2024-2060 Population Forecasts

LONG-TERM PROJECTIONS FOR CLARK COUNTY, NEVADA

June 2024

Prepared by
Center for Business and Economic Research

Prepared for
Regional Transportation Commission of Southern Nevada,
Southern Nevada Water Authority,
and members of the Forecasting Group

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Executive Summary

Each year, the Regional Transportation Commission of Southern Nevada (RTC), the Southern Nevada Water Authority (SNWA), a group of community demographers and analysts, and the Center for Business and Economic Research (CBER) at the University of Nevada, Las Vegas work together to develop a long-term forecast of Clark County's population and its growth that is consistent with the structural economic characteristics of the county. Toward this end, CBER employs a general-equilibrium demographic and economic model developed by Regional Economic Models, Inc. (REMI), specifically for Clark County.

We recalibrate the REMI model to incorporate the most recent available information regarding local employment and its growth and known local public and private investment in large-scale projects. The resulting long-term forecast through 2060 predicts positive population growth throughout the range of the forecast. The Southern Nevada Regional Planning Coalition (SNRPC) estimates that Clark County's population was 2.37 million in 2023, a robust increase of 1.7 percent from 2022. We expect that Clark County's population will reach approximately 2.97 million by 2040, cross the 3 million mark in 2042, and nearly 3.34 million by 2060.

Table 1 summarizes the Clark County population forecast, which CBER predicts will grow steadily in the short term at rates of 1.6 and 1.4 percent in 2024 and 2025, respectively. The population growth rate will jump to 2.0 percent in 2026 and then will decline over the forecast period extending out to 2060. The rate of growth, which decidedly exceeded the national average over the past 50 years, is expected to remain above the national growth rate, but the gap in growth rates between Clark County and the United States is predicted to narrow as Clark County is expected to age faster than the U.S. population due to lower birth rates and increasing ratio of retired migration to net migration over time. That is, its growth rate tapers off as Clark County's population ages over time. As the Clark County economy continues to mature, the population growth stabilizes around 0.5 percent after 2049.

Overall, the population forecast is higher than last year's forecast over the forecast horizon except between 2026 and 2029. The higher forecasts reflect not only the out-of-box benchmark forecast differences between this year's and last year's REMI models but also the new data incorporated into the model and major adjustments with current employment and population data. The out-of-the-box benchmark forecasts refer to the baseline predictions provided by the REMI model. The out-of-the-box forecasted population for this year's model surpasses the previous year's model by 1,500 in 2025, and the gap increases over the forecast period. By 2060, the out-of-the-box forecasted population from this year's model is expected to reach 3.28 million, which is higher by 216,000 compared to the previous model's 3.06 million.

As with any forecast, potential risks exist that could lead to either an over- or under-forecast of population and its growth rate. The data incorporated in the model is based on our current understanding of economic conditions and projected local investments. Any discrepancies in new information may lead to short-term variations in forecasts. Our long-term forecasts, however, exclude business-cycle, seasonal, resource constraints, and irregular events, which respond to short-run risks. In summary, our forecast primarily provides a long-term planning tool

that addresses the trend movements in population, excluding the short-run business-cycle, seasonal, resource constraints, and irregular effects.

Table 1. Clark County Final Population Forecast: 2015-2060

Year	*Population Forecast*	*Change in Population Forecast*	*Growth in Population Forecast*
2015	2,147,641*	45,403	2.2%
2016	2,205,207*	57,566	2.7%
2017	2,248,390*	43,183	2.0%
2018	2,284,616*	36,226	1.6%
2019	2,325,798*	41,182	1.8%
2020	2,376,683*	50,885	2.2%
2021	2,333,092*	-43,591	-1.8%
2022	2,331,934*	-1,158	-0.05%
2023	2,371,586*	39,652	1.7%
2024	2,410,000**	38,414	1.6%
2025	2,443,000**	33,000	1.4%
2026	2,493,000	50,000	2.0%
2027	2,537,000	44,000	1.8%
2028	2,578,000	41,000	1.6%
2029	2,617,000	39,000	1.5%
2030	2,655,000	38,000	1.5%
2031	2,692,000	37,000	1.4%
2032	2,728,000	36,000	1.3%
2033	2,764,000	36,000	1.3%
2034	2,797,000	33,000	1.2%
2035	2,830,000	33,000	1.2%
2036	2,860,000	30,000	1.1%
2037	2,889,000	29,000	1.0%
2038	2,917,000	28,000	1.0%
2039	2,944,000	27,000	0.9%
2040	2,969,000	25,000	0.8%
2041	2,994,000	25,000	0.8%
2042	3,017,000	23,000	0.8%
2043	3,039,000	22,000	0.7%
2044	3,061,000	22,000	0.7%
2045	3,081,000	20,000	0.7%
2050	3,174,000	17,000	0.5%
2055	3,258,000	17,000	0.5%
2060	3,337,000	15,000	0.5%

* SNRPC consensus population estimate.
**CBER Economic Forecasting Committee, Winter Forecast, February 2024
Note: The changes and growth rates in population forecasts after 2045 are not cumulative. The forecast changes and growth rates represent the annual values. See Table C2 for the complete set of forecasts.

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CBER thanks the members of the Population Forecasting Group for comments on earlier drafts of this report.

I. Introduction

Each year, the Regional Transportation Commission of Southern Nevada (RTC), the Southern Nevada Water Authority (SNWA), a group of community demographers and analysts, and the Center for Business and Economic Research (CBER) at the University of Nevada, Las Vegas work together to provide a long-term forecast of economic and demographic variables influencing Clark County. The primary goal is to develop a long-term forecast of the Clark County population and its growth that is consistent with the structural economic characteristics of the county. Toward this end, CBER employs a general-equilibrium demographic and economic model developed by Regional Economic Models, Inc. (REMI), specifically for Clark County.

The REMI model is a state-of-the-art econometric forecasting model that accounts for dynamic feedback between economic and demographic variables. Special features allow the user to update the model to include the most current economic information. CBER recalibrates the model using information on recent local employment levels, the most recent national Gross Domestic Product (GDP) forecast, and spending on locally known large-scale capital projects.

The model employed divides Nevada into five regions: Clark County; Nye County; Lincoln County; Washoe County; and the remaining counties, which are combined to form a fifth region. These regions are modeled using the U.S. economy as a backdrop. The model contains over 100 economic and demographic relationships that are carefully constructed to represent accurately and concisely the Clark County economy. The model includes equations to account for migration and trade between Nevada counties and other states and counties in the country.

The demographic and economic data used to construct the model begin in 2001 and end in 2021. The most important variables include the aggregate totals of employment, the labor force, and population. The economic data for the most recent version of the model (REMI PI+ v3.1) are consistent with the North American Industry Classification System (NAICS). The REMI PI+ v3.1 model was released in 2023. Hence, the model's most recent data come from 2021, since the Bureau of Economic Analysis (BEA) personal-income data only become available with a two-year lag. The availability of the most recent income data sets the last year of history with each release of an updated model.

The REMI model is the best model available for describing how economies interact geographically.[1] These interactions may take place within a single economy (such as the interaction between house-price growth and employment growth in Clark County) or between two economies (such as the interaction between Southern Nevada and Southern California through migration flows). These and over 100 other interactions contained within the model are too complex to consider modeling on our own. Rather, we turn to the REMI model because it has a solid foundation in economic theory and the principles of general-equilibrium-based growth and distribution theory, yet it still offers the flexibility required to model a regional economy like Clark County.

[1] Schwer, R. K. and D. Rickman. 1995. *A comparison of the multipliers of IMPLAN, REMI and RIMS II: Benchmarking ready-made models for comparison*. The Annals of Regional Science, 29(4), 363-374.

To guarantee that the model incorporates the most recent, available data, we make a series of adjustments to the model. These adjustments ensure that the forecast model includes the most up-to-date national and local information when generating the final forecast. First, we update the model's national GDP and employment forecast, using the latest available national economic data from the BEA and the latest forecast from the University of Michigan's Research Seminar in Quantitative Economics (RSQE). Second, we rebase the population forecast to the most recent population estimate for Clark County available from the Southern Nevada Regional Planning Coalition (SNRPC). Third, we update the model with current Clark County employment data from the BEA and the Nevada Department of Employment, Training and Rehabilitation (DETR). Fourth, we incorporate planned new investment in public and private infrastructure in the model using information from the RTC. Fifth, we adjust future hotel employment based on the expected number of hotel room additions provided by the Las Vegas Convention and Visitors Authority (LVCVA). Lastly, we rebase the population forecasts that were generated by all the adjustments mentioned above with the most recent short-term Clark County population forecasts from CBER's quarterly economic forecasts.

This report proceeds as follows. Section II examines the changes in the REMI model (out-of-the-box benchmark forecast) from the prior years' models. Section III presents sequentially the changes made to update the model and tailor it to more recent Clark County information. Section IV reports the population forecast and gives a brief discussion of the economic environment surrounding the forecast. Section V compares the population growth rate forecast with the previous years' forecasts. Section VI discusses the risks to the forecast. Finally, section VII concludes.

II. Comparison of REMI Models: Current and Previous Year

Based on past practice, we begin by comparing the most recent REMI out-of-the-box benchmark forecast prior to any model adjustments with the corresponding out-of-the-box benchmark forecasts from the REMI models used in prior reports. This allows us to examine how the new model differs from previous versions and to explore the basis of these differences.

The most recent data used to develop this year's REMI model ends with observations from 2021. Thus, we refer to the current model by its last historical year 2021 (LHY2021) and the previous model by its last historical year 2020 (LHY2020).

Each year, the REMI staff and users discuss how the model works and propose adjustments and changes to improve the model's performance. The newest REMI model, PI+ v3.1, offers two major improvements. First, it contains the recent BLS employment projections from 2021 to 2031.[2] Second, it contains the most recent data history for 2021 and a revision of historical data back to 2001. This latter change includes the incorporation of revised personal consumption expenditures by state and real GDP by county and major industry from the BEA.

[2] U.S. Bureau of Labor Statistics (BLS). *Projections overview and highlights, 2021-31*. Accessed April 2024. https://www.bls.gov/opub/mlr/2022/article/projections-overview-and-highlights-2021-31.htm

Additionally, the latest REMI model now only extends to 2060, after running through 2080 with the previous model which was reported in our 2023 forecast.

REMI uses the BLS employment projections, which provide insight to guide its employment and labor force growth rates in the future. BLS projects that employment would grow by 0.5 percent annually from 2021 to 2031 with its latest projections, which is lower than the projected 0.7 percent last year with its 2020-2030 employment projections. Consequently, the LHY2021 model forecasts an annual growth rate for Clark County employment between 2021 and 2031 of 1.4 percent, slightly lower than the 1.5 percent annual growth rate projected by the LHY2020 model for the period between 2020 and 2030. When considering the period between 2021 and 2030, however, the LHY2020 model predicts a much lower annual employment growth rate for Clark County, at 1.0 percent compared to LHY2021's 1.4 percent. This occurs because the LHY2020 model anticipated a significantly higher growth rate in 2021, reflecting the recovery from the 2020 recession, which inflated the annual growth rate between 2020 and 2030. This fact is partly attributed to the higher employment level forecasts for LHY2021 compared to LHY2020. The higher employment growth rate forecasts for Clark County compared to the United States primarily reflect higher growth projections for Clark County's major sectors such as leisure and hospitality and health care and social assistance.

The LHY2021 model incorporates the most recent data history for 2021, along with updated historical data back to 2001. This includes the incorporation of revised BEA personal consumption expenditures by state and real GDP data by county and major industry. These updates have led to increased Real Relative Compensation Rate (RWR) forecasts for LHY2021 compared to LHY2020, consequently contributing to higher net economic migration[3] forecasts for LHY2021. Incorporating the 2021 data also contributes to higher survival rate projections for the population ages 65 and above, compared to the LHY2020 model, as COVID-19 was not as deadly in 2021 with the introduction of vaccines. This partly leads to higher population level projections for LHY2021 compared to LHY2020. Additionally, projections for employment levels for LHY2021 are higher, partly due to the inclusion of the latest data for 2021 and revised historical data for 2020. That is, the 2020 estimate for employment from the BEA was revised upward by 43 thousand. Furthermore, the BEA's 2021 estimate, which is included in the LHY2021 model, indicates a 6.6 percent increase in employment, compared to a projection of 5.6 percent for the LHY2020 model.

These updates lead to differences in the out-of-the-box population forecasts between the LHY2021 and LHY2020 models.

Figures 1 and 2 compare the LHY2021 and LHY2020 population forecasts from the out-of-the-box models (i.e., before any updating for employment, infrastructure projects, the national

[3] Economic migrants, under 65, emigrate from other regions to improve their living standards and seek better job opportunities. Three major components attract these interstate migrants according to REMI: relative employment opportunities, relative compensation rates, and amenity values. Relative employment opportunity captures employment opportunities in the region compared to the U.S. average. The relative compensation rate measures the real compensation (adjusted for taxes and housing prices in the region) rate compared to the national average level, while amenity values include factors such as climate, community safety, education, and so on. Economic migrants are working-age migrants who not only contribute to local human capital resources but also boost the development of local businesses.

GDP forecast, etc.).[4] The out-of-the-box population forecast arising from the LHY2021 model predicts higher population levels than the LHY2020 model from 2025 to 2060. The population level for 2024, however, LHY2020 is slightly higher at 2,435,000 compared to 2,425,000 for LHY2021. This is because the LHY 2021 model includes the revised historical data adjusted with the 2020 decennial census. That is, the U.S. Census initially reported a population of 2.32 million for Clark County in 2020. This figure, however, was revised downward to 2.27 million following the availability of the 2020 decennial census data. The level forecast from LHY2021 then surpasses the LHY2020 forecasts by 1,500 in 2025, and the gap increases over the forecast period. By 2060, the out-of-the-box forecasted population from LHY2021 is expected to reach 3.28 million, which is higher by 216,000 compared to LHY2020's 3.06 million. The widening gap in forecasted population levels between LHY2021 and LHY2020 is attributed to the LHY2021 model's prediction of higher population growth rates until 2050 (Figure 2). While the growth rate forecasts become nearly similar after 2050, with LHY2020 slightly higher, the higher forecasted population levels for LHY2021 contribute to an increasing gap between the two models after 2050.

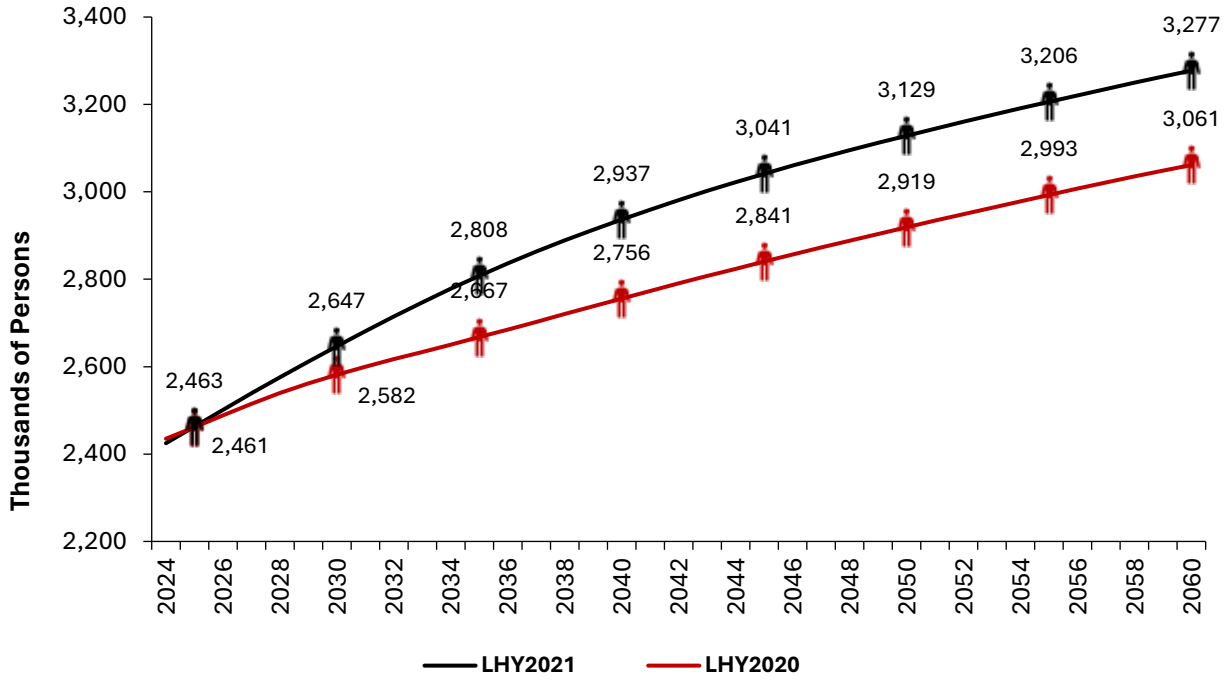
Both the LHY2021 and LHY2020 models forecast a decreasing trend in the growth rate over the forecast period, primarily due to declining natural change projections, as illustrated in Figure 3. Natural change, the difference between births and deaths, is positive when births outnumber deaths and negative when the opposite occurs. The LHY2021 model predicts higher natural changes until 2051 due to higher base population level predictions and higher survival rate forecasts compared to LHY2020. The lower birth rate forecasts from 2042 for LHY2021, however, result in lower natural change forecasts for LHY2021 beyond 2051. As mentioned earlier, the higher survival rate forecasts in LHY2021 compared to LHY2020 reflect the incorporation of 2021 data as COVID-19 was not as deadly in 2021 with the introduction of vaccines.

Despite experiencing negative natural changes for LHY2021 and LHY2020 after 2039 and 2034, respectively, the population growth rate is expected to remain positive due to positive net migration, as depicted in Figure 4. Without any incoming migrants, Clark County's population would decline during periods of negative natural changes. Positive net migration forecasts, however, contribute to population gains throughout the forecast period.

Higher net migration forecasts for LHY2021 mainly reflect increased projections for net economic migration, as illustrated in Figure 4. While net international migration forecasts are lower by between 1,600 and 1,000 individuals, as shown in Figure 5, this reduction is completely offset by the higher net economic migration forecasts for LHY2021 compared to LHY2020.

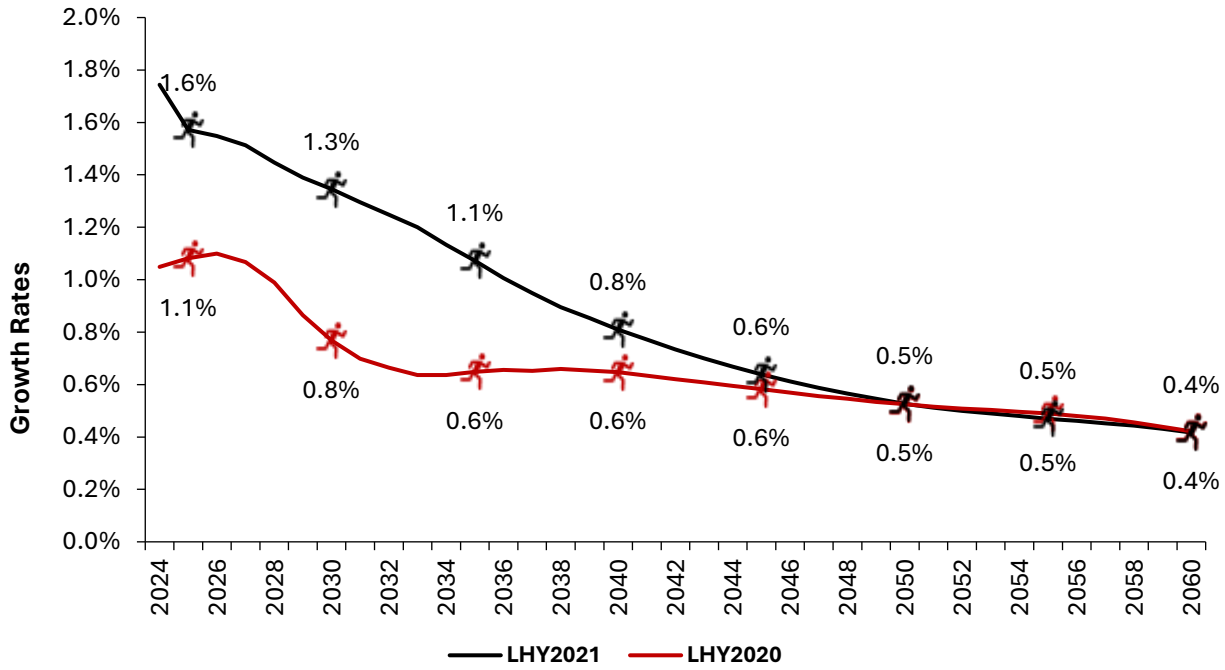
[4] The detailed out-of-the-box results through 2060 appear in Table C1 of Appendix C.

Figure 1. Clark County Population Forecasts: REMI Out-of-the-Box LHY2021 and LHY2020: 2024-2060



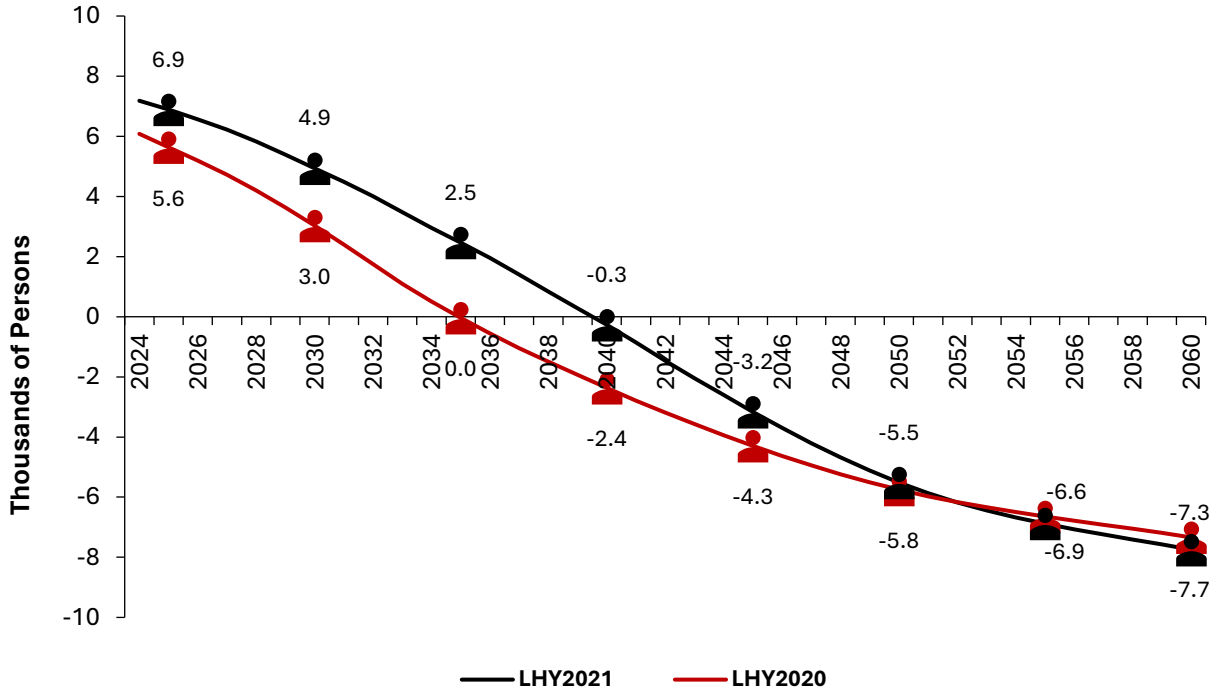
Note: Out-of-the-box refers to the model prior to recalibration. These numbers are not the final forecast.

Figure 2. Clark County Population Growth Rate Forecasts: REMI Out-of-the Box LHY2021 and LHY2020: 2024-2060



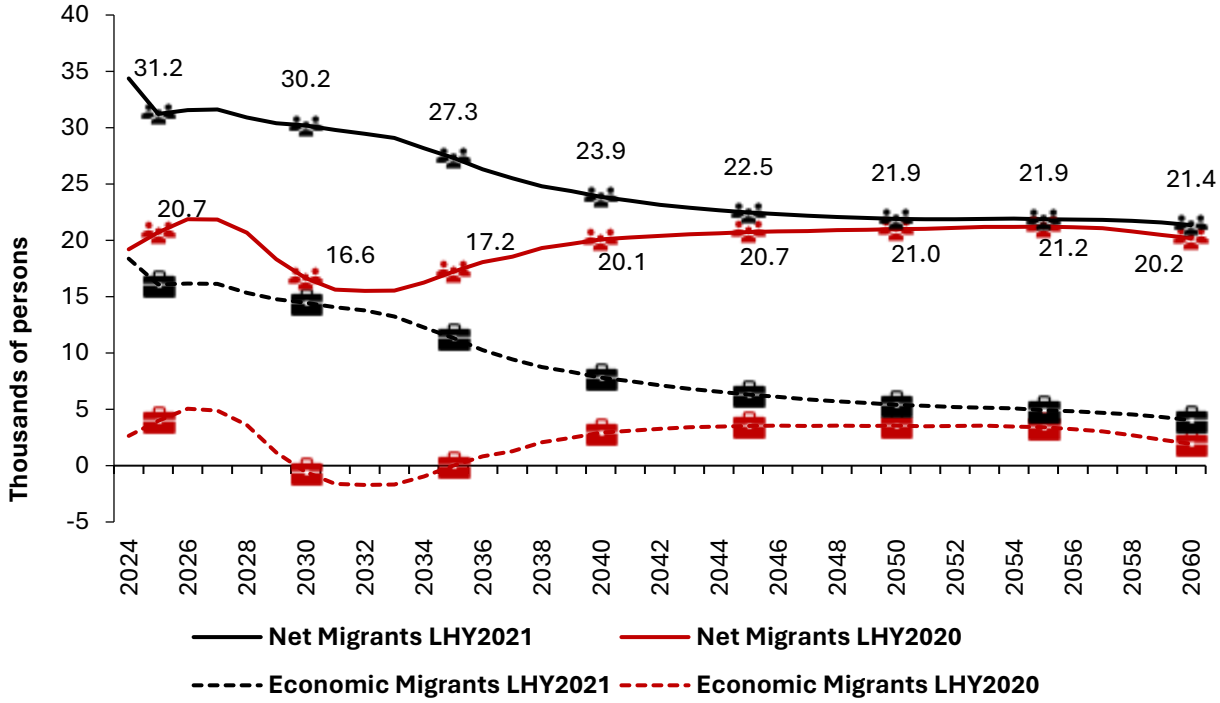
Note: Out-of-the-box refers to the model prior to recalibration. These numbers are not the final forecast.

Figure 3. Clark County Natural Change Forecasts: REMI Out-of-the-Box LHY2021 and LHY2020: 2024-2060



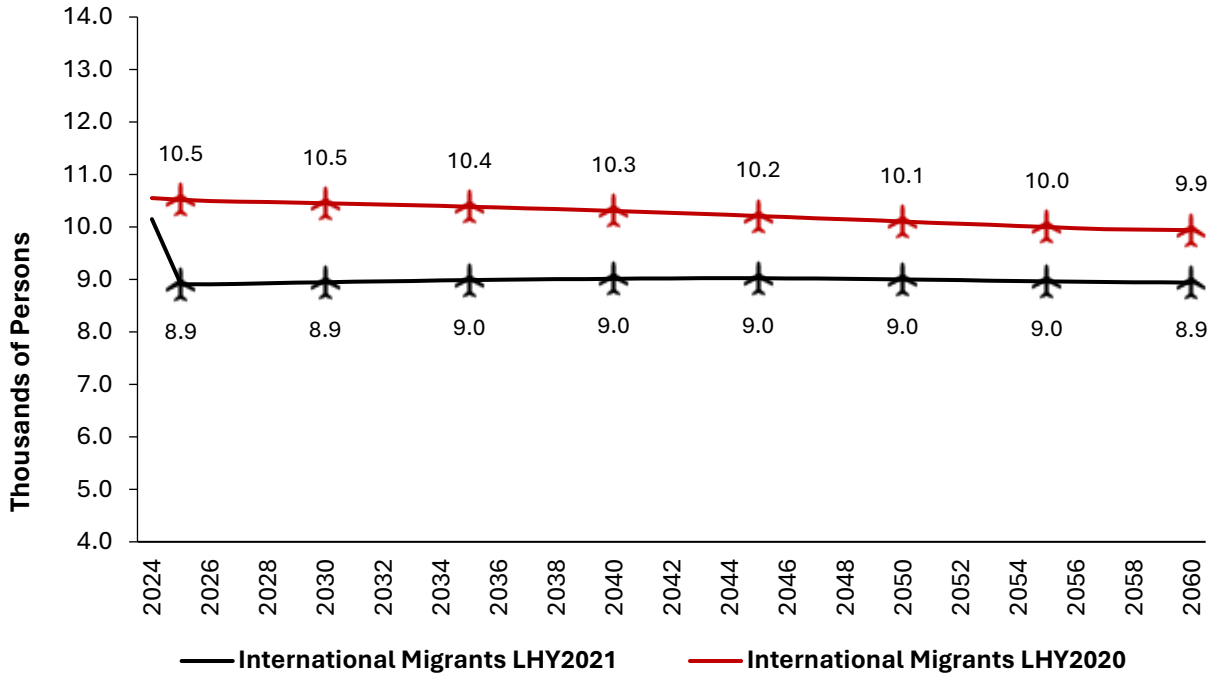
Note: Out-of-the-box refers to the model prior to recalibration. These numbers are not the final forecast.

Figure 4. Clark County Net Migrant and Net Economic Migrant Forecasts: REMI Out-of-the-Box LHY2021 and LHY2020: 2024-2060



Note: Out-of-the-box refers to the model prior to recalibration. These numbers are not the final forecast.

Figure 5. Clark County Net International Migrant Forecasts: REMI Out-of-the-Box LHY2021 and LHY2020: 2024-2060



Note: Out-of-the-box refers to the model prior to recalibration. These numbers are not the final forecast.

Table 2 provides a comparison of the REMI out-of-the-box economic and demographic forecasts between the LHY2021 and LHY2020 models for the period between 2024 and 2060. The LHY2021 out-of-the-box model forecasts a stronger Clark County economy in 2060 regarding real GDP and employment as Clark County GDP and employment will account for 0.67 and 0.78 percent, respectively, of the U.S. totals. The higher population forecast for 2060 in LHY2021, compared to LHY2020, is largely attributed to the cumulative effect of increased projections for net economic migration and natural changes. This results in significantly higher forecasts for the working and younger population segments in 2060, with the population ages between 25 and 64, 15 and 24, and 14 and under anticipated to be higher by 8.2, 10.7, and 7.6 percent, respectively, compared to LHY2020.

Table 2. Clark County REMI Out-of-the-Box Forecast Comparison: LHY2021 and LHY2020

	2024			*2060*		
	LHY2021	*LHY2020*	*Change to forecast*	*LHY2021*	*LHY2020*	*Change to forecast*
Population (Thousands)	2,424.79	2,435.09	-0.4%	3,277.40	3,061.41	7.1%
Total Employment (Thousands)	1,446.90	1,393.74	3.8%	1,863.67	1,658.11	12.4%
Total Employment as % of Nation	0.68	0.67	1.7%	0.78	0.72	5.4%
Gross Domestic Product (Billions of Fixed 2012 Dollars)	121.25	125.98	-3.8%	257.52	243.35	5.8%
Gross Regional Product as % of Nation	0.59	0.59	-0.3%	0.67	0.64	2.9%
Migrants (Thousands)						
Economic Migrants	18.37	2.64	595.4%	4.04	1.93	109.1%
Retired Migrants	6.08	6.05	0.6%	8.47	8.36	1.3%
International Migrants	10.15	10.55	-3.8%	8.94	9.94	-10.1%
Population by Age (Thousands)						
Ages 0-14	436.19	438.37	-0.5%	498.16	463.08	7.6%
Ages 15-24	307.42	299.70	2.6%	367.34	331.92	10.7%
Ages 25-64	1,275.64	1,275.57	0.0%	1,603.95	1,482.64	8.2%
Ages 65+	405.54	421.46	-3.8%	807.96	783.77	3.1%

Note: The numbers for both LHY2021 and LHY2020 models refer to the models prior to adjustments.

III. Recalibrating the Model

As noted previously, county-level personal income data only become available with a two-year lag. As a result, the REMI model also imposes a two-year lag on all its data history that ends with 2021 data for the current model, PI+ v3.1, released in 2023. To update the model, we incorporate available, pertinent model information, including the most recent national GDP forecast, the most recent population estimates from SNRPC and forecasts from CBER, the most recent employment figures from reputable national and local sources, and the spending on public and private capital projects to reflect Clark County information in the forecast. We describe each update in sequence.

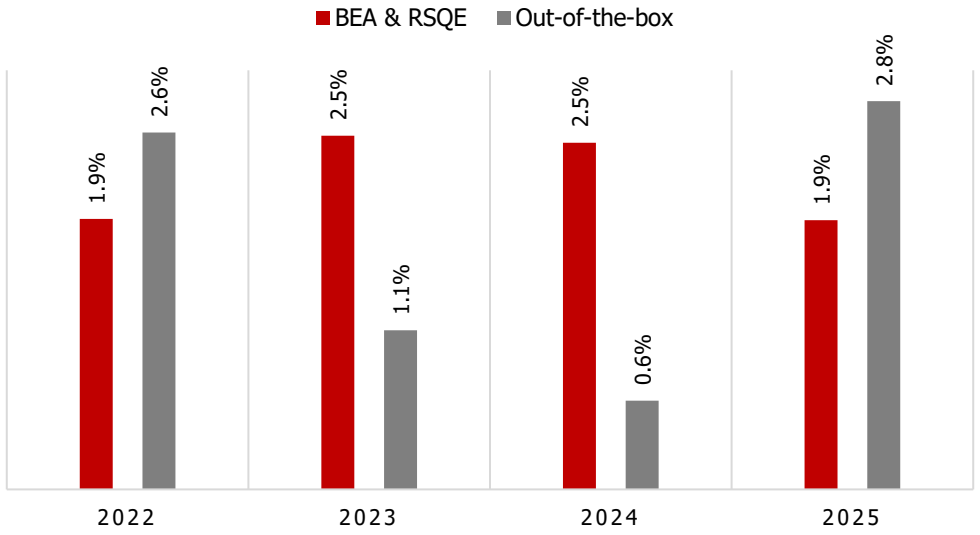
a. Adjustment of the national economic forecast

The REMI model relies on a baseline national GDP forecast from the University of Michigan's RSQE. The PI+v3.1 model includes the RSQE's November 2022 release, and its latest historical year is 2021. We adjust the model's national GDP forecast using BEA's most recent data and the February 2024 national GDP forecast from RSQE. Figure 6 displays the comparison between RSQE and REMI out-of-the-box forecasts[5] for 2024 and 2025. BEA estimates that the national real GDP experienced growth of 1.9 and 2.5 percent, respectively, in 2022 and 2023, while the REMI model forecasted 2.6 and 1.1 percent real GDP growth. The REMI model predicts 0.6 and 2.8 percent increases for the real GDP in 2024 and 2025, respectively, while the most recent RSQE's forecasts

[5] All out-of-the-box forecasts use the original REMI PI+v3.1 model before any REMI updates.

expect, respectively, 2.5 and 1.9 percent growth. The upward revisions in forecasts largely reflect stronger-than-expected consumer and government spending, as well as business investment despite higher interest rates. Although the out-of-the-box forecast expects higher growth compared to RSQE in 2025, this higher growth rate is due to a rebound from a forecasted weaker economy in 2023 and 2024.

Figure 6. U.S. Real GDP Forecasts: RSQE vs. REMI Out-of-the-Box from 2022 to 2025



Note: REMI out-of-the-box growth rates from 2021 to 2023 reflect the RSQE's February 2022 forecasts. For BEA and RSQE, the growth rates for 2021 and 2022 are based on the BEA estimate, but the growth rates for 2023 and 2024 show the February 2023 projections by RSQE.

CBER also updates the REMI model with the most recent national employment data from BEA which provides 2022 employment estimates by detailed sectors. That is, BEA estimates that the United States had 212.44 million employees in 2022, which significantly exceeds REMI's projection of 208.33 million (Table 3). This difference reflects BEA's upward revision of the 2021 estimate by 1,609,000 jobs as well as a higher-than-expected job growth of 4.6 percent in 2022, compared to the REMI model's forecast of 3.6 percent. This justifies the need to update the REMI model. The adjusted national forecast generates a new baseline forecast for Clark County. We, then, use the baseline forecast for the subsequent adjustments.

Table 3. BEA Estimates vs. REMI Out-of-the-Box Forecasts (in millions) for the U.S. Employment in 2022

Industrial Classification	*REMI Forecasts*	*BEA Estimates*
Forestry, fishing, and hunting	0.94	0.97
Mining	0.93	1.05
Utilities	0.61	0.61
Construction	11.87	11.87
Manufacturing	13.75	13.52
Wholesale trade	6.57	6.76
Retail trade	19.78	19.51
Transportation and warehousing	10.84	11.47
Information	3.52	3.86
Finance and insurance	12.11	12.98
Real estate and rental and leasing	10.42	11.83
Professional, scientific, and technical services	15.34	15.98
Management of companies and enterprises	2.86	2.95
Administrative, support, waste mgmt, and remediation services	12.90	13.06
Educational services; private	4.88	4.89
Health care and social assistance	24.05	23.55
Amusement, gambling, recreation	4.32	4.46
Accommodation and food services	14.17	14.75
Other services (except public administration)	11.74	11.62
State & local government	19.36	19.41
Federal civilian	2.72	2.92
Federal military	1.96	1.87
Farm	2.67	2.57
Total	***208.33***	***212.44***

Note: Although BEA does not provide employment in 3-digit NAICS sectors at the county level, it provides 3-digit NACIS employment at the national level. Therefore, CBER incorporated the 2021 employment estimates for 70 sectors from BEA into the model. The table above shows the 23 sector employment estimates.

b. Rebasing the population forecast I

We rebase the population forecast using the population update feature in the REMI model. We update the population in 2023 based on the most recent SNRPC Clark County population estimates, that is 2.37 million, increased by 1.7 percent from 2.33 million in 2022.

c. *Employment adjustment*

The county-level employment data in REMI come from the BEA's local area personal income data, which only includes a 23-sector breakout. Even though the BEA reports the county-level employment data for 23 sectors, the BEA supplies the county-level wage data for 70 sectors. This means that REMI calculates employment for 70 sectors by incorporating the county-level wage data. Although the most recent historical year in the model's employment data is 2021, BEA employment data are available for 2022. Table 4 displays the REMI out-of-the-box forecasts and BEA estimates for Clark County employment for 23 sectors for 2022. The total employment of the

REMI forecast and the BEA estimate for 2022 differ by approximately 113,000, largely due to BEA reporting an 8.8 percent increase in employment, significantly higher than the out-of-the-box forecast of 3.0 percent for 2022. Furthermore, BEA's upward revision of the 2021 estimate by 32,000, compared to the previous estimate contained in REMI model, also contributes to the large gap between the REMI out-of-the-box forecasts and the BEA estimate for 2022. To ensure that the model reflects accurate employment information by sector for 2022, we update the model's employment data with BEA estimates for the 23 sectors in 2022. We also update the model's employment data for 2023 as most wage and salary employment data are available from the Nevada's Department of Employment, Training, and Rehabilitation (DETR) for 2023. We, therefore, update the model to account for the most recent information.

Table 4. Model Job Adjustments (in thousands) for 2022 with BEA Estimates

Industrial Classification	*REMI Forecasts*	*BEA Estimates*
Forestry, fishing, and hunting	0.45	0.49
Mining	1.54	1.73
Utilities	2.95	2.90
Construction	85.94	93.56
Manufacturing	30.48	32.93
Wholesale trade	30.21	32.95
Retail trade	139.74	141.83
Transportation and warehousing	106.92	115.66
Information	16.55	19.59
Finance and insurance	82.52	95.41
Real estate and rental and leasing	81.12	95.23
Professional, scientific, and technical services	83.91	88.27
Management of companies and enterprises	27.59	31.13
Administrative, support, waste mgmt, and remediation services	107.17	116.29
Educational services; private	17.39	18.13
Health care and social assistance	121.38	127.65
Amusement, gambling, recreation	42.02	46.87
Accommodation and food services	241.38	263.17
Other services (except public administration)	70.78	75.47
State & local government	88.45	91.22
Federal civilian	13.57	14.96
Federal military	17.41	17.34
Farm	0.42	0.44
Total	***1409.87***	***1523.20***

Note: BEA estimates are also adjusted employment.

The latest growth rates for the REMI model forecasts as well as recent DETR estimates appear in Table 5. The actual growth rates from DETR differ from the REMI forecasts, suggesting a need for adjustment. That is, the growth rate estimate by DETR of total employment was 2.4 percent in 2023, which is substantially higher than the REMI forecast of 0.9 percent. This mainly

reflects robust expansion in most sectors, with the exception of the retail trade, finance, and administrative and support services sectors, and a stronger recovery in the leisure and hospitality sector than the REMI model expected. The employment update proceeds as follows. First, we substitute BEA employment by 23 sectors into the REMI model and get the 70-sector estimates from the REMI model for 2022. Second, we compute the annual percentage change using DETR data and apply them to produce new estimates for 2023. This procedure implicitly assumes that the proportion of self-employed in each industry classification grows at the same rate as does the ratio between full- and part-time workers.

Table 5. Employment Growth Rates for Clark County Before DETR Adjustment for 2023

Industrial Classification	*REMI Forecasts**	*DETR Estimates*
Construction	1.32%	6.24%
Wholesale Trade	-0.51%	3.46%
Retail Trade	0.28%	-0.18%
Transit, Ground Passenger Transportation	0.86%	4.94%
Monetary Authorities, Et Al.	0.48%	-3.35%
Ins Carriers, Related Activities	-0.82%	0.29%
Real Estate	0.38%	2.45%
Professional, Technical Services	1.47%	2.80%
Management of Companies	0.77%	5.79%
Administrative, Support Services	0.91%	-1.08%
Ambulatory Health Care Services	-1.05%	4.75%
Hospitals	1.16%	4.29%
Amusement, Gambling, And Recreation	-0.57%	7.10%
Accommodation	2.62%	2.35%
Food Services, Drinking Places	1.81%	4.22%
State & Local Government	1.55%	8.62%
Total	***0.94%***	***2.43%***

*The 2023 REMI forecasts are updated with the GDP and BEA updates.
Note: The total growth rates for DETR estimates are calculated after adjusting the employment forecasts with the DETR data for available sectors. Therefore, they do not represent actual DETR's growth rate estimates.

Table 6 reports the updated employment data by category for the model. Clark County employment experienced a robust expansion, increasing by 2.4 percent in 2023. While leisure and hospitality employment continued its recovery during the year, it remained below the pre-pandemic level according to DETR's annual data. Although some sectors saw decreases in employment, gains in others offset these losses, contributing to a sturdy expansion in Clark County's employment in 2023. Strong performance was observed in key sectors such as healthcare, leisure and hospitality, state and local government, and construction. As a result, Southern Nevada's economy saw an addition of roughly 37,000 jobs in 2023.

Table 6. Model Job Adjustments (in thousands) for 2023 with DETR Estimates

Industrial Classification	*BEA Estimates*	*DETR Growth Rate*	*Adjusted Job Levels*
	2022	*2023*	*2023*
Forestry et al.	0.37	3.75%	0.39
Support act for agriculture and forestry	0.12	0.85%	0.12
Oil, gas extraction	1.38	-0.58%	1.37
Mining (except oil, gas)	0.32	-7.89%	0.29
Support activities for mining	0.03	0.00%	0.03
Utilities	2.90	-0.62%	2.88
Construction	93.56	6.24%	99.40
Wood product manufacturing	0.75	-6.14%	0.70
Nonmetallic mineral prod manufacturing	2.91	-1.89%	2.85
Primary metal manufacturing	0.19	-10.64%	0.17
Fabricated metal prod manufacturing	3.51	-4.51%	3.35
Machinery manufacturing	0.73	-5.05%	0.70
Computer, electronic prod manufacturing	0.82	-6.81%	0.77
Electrical equip, appliance manufacturing	1.37	-2.34%	1.33
Motor vehicle manufacturing	0.29	-11.26%	0.26
Trans equip mfg exc motor vehicle	0.33	-1.82%	0.32
Furniture, related prod manufacturing	1.40	-5.06%	1.33
Miscellaneous manufacturing	6.36	0.66%	6.40
Food manufacturing	4.16	1.64%	4.23
Beverage, tobacco prod manufacturing	1.03	4.56%	1.08
Textile mills; textile prod mills	0.46	-7.17%	0.43
Apparel manufacturing	0.67	-24.63%	0.51
Paper manufacturing	0.70	-0.29%	0.69
Printing, related supp act	3.08	-4.51%	2.94
Petroleum, coal prod manufacturing	0.05	0.00%	0.05
Chemical manufacturing	1.76	1.77%	1.79
Plastics, rubber prod manufacturing	2.38	-2.82%	2.31
Wholesale trade	32.95	3.46%	34.09
Retail trade	141.83	-0.18%	141.58
Air transportation	9.50	2.05%	9.69
Rail transportation	0.23	0.44%	0.23
Water transportation	0.08	-5.33%	0.07
Truck transportation	9.02	-0.39%	8.99
Couriers and messengers	23.07	1.94%	23.52
Transit, ground pass transportation	27.76	4.94%	29.13
Pipeline transportation	0.01	0.00%	0.01
Scenic, sightseeing transportation; supp	8.26	1.34%	8.37
Warehousing, storage	37.75	0.53%	37.95
Publishing, except internet	3.77	-0.64%	3.75
Motion picture, sound rec	4.32	1.81%	4.40
Data processing, hosting, and rel services	4.64	2.74%	4.77

Table 6. Model Job Adjustments (in thousands) for 2023 with DETR Estimates (continued)

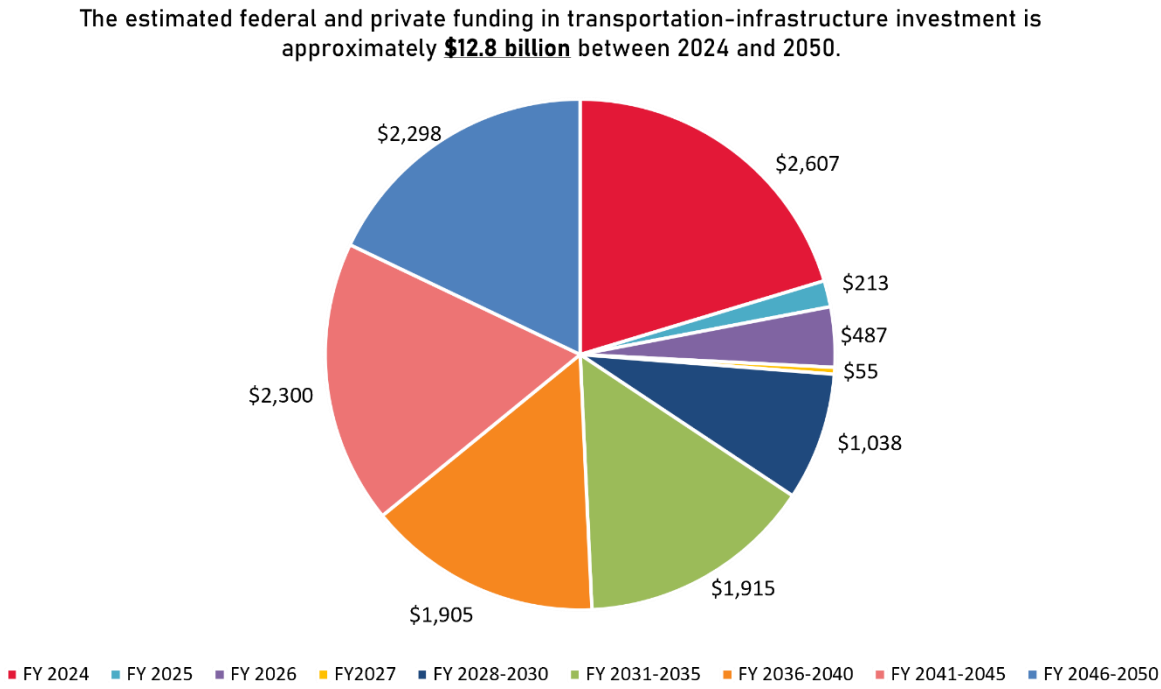
Industrial Classification	*BEA Estimates*	*DETR Growth Rate*	*Adjusted Job Levels*
	2022	*2023*	*2023*
Broadcasting, except int;	1.88	-0.27%	1.87
Telecommunications	4.99	-9.38%	4.52
Monetary authorities, et al.	21.91	-3.35%	21.18
Sec, comm contracts, inv	53.64	0.29%	53.80
Ins carriers, rel act	19.85	0.29%	19.91
Real estate	87.79	2.45%	89.94
Rental, leasing services	7.44	0.89%	7.50
Prof, tech services	88.27	2.80%	90.74
Mgmt of companies, enterprises	31.13	5.79%	32.93
Administrative, support services	112.79	-1.08%	111.58
Waste mgmt, remediation services	3.49	1.00%	3.53
Educational services	18.13	2.01%	18.50
Ambulatory health care services	65.24	4.75%	68.34
Hospitals	26.31	4.29%	27.44
Nursing, residential care facilities	11.53	2.45%	11.82
Social assistance	24.56	2.05%	25.07
Performing arts, spectator sports	27.13	1.31%	27.48
Museums et al.	0.76	0.00%	0.76
Amusement, gambling, recreation	18.99	7.10%	20.33
Accommodation	145.35	2.35%	148.76
Food services, drinking places	117.83	4.22%	122.80
Repair, maintenance	17.13	-0.09%	17.12
Personal, laundry services	41.28	2.77%	42.43
Membership assoc, organ	9.69	-0.04%	9.68
Private households	7.37	0.31%	7.39
State & local government	91.22	8.62%	99.08
Federal civilian	14.96	-1.48%	14.74
Federal military	17.34	0.14%	17.36
Farm	0.44	0.23%	0.44
Total	***1,523.21***	***2.43%***	***1,560.24***

d. *Transportation and infrastructure improvements*

Clark County and Nevada continue to invest in transportation infrastructure such as roads, highways, and mass transit. The REMI model assumes that public-infrastructure investment will follow a path consistent with the model history. Thus, some local spending on public infrastructure, such as road building and additional services, is built into the model. One-time monies, however, tend to come from outside the region (e.g., federal transportation funding). We adjust the model to incorporate these large transportation projects in the forecast.

The estimated federal and private funding in transportation-infrastructure investment is about $12.8 billion between 2024 and 2050 (Figure 7). We annualize expected transportation-infrastructure expenditures from RTC of Southern Nevada and include them in the REMI model as new construction projects. In addition, we assume that federal funding in transportation-infrastructure investment after 2050 will continue with a reasonable expectation that the federal funding will not fall to zero. Rather, we apply the flat amount of federal funding after 2050, where the REMI model adjusts this amount for inflation.

Figure 7. The Estimated Federal and Private Funding Allocation for the Regional Transportation Plan for Southern Nevada 2024-2050



Note: The amount shown above only includes federal and private funding and is displayed in millions. A significant influx of investment in 2024 is primarily due to Federal funding allocated to the Brightline West project, a high-speed rail between Southern California and Las Vegas.
Source: The Regional Transportation Commission (RTC) of Southern Nevada

e. Hotel room adjustment

We adjust future hotel employment based on the expected number of hotel rooms added in each of the next few years. The additional rooms and related employment represent either properties that are under construction with fixed opening dates, or properties that have development plans and a high probability of project completion during the specified year. In this way, we ensure that the model includes a good short-term forecast of new hotel investment and employment.

As of February 12, 2024, the LVCVA projects a reduction of 1,380 rooms in the local room inventory by the end of 2024 (Table 7). This decrease is primarily a result of the closure of 1,470 rooms at Tropicana Las Vegas for an Oakland Athletics baseball stadium. This reduction is partly offset by the opening of Atwell Suites at the Pass, which will add 90 rooms. The closure of the

Mirage Hotel and Casino, reported in May 2024[6], was not included in the LVCVA's February construction bulletin; therefore, it was not reflected in our analysis.[7]

In 2025, the LVCVA projects that hotel/motel construction will add 1,109 hotel/motel rooms to the room inventory. This includes the opening of AC Hotel by Marriott, Element Las Vegas, and Delta Hotels by Marriott and room additions by M Resort Spa & Casino. The LVCVA also expects to see an additional 149, 720, and 170 rooms, respectively, added to the room stock in 2026, 2027, and 2028 by Courtyard by Marriott South in 2026, Majestic Las Vegas in 2027, and SpringHill Suites by Marriott South in 2028. Overall, Las Vegas is expected to see an additional 768 hotel/motel rooms added to inventory by the end of 2028, which is a 0.5 percent increase compared to the current available room inventory.[8]

Table 7. Expected Additional Employment due to New Rooms: Projections for 2024-2028

Year	*LVCVA Room Addition Projections*	*New Jobs due to New Rooms**	*REMI Jobs Increase***	*Cumulative Additional Jobs After Hotel Room Adjustment*
2024	-1,380	-2,081	2,405	-4,486
2025	1,109	1,083	2,935	-6,338
2026	149	107	2,757	-8,988
2027	720	518	2,633	-11,103
2028	170	122	2,576	-13,557

*To understand how new jobs resulting from new rooms are calculated, please see Appendices A and B.
** Projected accommodation job increases after calibrated national economic estimates and projections, Clark County population, and employment estimates in the REMI model.
Note: We calibrated cumulative additional jobs after hotel room adjustment in the REMI model.
Source: LVCVA; CBER

Table 7 presents the expected additional new jobs due to new rooms between 2024 and 2028. To calculate these new jobs, we utilize the job-to-room ratios of 1.46 and 0.72,[9] respectively, for casino and non-casino accommodation. For instance, the closure of 1,470 rooms at Tropicana Las Vegas should lead to a reduction of 2,146 jobs (1,470 * 1.46), while the opening of Atwell Suites at the Pass should add 65 jobs (90*0.72).

Previously, we used a weighted job-to-room ratio, derived from the share of total new rooms by non-casino and casino hotels during the projected years, which in this case are 241.4 and -141.4 percent between 2024 and 2028. This method, however, yields a weighted job-to-room ratio of -0.3, which fails to accurately reflect ongoing economic activity for each year. For example, if we apply a weighted job-to-room ratio of -0.3, a loss of 1,380 rooms in 2024 would result in an addition of 414 jobs (-1,380 * -0.3). This, however, contradicts the ongoing economic

[6] Valinsky, Jordan. May 16, 2024. *The iconic Mirage in Las Vegas is closing after 34 years*. Accessed May 30, 2024. https://www.cnn.com/2024/05/16/business/mirage-las-vegas-closing/index.html.
[7] The Mirage, which has approximately 3,000 rooms, will close in 2024 and reopen in 2027 after renovation. As CBER has limited information, we are still in the process of evaluating the impact as of May 30, 2024.
[8] As of February 2024, Las Vegas had 156,100 available rooms in inventory according to the LVCVA.
[9] Jobs-to-room ratios for casino and non-casino hotel rooms were calculated as follows. First, we expect new hotel rooms to create new jobs in hotel services. Using historical information from 2013-2022, we take the historical average ratio of annual accommodation employment from the BLS divided by the total number of hotel rooms for both the Casino and non-Casino sectors. This produces job-to-room ratios of 1.46 and 0.72 for casino accommodation and non-casino accommodation, respectively. The detailed computation of the jobs-to-room ratio appears in Appendix A.

activity, where the loss of leisure and hospitality employment due to the demolition of Tropicana Las Vegas is occurring. As a result, we conclude that applying the job-to-room ratios for casino and non-casino hotels directly to each year's expected room additions by casino and non-casino hotels is more suitable for the model to reflect the ongoing economic activity. For details on the expected numbers of room construction and employment by casinos and non-casinos, please refer to Appendix B.

As the REMI model forecasts job increases from 2024 to 2028 for the accommodation sector, we incorporate adjustments for new jobs resulting from new rooms, assuming that the accommodation sector and related industries maintain consistent job-to-room ratios. According to LVCVA's projections for room additions, we anticipate that -2,081, 1,083, 107, 518, and 122 jobs will be added to current employment. Therefore, we adjust the REMI model's projections to reflect these new jobs due to new room calculations, as outlined in Table 7.

f. *Rebasing the population forecast II*

We rebase the population forecasts produced by calibrating all the adjustments mentioned above with the most recent short-term population growth rate forecasts which were released during the CBER's Economic Advisory Council Meeting on February 29, 2024. The REMI model expects 3.0 and 2.3 percent growth in population in 2024 and 2025, respectively, after the adjustments with national economic estimates and forecasts, Clark County population and employment estimates, and projected local investments (Figure 8). CBER short-term forecasts, however, indicate that Clark County will grow by 1.6 and 1.4 percent, respectively, in 2024 and 2025. As the REMI model is more suitable for long-term equilibrium forecasts, we rebased the REMI forecasts using CBER short-term forecasts for 2024 and 2025.

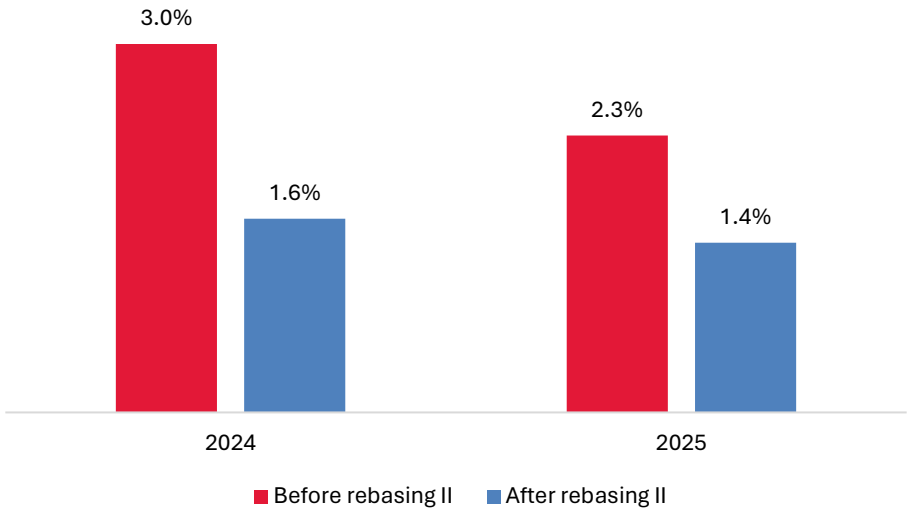
The REMI model offers long-term forecasts that filter out noise, such as business-cycle, seasonal, and irregular events. We attribute the model's significantly higher short-term growth rate to its adjustment of the employment (jobs)-to-population ratio, aiming to bring it down from the elevated level of 0.66 in 2023 closer to a historical average of 0.59. Among the historical data in the REMI model, the highest employment (jobs)-to-population ratio was 0.62 in 2019. Consequently, the model anticipates that Clark County will draw in-migrants to restore the presumed normal employment-to-population levels.

Clark County experienced a surge in its employment (jobs)-to-population ratio[10], rising from 0.61 in 2021 to 0.66 in 2022. This increase is likely due to a rise in individuals holding multiple jobs. A CommercialSearch report indicates that Las Vegas witnessed the highest increase in non-employer establishments in the Western U.S. region.[11] This suggests a thriving local economy with numerous gig economy job opportunities, which might help some residents seeking supplementary income through companies such as Airbnb or Uber.

[10] The employment (jobs)-to-population ratio was calculated as employment divided by population using the *CAINC4 Personal income and employment by major component* table from the BEA. The table defines employment as the number of jobs.
[11] Ginsac, Ioana. June 14, 2023. *Best US Metros to be Your Own Boss (Gig Work Ranking)*. Accessed April 2024. "https://www.commercialsearch.com/blog/best-us-metros-gig-economy/

Therefore, CBER rebases the population forecasts after the adjustments with national economic estimates and forecasts, Clark County population and employment estimates, and projected local investments. That is, CBER rebased the level population forecasts for 2024 and 2025 by using the CBER's short-term population growth rate forecasts and updated the population level forecasts from 2026 to 2060 by using the growth rate forecasts produced by the adjustments mentioned above.

Figure 8. Clark County Population Growth Rate Forecasts Before and After Rebasing II: 2024-2025



Note: The population growth rate forecasts before rebasing II are the REMI model forecasts after calibrating national economic estimates and forecasts, Clark County population and employment estimates, and projected local investments. The growth rate forecasts after rebasing II are CBER's short-term population forecasts and we updated the population level forecasts by using these forecasts.

IV. Analysis of the Economic and Demographic Forecast

The forecast predicts modest rates of population growth for Southern Nevada in the near term with 1.6 and 1.4, respectively, in 2024 and 2025. The growth rate forecast, however, will jump to 2.0 percent in 2026 and then decline over the forecast period extending out to 2060. The rate of growth, which decidedly exceeded the national average over the past 50 years, is expected to remain above the national growth rate, but the gap in growth rates between Clark County and the United States is predicted to narrow as Clark County is expected to age faster than the average U.S. population due to lower birth rates and increasing ratio of retired migration to net migration over time. The economic forecast calls for the continuation of the economic expansion over the forecast horizon. Tables 8, 9, and 10, respectively, report the final population, employment, and real GDP predictions for Clark County from the recalibrated model.

a. Population

In the short term, the current forecast predicts moderate rates of population growth in Southern Nevada. CBER forecasts that the population in Clark County will increase by 1.6 percent in 2024 and 1.4 percent in 2025 (Table 8). The population growth rate will hit 2.0 percent in 2026 and

decline over time with decreases in natural growth (births minus deaths). We forecast the population growth rate for Clark County to be 0.8 percent in 2040 and 0.5 percent in 2060.

CBER forecasts that Clark County will see an addition of approximately 38,000 and 33,000 new residents, respectively, in 2024 and 2025. In 2026, Clark County is projected to experience an increase of 50,000 new residents. Population gains, then, are expected to decline to 25,000 in 2040 and further to 15,000 in 2060 with an aging population. The population forecast predicts that Clark County's population will reach roughly 3.34 million by 2060.

Table 8. Population History, REMI Forecasts, and Final Rebased Forecasts

Year	*REMI Forecast**	*Rebased Forecast*	*Change in Population Rebased Forecast*	*Growth in Population Rebased Forecast*
2023	2,383,000	2,371,586**	39,652	1.7%
2024	2,425,000	2,410,000	38,414	1.6%
2025	2,463,000	2,443,000	33,000	1.4%
2026	2,501,000	2,493,000	50,000	2.0%
2027	2,539,000	2,537,000	44,000	1.8%
2028	2,576,000	2,578,000	41,000	1.6%
2029	2,611,000	2,617,000	39,000	1.5%
2030	2,647,000	2,655,000	38,000	1.5%
2031	2,681,000	2,692,000	37,000	1.4%
2032	2,714,000	2,728,000	36,000	1.3%
2033	2,747,000	2,764,000	36,000	1.3%
2034	2,778,000	2,797,000	33,000	1.2%
2035	2,808,000	2,830,000	33,000	1.2%
2036	2,836,000	2,860,000	30,000	1.1%
2037	2,863,000	2,889,000	29,000	1.0%
2038	2,889,000	2,917,000	28,000	1.0%
2039	2,913,000	2,944,000	27,000	0.9%
2040	2,937,000	2,969,000	25,000	0.8%
2041	2,959,000	2,994,000	25,000	0.8%
2042	2,981,000	3,017,000	23,000	0.8%
2043	3,002,000	3,039,000	22,000	0.7%
2044	3,022,000	3,061,000	22,000	0.7%
2045	3,041,000	3,081,000	20,000	0.7%
2050	3,129,000	3,174,000	17,000	0.5%
2055	3,206,000	3,258,000	17,000	0.5%
2060	3,277,000	3,337,000	15,000	0.5%

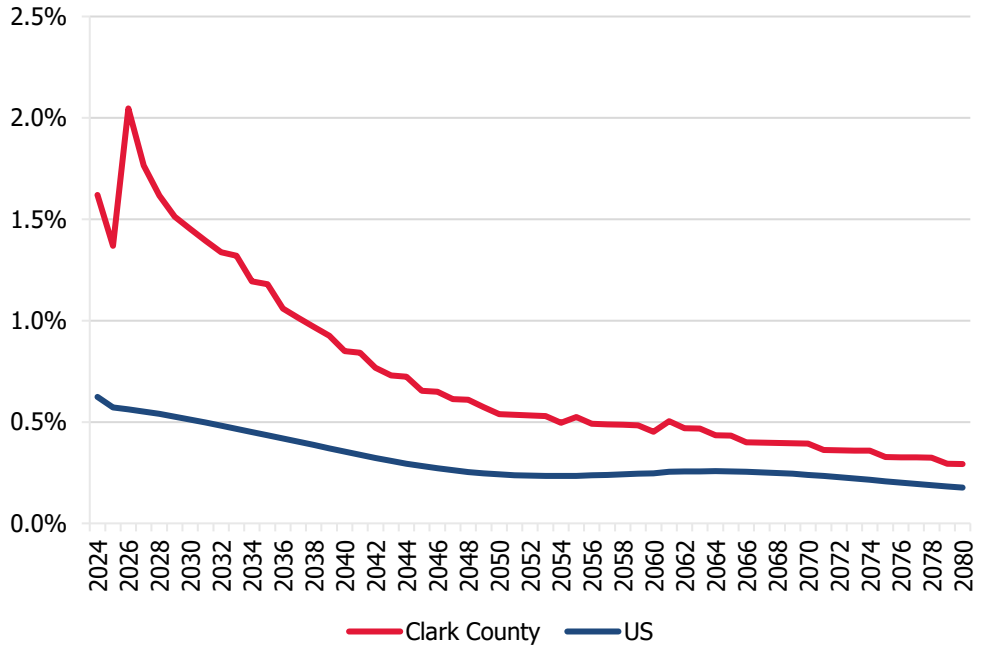
* This forecast refers to the model prior to recalibration.

** Southern Nevada consensus population estimate.

Note: A table detailing the rebased population forecast appears in Appendix C–Table C2.

Figure 9 illustrates population growth rate forecasts for Clark County and the United States. The gap in growth rates between Clark County and the United States is predicted to narrow over time, as Clark County is projected to age at a faster rate than the overall U.S. population due to lower birth rates and an increasing ratio of retired migration to net migration over time. That is, the share of the population ages 65 and above is forecasted to rise from 16.7 percent in 2024 to 24.7 percent in 2060. The model, however, predicts a less steep growth in this demographic group's share, from 18.2 percent in 2024 to 24.0 percent in 2060.

Figure 9. Population Growth Rate Forecasts: Clark County vs. United States



Note: Forecasts refer to the model after recalibration.

b. Employment

The forecast predicts a continued stable economic expansion for Southern Nevada in 2024, which will be partly boosted by the Brightline high-speed rail project despite the closure of Tropicana Las Vegas. That is, CBER forecasts that the Las Vegas economy will experience a gain of 30,000 jobs or 1.9 percent of total jobs in 2024. See Table 9.[12] We forecast that employment will only grow by 0.1 percent in 2025 with weak growth in real GDP, but rebound to 1.1 percent in 2026. The employment growth rate is then expected to remain between 1.1 and 0.9 percent until 2034, and gradually decrease to around 0.4 percent by 2060.

[12] Unadjusted employment forecasts are shown in Appendix C.

Table 9. Employment Forecasts

Year	*Employment (Jobs) Forecast*	*Change in Employment (Jobs) Forecast*	*Growth in Employment (Jobs) Forecast*	*Employment (Jobs)-to- Population Forecast*
2023	1,560,000	37,000	2.4%	0.66
2024	1,590,000	30,000	1.9%	0.66
2025	1,591,000	1,000	0.1%	0.65
2026	1,609,000	18,000	1.1%	0.65
2027	1,620,000	11,000	0.7%	0.64
2028	1,633,000	13,000	0.8%	0.63
2029	1,649,000	16,000	1.0%	0.63
2030	1,665,000	16,000	1.0%	0.63
2031	1,680,000	15,000	0.9%	0.62
2032	1,699,000	19,000	1.1%	0.62
2033	1,715,000	16,000	0.9%	0.62
2034	1,730,000	15,000	0.9%	0.62
2035	1,744,000	14,000	0.8%	0.62
2036	1,756,000	12,000	0.7%	0.61
2037	1,768,000	12,000	0.7%	0.61
2038	1,780,000	12,000	0.7%	0.61
2039	1,792,000	12,000	0.7%	0.61
2040	1,803,000	11,000	0.6%	0.61
2041	1,814,000	11,000	0.6%	0.61
2042	1,825,000	11,000	0.6%	0.60
2043	1,835,000	10,000	0.5%	0.60
2044	1,846,000	11,000	0.6%	0.60
2045	1,857,000	11,000	0.6%	0.60
2050	1,912,000	11,000	0.6%	0.60
2055	1,966,000	10,000	0.5%	0.60
2060	2,016,000	9,000	0.4%	0.60

c. Gross domestic product

Real gross domestic product (GDP) is defined as the (constant) dollar value of all final goods and services sold in a regional economy over a given time period. As such, it reflects the output of a local economy and avoids double-counting raw materials and intermediate goods in the final output. The forecast for growth in Clark County's real GDP, shown in Table 10, basically mirrors the growth pattern of local employment, although the real GDP growth rate forecasts show stronger projections due to increasing labor productivity as well as an aging population. The real GDP growth rate forecast anticipates a strong gain of 4.8 percent in 2024, reflecting the local economy's robust expansion. After hitting the lowest growth rate of 1.6 percent in 2025, the real GDP growth rate is projected to rebound by 3.1 percent in 2026. Between 2027 and 2035, real

GDP growth is predicted to expand at rates ranging between 2.1 and 2.7 percent. The local economy, then, is forecasted to decline and stabilize at a growth rate of 1.8 percent between 2042 and 2060.

Table 10. Gross Domestic Product Forecasts (Billions of Fixed 2024 Dollar)

Year	*GDP forecast*	*Change in GDP Forecast*	*Growth in GDP Forecast*	*GDP per Capita Forecast ($)*
2023	169.70	6.43	3.9%	71,556
2024	177.86	8.16	4.8%	73,815
2025	180.71	2.85	1.6%	73,963
2026	186.31	5.60	3.1%	74,727
2027	191.04	4.73	2.5%	75,288
2028	195.66	4.63	2.4%	75,894
2029	200.46	4.79	2.4%	76,594
2030	205.37	4.92	2.5%	77,351
2031	210.89	5.51	2.7%	78,332
2032	215.23	4.34	2.1%	78,886
2033	220.08	4.85	2.3%	79,635
2034	224.85	4.77	2.2%	80,379
2035	229.57	4.72	2.1%	81,131
2036	234.21	4.64	2.0%	81,882
2037	238.84	4.63	2.0%	82,658
2038	243.50	4.66	2.0%	83,467
2039	248.24	4.74	1.9%	84,323
2040	252.92	4.68	1.9%	85,179
2041	257.68	4.75	1.9%	86,070
2042	262.40	4.72	1.8%	86,970
2043	267.20	4.80	1.8%	87,912
2044	272.07	4.87	1.8%	88,890
2045	277.04	4.97	1.8%	89,911
2050	303.57	5.48	1.8%	95,637
2055	332.24	5.92	1.8%	101,984
2060	363.38	6.39	1.8%	108,884

Note: The forecasts refer to the model after recalibration

V. Comparing the Current Forecast with Forecasts of Previous Years

This section compares this year's final population growth-rate forecast with the final population growth-rate forecasts from previous years. This exercise assesses the consistency of the forecast methodology and examines the variability in the population growth-rate forecasts over the last six years.

Figure 10. Clark County Historical Population Growth-Rate Forecasts: 2024-2035

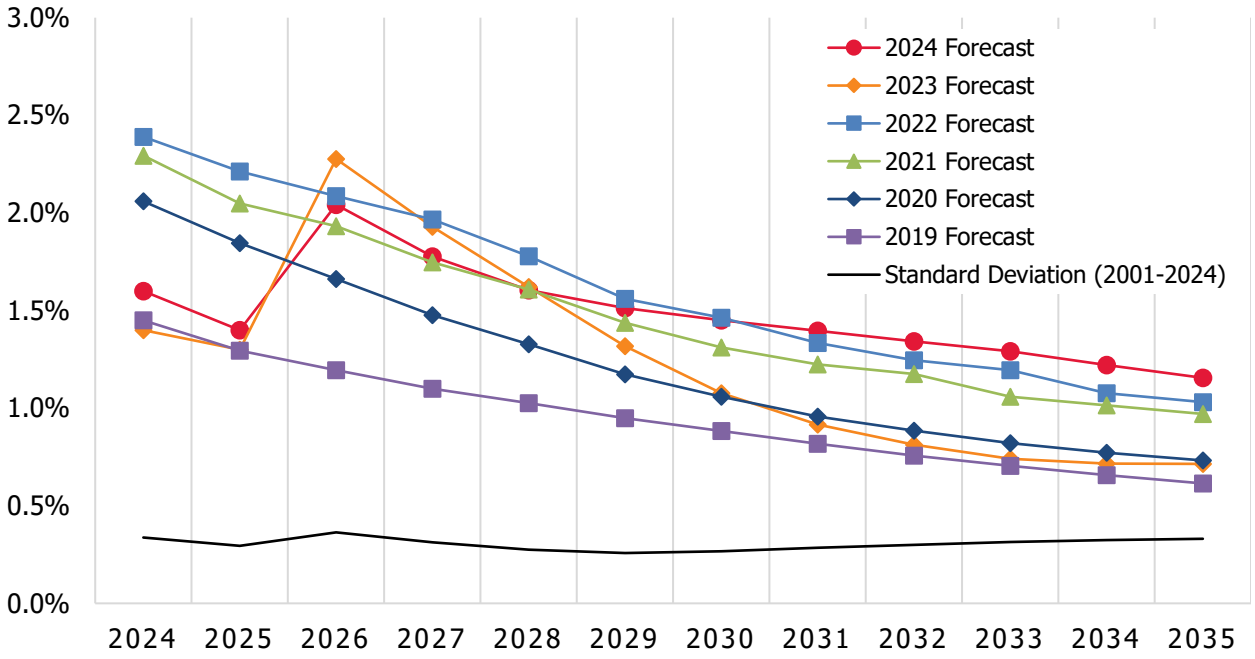


Figure 10 shows the population growth-rate forecasts generated from the 2019 to 2024 population forecast analyses as well as the standard deviation of the population-growth-rate forecasts in the last 24 years of forecasts (2001-2024).[13,14] The 2024 forecast falls between the 2022 and 2019 forecasts until 2030. It, however, surpasses the 2022 forecast and remains slightly higher between 2031 and 2035. Overall, each forecast follows a downward trend keeping the same order based on magnitude except for the 2023 and 2024 forecasts. This is because the 2023 and 2024 forecasts incorporate CBER's short-term forecasts for the years 2024 and 2025; otherwise, no spikes would exist in 2026. The forecasts range from 1.4 to 2.3 percent in 2024 but narrows to 0.6 to 1.2 percent in 2035. The population growth rate forecasts exhibit a similar level of variability from 2024 to 2035. Overall, the standard deviation of the population growth-rate forecast remains around 0.3 percent from 2024 to 2035. By 2030, the average of the forecasted growth rates converges to about 1.2 percent. Our forecasts tell a consistent story across different forecast years. This consistency improves as one moves to longer-term forecast values. Since the objective of this exercise is to provide primarily long-run planning guidance, the long-term growth predictions obtained during the last 24 years seem to meet that objective. Further analysis and findings appear in Appendix C from the previous report, the *2022-2060 CBER Population Forecasts.*[15]

[13] Figure 9 shows the forecasts of the population growth rate from 2024 through 2035 for six different forecast years, 2019 to 2024. The standard deviation calculation uses forecasts from 24 forecast years, 2001 to 2024. For instance, the standard deviation in 2024 measures the variability across the 24 different forecasts for the population growth rate in 2024.
[14] The standard deviation measures the variability among data points. For data that follow a normal distribution, around 95 percent of data points will fall within approximately two standard deviations of the mean.
[15] CBER. *2022-2060 CBER Population Forecast*. https://cber.unlv.edu/wp-content/uploads/2022/07/2022-CBER-Population-Forecasts.pdf.

VI. Risks to the Forecast

Our Southern Nevada population forecast rests on economic and demographic models embedded in the structural model for Clark County as produced by REMI. This structure provides long-term forecasts that exclude the noise that one finds in time-series data–that is, business-cycle, seasonal, and irregular events. In addition, the uncertainty of the forecasts rises further into the future that the forecasts extend. For example, forecasts of population growth for the next two years see a much smaller range over which the forecast may actually vary than the range for our forecasts 40 years into the future.[16]

The main risks to the population forecasts arise from short-term fluctuations in both U.S. and Southern Nevada economic conditions. Although the U.S. economy is expected to remain resilient with a robust labor market and consumer spending despite high-interest rates, the global economic situation is more complex. Notably, China, which has the world's second-largest economy, has signaled a slowdown, particularly evidenced by a real estate price adjustment. Although local economic stability hinges significantly on the performance of the U.S. economy with the majority of Clark County visitors coming from the United States and North America.

This forecast contains uncertainties related to assumptions incorporated in the modeling as well as policy uncertainties not reflected in the forecast. For example, the growing water scarcity across the Western United States due to persistent drought conditions since the early 2000s has caused water managers to plan for how water will be used in the future. Policies used to optimize water use may indirectly affect local conditions that directly affect the population forecast. Additional uncertainty reflects what some call potential shortages of "developable" land parcels. The full extent and impact of such shortages is unknown but may cause limitations on economic development for new industries, market restrictions on living space and higher prices for the existing population and potential in-migrants, which could be a headwind for future population growth.

The future diversification of the local economy may provide a positive upside risk in terms of long-term population growth. In a Brookings Institution report,[17] Las Vegas ranked 50th out of 56 very large metro areas based on improvement in prosperity (changes in productivity, average wealth and income, and standard of living). The report emphasizes that high-tech-, research-, and capital-intensive-based economies grow faster than regions that rely heavily on the hospitality and retail sectors for their economic growth. Washoe County, however, partly succeeded in diversifying its economy after the Great Recession and posted fewer vulnerabilities due to the

[16] The discussions in this and the immediate prior paragraphs may seem inconsistent. The discussion, however, focuses on two different issues. In the current paragraph, the uncertainty focuses on the range around an existing forecast within which we can expect the actual value to lie with some probability. For example, a typical range covers 95 percent of actual outcomes. In a statistical sense, the discussion involves confidence bands. The further into the future that the researcher tries to forecast, the larger the range of the confidence bands needs to be to capture 95 percent of potential outcomes. In the prior paragraph, the standard deviation came from a series of different vintage REMI forecasts. The economic and demographic structure of the REMI model leads to convergence over time. That is, the economic migrants respond to economic incentives. Then, the movement of economic migrants will tend to reduce and eliminate the economic incentive for more migrants to move in the longer run. That is, excessive growth relative to national growth disappears as the incentives for economic migration diminish.

[17] The Brookings Institution. 2024. *Metro Monitor*. https://www.brookings.edu/articles/metro-monitor-2024/.

COVID-19 recession compared to Clark County. The Las Vegas-Henderson-Paradise metro area experienced 3.4, 14.6, and 14.6 percent growth in productivity, average annual wage, and standard of living from 2012 to 2022, while Reno gained by 13.5, 23.1, and 29.3 percent, respectively, during the same period.

In summary, although the CBER population forecast is sound, risks exist that could lead to either over- or under-forecasted population growth. The data incorporated in the model is based on our current understanding of local economic conditions and projected local investments. Any discrepancies in new information may lead to short-term variations in forecasts, which sometimes CBER uses the 3-year average to help smooth out any discrepancies year-over-year. We, nevertheless, reiterate that our long-term forecasts exclude business-cycle, seasonal, resource constraints, and irregular events, which respond more to these short-run risks. Our long-term forecasts are designed to aid in the process of long-term planning.

VII. Conclusion

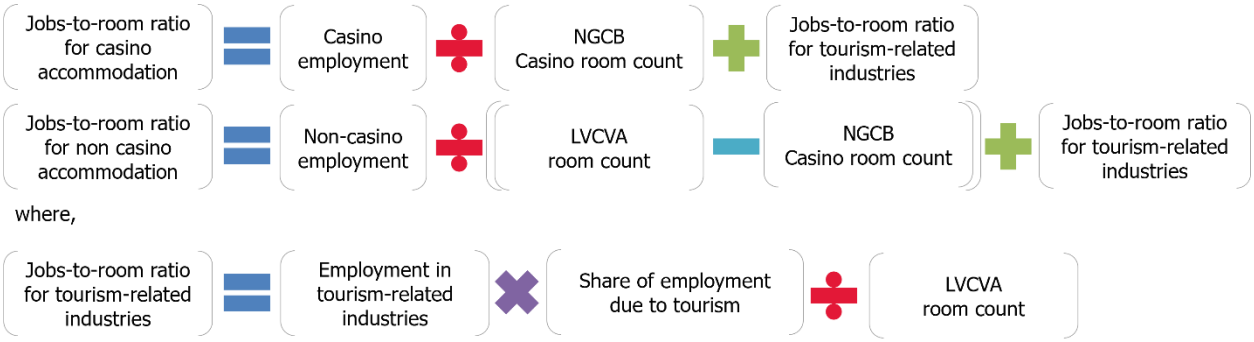
The latest REMI model projects long-term population growth patterns that are consistent with last year's population forecasts. Overall, the population forecast is higher than last year's forecast over the forecast horizon except between 2026 and 2029. The higher forecasts reflect not only the out-of-box forecast differences between this year's and last year's REMI models but also the new data incorporated into the model and major adjustments with current employment and population data. As mentioned in Section II, the out-of-the-box forecasted population for this year's model surpasses the previous year's model by 1,500 in 2025, and the gap increases over the forecast period. By 2060, the out-of-the-box forecasted population from this year's model is expected to reach 3.28 million, which is 216,000 persons higher than the previous model's 3.06 million. We note that despite short-term economic uncertainties and model difficulties, the long-term population forecast, which is our primary focus in this forecasting exercise, remains consistent with past forecasts. By 2040, we predict that Clark County's population will reach about 2.97 million. In 2060, Clark County is expected to hit slightly below 3.34 million residents.

Appendices:

Appendix A: Computation of the Jobs-to-Room Ratios

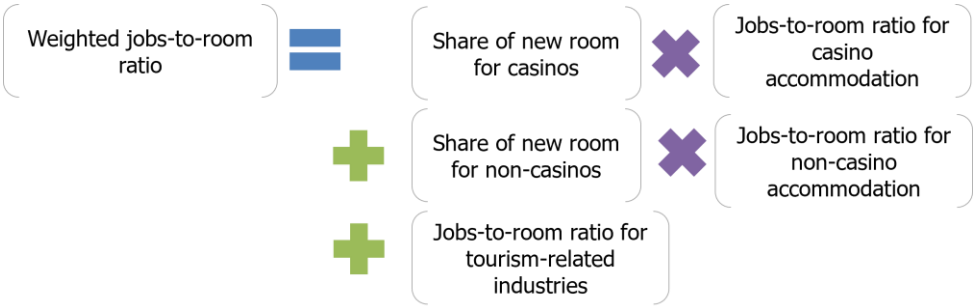
The adjustment for new hotel construction uses a ratio of jobs to rooms. Two issues arise in the computation of the jobs-to-room ratio. First, we expect new hotel rooms to create new jobs in hotel services. The hotel service jobs, however, will be calculated for casinos and non-casinos separately as they have different job-to-room ratios. Second, new hotel rooms themselves will also generate economic activity and, hence, additional jobs in other sectors. Increased tourism activity from new hotel rooms will increase the demand for food services and other tourism-related industries. Therefore, we need an approach that accounts for these two issues. In contrast to the previous approach, we recommend applying jobs-to-room ratios for casinos and non-casinos, which are derived from the formulas shown in Figure A1, directly to planned new hotel rooms. Previously, we utilized a weighted ratio based on the share of new hotel rooms for casinos and non-casinos, as illustrated in Figure A2. The calculating steps for the jobs-to-room ratios for casino and non-casino accommodations are outlined in Table A1.

Figure A1. Formulas for Jobs-to-room Ratios in Casino and Non-casino Accommodations



Note: NGCB stands for the Nevada Gaming Control Board.

Figure A2. Formula for a Weighted Jobs-to-Room Ratio



Note: This method was previously used. This year, however, we decide not to use a weighted jobs-to-room ratio as it fails to accurately reflect ongoing economic activity for each year.

Table A1. Computation of Jobs-to-Room Ratios by Sequence (1) – (5)

(1) Employment (thousands)

Industrial Classification	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***
Casino accommodation	152.4	157.6	156.0	153.2	151.9	151.2	149.1	97.2	107.5	122.4
Non-casino accommodation	12.6	13.0	12.9	13.2	13.6	13.8	14.3	9.0	9.5	11.5
Clothing and clothing accessories	18.5	19.0	19.2	18.5	19.3	19.0	18.5	13.2	15.0	17.5
Transit, ground pass transportation	13.4	14.0	14.2	13.4	12.4	11.0	9.9	6.0	6.6	8.0
Arts, entertainment, and recreation	17.8	18.7	19.3	20.5	21.3	22.6	23.5	17.2	21.2	26.2
Food service and drinking places	84.5	89.3	94.1	98.8	101.9	103.5	106.6	83.2	99.8	114.2

Note: Non-casino accommodation is equal to accommodation minus casino accommodation
Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics

(2) Proportion of employment due to tourism (=(Location quotient**-1)/Location quotient)*

Industrial Classification	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***
Accommodation	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-casino accommodation	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Clothing and clothing accessories	0.50	0.51	0.52	0.49	0.49	0.49	0.49	0.50	0.51	0.52
Transit, ground pass transportation	0.78	0.78	0.77	0.75	0.73	0.69	0.64	0.60	0.60	0.62
Arts, entertainment, and recreation	0.25	0.24	0.23	0.24	0.24	0.25	0.25	0.32	0.34	0.35
Food service and drinking places	0.19	0.19	0.20	0.20	0.19	0.18	0.18	0.22	0.25	0.24

* Maximum value = 1. Minimum value = 0.
** The Location Quotient (LQ) compares Clark County's employment in a given industry sector to that of the nation. An LQ greater than 1 indicates that the area has proportionately more workers than the nation employed in that specific industry sector. This implies that the area is producing more than is consumed by its residents.
Note: We subtract 1/LQ from LQ, which represents the share of the employment, regardless of tourism, for the selected industries. For the accommodation sector, the proportion is 1 as we estimate the employment due to a hotel room.

(3) Employment due to tourism (thousands) = (1) x (2)

Industrial Classification	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***
Accommodation	152.4	157.6	156.0	153.2	151.9	151.2	149.1	97.2	107.5	122.4
Non-casino accommodation	12.6	13.0	12.9	13.2	13.6	13.8	14.3	9.0	9.5	11.5
*Total for tourism-related industries**	40.6	42.6	43.8	43.7	43.5	41.0	40.4	33.7	43.6	51.1
Clothing and clothing accessories	9.3	9.7	9.9	9.1	9.5	9.2	9.0	6.7	7.7	9.1
Transit, ground pass transportation	10.5	10.9	11.0	10.1	9.0	7.6	6.4	3.6	3.9	5.0
Arts, entertainment, and recreation	4.4	4.5	4.5	5.0	5.1	5.6	5.8	5.5	7.3	9.1
Food service and drinking places	16.4	17.4	18.4	19.5	19.8	18.5	19.2	17.9	24.7	27.9

* The sum of employment due to tourism for clothing and clothing accessories, transit, ground pass transportation, arts, entertainment, and recreation, and food service and drinking places employment due to tourism. The numbers may not sum to the total because of rounding.

(4) Hotel room count (thousands)

	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
LVCVA room inventory	150.1	150.1	149.6	148.7	147.3	147.4	148.9	137.4	148.3	151.0
NGCB casino room inventory	123.4	123.3	123.5	122.4	121.8	121.4	119.7	94.5	115.8	120.6
Non-casino room inventory	26.7	26.8	26.2	26.3	25.5	26.0	29.1	43.0	32.6	30.4

Note: Room inventory is the average from January to December. Non-casino room inventory is equal to LVCVA room inventory minus NGCB casino room inventory.
Source: LVCVA; NGCB; CBER

(5) Employment due to a hotel room = (3)/(4) + Jobs-to-room ratio for tourism-related industries

	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Average***
Jobs-to-room ratio for Casino	1.51	1.56	1.56	1.55	1.54	1.52	1.52	1.27	1.22	1.35	**1.46**
Jobs-to-room ratio for non-casino	0.74	0.77	0.79	0.79	0.83	0.81	0.76	0.45	0.59	0.72	**0.72**

*Averaged jobs-to-room ratio from 2013 to 2022.
Note: The jobs-to-room ratio for tourism-related industries is calculated by dividing total employment for tourism-related industries by the LVCVA room inventory. Check Figure A1 for more detailed information.

Appendix B: Hotel/Motel Room Construction

Table B1. Expected Hotel/Motel Room Construction from 2024 to 2028

Complete Year	*Hotel Name*	*Zip Code*	*Hotel Rooms*	*Casino Y or N*
2024	Tropicana Las Vegas	89109	-1,470	Y
2024	Atwell Suites at the Pass	89015	90	N
2025	AC Hotel by Marriott	89106	322	N
2025	Element Las Vegas	89106	119	N
2025	Delta Hotels by Marriott	89103	284	N
2025	M Resort Spa & Casino	89044	384	Y
2026	Courtyard by Marriott South	89123	149	N
2027	Majestic Las Vegas	89109	720	N
2028	SpringHill Suites by Marriott South	89119	170	N

Note: The total number of additional rooms from 2024 to 2028 equals 768.
Source: Las Vegas Convention and Visitor Authority; CBER

Table B2. Expected Casino or Non-casino Room Construction from 2024 to 2028

Complete Year	*Casino*	*Non-casino*	*Total*
2024	-1,470	90	-1380
2025	384	725	1,109
2026	0	149	149
2027	0	720	720
2028	0	170	170
Total	*-1,086*	*1,854*	*768*

Source: Las Vegas Convention and Visitor Authority; CBER

Table B3. Expected Job Additions due to New Hotel/Motel Construction from 2024 to 2028

Year	*Casino*	*Non-casino*	*Total*
2024	-2,146	65	-2,081
2025	561	522	1,083
2026	0	107	107
2027	0	518	518
2028	0	122	122
Total	*-1,586*	*1,335*	*-251*

Note: The expected job additions are calculated by multiplying the expected new room (Table B2) by the job-to-room ratios for each category: casino (1.46) and non-casino (0.72), as outlined in Table A1. For instance, -2,146 equals -1,470 multiplied by 1.46.
Source: Las Vegas Convention and Visitor Authority; CBER

Appendix C: Detailed Report Tables

Table C1. Out-of-the-Box Clark County Population and Population Growth Forecasts from REMI Models LHY2021 and LHY2020

Year	LHY2021 Population (Thousands)	LHY2020 Population (Thousands)	LHY2021 Population Growth	LHY2020 Population Growth
2023	2,383	2,410	1.9%	1.1%
2024	2,425	2,435	1.8%	1.0%
2025	2,463	2,461	1.6%	1.1%
2026	2,501	2,488	1.5%	1.1%
2027	2,539	2,515	1.5%	1.1%
2028	2,576	2,540	1.5%	1.0%
2029	2,611	2,562	1.4%	0.9%
2030	2,647	2,582	1.4%	0.8%
2031	2,681	2,600	1.3%	0.7%
2032	2,714	2,617	1.2%	0.7%
2033	2,747	2,634	1.2%	0.6%
2034	2,778	2,650	1.1%	0.6%
2035	2,808	2,667	1.1%	0.6%
2036	2,836	2,685	1.0%	0.7%
2037	2,863	2,702	1.0%	0.6%
2038	2,889	2,720	0.9%	0.7%
2039	2,913	2,738	0.8%	0.7%
2040	2,937	2,756	0.8%	0.7%
2041	2,959	2,773	0.7%	0.6%
2042	2,981	2,790	0.7%	0.6%
2043	3,002	2,807	0.7%	0.6%
2044	3,022	2,824	0.7%	0.6%
2045	3,041	2,841	0.6%	0.6%
2050	3,129	2,919	0.5%	0.5%
2055	3,206	2,993	0.5%	0.5%
2060	3,277	3,061	0.4%	0.4%

Note: Out-of-the-box refers to the model prior to recalibration. These numbers are not the final forecast.

Table C2. Detailed Final Clark County Population Forecast: 2015 – 2060

Year	Population Forecast	Change in Population Forecast	Growth in Population (Percent)
2015	2,147,641*	45,403	2.2%
2016	2,205,207*	57,566	2.7%
2017	2,248,390*	43,183	2.0%
2018	2,284,616*	36,226	1.6%
2019	2,325,798*	41,182	1.8%
2020	2,376,683*	50,885	2.2%
2021	2,333,092*	-43,591	-1.8%
2022	2,331,934*	-1,158	-0.05%
2023	2,371,586*	39,652	1.7%
2024	2,410,000**	38,414	1.6%
2025	2,443,000**	33,000	1.4%
2026	2,493,000	50,000	2.0%
2027	2,537,000	44,000	1.8%
2028	2,578,000	41,000	1.6%
2029	2,617,000	39,000	1.5%
2030	2,655,000	38,000	1.5%
2031	2,692,000	37,000	1.4%
2032	2,728,000	36,000	1.3%
2033	2,764,000	36,000	1.3%
2034	2,797,000	33,000	1.2%
2035	2,830,000	33,000	1.2%
2036	2,860,000	30,000	1.1%
2037	2,889,000	29,000	1.0%
2038	2,917,000	28,000	1.0%
2039	2,944,000	27,000	0.9%
2040	2,969,000	25,000	0.8%
2041	2,994,000	25,000	0.8%
2042	3,017,000	23,000	0.8%
2043	3,039,000	22,000	0.7%
2044	3,061,000	22,000	0.7%
2045	3,081,000	20,000	0.7%
2046	3,101,000	20,000	0.6%
2047	3,120,000	19,000	0.6%
2048	3,139,000	19,000	0.6%
2049	3,157,000	18,000	0.6%
2050	3,174,000	17,000	0.5%
2051	3,191,000	17,000	0.5%
2052	3,208,000	17,000	0.5%
2053	3,225,000	17,000	0.5%
2054	3,241,000	16,000	0.5%
2055	3,258,000	17,000	0.5%
2056	3,274,000	16,000	0.5%
2057	3,290,000	16,000	0.5%
2058	3,306,000	16,000	0.5%
2059	3,322,000	16,000	0.5%
2060	3,337,000	15,000	0.5%

* SNRPC consensus population estimate.

**CBER Economic Forecast Committee, Winter Forecast, February 2024

Note: The average annual forecasted growth rate is 0.9 percent.

Table C3. Economic Forecast

Variable	Unit	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Employment	Thousands (Jobs)	1590.01	1591.41	1609.17	1620.25	1633.22	1648.65	1664.79	1680.43	1698.76
Private Non-Farm Employment	Thousands (Jobs)	1456.96	1457.21	1473.78	1483.97	1496.02	1510.33	1525.30	1539.60	1556.83
Residence-Adjusted Employment	Thousands	1558.97	1560.62	1578.40	1589.63	1602.70	1618.23	1634.46	1650.21	1668.66
Population	Thousands	2409.53	2443.27	2493.16	2537.44	2578.13	2617.13	2655.11	2692.20	2728.34
Labor Force	Thousands	1185.03	1202.41	1226.81	1246.55	1264.39	1281.53	1298.16	1313.90	1329.70
Gross Domestic Product	Billions of Fixed (2024) $	177.86	180.71	186.31	191.04	195.66	200.46	205.37	210.89	215.23
Output	Billions of Fixed (2024) $	301.22	303.33	311.43	318.41	326.32	334.85	343.96	353.14	362.96
Value Added	Billions of Fixed (2024) $	177.86	180.71	186.31	191.04	195.66	200.46	205.37	210.89	215.23
Personal Income	Billions of Fixed (2024) $	156.54	159.47	164.84	169.86	174.84	179.99	185.33	190.81	196.25
Disposable Personal Income	Billions of Fixed (2024) $	138.12	141.16	144.94	148.47	153.03	157.60	162.33	167.17	172.02
PCE-Price Index	2012=100 (Nation)	131.49	134.67	137.51	140.33	143.15	145.97	148.86	151.76	154.81

Variable	Unit	2033	2034	2035	2040	2045	2050	2055	2060
Total Employment	Thousands (Jobs)	1715.25	1730.24	1743.99	1803.39	1856.60	1912.31	1965.76	2015.91
Private Non-Farm Employment	Thousands (Jobs)	1572.00	1585.62	1597.98	1650.62	1697.69	1747.11	1794.37	1838.64
Residence-Adjusted Employment	Thousands	1685.22	1700.28	1714.13	1774.02	1827.63	1883.58	1937.18	1987.53
Population	Thousands	2763.56	2797.31	2829.62	2969.33	3081.30	3174.21	3257.77	3337.31
Labor Force	Thousands	1344.81	1359.51	1373.04	1432.25	1483.18	1531.67	1577.32	1620.85
Gross Domestic Product	Billions of Fixed (2024) $	220.08	224.85	229.57	252.92	277.04	303.57	332.24	363.38
Output	Billions of Fixed (2024) $	372.50	381.84	391.02	437.48	488.83	546.21	610.61	682.55
Value Added	Billions of Fixed (2024) $	220.08	224.85	229.57	252.92	277.04	303.57	332.24	363.38
Personal Income	Billions of Fixed (2024) $	201.93	207.21	212.50	239.33	267.29	297.92	330.92	366.81
Disposable Personal Income	Billions of Fixed (2024) $	177.00	181.64	186.29	209.88	234.45	261.34	290.29	321.76
PCE-Price Index	2012=100 (Nation)	157.85	160.95	164.11	180.69	198.94	219.04	241.19	265.57

Table C4. Employment (in thousands)

Variable	2024	2025	2026	2027	2028	2029	2030	2031	2032
Private Non-Farm	1590.01	1591.41	1609.17	1620.25	1633.22	1648.65	1664.79	1680.43	1698.76
Forestry, Fishing, Other	0.51	0.52	0.52	0.53	0.54	0.55	0.56	0.56	0.58
Mining	1.70	1.69	1.70	1.70	1.70	1.70	1.71	1.71	1.72
Utilities	2.91	2.89	2.89	2.88	2.86	2.85	2.83	2.80	2.80
Construction	111.60	103.86	106.04	105.15	106.43	106.78	107.18	107.65	108.20
Manufacturing	32.32	32.09	32.12	32.03	31.98	31.98	32.01	32.01	32.25
Wholesale Trade	34.57	34.64	34.96	35.12	35.28	35.45	35.63	35.69	36.01
Retail Trade	143.88	143.31	143.90	143.83	143.77	143.74	143.68	143.58	143.76
Transportation and Warehousing	119.71	120.98	122.67	124.12	125.61	127.15	128.96	130.76	132.86
Information	19.49	19.63	19.84	20.01	20.17	20.35	20.53	20.71	20.89
Finance and Insurance	94.96	94.36	94.11	93.66	93.22	92.92	92.68	92.03	92.23
Real Estate and Rental and Leasing	99.47	100.07	101.32	102.12	102.90	103.68	104.45	105.12	106.09
Professional and Technical Services	92.45	93.36	94.78	95.84	96.84	97.80	98.80	99.71	100.90
Management of Companies and Enterprises	32.90	33.06	33.16	33.22	33.25	33.27	33.29	33.30	33.41
Admin and Waste Services	117.06	118.13	119.65	120.82	121.96	123.18	124.46	125.56	127.14
Educational Services	18.91	19.15	19.48	19.76	20.02	20.26	20.50	20.74	21.01
Health Care and Social Assistance	135.32	136.61	139.35	141.74	144.16	146.90	149.78	152.86	155.72
Arts, Entertainment, and Recreation	49.16	49.72	50.60	51.54	52.65	53.92	55.39	57.06	58.59
Accommodation and Food Services	272.07	274.73	276.98	279.29	281.27	285.72	290.15	294.67	298.98
Other Services (except public administration)	77.97	78.42	79.72	80.63	81.42	82.14	82.71	83.10	83.68
Government	132.61	133.77	134.95	135.85	136.77	137.89	139.07	140.40	141.51
State and local	101.01	102.45	103.84	104.98	106.08	107.18	108.32	109.60	110.91
Federal civilian	14.40	14.12	13.85	13.58	13.39	13.45	13.54	13.66	13.63
Federal military	17.21	17.20	17.27	17.29	17.29	17.25	17.21	17.14	16.98
Farm	0.44	0.44	0.43	0.43	0.43	0.43	0.43	0.42	0.42

Table C4. Employment (in thousands) (continued)

Variable	2033	2034	2035	2040	2045	2050	2055	2060
Private Non-Farm	1715.25	1730.24	1743.99	1803.39	1856.60	1912.31	1965.76	2015.91
Forestry, Fishing, Other	0.60	0.61	0.62	0.68	0.75	0.84	0.93	1.04
Mining	1.73	1.73	1.72	1.68	1.64	1.60	1.57	1.55
Utilities	2.79	2.78	2.77	2.68	2.57	2.47	2.35	2.23
Construction	108.64	108.95	109.18	109.24	108.58	107.80	106.85	105.51
Manufacturing	32.43	32.61	32.80	33.73	34.71	35.73	36.67	37.51
Wholesale Trade	36.21	36.39	36.57	37.12	37.28	37.35	37.23	36.93
Retail Trade	143.87	143.90	143.87	142.89	140.75	138.47	135.73	132.47
Transportation and Warehousing	134.62	136.18	137.53	143.05	148.40	154.23	160.06	165.79
Information	21.05	21.17	21.27	21.55	21.70	21.85	21.91	21.90
Finance and Insurance	92.18	92.10	92.02	91.42	90.11	88.65	86.81	84.64
Real Estate and Rental and Leasing	106.99	107.85	108.72	112.71	116.13	119.64	122.91	125.91
Professional and Technical Services	101.91	102.82	103.64	107.11	110.17	113.31	116.22	118.88
Management of Companies and Enterprises	33.50	33.60	33.71	34.28	34.73	35.20	35.58	35.87
Admin and Waste Services	128.43	129.59	130.64	135.25	139.36	143.62	147.63	151.34
Educational Services	21.29	21.56	21.84	23.17	24.34	25.45	26.58	27.62
Health Care and Social Assistance	158.59	161.27	163.80	175.99	188.13	201.23	214.61	228.16
Arts, Entertainment, and Recreation	59.90	61.04	62.00	66.11	70.73	75.95	81.56	87.50
Accommodation and Food Services	302.96	306.52	309.70	323.20	335.38	347.68	359.27	369.97
Other Services (except public administration)	84.33	84.95	85.60	88.77	92.24	96.05	99.90	103.84
Government	142.84	144.19	145.59	152.36	158.50	164.80	171.00	176.89
State and local	112.27	113.66	115.08	121.96	128.30	134.71	140.93	146.83
Federal civilian	13.65	13.67	13.70	13.85	14.00	14.22	14.46	14.72
Federal military	16.92	16.86	16.81	16.55	16.20	15.87	15.61	15.34
Farm	0.42	0.42	0.42	0.41	0.41	0.40	0.39	0.38

Table C5. Gross Domestic Product (billions of fixed 2024$)*

Variable	2024	2025	2026	2027	2028	2029	2030	2031	2032
Personal Consumption Expenditures	132.90	134.97	138.41	141.71	144.99	148.64	152.52	156.51	160.80
Motor vehicles and parts	5.19	5.19	5.26	5.34	5.43	5.56	5.73	5.90	6.10
Furnishings and durable household equipment	3.79	3.87	3.99	4.12	4.25	4.40	4.56	4.74	4.93
Recreational goods and other durable goods	7.43	7.60	7.87	8.15	8.45	8.81	9.21	9.63	10.10
Food and beverages	10.19	10.37	10.61	10.86	11.09	11.35	11.63	11.91	12.22
Clothing and footwear	3.66	3.71	3.80	3.89	3.99	4.11	4.25	4.43	4.70
Motor vehicle fuels, lubricants, and fluids	2.72	2.73	2.74	2.75	2.80	2.82	2.83	2.85	2.85
Fuel oil and other fuels	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08
Other nondurable goods	11.54	11.60	11.80	12.03	12.30	12.62	13.01	13.45	13.94
Housing	22.83	23.17	23.69	24.14	24.56	24.98	25.38	25.76	26.20
Household utilities	2.86	2.89	2.94	2.98	3.01	3.05	3.08	3.11	3.15
Transportation services	4.27	4.42	4.60	4.77	4.91	5.06	5.18	5.29	5.41
Health care	18.64	19.05	19.71	20.40	21.13	21.95	22.86	23.85	24.67
Recreation and other services	39.68	40.31	41.32	42.20	42.97	43.85	44.72	45.52	46.46
Gross Private Domestic Fixed Investment	41.67	42.45	45.47	47.74	49.63	51.18	52.73	54.22	55.64
Residential	6.37	6.46	7.40	7.89	8.21	8.35	8.42	8.47	8.46
Nonresidential structures	5.26	5.03	5.32	5.46	5.65	5.84	6.05	6.26	6.47
Nonresidential equipment	15.30	15.78	16.69	17.52	18.21	18.84	19.52	20.14	20.79
Nonresidential intellectual property products	14.75	15.18	16.06	16.87	17.55	18.14	18.75	19.34	19.91
Change in Private Inventories	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.12	-0.13	-0.13
Government Consumption Expenditures	33.48	33.01	33.58	33.74	34.21	34.51	34.82	35.11	35.32
Federal military	10.35	10.46	10.53	10.59	10.63	10.67	10.71	10.72	10.68
Federal civilian	4.02	4.04	4.07	4.08	4.10	4.11	4.12	4.13	4.11
State and local government	19.10	18.51	18.98	19.08	19.47	19.73	19.99	20.27	20.52
Total Exports	84.57	85.66	87.33	89.19	91.19	93.44	95.81	98.29	100.79
Total Imports	114.65	115.27	118.38	121.22	124.24	127.20	130.38	133.12	137.19

*Note: The sum of the components may not add up to the total GDP due to rounding.

Table C5. Gross Domestic Product (billions of fixed 2024$) (continued)*

Variable	2033	2034	2035	2040	2045	2050	2055	2060
Personal Consumption Expenditures	164.89	168.94	173.00	192.73	213.70	236.67	261.51	288.53
Motor vehicles and parts	6.31	6.52	6.74	7.88	9.19	10.77	12.63	14.87
Furnishings and durable household equipment	5.12	5.32	5.52	6.60	7.80	9.19	10.77	12.58
Recreational goods and other durable goods	10.56	11.03	11.51	14.00	16.81	20.06	23.71	27.77
Food and beverages	12.53	12.84	13.15	14.64	16.09	17.62	19.19	20.84
Clothing and footwear	4.81	4.93	5.07	5.08	5.64	6.25	6.91	7.66
Motor vehicle fuels, lubricants, and fluids	2.86	2.86	2.86	2.85	2.84	2.79	2.77	2.72
Fuel oil and other fuels	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.06
Other nondurable goods	14.44	14.96	15.48	18.20	21.20	24.63	28.46	32.76
Housing	26.65	27.07	27.49	29.45	31.29	33.21	35.15	37.19
Household utilities	3.18	3.22	3.25	3.38	3.49	3.60	3.70	3.79
Transportation services	5.52	5.64	5.76	6.34	6.91	7.51	8.15	8.82
Health care	25.41	26.14	26.87	30.55	34.26	38.18	42.17	46.27
Recreation and other services	47.41	48.33	49.22	53.69	58.10	62.82	67.84	73.20
Gross Private Domestic Fixed Investment	57.04	58.43	59.78	66.22	72.92	80.24	88.15	96.65
Residential	8.45	8.41	8.35	7.96	7.57	7.31	7.17	7.12
Nonresidential structures	6.69	6.88	7.05	7.80	8.57	9.40	10.30	11.28
Nonresidential equipment	21.42	22.06	22.70	25.77	28.96	32.40	36.02	39.86
Nonresidential intellectual property products	20.49	21.08	21.68	24.70	27.82	31.14	34.66	38.39
Change in Private Inventories	-0.13	-0.14	-0.14	-0.16	-0.17	-0.18	-0.20	-0.21
Government Consumption Expenditures	35.58	35.84	36.08	37.16	38.20	39.18	40.16	41.13
Federal military	10.69	10.71	10.72	10.74	10.77	10.79	10.81	10.82
Federal civilian	4.12	4.12	4.13	4.14	4.15	4.15	4.16	4.17
State and local government	20.77	21.01	21.24	22.29	23.29	24.24	25.19	26.14
Total Exports	103.25	105.68	108.04	120.26	134.09	149.52	166.98	186.42
Total Imports	140.55	143.90	147.20	163.30	181.69	201.85	224.36	249.14

*Note: The sum of the components may not add up to the total GDP due to rounding.

Table C6. Income (billions of fixed 2024$)

Variable	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total earnings by place of work	109.13	111.42	114.64	117.03	119.67	122.64	125.72	128.80	131.89
Total wage and salary disbursements	79.96	81.74	84.04	85.65	87.47	89.55	91.71	93.88	96.02
Supplements to wages and salaries	17.65	18.07	18.68	19.23	19.78	20.38	21.01	21.64	22.29
Employer contributions for employee pension and insurance funds	11.86	12.15	12.56	12.92	13.30	13.70	14.12	14.54	14.98
Employer contributions for government social insurance	5.79	5.93	6.13	6.30	6.49	6.68	6.89	7.09	7.31
Proprietors' income with inventory valuation and capital consumption adjustments	11.52	11.61	11.92	12.16	12.42	12.71	13.00	13.29	13.58
Less: Contributions for government social insurance	12.12	12.35	12.73	13.02	13.31	13.64	13.97	14.32	14.67
Employee and self-employed contributions for government social insurance	6.33	6.42	6.61	6.71	6.83	6.95	7.08	7.23	7.36
Employer contributions for government social insurance	5.79	5.93	6.13	6.30	6.49	6.68	6.89	7.09	7.31
Plus: Adjustment for residence	-0.91	-0.92	-0.93	-0.93	-0.93	-0.94	-0.95	-0.96	-0.98
Gross in	1.82	1.86	1.91	1.95	1.99	2.03	2.07	2.11	2.15
Gross out	2.73	2.78	2.84	2.87	2.92	2.97	3.02	3.07	3.13
Equals: Net earnings by place of residence	96.09	98.15	100.98	103.09	105.43	108.07	110.80	113.52	116.25
Plus: Rental, personal interest, and personal dividend income	34.68	35.02	36.49	38.15	39.58	40.84	42.12	43.42	44.71
Plus: Personal current transfer receipts	25.77	26.30	27.37	28.63	29.83	31.09	32.41	33.88	35.30
Equals: Personal income	156.54	159.47	164.84	169.86	174.84	179.99	185.33	190.81	196.25
Less: Personal current taxes	18.42	18.31	19.91	21.40	21.82	22.39	23.00	23.64	24.24
Equals: Disposable personal income	138.12	141.16	144.94	148.47	153.03	157.60	162.33	167.17	172.02

Table C6. Income (billions of fixed 2024$) (continued)

Variable	2033	2034	2035	2040	2045	2050	2055	2060
Total earnings by place of work	134.92	137.88	140.81	155.40	171.09	188.87	208.26	229.10
Total wage and salary disbursements	98.12	100.16	102.17	112.16	122.86	135.03	148.36	162.76
Supplements to wages and salaries	22.95	23.60	24.24	27.42	30.74	34.35	38.16	42.10
Employer contributions for employee pension and insurance funds	15.42	15.86	16.29	18.42	20.64	23.05	25.57	28.16
Employer contributions for government social insurance	7.52	7.74	7.95	9.00	10.10	11.31	12.60	13.94
Proprietors' income with inventory valuation and capital consumption adjustments	13.86	14.13	14.40	15.82	17.50	19.49	21.74	24.25
Less: Contributions for government social insurance	15.00	15.33	15.65	17.21	18.83	20.62	22.51	24.48
Employee and self-employed contributions for government social insurance	7.48	7.59	7.70	8.21	8.73	9.31	9.92	10.54
Employer contributions for government social insurance	7.52	7.74	7.95	9.00	10.10	11.31	12.60	13.94
Plus: Adjustment for residence	-0.99	-1.00	-1.01	-1.06	-1.14	-1.24	-1.35	-1.46
Gross in	2.19	2.23	2.28	2.48	2.70	2.95	3.21	3.50
Gross out	3.18	3.24	3.29	3.54	3.84	4.18	4.56	4.96
Equals: Net earnings by place of residence	118.93	121.55	124.15	137.13	151.12	167.01	184.40	203.17
Plus: Rental, personal interest, and personal dividend income	46.04	47.35	48.66	55.38	62.45	70.39	79.07	88.61
Plus: Personal current transfer receipts	36.96	38.31	39.69	46.83	53.72	60.52	67.45	75.04
Equals: Personal income	201.93	207.21	212.50	239.33	267.29	297.92	330.92	366.81
Less: Personal current taxes	24.93	25.58	26.21	29.45	32.84	36.58	40.63	45.05
Equals: Disposable personal income	177.00	181.64	186.29	209.88	234.45	261.34	290.29	321.76

Table C7. Population and Labor Force (in thousands)

Variable	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total population	2409.53	2443.27	2493.16	2537.44	2578.13	2617.13	2655.11	2692.20	2728.34
By race and ethnicity									
White	934.69	940.20	951.63	960.50	967.65	973.81	979.25	984.02	988.10
Black	294.59	298.08	303.55	308.33	312.67	316.81	320.84	324.75	328.56
Other	381.22	388.25	397.88	406.65	414.88	422.85	430.69	438.45	446.13
Hispanic	799.04	816.74	840.11	861.96	882.94	903.66	924.33	944.97	965.56
By age									
Ages 0-14	433.99	435.30	440.36	444.27	448.18	451.37	454.88	457.97	461.69
Ages 15-24	305.94	313.85	323.55	333.57	339.64	342.01	343.86	345.19	344.85
Ages 25-64	1268.18	1276.99	1293.10	1305.35	1318.42	1335.35	1352.23	1369.94	1388.93
Ages 65 & older	401.43	417.12	436.15	454.24	471.89	488.41	504.14	519.10	532.88
Labor force	1924.64	1957.63	2002.84	2042.66	2079.78	2114.89	2149.54	2182.96	2215.93
Labor force participation rate	0.62	0.61	0.61	0.61	0.61	0.61	0.60	0.60	0.60
Participation rates by gender									
Male (16 & older)	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66
Female (16 & older)	0.56	0.56	0.56	0.56	0.56	0.55	0.55	0.55	0.55

Variable	2033	2034	2035	2040	2045	2050	2055	2060
Total population	2763.56	2797.31	2829.62	2969.33	3081.30	3174.21	3257.77	3337.31
By race and ethnicity								
White	991.58	994.27	996.20	995.30	982.08	962.52	941.66	921.92
Black	332.27	335.83	339.23	353.95	365.67	375.09	383.10	390.36
Other	453.68	461.04	468.25	501.92	533.40	563.74	594.00	624.60
Hispanic	986.03	1006.17	1025.94	1118.17	1200.16	1272.86	1339.00	1400.43
By age								
Ages 0-14	465.82	470.75	475.38	492.02	501.68	505.57	506.02	506.94
Ages 15-24	343.52	341.96	341.16	343.58	352.81	362.21	369.18	373.28
Ages 25-64	1407.74	1424.35	1438.46	1504.21	1554.93	1587.55	1613.24	1633.61
Ages 65 & older	546.49	560.24	574.62	629.52	671.89	718.88	769.34	823.49
Labor force	2247.29	2276.90	2304.25	2425.47	2527.10	2615.56	2698.27	2777.09
Labor force participation rate	0.60	0.60	0.60	0.59	0.59	0.59	0.59	0.58
Participation rates by gender								
Male (16 & older)	0.65	0.65	0.65	0.65	0.64	0.64	0.64	0.64
Female (16 & older)	0.55	0.54	0.54	0.54	0.53	0.53	0.53	0.53

Table C8. Demographics (in thousands)

Variable	2024	2025	2026	2027	2028	2029	2030	2031	2032
Starting population	2371.59	2409.53	2443.27	2493.16	2537.44	2578.13	2617.13	2655.11	2692.20
Births	27.59	27.88	28.25	28.69	29.06	29.38	29.69	30.01	30.31
Deaths	20.31	20.88	21.56	22.31	23.06	23.83	24.60	25.40	26.20
Natural growth	7.28	7.00	6.70	6.38	6.00	5.55	5.08	4.62	4.12
Population before migrants	2378.87	2416.53	2449.96	2499.54	2543.44	2583.68	2622.22	2659.72	2696.31
Total migrants	30.66	26.73	43.20	37.89	34.69	33.45	32.89	32.47	32.03
Economic migrants	14.66	11.61	27.78	22.40	19.11	17.81	17.16	16.72	16.36
International migrants	10.15	8.91	8.91	8.92	8.93	8.94	8.95	8.96	8.96
Retired migrants	6.08	6.24	6.40	6.53	6.66	6.77	6.86	6.91	6.94
Special pops migrants	-0.23	-0.03	0.11	0.04	0.00	-0.06	-0.07	-0.11	-0.24
Total population	2409.53	2443.27	2493.16	2537.44	2578.13	2617.13	2655.11	2692.20	2728.34

Variable	2033	2034	2035	2040	2045	2050	2055	2060
Starting population	2728.34	2763.56	2797.31	2943.94	3060.78	3156.70	3241.44	3321.85
Births	30.58	30.84	31.13	32.08	32.22	32.10	32.30	32.72
Deaths	27.01	27.82	28.63	32.40	35.47	37.72	39.30	40.61
Natural growth	3.57	3.02	2.51	-0.32	-3.25	-5.62	-7.00	-7.89
Population before migrants	2731.91	2766.59	2799.82	2943.62	3057.53	3151.08	3234.44	3313.96
Total migrants	31.65	30.72	29.81	25.71	23.77	23.12	23.33	23.36
Economic migrants	15.81	14.82	13.84	9.68	7.61	6.62	6.40	6.04
International migrants	8.97	8.98	8.99	9.01	9.02	9.00	8.96	8.94
Retired migrants	6.97	7.01	7.05	7.11	7.24	7.61	8.05	8.47
Special pops migrants	-0.10	-0.09	-0.08	-0.10	-0.11	-0.11	-0.08	-0.09
Total population	2763.56	2797.31	2829.62	2969.33	3081.30	3174.21	3257.77	3337.31