

ARIZONA HIGHWAY USER REVENUE FUND
Forecasting Process & Results
FY 2022-2031



Financial Management Services
September 2021

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ARIZONA HIGHWAY USER REVENUE FUND

OFFICIAL FORECAST UPDATE

RISK ANALYSIS OF EXPECTED VALUES

Introduction

This document presents the forecast of expected values for the Arizona Highway User Revenue Fund for the period FY 2022-2031, as prepared by the Arizona Department of Transportation.

Background

The State of Arizona taxes motor fuels and collects a variety of fees relating to the registration and operation of motor vehicles in the state. These collections include gasoline and use fuel taxes, motor carrier fees, vehicle license taxes, motor vehicle registration fees and other miscellaneous fees. HURF also receives a portion of the revenues from the tax imposed on recreational marijuana under the Smart and Safe Arizona Act. Revenues are deposited in the Arizona Highway User Revenue Fund (HURF) and are then distributed to the cities, towns and counties of the State and to the State Highway Fund, which is administered by the Department. These taxes and fees represent a source of revenues available to the state for highway related expenses.

Since 1986, the Department has estimated highway user revenues using a comprehensive regression-based econometric model. In 1989, the model was updated by Dr. Alberta Charney of the University of Arizona. The model relied on the estimates of certain “independent variables” to predict future tax revenues. Any variability between estimated and actual values could lead to variances in the tax forecast. In order to deal with this variability, the Department introduced the Risk Analysis Process (RAP) in 1992. The RAP relies upon probability analysis and the independent evaluation of the model’s variables by an expert panel of economists. This results in a series of forecasts with specified probabilities of occurrence, rather than a single or “best guess” estimate.

In 1997, Hickling Lewis Brod Inc. (HLB), working in conjunction with Dr. Dennis Hoffman of Arizona State University, developed a new forecasting model to incorporate certain economic data generated over the past ten years and evaluate the inclusion of independent variables absent from the 1989 model, to enhance the model’s forecasting accuracy. The new model also took into consideration 1997 legislation which eliminated the weight distance tax on motor carriers, increased weight and use fees for use class vehicles, and changed the point of taxation on fuel.

In September 2000 and 2003, HLB reviewed the model and updated the equations. The independent variables contained in the model in 2003 included Arizona Real Income Growth Per Capita, Population Growth, Wage & Salary Employment Growth and Fleet Fuel Efficiency.

In 2005, HDR\HLB developed a new forecasting model to incorporate additional economic data that would enhance the model’s forecasting accuracy. The Arizona Real Gross Domestic Product Growth independent variable was added to the model to incorporate the impact of the Arizona economy on the commercial registration activities.

In September 2008, HDR\HLB reviewed the forecasting model and added the Arizona Real Gas Price Growth independent variable to improve the model's forecasting accuracy for changes in Arizona gasoline consumption. In September 2009, HDR\HLB reviewed the forecasting model and added the West Coast No. 2 Real Diesel Price Growth independent variable to improve the model's forecasting accuracy for changes in Arizona use fuel (diesel) consumption.

In September 2011, the income, gross domestic product, gas price and diesel price variables were converted to nominal dollars at the request of the panel members from the August 2010 RAP panel meeting. The September 2011 RAP panel recommended the Arizona nominal Gross Domestic Product independent variable be eliminated from the model. The current model includes:

1. Arizona nominal personal income
2. Arizona population
3. Arizona non-farm employment
4. Arizona fleet fuel efficiency (Not part of RAP Process)
5. Arizona nominal gas price
6. West Coast No. 2 nominal diesel price

Beginning in September 2017, the Gas Tax revenue category forecast includes the distributions of 1.6 percent of gas tax revenues to the State Lake Improvement Fund per Arizona Revised Statutes (ARS) 28-5926 and 0.55 percent of gas tax revenues to the Off-Highway Vehicle Recreation Fund per ARS 28-5927. Prior to September 2017, these gas tax revenues were not part of the RAP process and ADOT's HURF Official Forecast. Beginning in September 2018, the Arizona nominal gas price includes federal and state taxes.

On November 3, 2020, Arizona voters approved the Smart and Safe Arizona Act (Proposition 207) that legalized the possession and use of marijuana for adults 21 years or older. The proposition imposes a 16 percent excise tax on recreational marijuana sales. Per ARS 36-2856, revenue is first utilized to implement, impose and enforce the act and administer the fund, with the remainder divided as follows: 33% for community colleges, 31.4% for police and fire departments, 25.4% for HURF, 10% to the justice reinvestment fund, and 0.2% to the state attorney general for enforcement. In August 2021, a new equation was added to the HURF model to estimate the Smart and Safe Arizona Act revenues. The HURF began distributing the Smart and Safe Arizona Act revenues to recipients in FY 2022.

Risk Analysis Panel

The Risk Analysis Process relies heavily on the judgments of an expert panel of economic and financial participants to provide information critical to the forecasting process. In August 2021, a panel of ten economic and finance 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 model to produce a series of forecasts with associated probabilities of occurrence. The panelists' inputs are reflected in the attached tables at the back of this report.

Model Results

This year's panel inputs produced a mean forecast of \$21,658.2 million for the period FY 2022-2031 with a compound growth rate of 4.0 percent.

The Department's Official Forecast for FY 2022-2031 amounts to \$21,084.8 million with a compound growth rate of 3.7 percent. The Official Forecast incorporates the 50 percent confidence interval growth rates for each year of the forecast except for FY 2022. The FY 2022 forecast of \$1,774.9 million was developed by ADOT staff using time-series techniques, historical and projected growth rates and recent economic and legislative changes.

FY 2022 Official Forecast /1 (Dollars in Millions)			
Fiscal <u>Year</u>	Mean <u>Forecast</u>	Official <u>Forecast</u>	Confidence <u>Level</u>
2022	\$1,788.7	\$1,774.9	50%
2023	1,863.5	1,835.6	50%
2024	1,949.6	1,910.6	50%
2025	2,035.3	1,987.9	50%
2026	2,121.5	2,065.9	50%
2027	2,207.9	2,143.7	50%
2028	2,294.3	2,222.7	50%
2029	2,380.4	2,301.8	50%
2030	2,465.9	2,380.9	50%
2031	<u>2,551.0</u>	<u>2,460.9</u>	50%
Total	\$21,658.2	\$21,084.8	
Ave. CGR	4.0%	3.7%	

Note: 1. Includes the Smart and Safe Arizona Act (Proposition 207) revenues.

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

FY 2022-2031 Comparative Forecast (Dollars in Millions)			
Fiscal <u>Year</u>	Sep. 20 Official <u>Forecast</u>	Sep. 21 Official <u>Forecast /1</u>	<u>Difference</u>
2022	\$1,564.3	\$1,774.9	\$210.5
2023	1,628.1	1,835.6	207.5
2024	1,698.6	1,910.6	212.0
2025	1,758.9	1,987.9	229.0
2026	1,820.8	2,065.9	245.1
2027	1,884.6	2,143.7	259.0
2028	1,951.7	2,222.7	271.0
2029	2,019.1	2,301.8	282.7
2030	2,086.7	2,380.9	294.2
2031	<u>2,156.2</u>	<u>2,460.9</u>	<u>304.7</u>
Total	\$18,569.1	\$21,084.8	\$2,515.6
Ave. CGR	3.6%	3.7%	

Note: 1. Includes the Smart and Safe Arizona Act (Proposition 207) revenues.

Summary

The Department's September 2021 Official Forecast for FY 2022-2031 totals \$21,084.8 million, an increase of \$2,515.6 million from the September 2020 Official Forecast. This sharp increase was mainly due to the stronger economic recovery from the COVID-19 pandemic in FY 2021 and the addition of new revenues from the Smart and Safe Arizona Act (Proposition 207) in FY 2022 and beyond. FY 2021 HURF revenues were 9.9 percent or \$146.3 million above FY 2020 revenues and 7.5 percent above the forecast. The FY 2021 HURF revenues set a higher revenue base for the forecast for FY 2022 and beyond.

The Risk Analysis Process panel members forecasted stronger growth for the Arizona economy in the near term with most of the independent variables growth rates being higher than last year's panel growth rates. The RAP panel inputs did predict a slower growth for Arizona non-farm employment in FY 2024 and beyond compared to last year's panel inputs, while the Arizona nominal personal income growth is predicted to trend similar to last year's panel inputs in FY 2025 and beyond. Arizona population growth was relatively unchanged from last year's panel inputs. The panel inputs show Arizona gas price and West Coast diesel price growth rates higher than was predicted by last year's RAP panel and then trend lower in FY 2024 and beyond.

Supplementary Information

The remaining pages of this report present supplementary information on the detailed results of the Risk Analysis Process, the Department's model and the values of the independent variables forecast by the expert panel. While the Official Forecast period is FY 2022-2031, panel inputs were requested for FY 2022-2026, 2031, 2036 and 2041. Data displayed for other than the requested years has been extrapolated.

HURF OFFICIAL REVENUE FORECAST
With Category Detail and Confidence Interval By Fiscal Year
(Current Dollars in Millions)

Fiscal Year Percentile	2021 Actual	2022 N/A	2023 50%	2024 50%	2025 50%	2026 50%	2027 50%	2028 50%	2029 50%	2030 50%	2031 50%
Gasoline Tax	\$505.2	\$539.7	\$555.2	\$571.5	\$586.6	\$600.9	\$615.0	\$628.7	\$642.1	\$655.3	\$668.9
Use Fuel Tax	249.8	282.9	286.5	291.6	298.7	306.3	313.8	322.1	330.5	340.1	349.4
Motor Carrier Fee	52.1	57.4	59.5	61.9	64.2	66.4	68.8	71.0	73.2	75.4	77.6
Vehicle License Tax	551.2	567.5	597.3	632.3	669.8	708.5	747.3	787.6	828.6	869.5	911.4
Registration	220.1	235.1	239.2	244.2	249.6	255.3	261.3	267.5	273.6	279.7	285.9
Smart & Safe Arizona	0.0	42.4	46.3	55.5	63.4	70.9	77.8	84.1	90.0	95.2	100.0
Other	48.8	49.9	51.8	53.7	55.6	57.6	59.7	61.7	63.7	65.7	67.7
Total	\$1,627.2	\$1,774.9	\$1,835.6	\$1,910.6	\$1,987.9	\$2,065.9	\$2,143.7	\$2,222.7	\$2,301.8	\$2,380.9	\$2,460.9

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

Fiscal Year	Mean	10%	20%	30%	40%	50%	60%	70%	80%	90%
2022	\$1,788.7	\$2,050.0	\$1,952.4	\$1,884.0	\$1,826.5	\$1,774.9	\$1,725.3	\$1,674.3	\$1,617.2	\$1,543.5
2023	1,863.5	2,251.4	2,102.4	1,998.2	1,911.9	1,835.6	1,763.3	1,691.0	1,610.3	1,508.2
2024	1,949.6	2,429.7	2,241.0	2,110.7	2,004.4	1,910.6	1,822.8	1,735.1	1,638.2	1,517.5
2025	2,035.3	2,589.1	2,367.6	2,216.6	2,095.0	1,987.9	1,887.5	1,786.8	1,678.1	1,541.5
2026	2,121.5	2,741.2	2,491.4	2,320.9	2,184.8	2,065.9	1,954.0	1,842.9	1,723.7	1,573.6
2027	2,207.9	2,886.5	2,610.1	2,425.4	2,274.0	2,143.7	2,022.7	1,902.9	1,772.4	1,610.6
2028	2,294.3	3,024.1	2,726.2	2,528.0	2,363.7	2,222.7	2,094.2	1,962.9	1,823.3	1,650.0
2029	2,380.4	3,164.7	2,842.3	2,627.1	2,452.3	2,301.8	2,164.5	2,023.5	1,876.6	1,692.6
2030	2,465.9	3,302.0	2,954.3	2,726.2	2,539.9	2,380.9	2,234.3	2,087.1	1,930.0	1,735.9
2031	2,551.0	3,434.6	3,068.0	2,824.7	2,625.9	2,460.9	2,304.9	2,149.8	1,982.2	1,782.0
Total	\$21,658.2	\$27,873.4	\$25,355.7	\$23,661.7	\$22,278.3	\$21,084.8	\$19,973.4	\$18,856.3	\$17,652.1	\$16,155.3

HURF OFFICIAL REVENUE FORECAST DISTRIBUTION (Current Dollars in Millions)

Fiscal Year	HURF /1	ESP/DPS/ SLIF/OHVF /2	Net HURF	DPS Parity Comp. Fund /3	ADOT 50.5% /2,4	Cities/Towns 27.5% /2	Cities +300K 3% /2	Counties 19% /1
2022	\$1,774.9	\$13.3	\$1,761.5	(\$4.3)	\$875.8	\$484.4	\$52.8	\$334.7
2023	1,835.6	\$13.6	1,822.0	(\$4.6)	905.7	501.0	54.7	346.2
2024	1,910.6	\$14.0	1,896.6	(\$4.8)	942.9	521.6	56.9	360.4
2025	1,987.9	\$14.3	1,973.5	(\$5.1)	981.1	542.7	59.2	375.0
2026	2,065.9	\$14.6	2,051.3	(\$5.4)	1,019.8	564.1	61.5	389.7
2027	2,143.7	\$14.9	2,128.7	(\$5.7)	1,058.3	585.4	63.9	404.5
2028	2,222.7	\$15.2	2,207.5	(\$6.0)	1,097.5	607.1	66.2	419.4
2029	2,301.8	\$15.5	2,286.3	(\$6.3)	1,136.7	628.7	68.6	434.4
2030	2,380.9	\$15.8	2,365.1	(\$6.6)	1,175.8	650.4	71.0	449.4
2031	2,460.9	\$16.1	2,444.8	(\$6.9)	1,215.5	672.3	73.3	464.5
Total	\$21,084.8	\$147.4	\$20,937.4	(\$55.8)	\$10,409.1	\$5,757.8	\$628.1	\$3,978.1

NOTES:

FY 2022 HURF estimate based on August 2021 Forecast.

FY 2023-2031 HURF estimate based on September 2021 Official Forecast.

/1 - Includes Smart and Safe Arizona Act (Proposition 207) revenues in FY 2022 and beyond.

/2 - Includes \$1 million for Economic Strength Project (ESP) each year per ARS 28-6534.

- FY 2022 and beyond also includes a \$701,000 appropriation to ADOT 3rd party program and operating.

- Includes distributions of 1.6 percent of gas tax revenues to the State Lake Improvement Fund (SLIF) per ARS 28-5926 and 0.55 percent of the gas tax revenues to the Off-Highway Vehicle Recreation Fund (OHVF) per ARS 28-5927 for the full forecast period. Historically, these distributions were not shown as part of the HURF because the distributions were made before the distributions to the other HURF recipients.

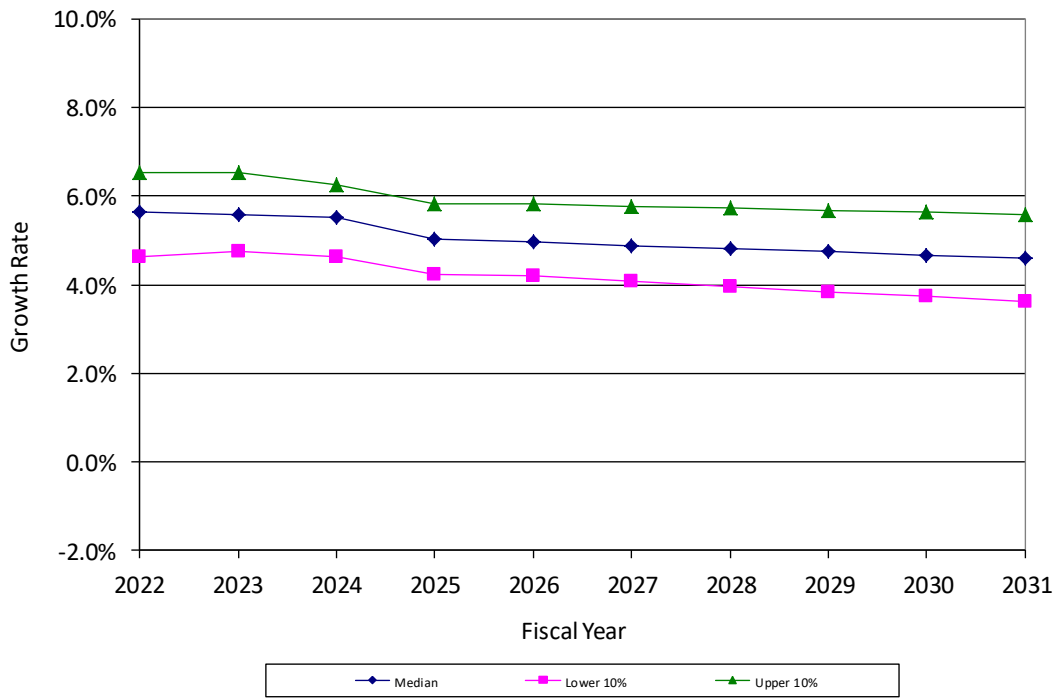
/3. Per Laws 2005, Chapter 306 (SB 1119), 1.51 percent of the state highway fund share of HURF VLT is transferred to the DPS Parity Compensation Fund.

/4 Net of the DPS Parity Compensation Fund transfer and includes transfers per Laws 2011. 1st Regular Session, Chapter 28 (SB 1616) which transfers the state highway fund share of HURF VLT difference between the two-year registration and the five-year registration to the state general fund. Laws 2010, 7th Special Session, Chapter 12, (HB 2012) an amount equal to 90 percent of the fees collected under 28-4802 (A) and 60 percent of the fees collected under 28-4802 (B) shall be transferred from the state highway fund share of HURF VLT to the state general fund.

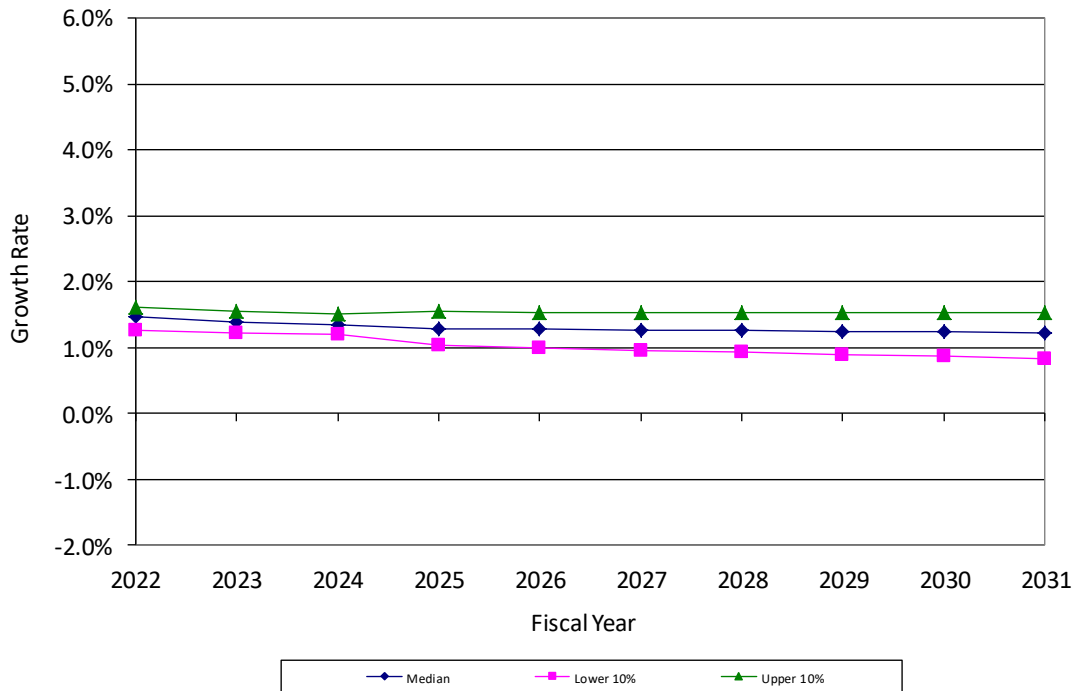
PANELIST DATA VALUES

	AZ Nominal Income Growth	Arizona Population Growth	Arizona Non-Farm Employ. Growth	AZ Nominal Gas Price Growth	West Coast Nominal Diesel Price Growth
FY 2022					
Median	5.66%	1.48%	3.66%	5.66%	6.65%
Lower 10%	4.64%	1.26%	2.79%	-1.79%	-1.71%
Upper 10%	6.53%	1.62%	4.05%	14.12%	13.26%
FY 2023					
Median	5.59%	1.39%	3.22%	3.39%	3.74%
Lower 10%	4.75%	1.23%	2.78%	-5.08%	-5.47%
Upper 10%	6.54%	1.55%	4.05%	12.04%	11.25%
FY 2024					
Median	5.52%	1.34%	2.48%	2.29%	2.35%
Lower 10%	4.64%	1.19%	1.85%	-6.35%	-6.38%
Upper 10%	6.25%	1.51%	3.16%	10.74%	9.86%
FY 2025					
Median	5.05%	1.29%	2.30%	2.28%	2.49%
Lower 10%	4.24%	1.03%	1.58%	-6.21%	-6.11%
Upper 10%	5.84%	1.56%	3.05%	11.01%	10.48%
FY 2026					
Median	4.96%	1.28%	2.20%	2.76%	3.00%
Lower 10%	4.19%	0.99%	1.52%	-5.87%	-5.80%
Upper 10%	5.82%	1.52%	2.95%	11.63%	11.19%
FY 2031					
Median	4.61%	1.22%	1.87%	1.58%	1.64%
Lower 10%	3.62%	0.84%	1.04%	-8.22%	-8.17%
Upper 10%	5.59%	1.54%	2.57%	11.07%	10.85%
FY 2036					
Median	4.43%	1.12%	1.82%	1.52%	1.56%
Lower 10%	3.10%	0.66%	0.76%	-9.55%	-9.37%
Upper 10%	5.70%	1.56%	2.82%	12.14%	11.79%
FY 2041					
Median	4.33%	1.00%	1.73%	1.28%	1.26%
Lower 10%	2.59%	0.49%	0.37%	-10.79%	-10.69%
Upper 10%	6.03%	1.54%	2.91%	13.01%	12.51%

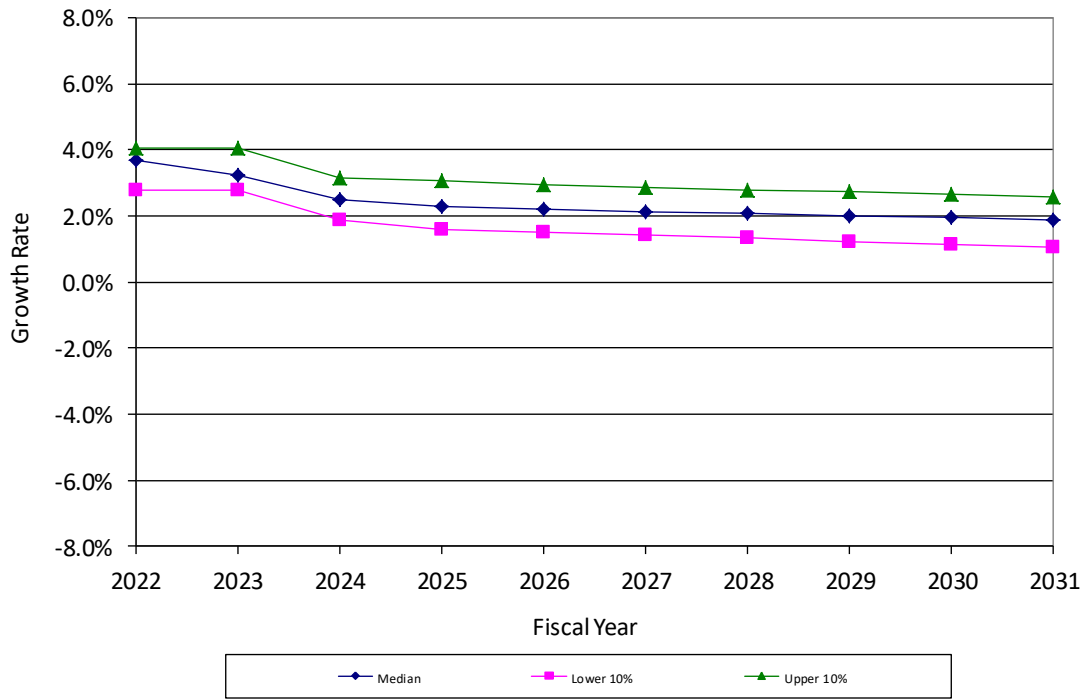
Arizona Nominal Personal Income Growth



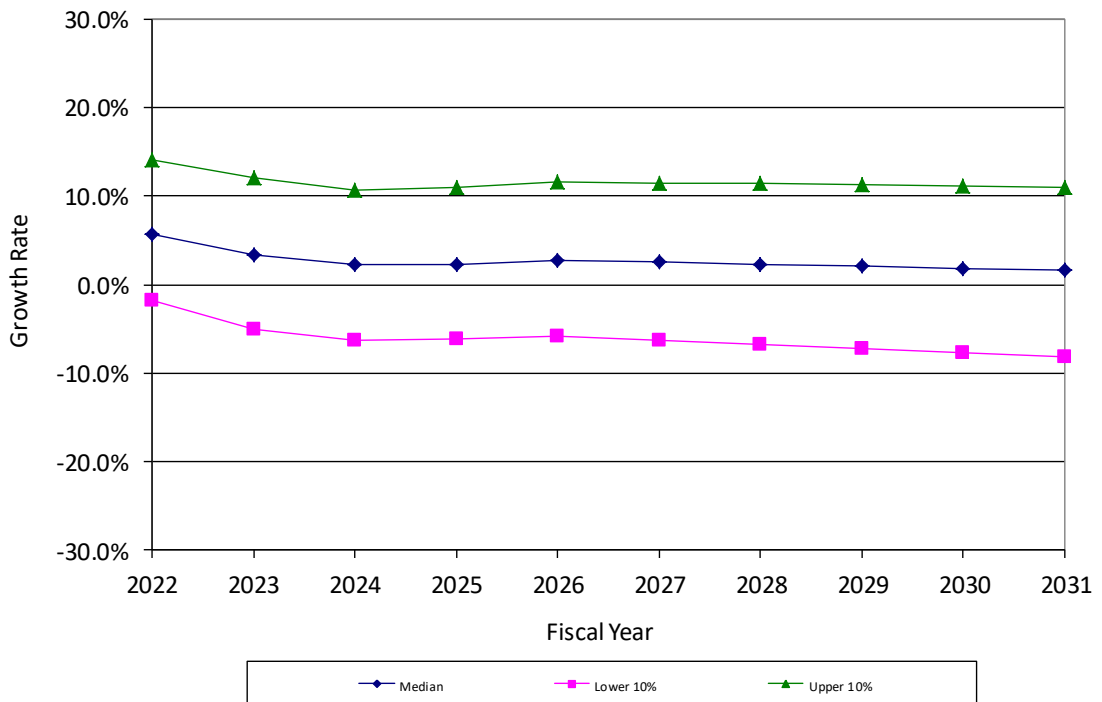
Arizona Population Growth



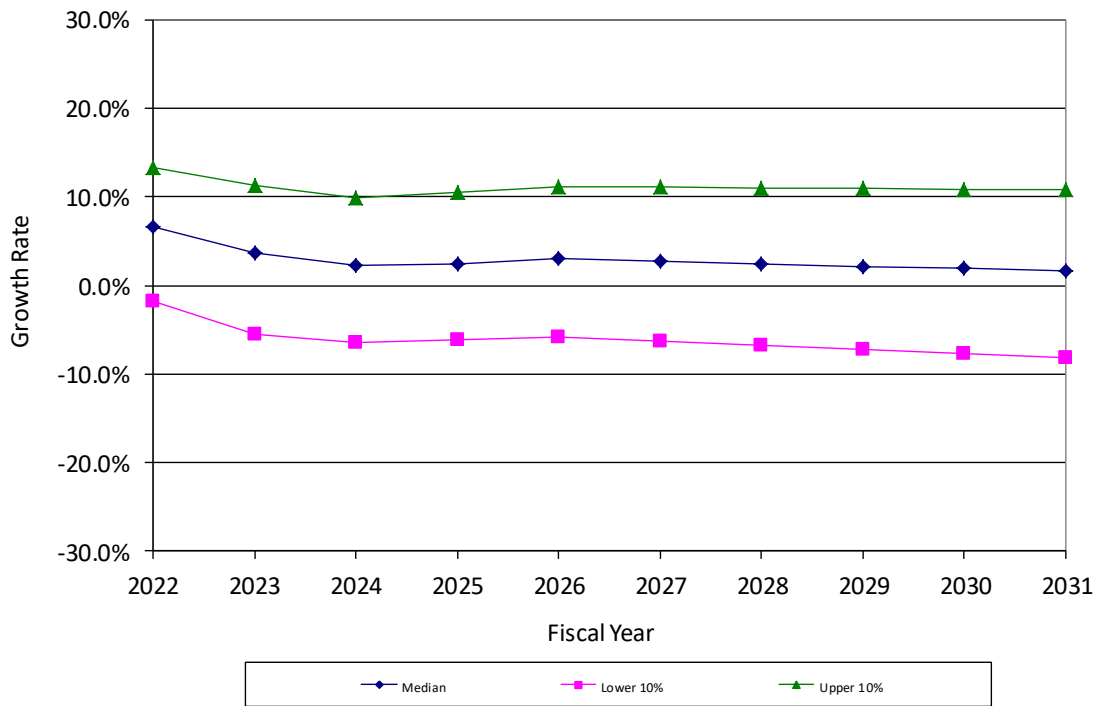
Arizona Non-Farm Employment Growth



Arizona Nominal Gas Price Growth



West Coast No. 2 Nominal Diesel Price Growth



Projected Arizona Nominal Personal Income Growth Rates

		2022	2023	2024	2025	2026	2031	2036	2041
Panelist 1									
	Median	6.5%	6.4%	5.5%	4.5%	4.6%	4.5%	4.4%	4.2%
	Lower 10%	5.5%	5.0%	4.7%	4.5%	4.0%	3.5%	2.9%	2.1%
	Upper 10%	7.0%	6.8%	6.2%	5.8%	5.5%	5.5%	4.9%	4.9%
Panelist 2									
	Median	3.6%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
	Lower 10%	3.3%	3.1%	2.7%	2.7%	2.7%	2.5%	2.0%	1.5%
	Upper 10%	4.0%	3.9%	4.3%	4.3%	4.3%	4.6%	5.1%	5.6%
Panelist 3									
	Median	6.0%	5.0%	5.0%	5.0%	5.0%	4.0%	4.0%	4.0%
	Lower 10%	5.0%	4.0%	4.0%	4.0%	4.0%	3.0%	3.0%	3.0%
	Upper 10%	7.0%	6.0%	6.0%	6.0%	6.0%	5.0%	5.0%	5.0%
Panelist 4									
	Median	6.0%	5.6%	5.5%	5.6%	5.8%	5.1%	4.8%	4.7%
	Lower 10%	5.6%	5.2%	4.7%	4.8%	5.0%	4.1%	3.3%	2.6%
	Upper 10%	6.4%	6.0%	6.3%	6.4%	6.6%	6.1%	6.3%	6.8%
Panelist 5									
	Median	7.6%	8.1%	10.4%	7.0%	7.0%	6.0%	5.0%	5.0%
	Lower 10%	6.4%	6.9%	9.2%	5.8%	5.8%	4.8%	3.8%	3.8%
	Upper 10%	9.3%	11.6%	11.0%	7.6%	7.6%	6.6%	6.6%	6.6%
Panelist 6									
	Median	6.7%	6.2%	6.0%	5.5%	5.5%	5.0%	5.0%	5.0%
	Lower 10%	6.3%	5.8%	5.2%	4.7%	4.7%	4.0%	3.5%	3.1%
	Upper 10%	7.1%	6.6%	6.8%	6.3%	6.3%	6.0%	6.5%	6.9%
Panelist 7									
	Median	3.0%	5.1%	5.0%	5.0%	4.9%	4.9%	4.7%	4.4%
	Lower 10%	2.5%	4.7%	4.4%	4.4%	4.4%	4.0%	3.9%	3.0%
	Upper 10%	3.5%	5.6%	5.6%	5.6%	5.5%	5.5%	5.6%	6.0%
Panelist 8									
	Median	5.1%	5.0%	4.8%	4.7%	4.7%	4.5%	4.5%	4.3%
	Lower 10%	4.3%	4.2%	4.1%	4.0%	3.8%	3.4%	3.0%	2.6%
	Upper 10%	5.5%	5.4%	5.4%	5.4%	5.4%	5.5%	5.8%	6.0%
Panelist 9									
	Median	7.0%	6.0%	5.0%	5.0%	4.0%	4.0%	4.0%	4.0%
	Lower 10%	3.0%	4.0%	3.8%	3.8%	3.8%	3.5%	2.9%	2.1%
	Upper 10%	10.0%	8.0%	5.4%	5.4%	5.4%	5.5%	5.9%	6.3%
Panelist 10									
	Median	5.0%	5.0%	4.6%	4.6%	4.6%	4.5%	4.4%	4.2%
	Lower 10%	4.5%	4.5%	3.8%	3.8%	3.8%	3.5%	2.9%	2.1%
	Upper 10%	5.5%	5.5%	5.4%	5.4%	5.4%	5.5%	5.9%	6.3%

Projected Arizona Population Growth Rates

	2022	2023	2024	2025	2026	2031	2036	2041
Panelist 1								
Median	1.6%	1.6%	1.5%	1.4%	1.4%	1.3%	1.1%	1.0%
Lower 10%	1.4%	1.4%	1.3%	1.1%	1.0%	0.8%	0.7%	0.6%
Upper 10%	1.7%	1.7%	1.6%	1.6%	1.5%	1.4%	1.4%	1.4%
Panelist 2								
Median	1.4%	1.3%	1.3%	1.3%	1.3%	1.2%	1.1%	1.0%
Lower 10%	1.0%	1.0%	1.0%	0.9%	0.9%	0.8%	0.7%	0.6%
Upper 10%	1.7%	1.7%	1.7%	1.6%	1.6%	1.5%	1.5%	1.3%
Panelist 3								
Median	1.5%	1.4%	1.4%	1.3%	1.3%	1.2%	1.1%	1.0%
Lower 10%	1.3%	1.2%	1.2%	1.1%	1.1%	1.0%	0.9%	0.8%
Upper 10%	1.7%	1.5%	1.6%	1.5%	1.5%	1.4%	1.3%	1.2%
Panelist 4								
Median	1.4%	1.3%	1.3%	1.3%	1.3%	1.2%	1.1%	1.0%
Lower 10%	1.3%	1.2%	1.2%	1.0%	1.0%	0.8%	0.5%	0.3%
Upper 10%	1.5%	1.4%	1.4%	1.6%	1.6%	1.6%	1.7%	1.7%
Panelist 5								
Median	1.5%	1.0%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%
Lower 10%	1.1%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Upper 10%	1.7%	1.2%	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%
Panelist 6								
Median	1.5%	1.6%	1.6%	1.5%	1.5%	1.4%	1.3%	1.2%
Lower 10%	1.4%	1.5%	1.5%	1.2%	1.2%	1.0%	0.7%	0.5%
Upper 10%	1.6%	1.7%	1.7%	1.8%	1.8%	1.8%	1.9%	1.9%
Panelist 7								
Median	1.6%	1.5%	1.4%	1.3%	1.3%	1.2%	1.1%	1.0%
Lower 10%	1.5%	1.4%	1.2%	1.0%	1.0%	0.8%	0.5%	0.3%
Upper 10%	1.7%	1.6%	1.6%	1.6%	1.5%	1.6%	1.7%	1.7%
Panelist 8								
Median	1.4%	1.4%	1.3%	1.3%	1.3%	1.3%	1.2%	0.9%
Lower 10%	1.2%	1.2%	1.2%	1.1%	1.0%	0.8%	0.6%	0.4%
Upper 10%	1.5%	1.6%	1.6%	1.6%	1.5%	1.6%	1.7%	1.7%
Panelist 9								
Median	1.5%	1.4%	1.3%	1.3%	1.3%	1.2%	1.1%	1.0%
Lower 10%	1.2%	1.2%	1.2%	1.0%	1.0%	0.8%	0.5%	0.3%
Upper 10%	1.6%	1.6%	1.4%	1.6%	1.5%	1.6%	1.7%	1.7%
Panelist 10								
Median	1.4%	1.3%	1.3%	1.3%	1.3%	1.2%	1.1%	1.0%
Lower 10%	1.2%	1.3%	1.2%	1.0%	1.0%	0.8%	0.5%	0.3%
Upper 10%	1.5%	1.5%	1.4%	1.6%	1.5%	1.6%	1.7%	1.7%

Projected Arizona Non-Farm Employment Growth Rates

	2022	2023	2024	2025	2026	2031	2036	2041	
Panelist 1									
Median	3.7%	3.7%	3.2%	3.0%	2.6%	2.0%	1.9%	1.8%	
Lower 10%	2.6%	3.0%	1.9%	1.6%	1.6%	1.1%	0.7%	0.2%	
Upper 10%	4.0%	4.4%	3.2%	3.3%	3.2%	2.8%	3.1%	3.4%	
Panelist 2									
Median	5.5%	1.6%	1.6%	1.6%	1.6%	2.3%	2.3%	2.3%	
Lower 10%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Upper 10%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Panelist 3									
Median	4.0%	3.5%	3.0%	2.5%	2.0%	2.0%	1.8%	1.7%	
Lower 10%	3.5%	3.0%	2.5%	2.0%	1.7%	1.7%	1.5%	1.4%	
Upper 10%	4.5%	4.0%	3.5%	3.0%	2.3%	2.3%	2.1%	2.0%	
Panelist 4									
Median	3.4%	2.9%	2.3%	2.1%	2.0%	1.2%	1.1%	1.0%	
Lower 10%	2.7%	2.2%	1.6%	1.3%	1.2%	0.4%	-0.1%	-0.6%	
Upper 10%	4.1%	3.6%	3.0%	2.9%	2.8%	2.0%	2.3%	2.6%	
Panelist 5									
Median	2.0%	2.5%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Lower 10%	1.8%	2.3%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	
Upper 10%	2.4%	2.9%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	
Panelist 6									
Median	3.0%	3.5%	2.8%	2.5%	2.5%	2.0%	2.0%	2.0%	
Lower 10%	2.3%	2.8%	2.1%	1.7%	1.7%	1.1%	1.0%	0.9%	
Upper 10%	3.7%	4.2%	3.5%	3.3%	3.3%	2.9%	4.0%	3.1%	
Panelist 7									
Median	4.8%	3.5%	2.5%	2.4%	2.4%	1.9%	1.8%	1.7%	
Lower 10%	4.0%	2.9%	1.9%	1.8%	1.8%	1.0%	0.9%	0.3%	
Upper 10%	5.4%	4.2%	3.2%	3.2%	3.2%	2.8%	3.0%	3.2%	
Panelist 8									
Median	3.8%	3.8%	3.2%	3.0%	3.0%	2.5%	2.5%	2.2%	
Lower 10%	3.0%	2.9%	2.2%	1.8%	1.7%	1.0%	0.7%	0.0%	
Upper 10%	4.4%	4.5%	4.1%	3.9%	3.9%	3.4%	3.2%	3.5%	
Panelist 9									
Median	3.5%	3.5%	2.6%	2.4%	2.4%	2.0%	1.9%	1.8%	
Lower 10%	2.6%	3.0%	1.9%	1.6%	1.6%	1.1%	0.7%	0.2%	
Upper 10%	4.0%	4.4%	3.2%	3.3%	3.2%	2.8%	3.1%	3.4%	
Panelist 10									
Median	3.0%	3.7%	2.6%	2.4%	2.4%	2.0%	1.9%	1.8%	
Lower 10%	2.6%	3.0%	1.9%	1.6%	1.6%	1.1%	0.7%	0.2%	
Upper 10%	4.0%	4.4%	3.2%	3.3%	3.2%	2.8%	3.1%	3.4%	

Projected Arizona Nominal Gas Price Growth Rates

	2022	2023	2024	2025	2026	2031	2036	2041	
Panelist 1									
Median	6.3%	1.9%	1.3%	2.3%	3.3%	1.5%	1.5%	1.3%	
Lower 10%	-0.4%	-6.4%	-7.0%	-6.0%	-5.0%	-8.4%	-10.0%	-12.0%	
Upper 10%	12.9%	10.2%	9.5%	10.5%	11.6%	11.5%	13.1%	14.5%	
Panelist 2									
Median	1.5%	1.4%	1.4%	1.3%	1.2%	0.8%	0.5%	0.1%	
Lower 10%	-16.9%	-17.0%	-17.2%	-17.4%	-17.5%	-18.5%	-19.5%	-20.6%	
Upper 10%	19.9%	19.9%	19.9%	19.9%	20.0%	20.2%	20.4%	20.8%	
Panelist 3									
Median	2.0%	2.0%	2.0%	2.0%	2.0%	1.0%	1.0%	1.0%	
Lower 10%	1.0%	1.0%	1.0%	1.0%	1.0%	0.0%	0.0%	0.0%	
Upper 10%	3.0%	3.0%	3.0%	3.0%	3.0%	2.0%	2.0%	2.0%	
Panelist 4									
Median	9.0%	3.0%	1.8%	3.3%	5.1%	1.6%	1.7%	1.6%	
Lower 10%	2.4%	-5.3%	-6.5%	-5.0%	-3.2%	-8.3%	-9.9%	-11.7%	
Upper 10%	15.6%	11.3%	10.1%	11.6%	13.4%	11.5%	13.3%	14.9%	
Panelist 5									
Median	9.1%	9.7%	5.8%	4.1%	3.1%	2.1%	2.1%	1.1%	
Lower 10%	1.1%	3.7%	-0.2%	-1.9%	-2.9%	-3.9%	-3.9%	-4.9%	
Upper 10%	29.1%	24.7%	15.8%	12.1%	11.1%	7.1%	7.1%	6.1%	
Panelist 6									
Median	5.0%	4.0%	2.0%	1.8%	2.1%	1.5%	1.5%	1.5%	
Lower 10%	-1.0%	-3.0%	-6.0%	-6.8%	-7.1%	-8.4%	-10.0%	-11.8%	
Upper 10%	11.0%	11.0%	10.0%	10.8%	11.1%	11.5%	13.1%	14.7%	
Panelist 7									
Median	6.0%	2.0%	1.5%	1.5%	2.0%	1.9%	1.6%	1.4%	
Lower 10%	-0.4%	-6.0%	-6.0%	-6.0%	-5.0%	-8.0%	-10.0%	-10.0%	
Upper 10%	12.0%	10.0%	10.0%	10.0%	11.0%	11.0%	12.0%	13.0%	
Panelist 8									
Median	5.5%	2.0%	2.0%	2.0%	2.2%	2.2%	2.2%	2.2%	
Lower 10%	-3.0%	-5.0%	-7.5%	-8.0%	-9.0%	-10.0%	-12.0%	-13.0%	
Upper 10%	12.0%	10.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	
Panelist 9									
Median	6.0%	6.0%	4.0%	2.3%	3.3%	1.5%	1.5%	1.3%	
Lower 10%	-0.4%	-6.4%	-7.0%	-6.0%	-5.0%	-8.4%	-10.0%	-12.0%	
Upper 10%	12.9%	10.2%	9.5%	10.5%	11.6%	11.5%	13.1%	14.5%	
Panelist 10									
Median	6.3%	1.9%	1.3%	2.3%	3.3%	1.5%	1.5%	1.3%	
Lower 10%	-0.4%	-6.4%	-7.0%	-6.0%	-5.0%	-8.4%	-10.0%	-12.0%	
Upper 10%	12.9%	10.2%	9.5%	10.5%	11.6%	11.5%	13.1%	14.5%	

Projected West Coast No. 2 Nominal Gas Price Growth Rates

		2022	2023	2024	2025	2026	2031	2036	2041
Panelist 1									
	Median	7.3%	2.2%	1.4%	2.6%	3.7%	1.7%	1.7%	1.4%
	Lower 10%	0.8%	-5.9%	-6.7%	-5.5%	-4.4%	-8.0%	-9.7%	-11.6%
	Upper 10%	13.8%	10.3%	9.6%	10.7%	11.9%	11.5%	13.1%	14.4%
Panelist 2									
	Median	0.4%	0.2%	0.0%	-0.2%	-0.3%	-1.1%	-1.9%	-2.6%
	Lower 10%	-18.9%	-19.1%	-19.2%	-19.4%	-19.6%	-20.4%	-21.1%	-21.9%
	Upper 10%	19.6%	19.4%	19.3%	19.1%	18.9%	18.1%	17.4%	16.7%
Panelist 3									
	Median	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
	Lower 10%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Upper 10%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Panelist 4									
	Median	9.0%	3.0%	1.8%	3.3%	5.1%	1.6%	1.7%	1.6%
	Lower 10%	2.5%	-5.1%	-6.3%	-4.8%	-3.0%	-8.1%	-9.7%	-11.4%
	Upper 10%	15.5%	11.1%	9.9%	11.4%	13.2%	11.3%	13.1%	14.6%
Panelist 5									
	Median	11.1%	11.7%	4.8%	3.1%	2.1%	1.1%	1.1%	0.1%
	Lower 10%	-0.9%	1.7%	-2.2%	-3.9%	-4.9%	-5.9%	-5.9%	-6.9%
	Upper 10%	13.1%	13.7%	6.8%	5.1%	4.1%	3.1%	3.1%	2.1%
Panelist 6									
	Median	6.0%	3.0%	2.5%	2.5%	2.5%	2.0%	2.0%	2.0%
	Lower 10%	0.0%	-4.0%	-4.5%	-5.5%	-6.5%	-8.0%	-9.0%	-10.0%
	Upper 10%	12.0%	10.0%	9.5%	10.5%	11.5%	12.0%	13.0%	14.0%
Panelist 7									
	Median	7.3%	2.2%	1.4%	2.6%	3.7%	1.7%	1.7%	1.4%
	Lower 10%	0.8%	-5.9%	-6.7%	-5.5%	-4.4%	-8.0%	-9.7%	-11.6%
	Upper 10%	13.8%	10.3%	9.6%	10.7%	11.9%	11.5%	13.1%	14.4%
Panelist 8									
	Median	5.5%	2.2%	2.1%	2.0%	2.0%	2.0%	2.0%	2.0%
	Lower 10%	-3.0%	-5.0%	-7.5%	-8.0%	-9.0%	-10.0%	-12.0%	-13.0%
	Upper 10%	12.0%	10.5%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%
Panelist 9									
	Median	6.0%	6.0%	4.0%	2.3%	3.3%	1.5%	1.5%	1.3%
	Lower 10%	-0.4%	-6.4%	-7.0%	-6.0%	-5.0%	-8.4%	-10.0%	-12.0%
	Upper 10%	12.9%	10.2%	9.5%	10.5%	11.6%	11.5%	13.1%	14.5%
Panelist 10									
	Median	10.0%	3.0%	1.4%	2.6%	3.7%	1.7%	1.7%	1.4%
	Lower 10%	-1.0%	-8.0%	-6.7%	-5.5%	-4.4%	-8.0%	-9.7%	-11.6%
	Upper 10%	15.0%	12.0%	9.6%	10.7%	11.9%	11.5%	13.1%	14.4%

HISTORICAL DATA ARIZONA NOMINAL PERSONAL INCOME GROWTH (Annual Percent Change)

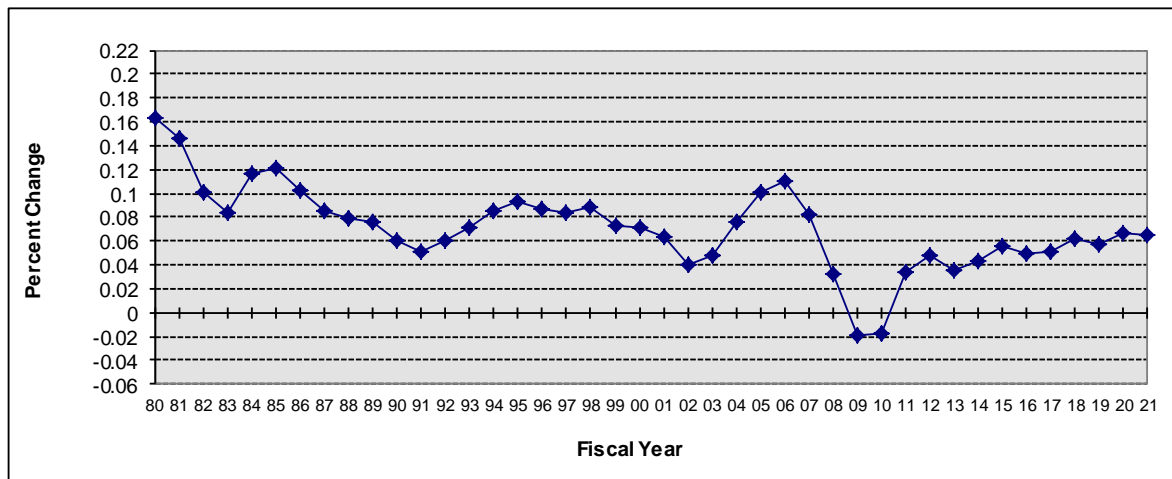
HISTORICAL DATA BY FISCAL YEAR (July 1 through June 30)

1980	16.3%	1990	6.0%	2000	7.1%	2010	-1.8%	2020	6.7%
1981	14.7%	1991	5.1%	2001	6.4%	2011	3.4%	2021 *	6.5%
1982	10.1%	1992	6.0%	2002	4.0%	2012	4.8%	2022	
1983	8.3%	1993	7.1%	2003	4.8%	2013	3.6%	2023	
1984	11.6%	1994	8.5%	2004	7.7%	2014	4.3%	2024	
1985	12.1%	1995	9.3%	2005	10.1%	2015	5.7%	2025	
1986	10.3%	1996	8.7%	2006	11.0%	2016	4.9%	2026	
1987	8.5%	1997	8.4%	2007	8.2%	2017	5.2%	2027	
1988	7.9%	1998	8.8%	2008	3.3%	2018	6.2%	2028	
1989	7.6%	1999	7.4%	2009	-2.0%	2019	5.7%	2029	

BEA for FY 1980-2020; Western Blue Chip, June 2021 for FY 2021.

FY 2021* Projected.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	5.2%	6.7%	6.0%	0.6%	5.4%	6.6%
10 Years	3.6%	6.7%	5.3%	1.0%	4.2%	6.5%
Full Period	-2.0%	16.3%	7.1%	3.5%	3.6%	11.0%

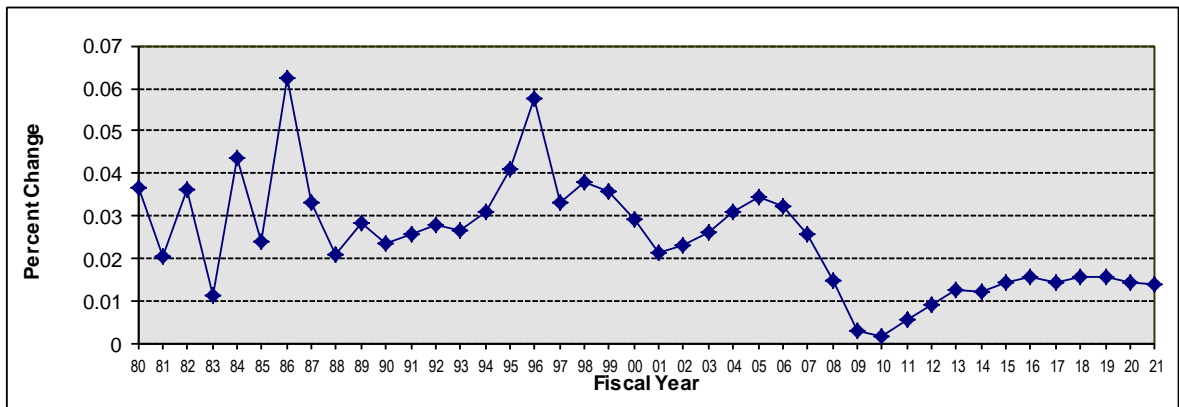
HISTORICAL DATA ARIZONA POPULATION GROWTH (Annual Percent Change)

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

1980	3.7%	1990	2.3%	2000	2.9%	2010	0.2%	2020	1.5%
1981	2.1%	1991	2.6%	2001	2.2%	2011	0.6%	2021 *	1.4%
1982	3.6%	1992	2.8%	2002	2.3%	2012	0.9%	2022	
1983	1.1%	1993	2.7%	2003	2.6%	2013	1.3%	2023	
1984	4.4%	1994	3.1%	2004	3.1%	2014	1.2%	2024	
1985	2.4%	1995	4.1%	2005	3.5%	2015	1.4%	2025	
1986	6.2%	1996	5.8%	2006	3.2%	2016	1.6%	2026	
1987	3.3%	1997	3.3%	2007	2.6%	2017	1.5%	2027	
1988	2.1%	1998	3.8%	2008	1.5%	2018	1.6%	2028	
1989	2.8%	1999	3.6%	2009	0.3%	2019	1.6%	2029	

FY 1980-2021 from AZ Office of Economic Opportunity. * FY 2021 Projected using December 28, 2018 AOEO Population Projections.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	1.4%	1.6%	1.5%	0.1%	1.4%	1.6%
10 Years	0.9%	1.6%	1.4%	0.2%	1.2%	1.6%
Full Period	0.2%	6.2%	2.5%	1.3%	1.1%	3.8%

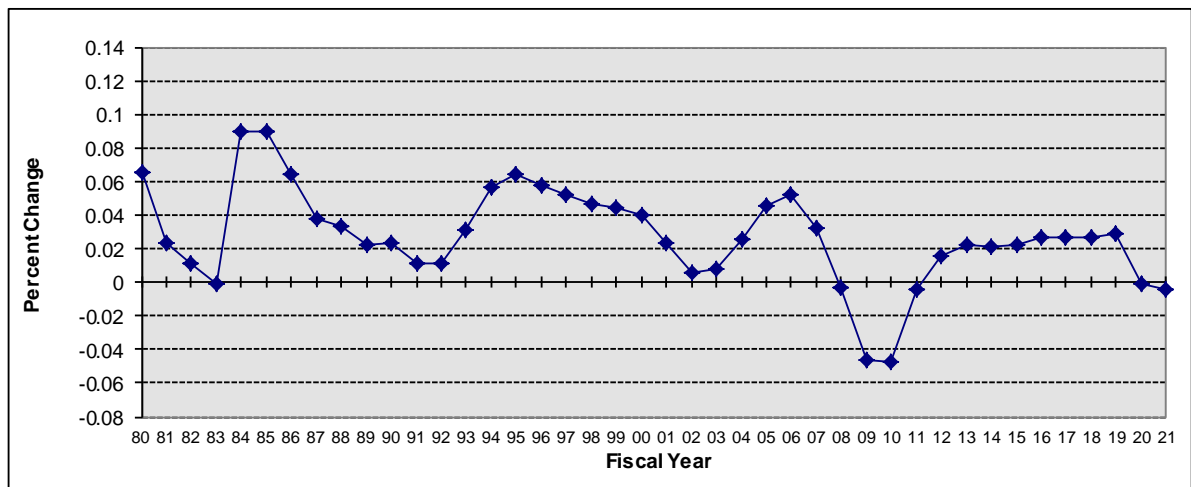
HISTORICAL DATA ARIZONA TOTAL NON-FARM EMPLOYMENT GROWTH (Annual Percent Change)

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

1980	6.6%	1990	2.3%	2000	4.0%	2010	-4.7%	2020	-0.1%
1981	2.3%	1991	1.1%	2001	2.3%	2011	-0.4%	2021 *	-0.4%
1982	1.1%	1992	1.1%	2002	0.5%	2012	1.6%	2022	
1983	0.0%	1993	3.1%	2003	0.7%	2013	2.2%	2023	
1984	9.0%	1994	5.6%	2004	2.6%	2014	2.2%	2024	
1985	8.9%	1995	6.4%	2005	4.6%	2015	2.3%	2025	
1986	6.4%	1996	5.7%	2006	5.2%	2016	2.7%	2026	
1987	3.7%	1997	5.2%	2007	3.2%	2017	2.7%	2027	
1988	3.3%	1998	4.7%	2008	-0.3%	2018	2.7%	2028	
1989	2.2%	1999	4.4%	2009	-4.7%	2019	2.9%	2029	

Bureau of Labor Statistics for FY 1980-2020; FY 2021 from UA Economic and Business Research Center, 2nd Quarter baseline Fore estimated in May 2021. FY 2021* Projected.

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	-0.4%	2.9%	1.6%	1.7%	-0.3%	2.8%
10 Years	-0.4%	2.9%	1.9%	1.2%	-0.1%	2.7%
Full Period	-4.7%	9.0%	2.7%	2.9%	-0.3%	6.3%

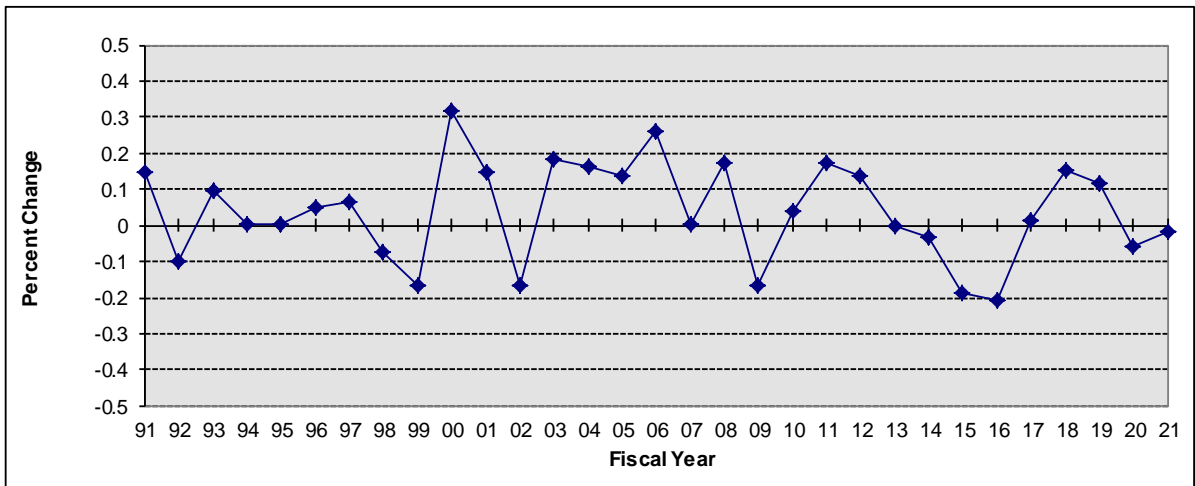
HISTORICAL DATA ARIZONA NOMINAL GAS PRICE GROWTH (Annual Percent Change)

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

1980		1990		2000	31.7%	2010	4.0%	2020	-5.9%
1981		1991	14.8%	2001	14.6%	2011	17.1%	2021	-1.6%
1982		1992	-10.0%	2002	-16.7%	2012	13.9%	2022	
1983		1993	9.9%	2003	18.1%	2013	-0.4%	2023	
1984		1994	0.3%	2004	16.3%	2014	-3.5%	2024	
1985	0.6%	1995	0.5%	2005	13.8%	2015	-18.6%	2025	
1986	-6.1%	1996	4.9%	2006	26.2%	2016	-20.7%	2026	
1987	0.0%	1997	6.3%	2007	0.5%	2017	1.2%	2027	
1988		1998	-7.4%	2008	17.3%	2018	15.0%	2028	
1989		1999	-16.6%	2009	-16.9%	2019	11.6%	2029	

U.S. Department of Energy (EIA Administration) for FY 1985-2011, AAA Arizona for FY 2012-2021 (includes taxes).

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	-5.9%	15.0%	4.1%	8.9%	-4.2%	13.7%
10 Years	-20.7%	15.0%	-0.9%	12.4%	-18.8%	14.0%
Full Period	-20.7%	31.7%	3.9%	13.7%	-16.7%	17.3%

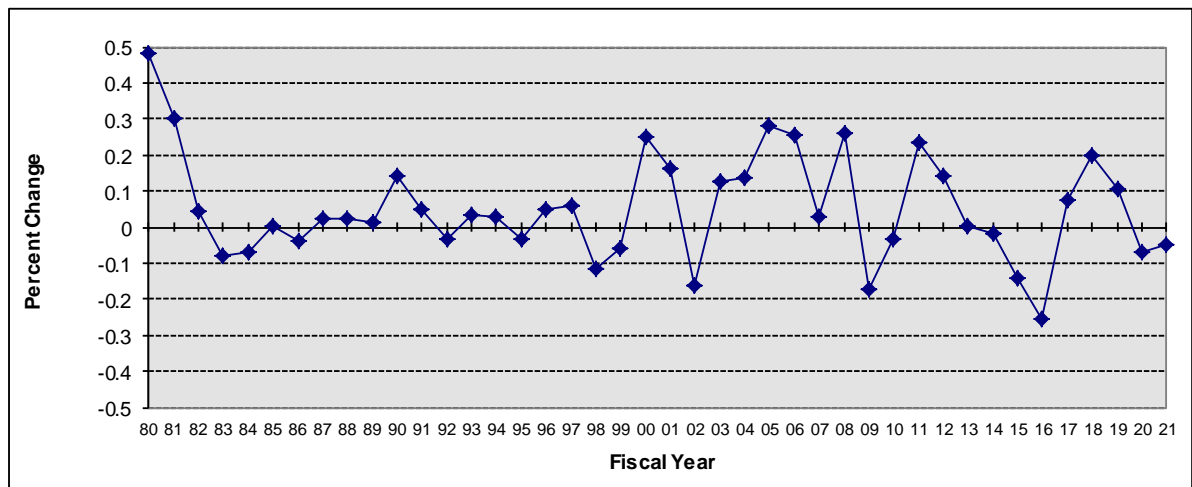
HISTORICAL DATA WEST COAST NO. 2 NOMINAL DIESEL PRICE GROWTH (Annual Percent Change)

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

1980	48.1%	1990	14.2%	2000	25.0%	2010	-3.4%	2020	-6.7%
1981	30.2%	1991	4.6%	2001	16.4%	2011	23.5%	2021	-5.1%
1982	4.3%	1992	-3.2%	2002	-16.4%	2012	14.2%	2022	
1983	-8.0%	1993	3.1%	2003	12.4%	2013	0.0%	2023	
1984	-6.8%	1994	2.7%	2004	13.6%	2014	-2.0%	2024	
1985	0.1%	1995	-3.4%	2005	27.8%	2015	-14.1%	2025	
1986	-4.0%	1996	4.9%	2006	25.5%	2016	-25.3%	2026	
1987	2.1%	1997	5.8%	2007	2.7%	2017	7.5%	2027	
1988	2.3%	1998	-11.8%	2008	25.8%	2018	19.7%	2028	
1989	1.2%	1999	-5.9%	2009	-17.2%	2019	10.5%	2029	

U.S. Department of Energy (EIA Administration) for FY 1972-2021 (includes taxes).

HISTORICAL DATA - GRAPHED



HISTORICAL DATA - ANALYSIS

Period	Historical		Mean	Std. Dev.	80% Range	
	Min.	Max.			Lower	Upper
5 Years	-6.7%	19.7%	5.2%	11.1%	-6.1%	16.0%
10 Years	-25.3%	19.7%	-0.1%	13.6%	-15.3%	14.7%
Full Period	-25.3%	48.1%	5.1%	14.7%	-11.4%	25.4%