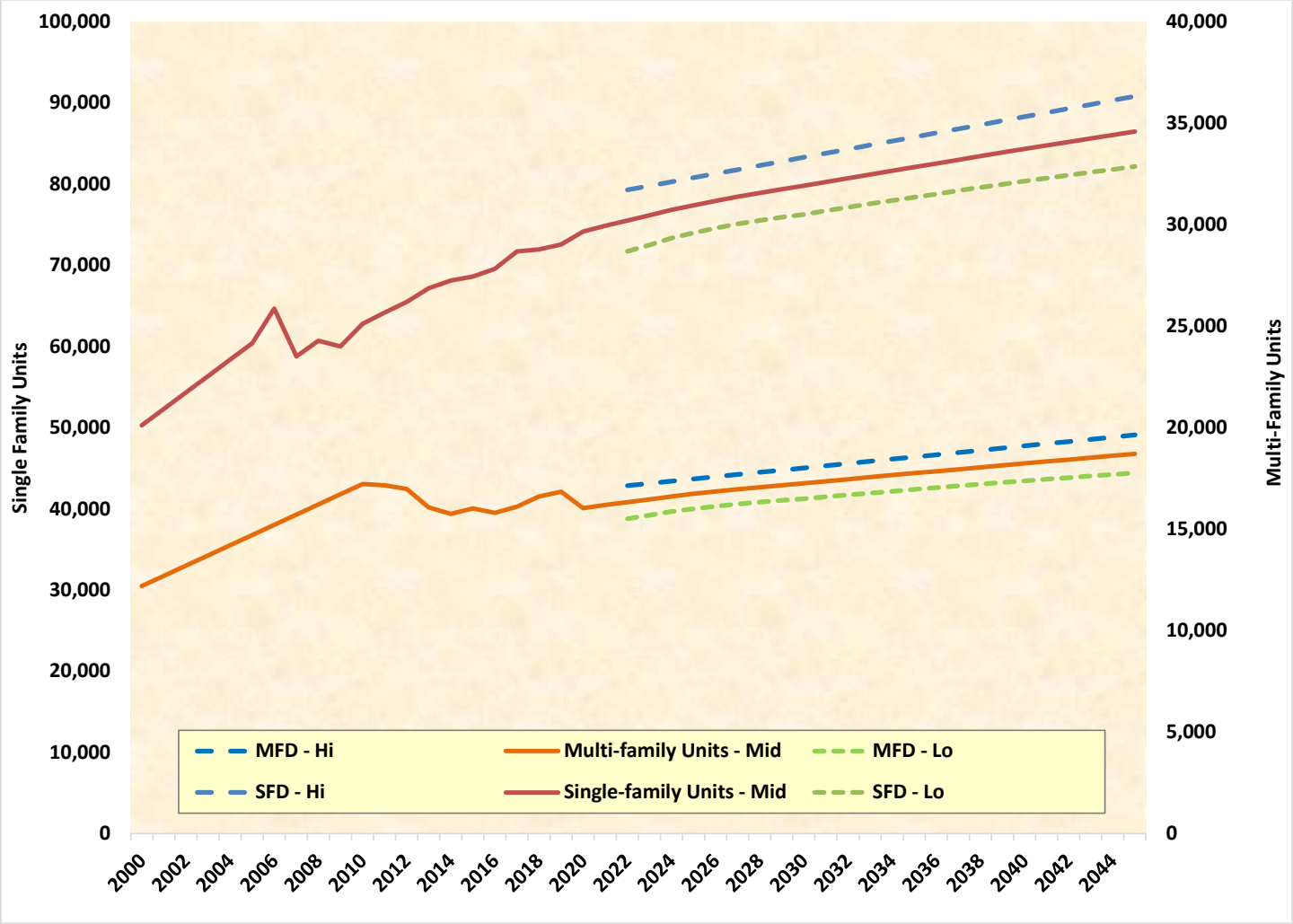
FIGURE 18: OCCUPIED AND VACANT HOUSING UNITS, COUNTY OF HAWAIʻI, 1990 THROUGH 2045



Discussion: The mix of occupied and vacant units in an area's housing stock has always been of interest to planners and developers. Vacancy rates have always been used as a measure of the health of the area housing market. The forecast present here will be useful and reliable for planners at the County of Hawaiʻi. The crude vacancy rate (vacant units divided by total housing units) includes units classified as vacant for seasonal or occasional use. As the County continues the efforts begun in 2020 to regulate short-term vacation rentals (STVRs), it is expected that the number of vacant units unavailable for residents may decline.

OCCUPIED HOUSING UNITS: SINGLE-FAMILY AND MULTI-FAMILY

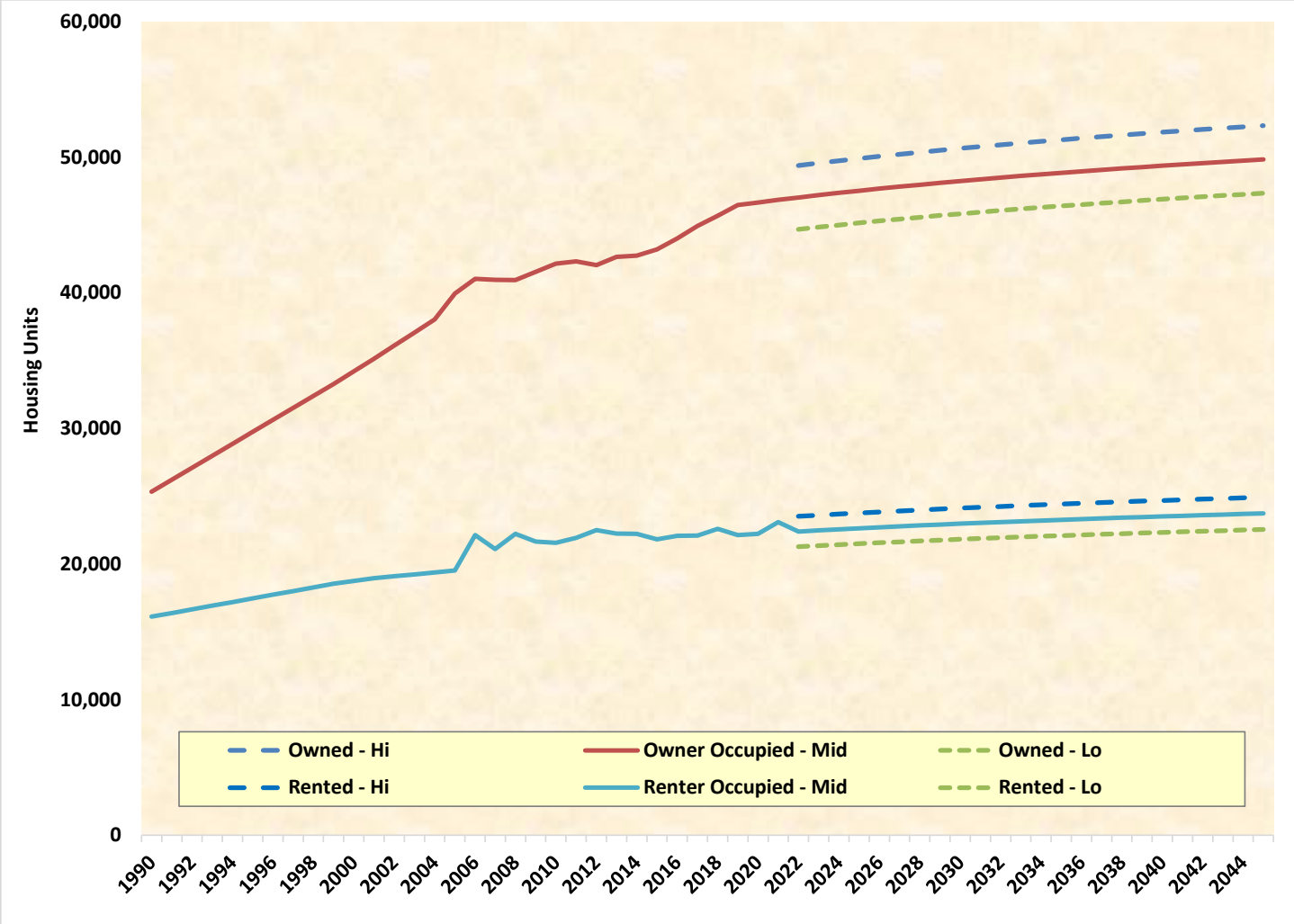
FIGURE 19: SINGLE- AND MULTI-FAMILY DWELLINGS, COUNTY OF HAWAI'I, 2000 THROUGH 2045



Discussion: As these forecasts are *ceteris paribus* forecasts, predicting what will happen if conditions and policies do not change, the forecast predicts that there will be very little change in the relative percentages of the single family versus multi-family units in the County's housing stock.

OCCUPIED HOUSING UNITS: OWNED AND RENTED

FIGURE 20: HOUSING TENURE, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: The County of Hawai'i has long been a place where approximately two-thirds of all occupied housing units are owned units. The forecast predicts that it is likely to remain in that mode.

AFFORDABLE HOUSING UNITS

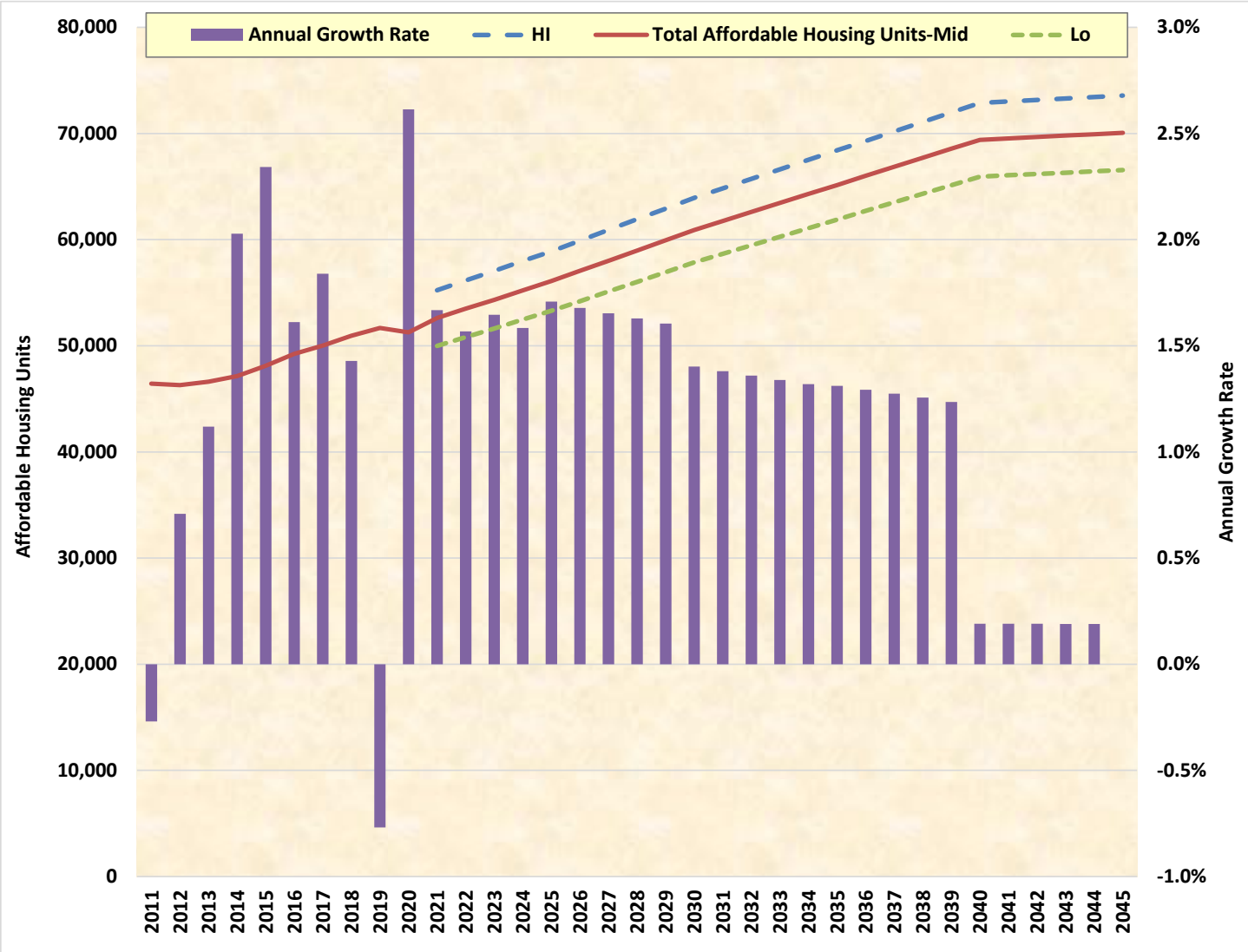
Definition: While the previous version of the County of Hawai'i General Plan Update evaluated a new method of calculating affordable housing proposed by the Urban Institute, this method was found to be lacking in a number of areas so an alternate approach was utilized for the present study. This study adopted the commonly accepted definition of affordable housing those units that require no more than 30 percent of the households' income.

Trend: The data for 2009 through 2020 was extracted from the U.S. Census Public Use Microdata Sample (PUMS) data. Substandard housing units were excluded from the analysis, eliminating any units identified as missing either bathroom plumbing or complete kitchen facilities. All other units were considered to be of standard quality. The analysis also included only those housing units for which a monthly rent or mortgage payment was made. A crosstablulation of household income by monthly housing payment was generated and the results used to identify those units with a monthly housing payment that did not exceed 30 percent of the households' monthly income.

As this procedure only identified affordable occupied housing units, a second analysis was conducted to identify affordable vacant housing units. Five-year estimates from the American Community Survey data was compiled for the period from 2010 through 2020. Included in this extract were vacancy status, median household income, rent asked, and price asked. For units identified as Vacant-For Rent, the rent asked was crosstabulated with median household income to determine the number of units affordable at each level. The asking price for the Vacant-For Sale units was converted into the likely monthly mortgage payment, which was then compared to the median household income data to determine the number of affordable Vacant-For Sale units.

Forecast: Projections for 2021 through 2045 were calculated as a ratio of the affordable units to the total number of housing units for each of the trend years. This ratio was computed individually for each of the four unit types – occupied rental, occupied owned, vacant-for rent, and vacant-for sale – to ensure the highest level of accuracy possible. The unit types were then summed to the total number of affordable units for the projected period.

FIGURE 21: AFFORDABLE HOUSING UNITS, COUNTY OF HAWAIʻI, 2010 THROUGH 2045

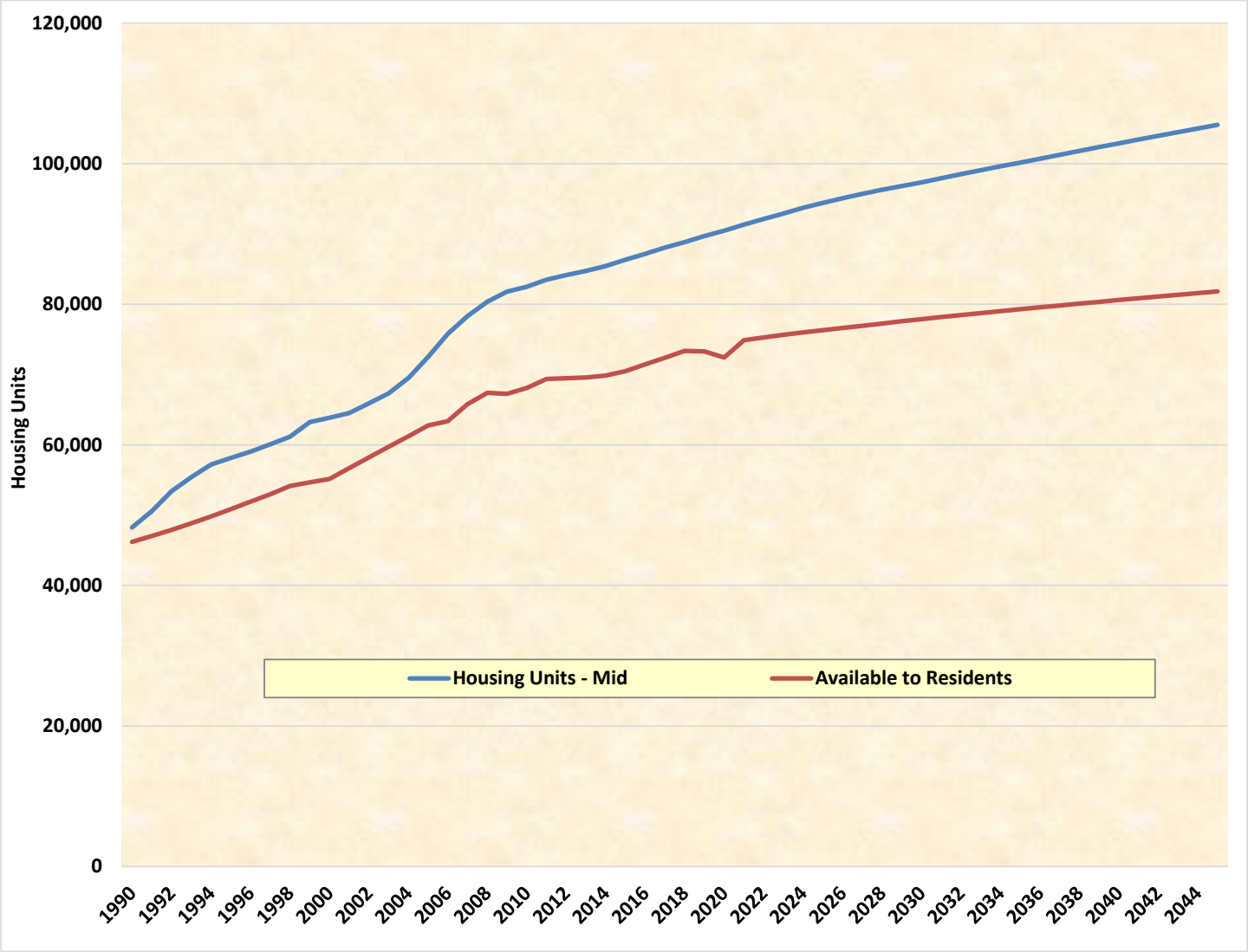


Discussion: Using the method detailed above, approximately 56.7 percent of the housing units were deemed affordable in 2020. This equates to roughly 51,271 units of the 90,478 total housing units on the island.

Not included in these calculations, however, are the 2,860 affordable housing units managed by the Hawaiʻi Public Housing Authority. The PUMS data does not include a variable to indicate whether a housing unit is public housing or not, making it impossible to determine whether any of these 2,860 units were included in the 51,271 units deemed affordable through our analysis. The total number of affordable units, therefore, could be as high as 54,131.

AVAILABLE HOUSING UNITS

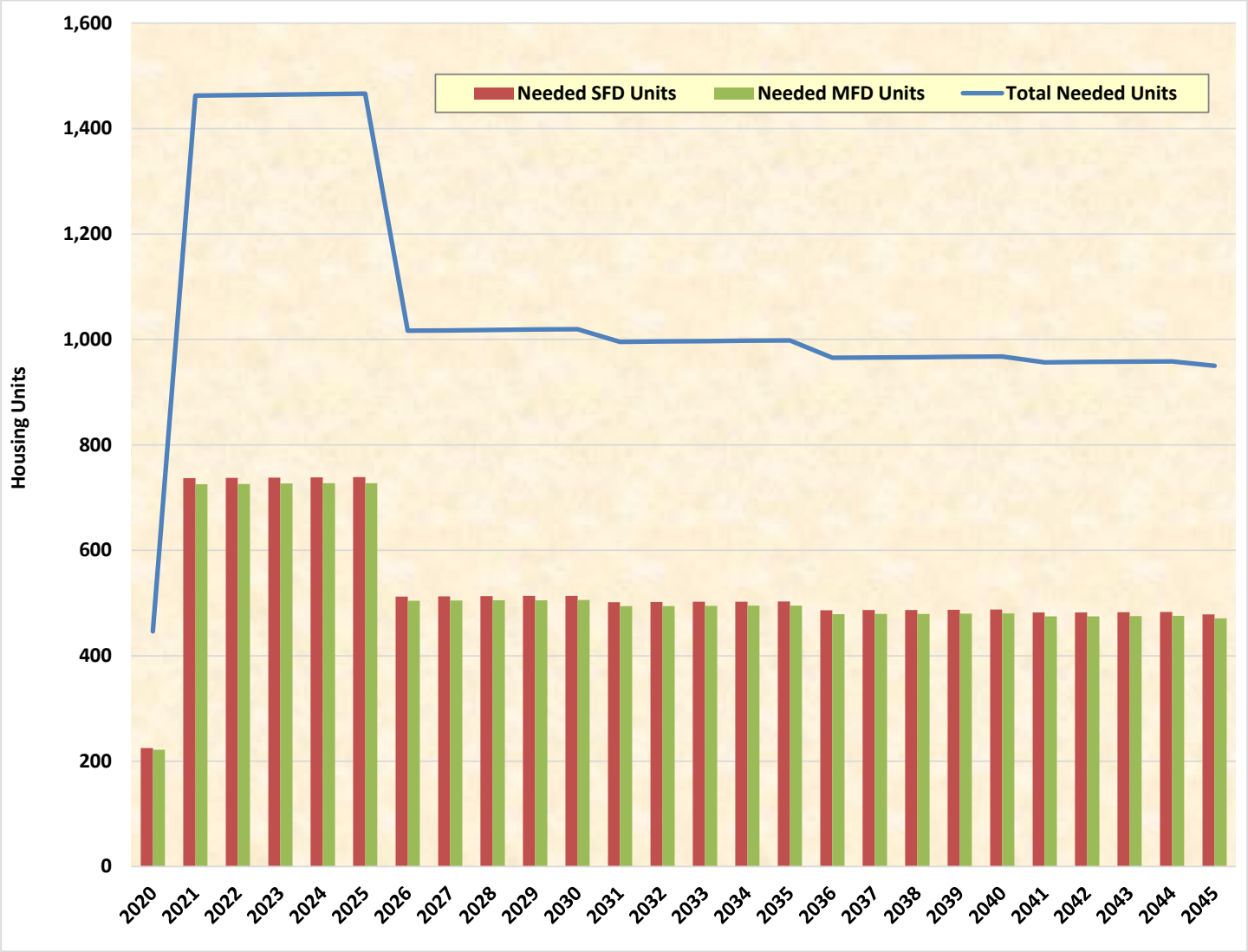
FIGURE 22: AVAILABLE HOUSING UNITS, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: The forecast shows a slightly widening gap between the number of total housing units and the number of those units that are available to Hawaii residents.

NEEDED HOUSING UNITS

FIGURE 23: NEEDED HOUSING UNITS, COUNTY OF HAWAI'I, 2020 THROUGH 2045

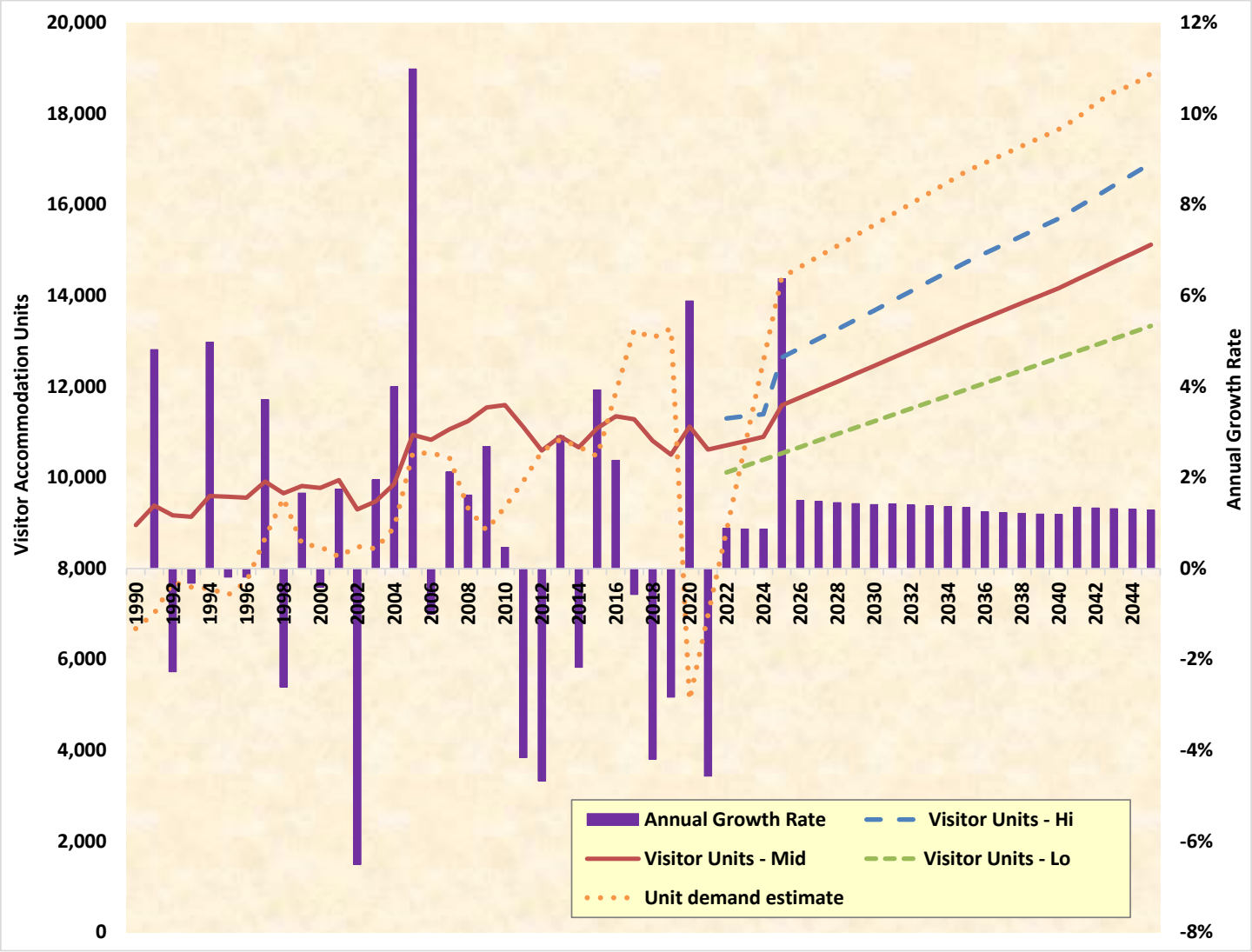


Discussion: The decline in needed housing units is a function of the projected decrease in population growth and household formation for the County of Hawaii.

Visitor Industry

VISITOR ACCOMMODATION UNITS

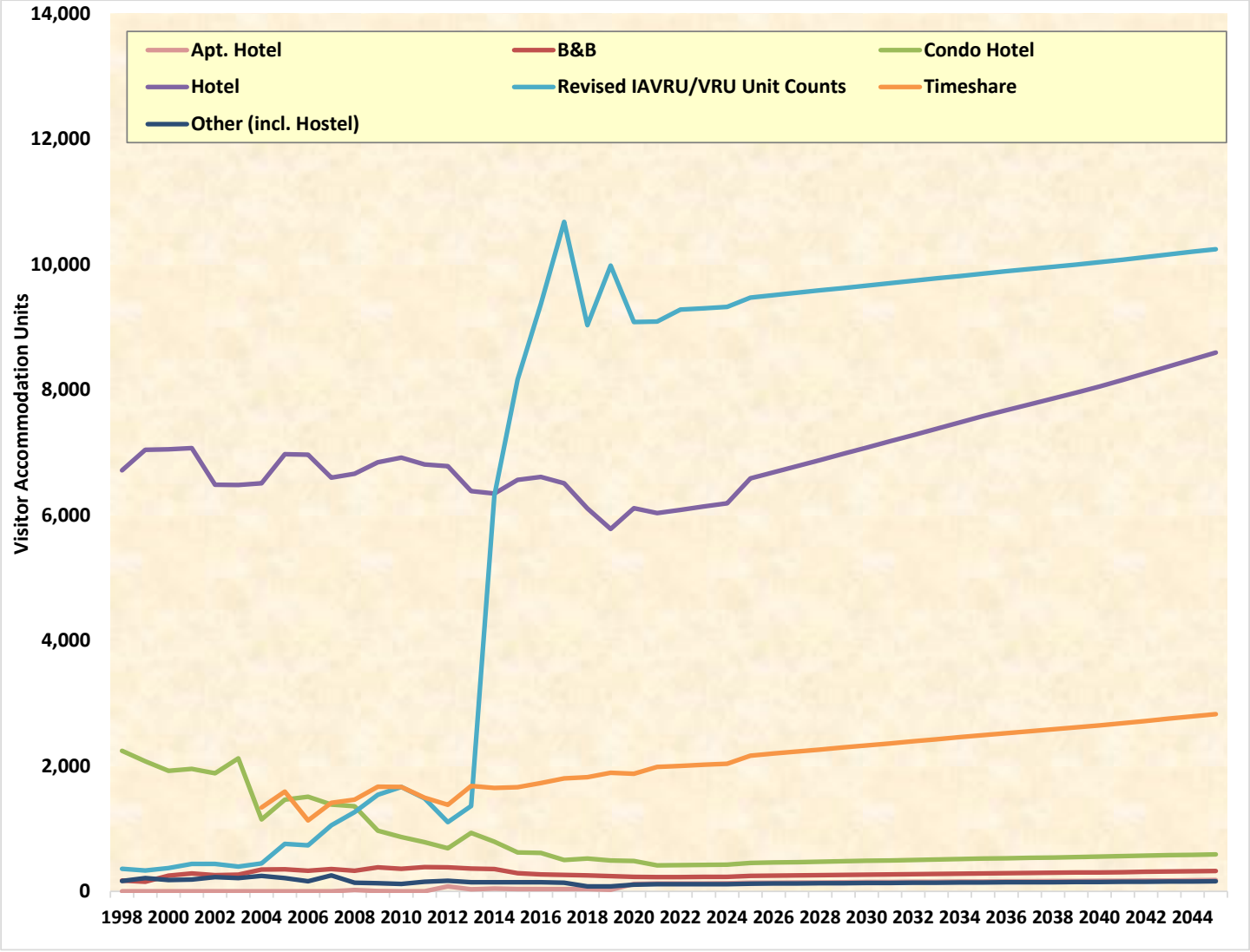
FIGURE 24: VISITOR ACCOMMODATION UNITS, COUNTY OF HAWAI'I, 1990 THROUGH 2045



Discussion: The newly implemented County regulations regarding the mandatory registration of visitor rental units may provide a better understanding of the number of visitor units across the island. Data from the annual Visitor Plant Inventory (VPI) reports, VPI supplemental reports detailing Individually Advertised Vacation Rental Units, and registered Short-Term Vacation Rental Units was incorporated into the present forecast..

VISITOR ACCOMMODATIONS UNITS BY TYPE

FIGURE 25: VISITOR ACCOMMODATIONS BY TYPE, COUNTY OF HAWAI'I, 2005 THROUGH 2045



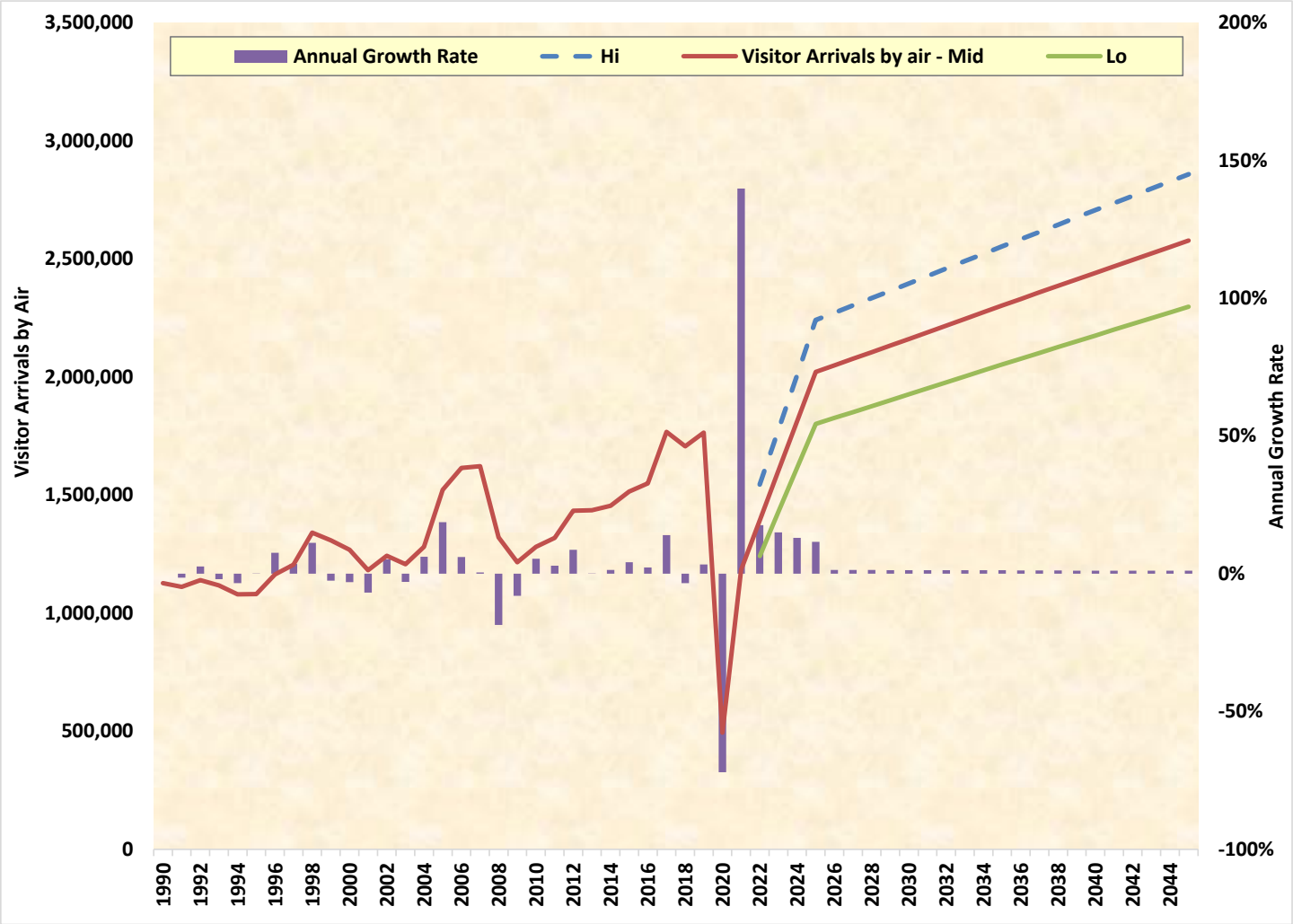
Note. Visitor Rental Units includes IVU, VR-condo, and VR-house

Discussion: Historically, hotel rooms accounted for the majority of the visitor accommodation units in the County of Hawaii (59 percent), with visitor rental units (VRUs) and timeshare units a distant second and third (16% and 15% of the total visitor units, respectively). When the annual Visitor Plant Inventory (VPI) report began issuing a supplemental analysis of visitor units in 2016, a more comprehensive picture of individual vacation rental units began to emerge that indicated that VRUs outnumbered hotel rooms. This produced the notable spike in visitor rental units present in the figure above.

New regulations instituted in 2020 require all new and existing visitor rental units to be registered with the County of Hawaii. This registration process has provided additional data regarding the number on location of visitor rental units that supports the findings from the earlier VPI supplemental reports.

VISITOR ARRIVALS

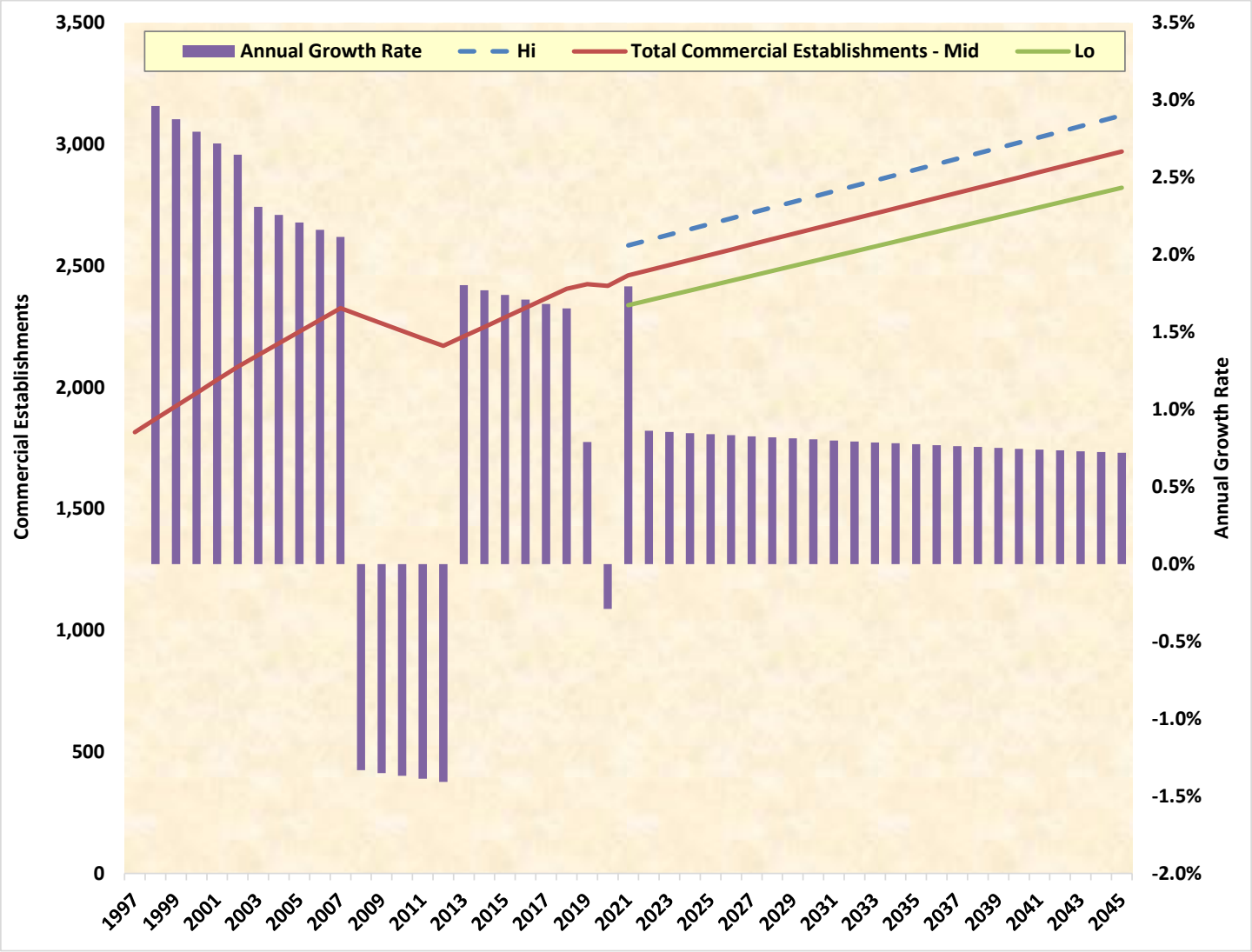
FIGURE 26: VISITOR ARRIVALS, COUNTY OF HAWAI'I, 1990 THROUGH 2040



Discussion: The forecast for visitor arrivals reflects the DBEDT 2045 forecast in which the number of arrivals increases steadily to about 2.6 million in 2045. It reflects both the known trends for visitor arrivals from all ten of Hawai'i's Major Market Areas (MMAs). It also reflects the expected impact of Hawai'i's visitor industry development strategy, which includes shifting visitor arrivals from O'ahu to other islands.

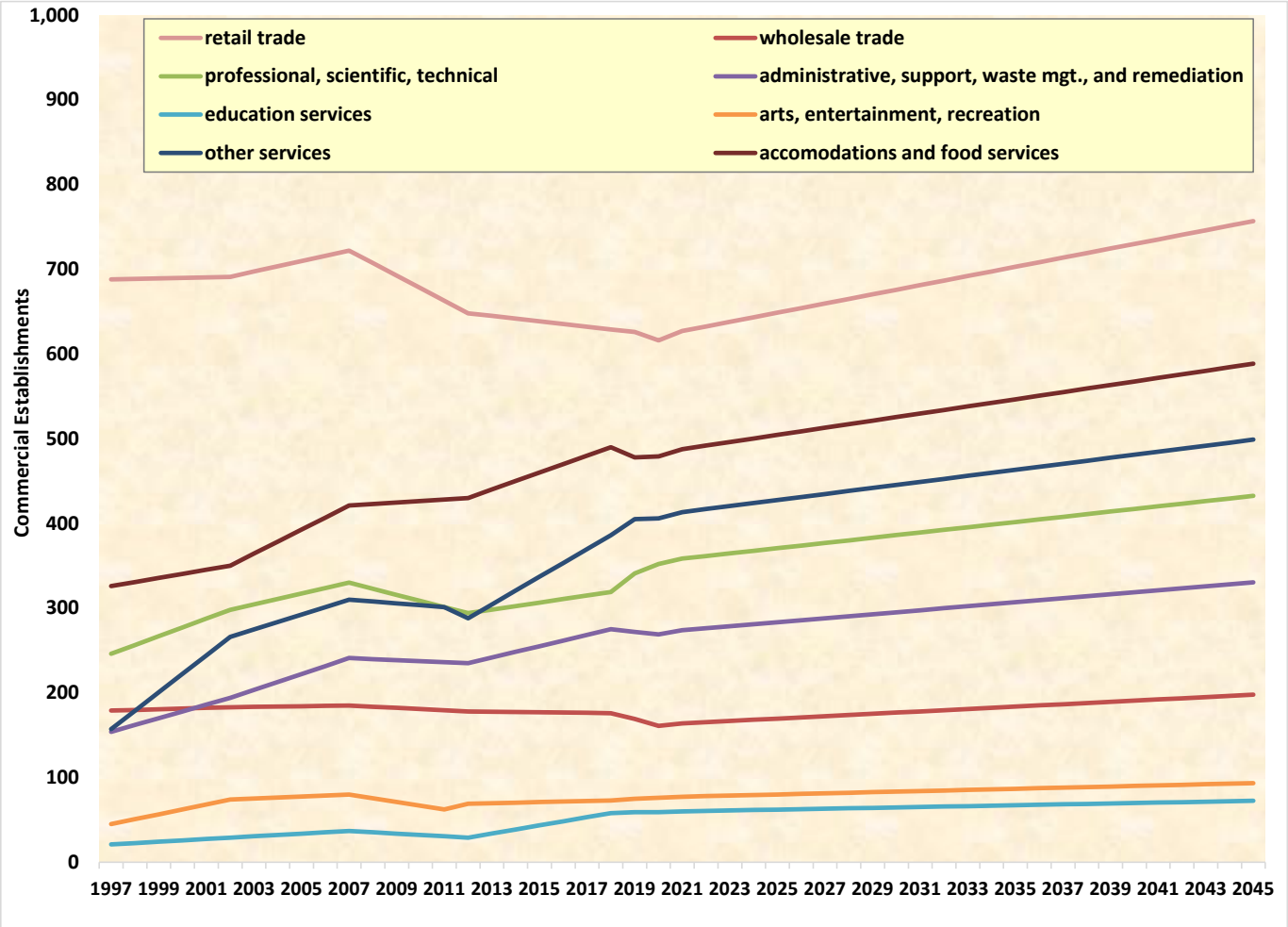
Commercial Space

FIGURE 27: COMMERCIAL ESTABLISHMENTS, COUNTY OF HAWAI'I, 1997 THROUGH 2045



Discussion: Considering the large number of tourists that visit the County of Hawaii each year, it is not surprising that 25.5 percent of all commercial establishments in the County of Hawaii are retail trade locations. Accommodations and food services accounts for 19.8 percent and Other services make of 16.8 percent of all commercial establishments.

FIGURE 28: COMMERCIAL ESTABLISHMENTS BY TYPE, COUNTY OF HAWAI'I, 1997 THROUGH 2045



INDUSTRIAL SPACE

Definition: Industrial real estate is considered a sub-category of commercial real estate. An industrial property is defined as a property used for the actual manufacturing of something, and can be considered either a factory or plant. This is usually zoned for light, medium or heavy industry. This includes things such as warehouses, garages, and distribution centers.

Trend: In 2015, there were a total of 1,091 industrial parcels in the County of Hawai'i. By 2021, the number of industrial parcels had increased to 1,102. Total square footage of industrial buildings in 2015 was 5.8 million, which translated into a median square footage of 7,200 per industrial establishment.

The median value among industrial buildings in 2021 was $148,700, up from $118,150 in 2015. The 2021 median land value for industrial parcels was significantly higher than in 2015 ($385,900 vs. $317,850).

Discussion: The lack of available data for industrial space in the County of Hawai'i, as well as the intended use of the information for planning purposes, require this information to be used with considerable caution.