

MARICOPA COUNTY TRANSPORTATION EXCISE TAX
Forecasting Process & Results
FY 2022-2026



Financial Management Services
September 2021

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**MARICOPA COUNTY TRANSPORTATION EXCISE TAX
OFFICIAL FORECAST UPDATE
RISK ANALYSIS OF EXPECTED VALUES**

Introduction

In 1985, the voters of Maricopa County approved Proposition 300 to establish a ½ cent transportation excise (sales) tax for construction of a regional freeway system within the county. The ½ cent sales tax was approved for a period of 20 years and ended on December 31, 2005.

On November 2, 2004, Maricopa County’s voters approved Proposition 400 which extended the ½ cent sales tax for another 20 years through December 31, 2025. The sales tax extension is used for construction of new freeways, widening of existing freeways and highways, improvements to the arterial street system, regional bus service and other special transportation services, and high capacity transit services such as light rail, bus rapid transit and express buses.

This document contains the official forecast of expected values for the Maricopa County Transportation Excise Tax for the period FY 2022–2026 as developed by the Arizona Department of Transportation (the Department) in cooperation with the Maricopa Association of Governments and Valley Metro.

Background

Since 1986, the Arizona Department of Transportation (the Department) has used a comprehensive regression-based econometric model to estimate Transportation Excise Tax revenues for Maricopa County. These revenues, which flow into the Regional Area Road Fund (RARF), are the major funding source for the Maricopa County Freeway Program.

The revenue forecast is highly dependent on estimates of independent variables. In order to deal with variability between estimated and actual values, the Department introduced the Risk Analysis Process (RAP) in 1992. The RAP relies on probability analysis and the independent evaluation of the model’s variables by an expert panel of economists. The process results in a series of forecasts, with specified probabilities of occurrence, rather than a single or “best guess” estimate.

Enhanced forecasting accuracy was achieved in July 1996, when Hickling Lewis Brod Inc. (HLB) working in conjunction with Dr. Dennis Hoffman of Arizona State University, incorporated economic data and independent variables which were not included in the 1986 model.

In September 2005, the Department had HDR Decision Economics re-examine the structure of the RARF model and re-evaluate the set of explanatory variables used in the production of the RARF revenue forecasts. Three new variables (U. S. Housing Starts, Sky Harbor Passenger Traffic and Maricopa County Total Non-Farm Employment Growth) were added to the existing list of variables used in the RARF regression equations. The September 2010 panel members requested the Maricopa County per capita personal income variable to be in nominal dollars instead of real dollars. In September 2011, the prime interest rate variable was replaced by the 30 year mortgage rate variable and the U.S. housing starts variable was removed from the model. In September 2014, Phoenix-Mesa Gateway Passenger Traffic was combined with Phoenix Sky Harbor Passenger Traffic to form a Phoenix Sky Harbor/Gateway airports passenger traffic variable.

The independent variables contained in the current model are:

1. Maricopa County nominal personal income growth
2. Maricopa County population growth
3. Maricopa County construction employment growth
4. Phoenix consumer price index (CPI)
5. Phoenix Sky Harbor/Gateway airports passenger traffic growth
6. Maricopa County total non-farm employment growth
7. 30 year mortgage rate

Risk Analysis Panel

The Risk Analysis Process (RAP) relies heavily on the judgments of an expert panel of economists to provide information critical to the forecasting process. In August 2021, a panel of ten economic and financial experts representing public, private, and academic sectors submitted their individual estimates of the model’s independent variables and comments on the future economic outlook. The information gathered from the panelists was input into the forecasting model to produce a series of forecasts with associated probabilities of occurrence. The panelists’ inputs are reflected in the attached tables in this report.

Model Results

This year’s panel inputs produced a mean forecast of \$3,198.0 million for the period FY 2022-2026 with a compound growth rate (CGR) of 5.1 percent. The Department’s Official Forecast for FY 2022-2026 totals \$3,160.1 million with a compound growth rate of 4.8 percent. This year’s official forecast is \$37.9 million lower than the mean and \$450.5 million higher than last year’s official forecast.

The Official Forecast result incorporates the 50 percent confidence interval growth rates for each year of the forecast except for FY 2022. The FY 2022 forecast of \$630.9 million was developed by ADOT staff using time series techniques, historical growth rates, projected growth rates and recent legislative changes.

FY 2022 Official Forecast Results (Dollars in Millions)			
Fiscal <u>Year</u>	Mean <u>Forecast</u>	Official <u>Forecast</u>	Confidence <u>Level</u>
2022	633.8	630.9	N/A
2023	670.9	665.2	50%
2024	704.1	695.1	50%
2025	737.3	725.8	50%
2026/1	<u>451.9</u>	<u>443.1</u>	50%
Total	\$3,198.0	\$3,160.1	
Average CGR	5.1%	4.8%	

Note: /1 FY 2026 forecast reflects the expiration of the transportation excise tax extension on December 31, 2025

For comparison purposes, the September 2020 and September 2021 Official Forecasts are shown below:

FY 2022-2026 Comparative Forecast			
(Dollars in Millions)			
Fiscal	Sep. 20	Sep. 21	
Year	Official	Official	
	Forecast	Forecast	Difference
2022	536.7	630.9	94.2
2023	567.7	665.2	97.5
2024	595.3	695.1	99.8
2025	626.1	725.8	99.7
2026/1	<u>383.8</u>	<u>443.1</u>	<u>59.3</u>
Total	\$2,709.6	\$3,160.1	\$450.5
Average CGR	5.2%	4.8%	

Note: /1 FY 2026 forecast reflects the expiration of the transportation excise tax extension on December 31, 2025

Summary

The Department’s September 2021 Official Forecast for FY 2022-2026 totals \$3,160.1 million, which is \$450.5 million higher than the September 2020 Official Forecast. The RAP panel expected Maricopa County’s personal income, population, and employment to experience moderate rates of growth.

Compared to last year, the panel inputs for growth in Maricopa County Personal Income and Phoenix CPI are considerably higher for FY 2022, however, from FY 2023 to FY 2026, forecasts for these categories are approach those from last year’s panel. Annual Maricopa County Population growth is forecast slightly lower from this year’s panel than last year. Growth in Maricopa County Construction Employment is expected to be considerably higher in FY 2022, followed by lower than previously forecasted growth from FY 2023 to FY 2025, and slightly higher growth in FY 2026. Phoenix area Non-Farm Employment is slightly lower for FY 2022 and moderately lower from FY 2023 to FY 2026. The 30 Year Mortgage Rate is expected to be slightly lower than last year’s forecast from FY 2022 to FY 2026. Anticipated growth of passenger traffic at Sky Harbor/Gateway Airports is moderately lower for FY 2022 and considerably lower for FY 2023 than last year’s panel forecast, but moderately higher from FY 2024 through FY 2026.

FY 2021 Maricopa County Transportation Excise Tax revenues were 13.8 percent above FY 2020 revenues and 8.7 percent or \$44.5 million above the forecast. The FY 2021 revenues set a higher revenue base for the forecast for FY 2022 and beyond.

Supplementary Information

The remainder of this report presents supplementary information on the detailed results of the RAP model and Risk Analysis Process.

RARF Official Revenue Forecast
With Category Detail and Confidence Interval by Fiscal Year
(Current Dollars in Millions)

Fiscal Year Percentile	2021 Actual	2022 N/A /1	2023 50%	2024 50%	2025 50%	2026/2 50%
Retail Sales	\$333.8	\$380.8	\$398.7	\$415.1	\$432.4	\$263.7
Contracting	59.0	62.7	64.7	69.9	74.4	46.3
Utilities	33.8	35.6	37.0	38.2	39.4	23.7
Restaurant and Bar	52.8	65.5	70.2	73.1	77.0	47.1
Rental of Real Property	47.9	52.0	57.3	59.8	62.6	38.3
Rental of Personal Property	18.2	19.5	22.5	24.2	25.2	15.4
Other	13.5	14.8	14.8	14.8	14.8	8.6
Total	\$559.0	\$630.9	\$665.2	\$695.1	\$725.8	\$443.1

Notes:

/1 FY 2022 forecast was developed by ADOT staff independently and varies slightly from the Risk Analysis results.

/2 FY 2026 forecast reflects the expiration of the transportation excise tax extension on December 31, 2025

RARF TOTAL TAX REVENUE RISK ANALYSIS RESULTS
(Current Dollars in Millions)

Fiscal Year	Mean	10%	20%	30%	40%	50%	60%	70%	80%	90%
2022 /1	633.8	696.3	673.9	658.0	643.8	630.9	618.6	606.4	592.9	575.1
2023	670.9	772.4	735.0	708.5	685.6	665.2	645.7	626.0	604.8	577.2
2024	704.1	837.5	787.3	752.0	722.0	695.1	669.6	644.5	617.2	581.7
2025	737.3	901.2	838.2	793.9	757.9	725.8	694.7	664.3	631.4	589.9
2026 /2	451.9	563.4	519.8	490.0	465.0	443.1	422.3	401.9	379.8	352.0
Total	\$3,198.0	\$3,770.8	\$3,554.2	\$3,402.4	\$3,274.3	\$3,160.1	\$3,050.9	\$2,943.1	\$2,826.1	\$2,675.9

Notes:

/1 FY 2022 forecast was developed by ADOT staff independently and varies slightly from the Risk Analysis results.

/2 FY 2026 forecast reflects the expiration of the transportation excise tax extension on December 31, 2025

RARF OFFICIAL REVENUE FORECAST DISTRIBUTION
(Current Dollars in Millions)

Fiscal Year	Regional Area Road Fund (RARF)		Public Transportation Fund	Total
	Freeways /1 (56.2%)	Arterial Streets (10.5 %)	(33.3%)	
2022	354.6	66.2	210.1	630.9
2023	373.9	69.8	221.5	665.2
2024	390.6	73.0	231.5	695.1
2025	407.9	76.2	241.7	725.8
2026 /2	249.0	46.5	147.6	443.1
TOTALS	\$1,776.0	\$331.7	\$1,052.4	\$3,160.1

Note: 1/ Per Arizona Revised Statutes 28-6305 B and C, a portion of the transportation excise tax funds for Freeways is transferred and divided equally between Maricopa Association of Governments and the Public Transportation Fund for planning and administering the regional transportation plan. This transfer is adjusted annually by the GDP price deflator. This table does not provide an estimate for the annual transfer.

2/ FY 2026 forecast reflects the expiration of the transportation excise tax extension on December 31, 2025.

Distribution

Per Arizona Revised Statutes 42-6105,D, the transportation excise tax will be distributed as follows:

1. 56.2 percent to the Regional Area Road (RARF) fund for freeways and other routes in the state highway systems, including capital expenses.
2. 10.5 percent to the RARF fund for major arterial streets and intersection improvements, including capital expenses and implementation studies.
3. 33.3 percent to the Public Transportation Fund for:
 - (a) Capital costs, maintenance and operation of public transportation classifications.
 - (b) Capital costs and utility relocation costs associated with a light rail public transit system.

PANELIST DATA VALUES

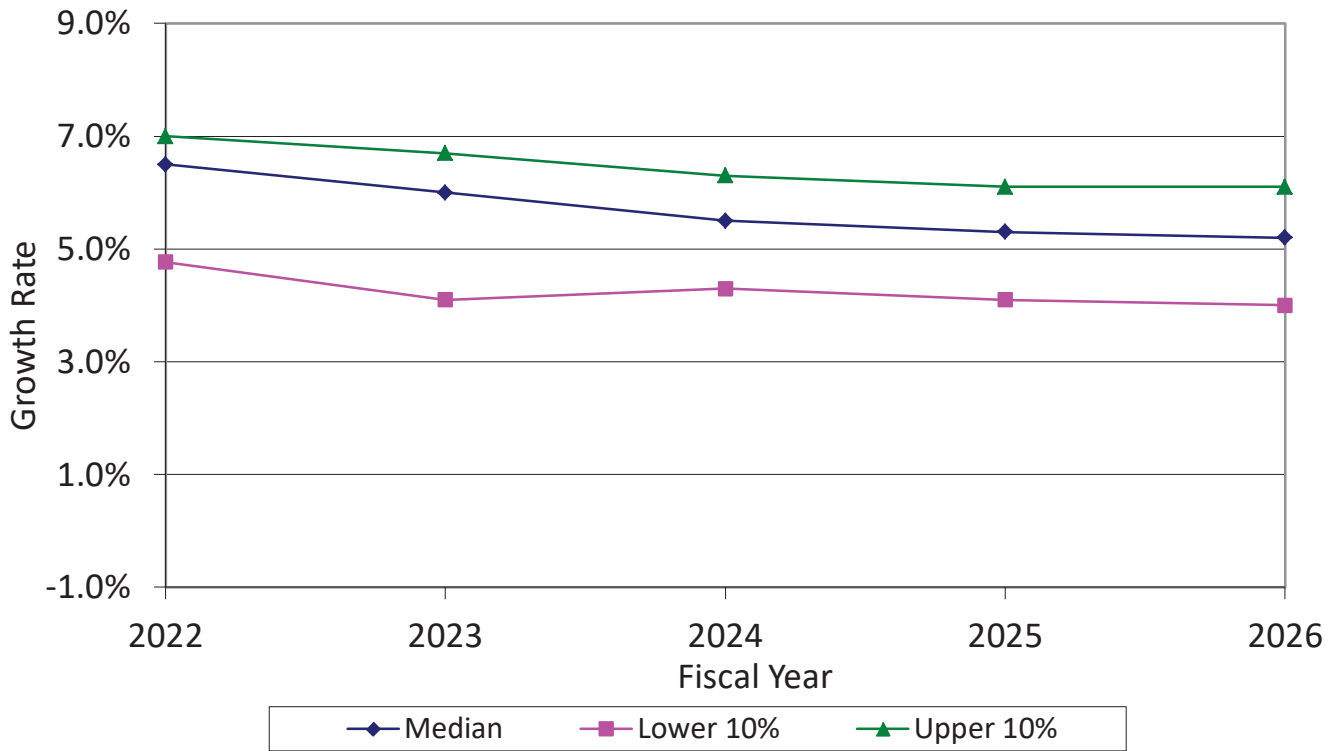
	Nominal Pers. Inc. Growth /1	Population Growth /1	Construction Employment Growth /1	30 Year Mortgage Rate	Phoenix CPI Growth/1	Sky Harbor/Gateway Passenger Traffic Growth	Total Non-Farm Employment Growth /1
FY 2022							
Median	6.50%	1.70%	4.00%	3.10%	4.03%	50.00%	3.40%
Lower 10%	4.77%	1.40%	2.05%	2.70%	3.46%	35.00%	3.00%
Upper 10%	7.00%	1.80%	5.50%	3.57%	4.86%	60.00%	3.85%
FY 2023							
Median	6.00%	1.60%	3.60%	3.50%	3.00%	10.71%	3.05%
Lower 10%	4.10%	1.40%	1.88%	3.20%	2.00%	4.63%	2.14%
Upper 10%	6.70%	1.80%	5.05%	3.95%	4.00%	16.80%	4.30%
FY 2024							
Median	5.50%	1.47%	3.54%	3.80%	2.30%	15.00%	2.72%
Lower 10%	4.30%	1.30%	0.00%	3.51%	1.50%	5.00%	1.47%
Upper 10%	6.30%	1.64%	7.00%	4.22%	3.20%	22.00%	3.97%
FY 2025							
Median	5.30%	1.44%	3.35%	4.10%	2.10%	5.00%	2.50%
Lower 10%	4.10%	1.20%	-0.28%	3.70%	1.40%	2.00%	1.39%
Upper 10%	6.10%	1.69%	6.99%	4.45%	2.84%	17.78%	3.89%
FY 2026							
Median	5.20%	1.40%	3.45%	4.30%	2.02%	5.00%	2.50%
Lower 10%	4.00%	1.10%	-0.19%	3.60%	1.10%	0.53%	1.06%
Upper 10%	6.10%	1.63%	7.00%	4.86%	2.95%	12.71%	3.90%

All data in the above table are percentage growth rates except 30 year mortgage rate.

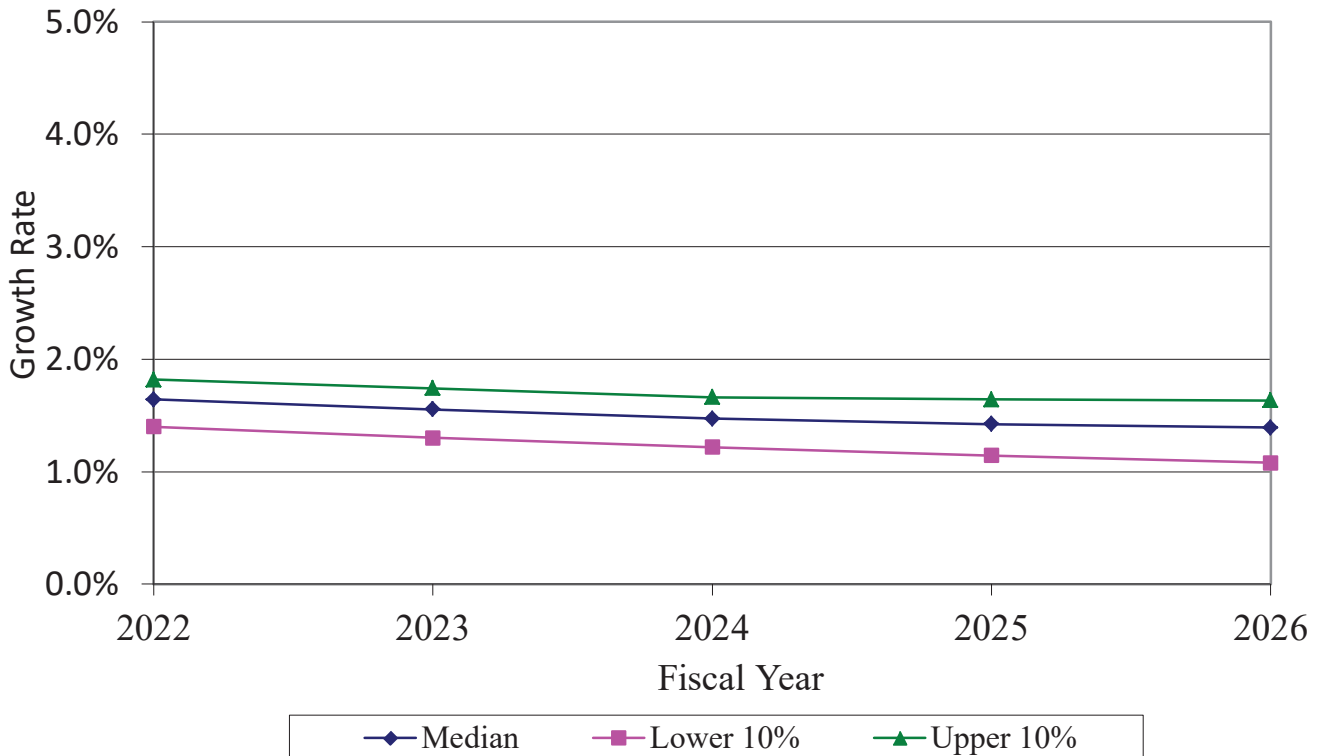
Personal income and 30 year mortgage rate are nominal rates.

/1 Data for Maricopa County/Phoenix Area.

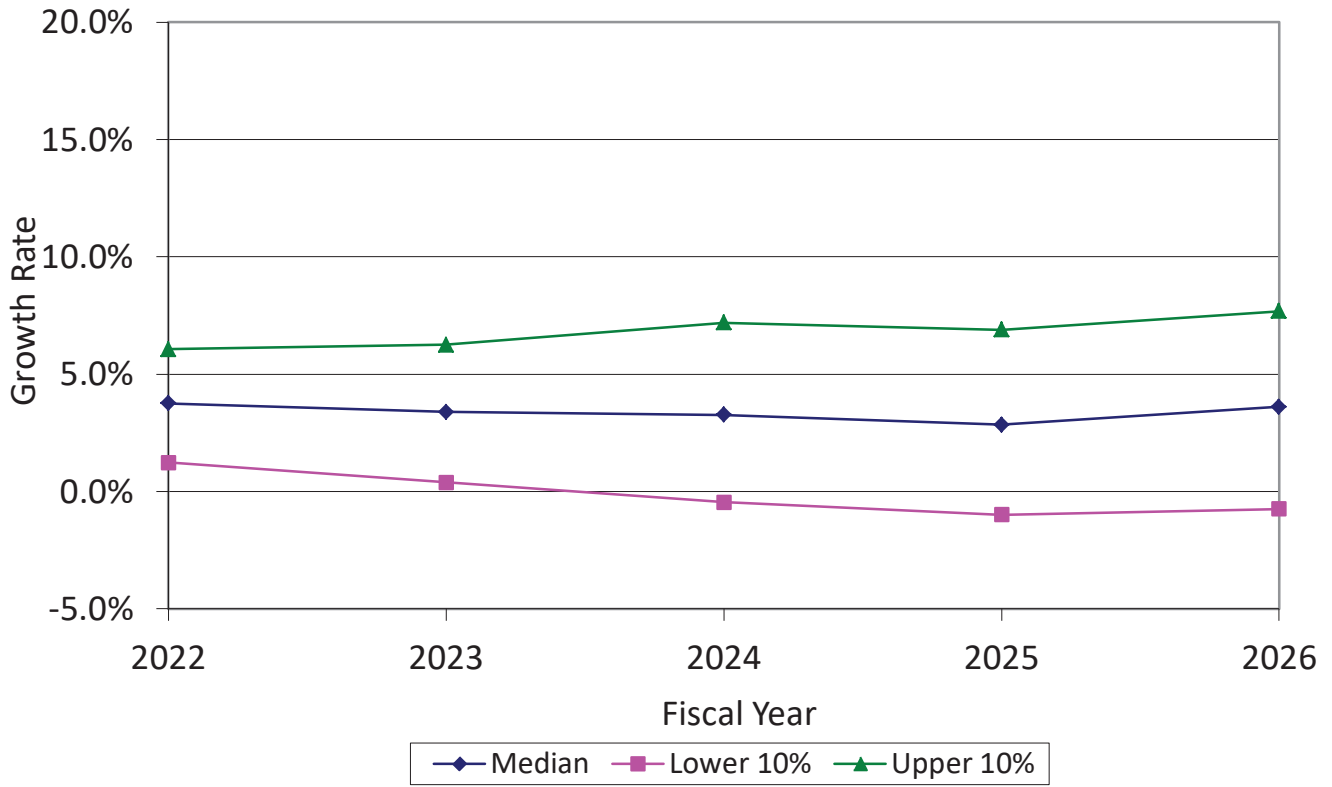
Maricopa County Nominal Personal Income Growth



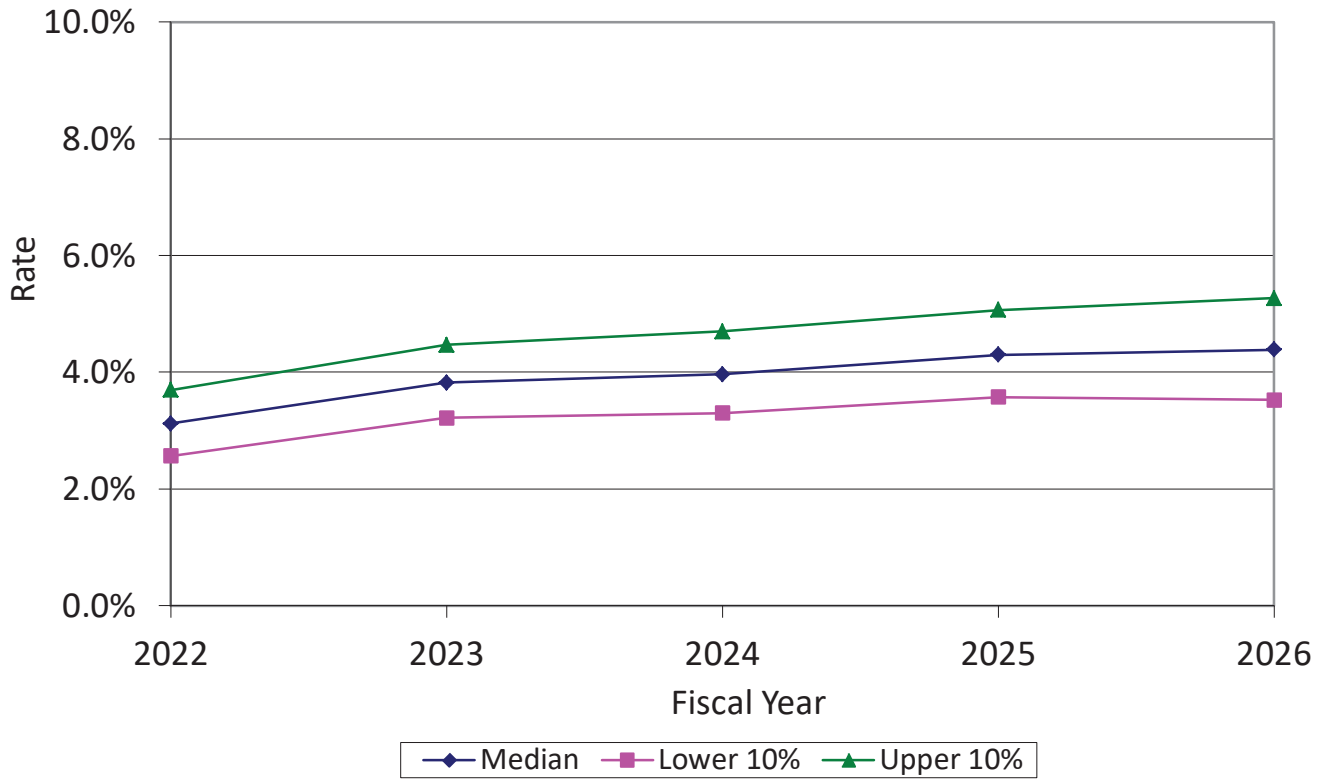
Maricopa County Population Growth



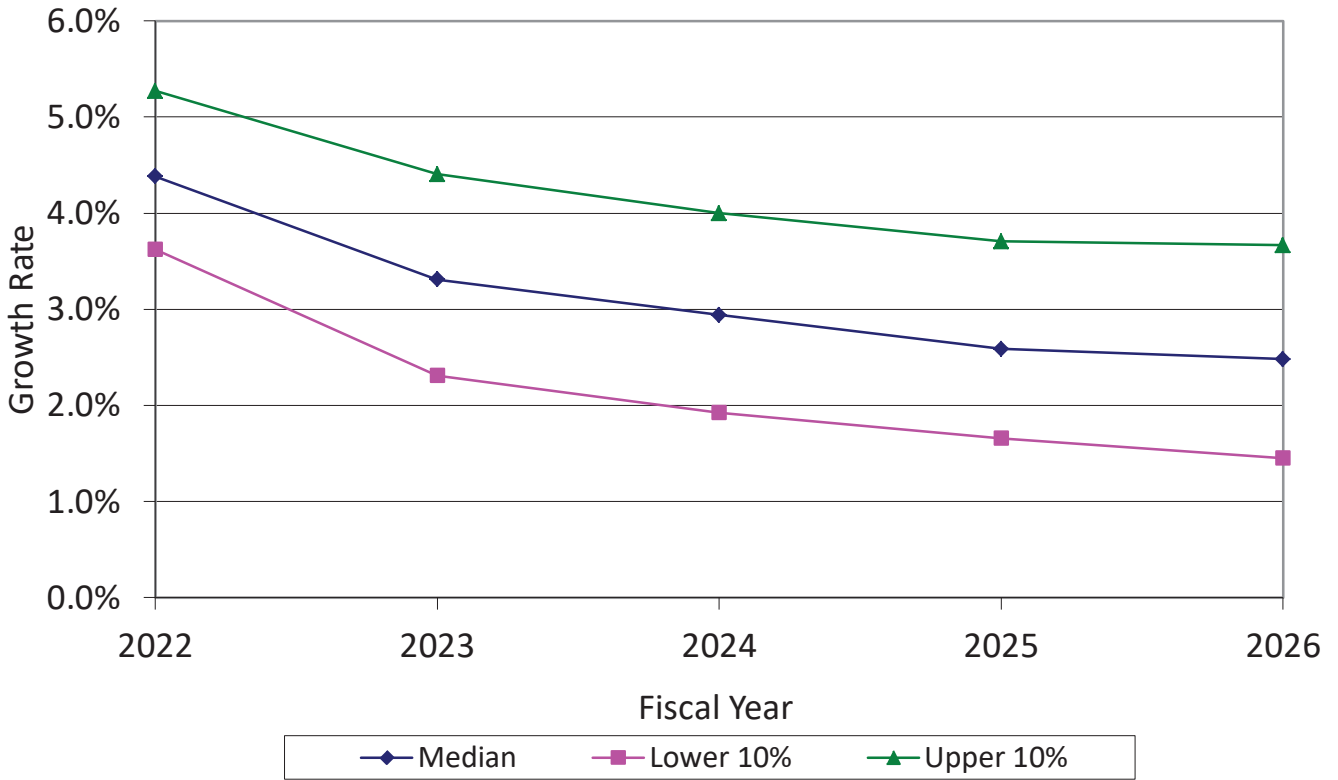
Maricopa County Construction Employment Growth



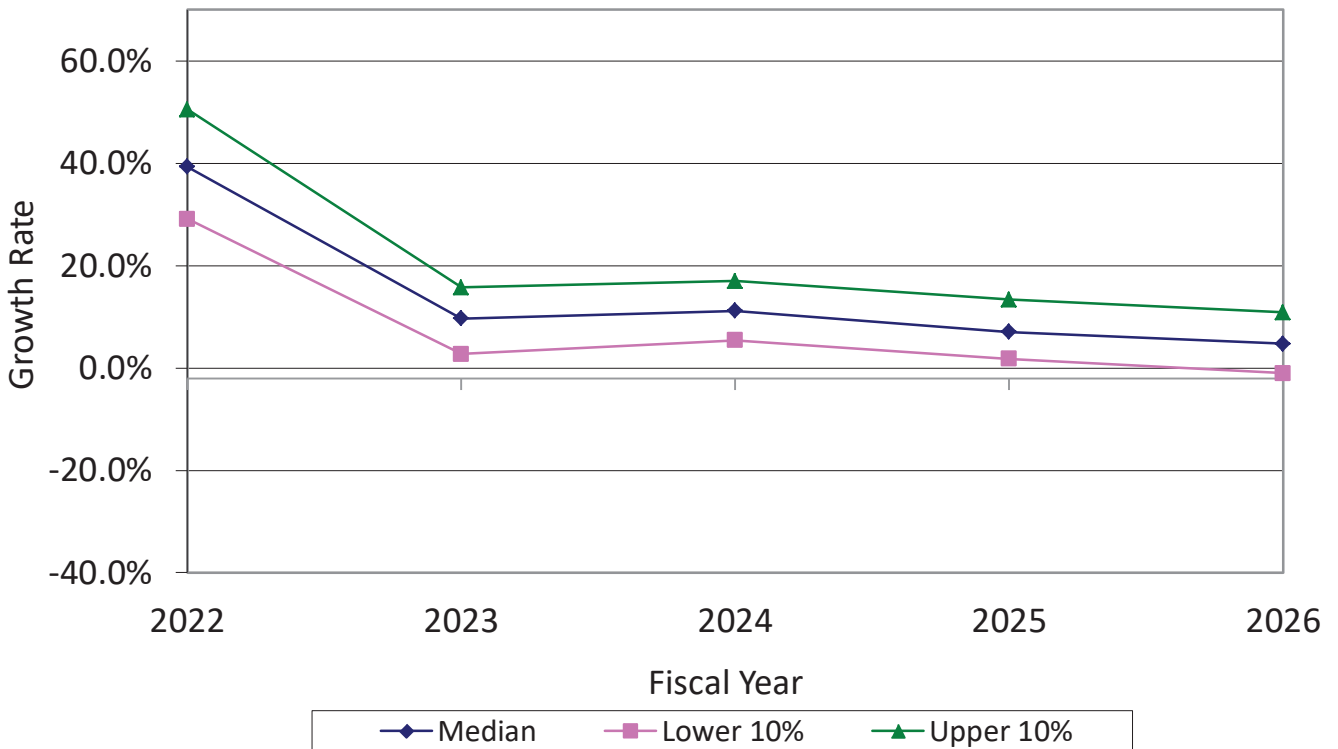
30 Year Mortgage Rate



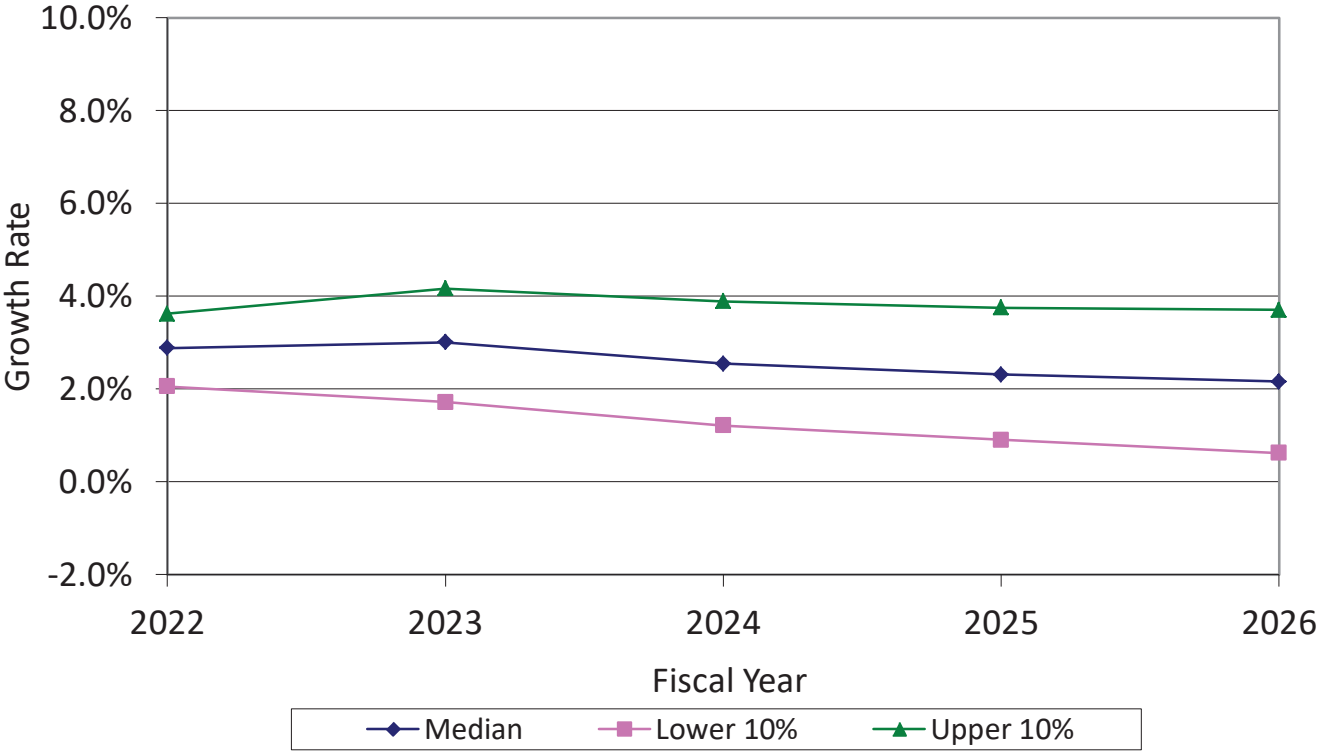
Phoenix CPI Growth



Phoenix Sky Harbor/Gateway Airports Passenger Traffic Growth



Maricopa County Total Non-Farm Employment Growth



Projected Maricopa County Nominal Personal Income Growth Rates

	2022	2023	2024	2025	2026
Panelist 1					
Median	6.8%	6.6%	6.0%	5.6%	5.2%
Lower 10%	5.5%	5.0%	4.7%	4.5%	4.0%
Upper 10%	7.0%	7.0%	6.5%	6.0%	5.6%
Panelist 2					
Median	6.0%	5.0%	5.0%	5.0%	5.0%
Lower 10%	5.0%	4.0%	4.0%	4.0%	4.0%
Upper 10%	7.0%	6.0%	6.0%	6.0%	6.0%
Panelist 3					
Median	5.5%	5.2%	4.9%	4.8%	4.8%
Lower 10%	4.6%	3.7%	3.8%	3.5%	3.6%
Upper 10%	6.2%	6.1%	6.1%	6.0%	6.0%
Panelist 4					
Median	8.6%	8.7%	10.8%	7.4%	7.2%
Lower 10%	7.6%	7.7%	9.8%	6.4%	6.2%
Upper 10%	10.6%	10.7%	12.8%	9.4%	9.2%
Panelist 5					
Median	7.2%	6.3%	6.0%	6.2%	6.4%
Lower 10%	4.8%	1.7%	0.1%	-0.3%	-0.2%
Upper 10%	9.6%	11.0%	11.9%	12.6%	13.1%
Panelist 6					
Median	6.5%	6.0%	5.5%	5.3%	5.3%
Lower 10%	5.9%	5.3%	4.6%	4.3%	4.3%
Upper 10%	7.1%	6.7%	6.4%	6.3%	6.3%
Panelist 7					
Median	3.0%	5.0%	5.5%	5.8%	6.0%
Lower 10%	2.2%	4.1%	4.8%	4.9%	5.1%
Upper 10%	3.8%	5.9%	6.3%	6.4%	6.9%
Panelist 8					
Median	5.5%	5.2%	5.0%	5.0%	5.0%
Lower 10%	4.6%	4.4%	4.3%	4.1%	3.9%
Upper 10%	6.0%	6.0%	6.0%	6.1%	6.1%
Panelist 9					
Median	8.0%	7.0%	5.0%	5.0%	4.8%
Lower 10%	4.0%	4.0%	3.8%	3.5%	3.6%
Upper 10%	10.0%	10.0%	6.1%	6.0%	6.0%
Panelist 10					
Median	5.9%	5.4%	5.4%	5.9%	6.1%
Lower 10%	5.3%	4.2%	4.2%	4.7%	4.9%
Upper 10%	6.5%	6.6%	6.6%	7.1%	7.3%

Projected Maricopa County Population Growth Rates

	2022	2023	2024	2025	2026
Panelist 1					
Median	1.8%	1.8%	1.6%	1.5%	1.5%
Lower 10%	1.4%	1.4%	1.3%	1.1%	1.0%
Upper 10%	2.0%	2.0%	1.8%	1.7%	1.7%
Panelist 2					
Median	1.6%	1.6%	1.6%	1.5%	1.4%
Lower 10%	1.4%	1.4%	1.4%	1.3%	1.2%
Upper 10%	1.8%	1.8%	1.8%	1.7%	1.6%
Panelist 3					
Median	1.4%	1.6%	1.5%	1.4%	1.4%
Lower 10%	1.3%	1.4%	1.3%	1.2%	1.1%
Upper 10%	1.6%	1.8%	1.6%	1.7%	1.6%
Panelist 4					
Median	1.8%	1.3%	1.2%	1.2%	1.2%
Lower 10%	1.4%	0.9%	0.8%	0.8%	0.8%
Upper 10%	2.0%	1.5%	1.4%	1.4%	1.4%
Panelist 5					
Median	1.5%	1.5%	1.5%	1.4%	1.4%
Lower 10%	1.2%	1.2%	1.1%	1.1%	1.1%
Upper 10%	1.8%	1.8%	1.8%	1.7%	1.7%
Panelist 6					
Median	1.7%	1.6%	1.5%	1.5%	1.5%
Lower 10%	1.5%	1.4%	1.3%	1.3%	1.2%
Upper 10%	1.9%	1.8%	1.7%	1.7%	1.8%
Panelist 7					
Median	1.7%	1.5%	1.4%	1.4%	1.4%
Lower 10%	1.6%	1.4%	1.2%	1.1%	1.1%
Upper 10%	1.8%	1.6%	1.6%	1.6%	1.6%
Panelist 8					
Median	1.5%	1.5%	1.5%	1.4%	1.4%
Lower 10%	1.3%	1.3%	1.2%	1.2%	1.1%
Upper 10%	1.6%	1.6%	1.6%	1.6%	1.7%
Panelist 9					
Median	1.7%	1.6%	1.5%	1.4%	1.4%
Lower 10%	1.4%	1.3%	1.3%	1.2%	1.1%
Upper 10%	1.8%	1.8%	1.6%	1.7%	1.6%
Panelist 10					
Median	1.5%	1.5%	1.5%	1.4%	1.4%
Lower 10%	1.4%	1.3%	1.3%	1.2%	1.2%
Upper 10%	1.6%	1.7%	1.7%	1.6%	1.6%

Projected Maricopa County Construction Employment Growth Rates

	2022	2023	2024	2025	2026
Panelist 1					
Median	6.0%	5.0%	3.5%	3.4%	3.4%
Lower 10%	4.0%	2.0%	1.0%	1.0%	-0.2%
Upper 10%	7.5%	7.0%	6.0%	6.0%	5.0%
Panelist 2					
Median	4.0%	3.5%	3.5%	3.0%	3.0%
Lower 10%	3.5%	3.0%	3.0%	2.5%	2.5%
Upper 10%	4.5%	4.0%	4.0%	3.5%	3.5%
Panelist 3					
Median	3.8%	3.6%	3.5%	3.4%	3.4%
Lower 10%	2.1%	1.9%	-0.1%	-0.3%	-0.2%
Upper 10%	5.5%	5.2%	7.2%	7.0%	7.1%
Panelist 4					
Median	2.0%	1.0%	-1.0%	-4.0%	3.0%
Lower 10%	0.0%	-1.0%	-3.0%	-6.0%	1.0%
Upper 10%	6.0%	5.0%	3.0%	0.0%	7.0%
Panelist 5					
Median	1.4%	3.3%	5.8%	7.1%	6.7%
Lower 10%	-7.3%	-9.8%	-7.9%	-6.8%	-8.6%
Upper 10%	10.2%	16.3%	19.4%	21.1%	22.0%
Panelist 6					
Median	3.6%	4.0%	5.0%	5.0%	5.0%
Lower 10%	2.1%	2.5%	2.0%	2.0%	2.0%
Upper 10%	5.2%	5.5%	8.0%	8.0%	8.0%
Panelist 7					
Median	4.0%	2.5%	2.0%	1.0%	1.0%
Lower 10%	2.8%	1.5%	1.0%	0.0%	-1.0%
Upper 10%	4.5%	3.2%	3.0%	2.5%	2.5%
Panelist 8					
Median	4.0%	3.6%	3.5%	3.4%	3.4%
Lower 10%	2.0%	1.5%	0.0%	-1.0%	-2.0%
Upper 10%	5.2%	5.0%	7.0%	7.0%	7.0%
Panelist 9					
Median	5.0%	4.0%	3.5%	3.4%	3.4%
Lower 10%	2.1%	1.9%	-0.1%	-0.3%	-0.2%
Upper 10%	6.0%	5.0%	7.2%	7.0%	7.1%
Panelist 10					
Median	2.5%	2.0%	1.9%	1.9%	1.6%
Lower 10%	0.9%	0.4%	-1.7%	-1.7%	-2.0%
Upper 10%	4.1%	3.6%	5.5%	5.5%	5.2%

Projected 30 Year Mortgage Rates

	2022	2023	2024	2025	2026
Panelist 1					
Median	3.2%	3.6%	3.9%	4.1%	4.3%
Lower 10%	2.9%	3.3%	3.5%	3.7%	3.8%
Upper 10%	3.6%	4.0%	4.2%	4.5%	4.9%
Panelist 2					
Median	3.0%	3.0%	3.0%	4.0%	4.0%
Lower 10%	2.0%	2.0%	2.0%	3.0%	3.0%
Upper 10%	4.0%	4.0%	4.0%	5.0%	5.0%
Panelist 3					
Median	3.2%	3.6%	3.9%	4.1%	4.3%
Lower 10%	2.9%	3.3%	3.5%	3.7%	3.8%
Upper 10%	3.6%	4.0%	4.2%	4.5%	4.9%
Panelist 4					
Median	3.2%	7.6%	7.5%	8.1%	8.0%
Lower 10%	2.6%	7.0%	6.9%	7.5%	7.4%
Upper 10%	3.8%	8.2%	8.1%	8.7%	8.6%
Panelist 5					
Median	2.9%	2.9%	2.9%	2.9%	2.9%
Lower 10%	1.6%	1.0%	0.6%	0.3%	0.0%
Upper 10%	4.2%	4.8%	5.2%	5.5%	5.8%
Panelist 6					
Median	3.3%	3.6%	3.8%	4.0%	4.0%
Lower 10%	3.0%	3.3%	3.4%	3.6%	3.5%
Upper 10%	3.6%	3.9%	4.2%	4.4%	4.5%
Panelist 7					
Median	3.0%	3.5%	4.0%	4.2%	4.3%
Lower 10%	2.7%	3.2%	3.6%	3.7%	3.6%
Upper 10%	3.4%	3.9%	4.4%	4.6%	4.8%
Panelist 8					
Median	3.1%	3.1%	3.2%	3.2%	3.3%
Lower 10%	2.6%	2.7%	2.7%	2.9%	2.9%
Upper 10%	3.5%	3.6%	3.8%	4.0%	4.1%
Panelist 9					
Median	3.1%	3.5%	3.6%	4.1%	4.3%
Lower 10%	2.8%	3.2%	3.5%	3.7%	3.8%
Upper 10%	3.6%	4.0%	4.2%	4.5%	4.9%
Panelist 10					
Median	3.2%	3.6%	3.9%	4.1%	4.3%
Lower 10%	2.9%	3.3%	3.5%	3.7%	3.8%
Upper 10%	3.5%	3.9%	4.3%	4.5%	4.8%

Projected Phoenix CPI Growth Rates

	2022	2023	2024	2025	2026
Panelist 1					
Median	4.0%	2.2%	2.1%	2.1%	2.0%
Lower 10%	3.5%	1.7%	1.5%	1.3%	1.1%
Upper 10%	4.6%	2.8%	2.8%	2.8%	2.9%
Panelist 2					
Median	4.0%	3.0%	3.0%	2.0%	2.0%
Lower 10%	3.8%	2.8%	2.8%	1.8%	1.8%
Upper 10%	5.0%	4.0%	4.0%	3.0%	3.0%
Panelist 3					
Median	4.0%	3.5%	3.4%	2.1%	2.0%
Lower 10%	3.5%	2.0%	1.5%	1.3%	1.1%
Upper 10%	4.6%	4.0%	4.0%	2.8%	2.9%
Panelist 4					
Median	8.0%	7.1%	6.0%	5.6%	5.0%
Lower 10%	7.3%	6.4%	5.3%	4.9%	4.3%
Upper 10%	9.4%	8.5%	7.4%	7.0%	6.4%
Panelist 5					
Median	2.6%	3.3%	3.3%	3.3%	3.3%
Lower 10%	0.3%	0.3%	0.3%	0.3%	0.3%
Upper 10%	4.9%	6.3%	6.3%	6.3%	6.3%
Panelist 6					
Median	4.0%	2.8%	2.2%	2.1%	2.0%
Lower 10%	3.5%	2.3%	1.6%	1.4%	1.2%
Upper 10%	4.6%	3.3%	2.8%	2.8%	2.8%
Panelist 7					
Median	3.8%	2.4%	2.1%	2.1%	2.0%
Lower 10%	3.3%	2.0%	1.5%	1.4%	1.1%
Upper 10%	4.4%	2.8%	2.8%	2.8%	2.8%
Panelist 8					
Median	4.5%	2.5%	2.3%	2.1%	2.0%
Lower 10%	4.0%	1.7%	1.5%	1.4%	1.1%
Upper 10%	5.0%	4.0%	3.2%	3.0%	2.9%
Panelist 9					
Median	4.5%	3.0%	2.1%	2.1%	2.0%
Lower 10%	3.5%	1.7%	1.5%	1.3%	1.1%
Upper 10%	5.0%	4.0%	2.8%	2.8%	2.9%
Panelist 10					
Median	2.3%	1.8%	1.9%	2.1%	2.4%
Lower 10%	1.7%	1.2%	1.2%	1.3%	1.5%
Upper 10%	2.9%	2.4%	2.6%	2.9%	3.3%

Projected Sky Harbor/Gateway Airports Passenger Traffic Growth Rates

	2022	2023	2024	2025	2026
Panelist 1					
Median	54.0%	10.7%	17.8%	11.7%	6.6%
Lower 10%	44.5%	4.6%	11.7%	5.6%	0.5%
Upper 10%	63.6%	16.8%	23.9%	17.8%	12.7%
Panelist 2					
Median	60.0%	8.0%	5.0%	5.0%	5.0%
Lower 10%	50.0%	3.0%	2.0%	2.0%	2.0%
Upper 10%	70.0%	10.0%	7.0%	7.0%	7.0%
Panelist 3					
Median	54.0%	10.7%	17.8%	11.7%	6.6%
Lower 10%	38.0%	4.6%	11.7%	5.6%	0.5%
Upper 10%	70.0%	16.8%	23.9%	17.8%	12.7%
Panelist 4					
Median	-2.0%	2.5%	3.0%	3.0%	3.0%
Lower 10%	-7.0%	-2.5%	0.5%	0.5%	0.5%
Upper 10%	3.0%	7.5%	8.0%	8.0%	8.0%
Panelist 5					
Median	2.9%	1.6%	1.3%	1.2%	1.1%
Lower 10%	-3.5%	-6.6%	-7.6%	-7.8%	-8.0%
Upper 10%	9.3%	9.9%	10.2%	10.2%	10.2%
Panelist 6					
Median	45.0%	10.7%	17.8%	11.7%	6.6%
Lower 10%	35.0%	4.6%	11.7%	5.6%	0.5%
Upper 10%	55.0%	16.8%	23.9%	17.8%	12.7%
Panelist 7					
Median	50.0%	13.0%	5.0%	2.2%	2.2%
Lower 10%	40.0%	7.0%	2.0%	-1.0%	-3.0%
Upper 10%	60.0%	19.0%	10.0%	6.0%	7.0%
Panelist 8					
Median	50.0%	10.0%	15.0%	5.0%	5.0%
Lower 10%	35.0%	5.0%	5.0%	0.0%	-3.0%
Upper 10%	60.0%	20.0%	22.0%	18.0%	15.0%
Panelist 9					
Median	40.0%	20.0%	17.8%	11.7%	6.6%
Lower 10%	30.0%	4.6%	11.7%	5.6%	0.5%
Upper 10%	63.6%	25.0%	23.9%	17.8%	12.7%
Panelist 10					
Median	20.8%	15.3%	8.6%	4.8%	2.5%
Lower 10%	11.2%	9.2%	2.5%	-1.3%	-3.6%
Upper 10%	30.4%	21.4%	14.7%	10.9%	8.6%

Projected Maricopa County Total Non-Farm Employment Growth Rates

	2022	2023	2024	2025	2026
Panelist 1					
Median	3.8%	3.5%	2.7%	2.6%	2.5%
Lower 10%	3.1%	2.1%	1.5%	1.4%	1.1%
Upper 10%	4.1%	4.0%	4.0%	4.0%	3.8%
Panelist 2					
Median	3.0%	3.0%	2.5%	2.5%	2.5%
Lower 10%	2.5%	2.5%	2.0%	2.0%	2.0%
Upper 10%	3.5%	3.5%	3.0%	3.0%	3.0%
Panelist 3					
Median	3.5%	3.4%	2.7%	2.6%	2.5%
Lower 10%	3.1%	2.1%	1.5%	1.4%	1.1%
Upper 10%	3.9%	4.6%	4.0%	3.9%	3.9%
Panelist 4					
Median	2.5%	3.0%	1.5%	1.0%	1.0%
Lower 10%	1.1%	1.6%	0.1%	-0.4%	-0.4%
Upper 10%	3.9%	4.4%	2.9%	2.4%	2.4%
Panelist 5					
Median	-0.7%	1.3%	2.3%	2.2%	1.4%
Lower 10%	-3.1%	-1.9%	-0.8%	-1.1%	-2.1%
Upper 10%	1.6%	4.4%	5.5%	5.4%	4.8%
Panelist 6					
Median	3.1%	3.0%	2.9%	2.5%	2.5%
Lower 10%	2.6%	2.0%	1.4%	0.8%	0.5%
Upper 10%	3.6%	4.0%	4.4%	4.2%	4.5%
Panelist 7					
Median	3.4%	3.0%	2.5%	2.0%	2.1%
Lower 10%	3.0%	2.4%	1.8%	1.1%	1.0%
Upper 10%	3.8%	3.6%	3.2%	3.0%	3.1%
Panelist 8					
Median	3.6%	3.3%	3.0%	2.7%	2.5%
Lower 10%	3.2%	2.4%	2.0%	1.6%	1.4%
Upper 10%	4.0%	4.3%	4.1%	4.0%	3.9%
Panelist 9					
Median	3.8%	3.6%	2.7%	2.6%	2.5%
Lower 10%	3.1%	2.1%	1.5%	1.4%	1.1%
Upper 10%	4.2%	4.6%	4.0%	3.9%	3.9%
Panelist 10					
Median	3.4%	2.9%	2.8%	2.6%	2.5%
Lower 10%	3.0%	1.7%	1.6%	1.4%	1.1%
Upper 10%	3.8%	4.1%	4.0%	3.8%	3.9%

**HISTORICAL DATA
MARICOPA COUNTY NOMINAL PERSONAL INCOME GROWTH
(Annual Percent Change)**

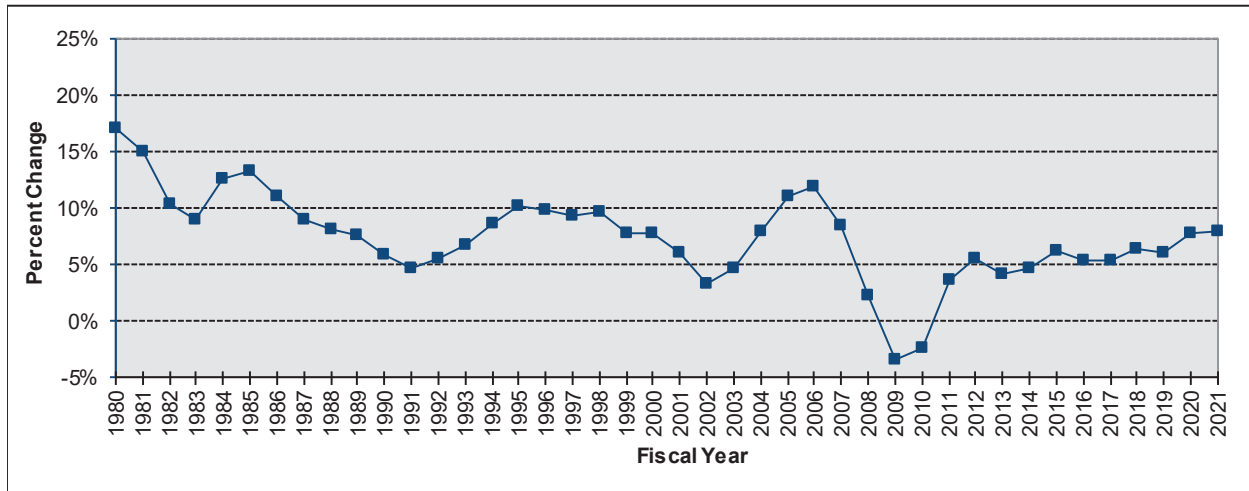
HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980	17.2%	1990	5.9%	2000	7.9%	2010	-2.3%	2020*	7.7%
1981	15.1%	1991	4.6%	2001	6.1%	2011	3.6%	2021*	7.9%
1982	10.4%	1992	5.6%	2002	3.3%	2012	5.6%	2022	
1983	9.0%	1993	6.9%	2003	4.7%	2013	4.2%	2023	
1984	12.6%	1994	8.7%	2004	8.0%	2014	4.6%	2024	
1985	13.3%	1995	10.3%	2005	11.1%	2015	6.3%	2025	
1986	11.1%	1996	9.9%	2006	12.0%	2016	5.4%	2026	
1987	9.0%	1997	9.4%	2007	8.5%	2017	5.3%	2027	
1988	8.2%	1998	9.7%	2008	2.2%	2018	6.4%	2028	
1989	7.7%	1999	7.9%	2009	-3.4%	2019	6.2%	2029	

FY 1980-2019 data from BEA. FY 2020 projection from UofA Eller Economic Outlook.

FY 2021 Greater Phoenix Blue Chip projection. *FY 2020-2021 are projections.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	5.3%	7.9%	6.7%	1.1%	5.7%	7.8%
10 Years	4.2%	7.9%	6.0%	1.2%	4.6%	7.7%
Full Period	-3.4%	17.2%	7.5%	3.9%	3.7%	11.9%

**HISTORICAL DATA
MARICOPA COUNTY POPULATION GROWTH
(Annual Percent Change)**

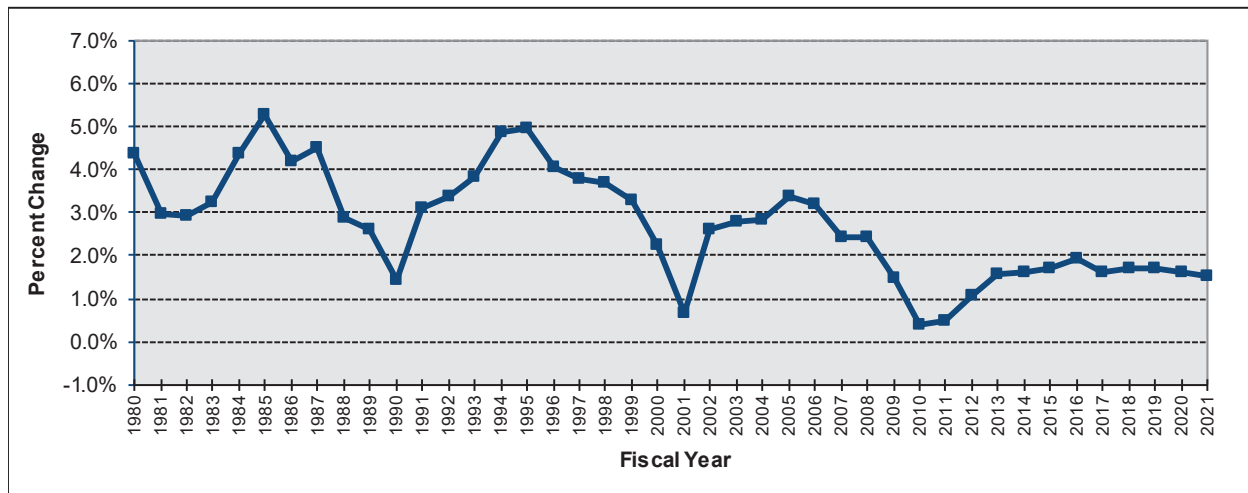
HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980	4.4%	1990	1.4%	2000	2.2%	2010	0.4%	2020	1.6%
1981	3.0%	1991	3.1%	2001	0.7%	2011	0.5%	2021*	1.5%
1982	2.9%	1992	3.4%	2002	2.6%	2012	1.1%	2022	
1983	3.2%	1993	3.8%	2003	2.8%	2013	1.5%	2023	
1984	4.4%	1994	4.9%	2004	2.8%	2014	1.6%	2024	
1985	5.3%	1995	5.0%	2005	3.4%	2015	1.7%	2025	
1986	4.2%	1996	4.0%	2006	3.2%	2016	1.9%	2026	
1987	4.5%	1997	3.8%	2007	2.4%	2017	1.6%	2027	
1988	2.9%	1998	3.7%	2008	2.4%	2018	1.7%	2028	
1989	2.6%	1999	3.3%	2009	1.5%	2019	1.7%	2029	

FY 1999 and prior: from U.S. Census Bureau. FY 2000-2020 AZ Office of Economic Opportunity (OEO) estimates.

*FY 2021 from AZ OEO projections Medium Series.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	1.5%	1.7%	1.6%	0.1%	1.5%	1.7%
10 Years	1.1%	1.9%	1.6%	0.2%	1.5%	1.7%
Full Period	0.4%	5.3%	2.7%	1.3%	1.5%	4.4%

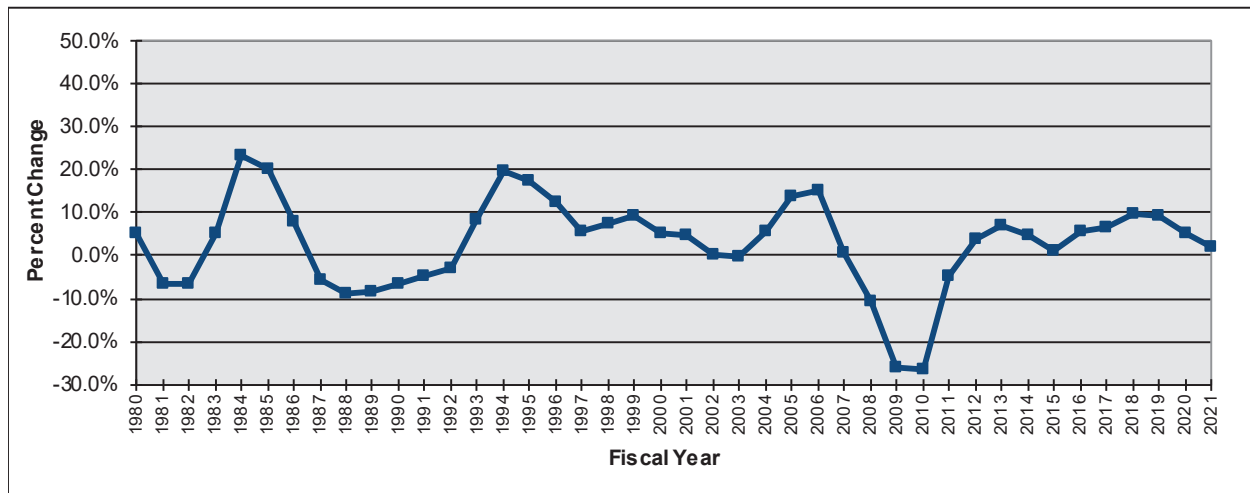
**HISTORICAL DATA
MARICOPA COUNTY CONSTRUCTION EMPLOYMENT GROWTH
(Annual Percent Change)**

HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980	5.2%	1990	-6.7%	2000	5.2%	2010	-26.7%	2020	5.3%
1981	-6.7%	1991	-4.7%	2001	4.6%	2011	-4.7%	2021	2.0%
1982	-6.5%	1992	-3.1%	2002	0.3%	2012	4.0%	2022	
1983	5.4%	1993	8.4%	2003	0.0%	2013	7.1%	2023	
1984	23.4%	1994	19.6%	2004	5.7%	2014	4.7%	2024	
1985	20.3%	1995	17.3%	2005	13.6%	2015	1.0%	2025	
1986	7.9%	1996	12.6%	2006	15.1%	2016	5.8%	2026	
1987	-5.8%	1997	5.5%	2007	0.5%	2017	6.8%	2027	
1988	-9.0%	1998	7.5%	2008	-10.5%	2018	9.7%	2028	
1989	-8.4%	1999	9.4%	2009	-26.0%	2019	9.1%	2029	

FY 1989 and prior BLS SIC not seasonally adjusted, FY 1990-2021 BLS NAICS not seasonally adjusted.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	2.0%	9.7%	6.6%	3.1%	3.3%	9.4%
10 Years	1.0%	9.7%	5.5%	2.8%	1.9%	9.1%
Full Period	-26.7%	38.9%	4.4%	13.1%	-9.1%	20.4%

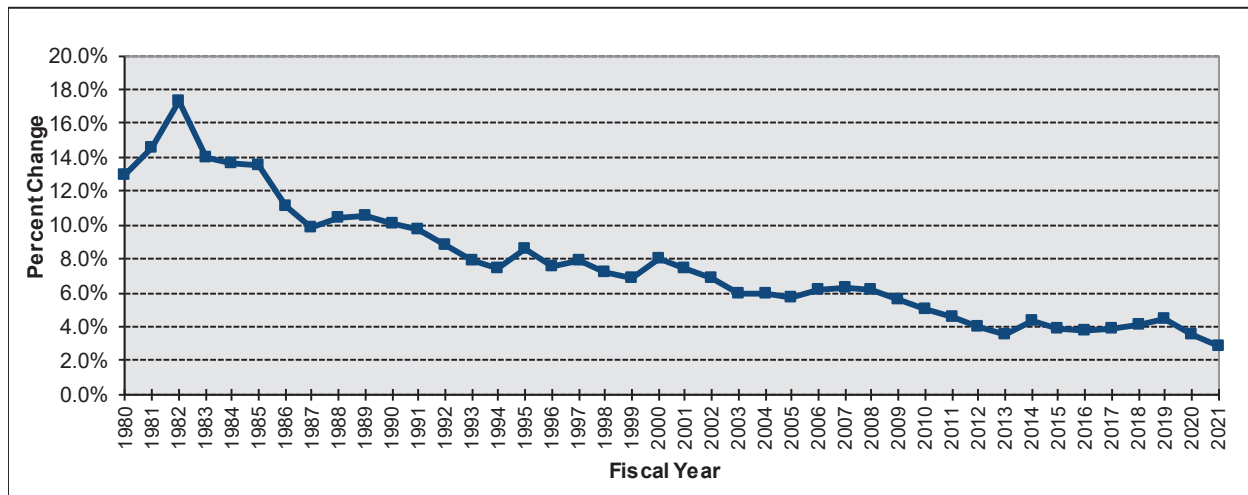
HISTORICAL DATA 30-YEAR MORTGAGE RATE

HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980	12.9%	1990	10.1%	2000	8.1%	2010	5.0%	2020	3.5%
1981	14.6%	1991	9.8%	2001	7.5%	2011	4.6%	2021	2.9%
1982	17.3%	1992	8.8%	2002	6.9%	2012	4.0%	2022	
1983	14.0%	1993	7.9%	2003	5.9%	2013	3.5%	2023	
1984	13.6%	1994	7.5%	2004	5.9%	2014	4.3%	2024	
1985	13.5%	1995	8.6%	2005	5.8%	2015	3.9%	2025	
1986	11.2%	1996	7.6%	2006	6.2%	2016	3.8%	2026	
1987	9.8%	1997	7.9%	2007	6.3%	2017	3.9%	2027	
1988	10.5%	1998	7.2%	2008	6.2%	2018	4.2%	2028	
1989	10.6%	1999	6.9%	2009	5.6%	2019	4.4%	2029	

FY 1980-2021 data from Freddie Mac

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	2.9%	4.4%	3.8%	0.6%	3.1%	4.3%
10 Years	2.9%	4.4%	3.8%	0.4%	3.5%	4.3%
Full Period	2.9%	17.3%	7.9%	3.3%	3.8%	13.0%

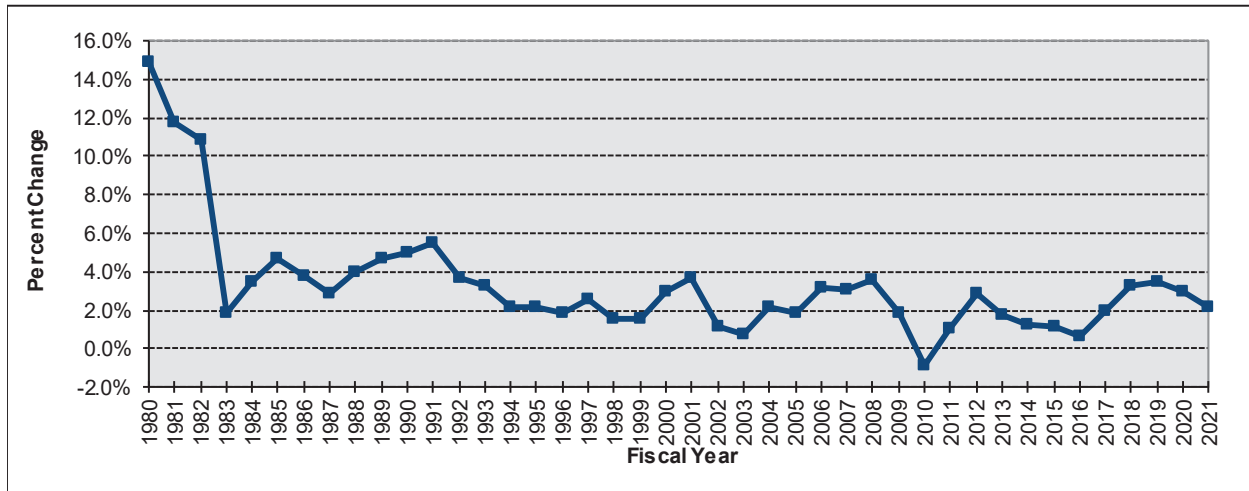
**HISTORICAL DATA
PHOENIX CPI GROWTH
(Annual Percent Change)**

HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980		1990	5.0%	2000	3.0%	2010	-0.9%	2020	3.0%
1981	11.8%	1991	5.5%	2001	3.7%	2011	1.0%	2021*	2.1%
1982	10.8%	1992	3.7%	2002	1.2%	2012	2.9%	2022	
1983	1.9%	1993	3.3%	2003	0.8%	2013	1.8%	2023	
1984	3.5%	1994	2.2%	2004	2.1%	2014	1.3%	2024	
1985	4.7%	1995	2.2%	2005	1.8%	2015	1.2%	2025	
1986	3.8%	1996	1.9%	2006	3.2%	2016	0.6%	2026	
1987	2.9%	1997	2.5%	2007	3.1%	2017	2.0%	2027	
1988	4.0%	1998	1.6%	2008	3.5%	2018	3.3%	2028	
1989	4.7%	1999	1.5%	2009	1.9%	2019	3.5%	2029	

FY 1981 - FY 2021 from Moody's Analytics. *FY 2021 projected.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	2.0%	3.5%	2.8%	0.7%	2.0%	3.4%
10 Years	0.6%	3.5%	2.2%	1.0%	1.1%	3.3%
Full Period	-0.9%	14.9%	3.3%	2.9%	1.2%	4.9%

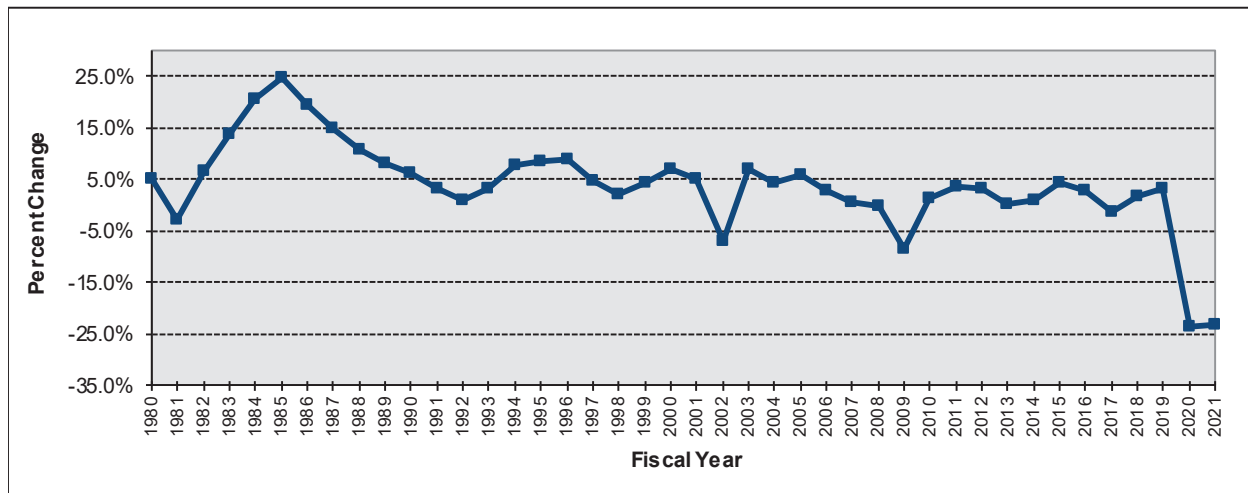
**HISTORICAL DATA
PHOENIX SKY HARBOR/GATEWAY AIRPORTS PASSENGER TRAFFIC GROWTH
(Annual Percent Change)**

HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980	5.0%	1990	6.4%	2000	7.2%	2010	1.5%	2020	-23.5%
1981	-2.8%	1991	3.4%	2001	5.0%	2011	3.7%	2021*	-23.2%
1982	6.8%	1992	0.9%	2002	-7.0%	2012	3.3%	2022	
1983	13.9%	1993	3.3%	2003	7.1%	2013	0.3%	2023	
1984	20.6%	1994	7.7%	2004	4.5%	2014	1.1%	2024	
1985	24.8%	1995	8.6%	2005	5.9%	2015	4.5%	2025	
1986	19.6%	1996	8.9%	2006	2.8%	2016	2.7%	2026	
1987	14.8%	1997	4.8%	2007	0.6%	2017	-1.2%	2027	
1988	10.9%	1998	2.2%	2008	-0.1%	2018	1.9%	2028	
1989	8.1%	1999	4.5%	2009	-8.3%	2019	3.2%	2029	

FY 1980-2020 data obtained from Phoenix Sky Harbor International Airport and combined with data obtained from Mesa Gateway Airport (FY 2004-2020). *FY 2021 is an ADOT staff projection based on FYTD actual.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	-23.5%	3.2%	-8.6%	13.6%	-23.3%	2.7%
10 Years	-23.5%	4.5%	-3.1%	10.8%	-23.2%	3.4%
Full Period	-23.5%	24.8%	5.0%	8.6%	-1.2%	14.8%

HISTORICAL DATA
MARICOPA COUNTY TOTAL NON-FARM EMPLOYMENT GROWTH
(Annual Percent Change)

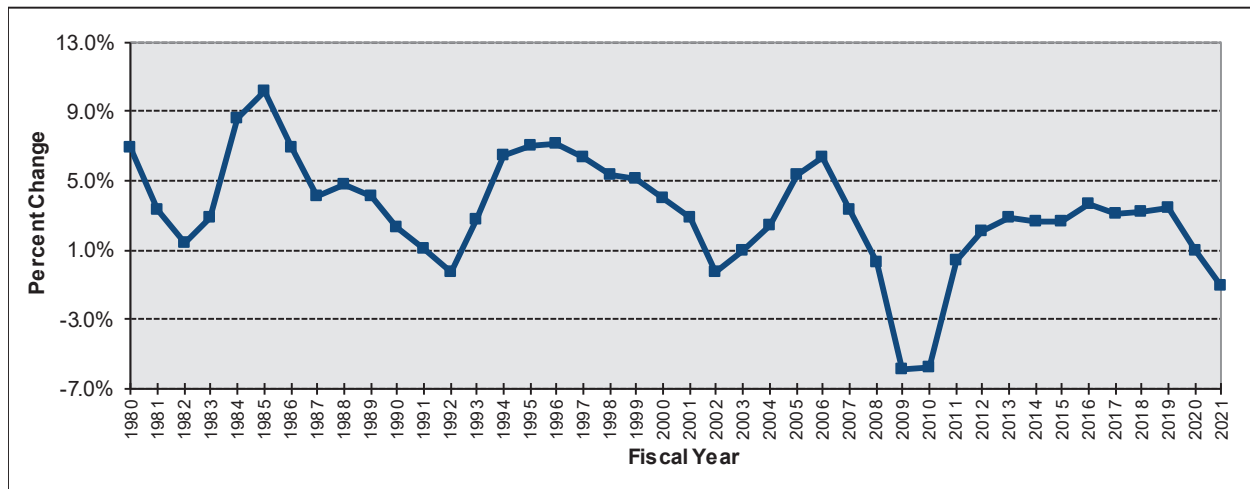
HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980	6.9%	1990	2.3%	2000	4.0%	2010	-5.7%	2020	0.9%
1981	3.4%	1991	1.1%	2001	2.9%	2011	0.4%	2021	-1.1%
1982	1.5%	1992	-0.2%	2002	-0.3%	2012	2.1%	2022	
1983	2.9%	1993	2.7%	2003	1.0%	2013	2.8%	2023	
1984	8.6%	1994	6.4%	2004	2.4%	2014	2.6%	2024	
1985	10.2%	1995	7.0%	2005	5.4%	2015	2.7%	2025	
1986	6.9%	1996	7.2%	2006	6.3%	2016	3.6%	2026	
1987	4.1%	1997	6.3%	2007	3.3%	2017	3.1%	2027	
1988	4.7%	1998	5.3%	2008	0.3%	2018	3.2%	2028	
1989	4.1%	1999	5.1%	2009	-5.9%	2019	3.4%	2029	

FY 1980-1989 Bureau of Labor Statistics (BLS) SIC not seasonally adjusted,

FY 1990-2021 not seasonally adjusted data from BLS (NAICS).

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	-1.1%	3.4%	1.9%	2.0%	-0.3%	3.3%
10 Years	-1.1%	3.6%	2.3%	1.4%	0.7%	3.4%
Full Period	-5.9%	11.8%	3.9%	3.7%	0.0%	8.5%