

Estimating Motor Fuel Demand in South Carolina

FY 2025-26 and FY 2026-27



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INTRODUCTION

This report analyzes the history of South Carolina’s motor fuel consumption and revenue and uses linear regression models and historical growth to project the total revenue for the next two fiscal years. The primary types of motor fuel used in South Carolina are gasoline and diesel fuel, although gasoline is consumed at a rate of over three times more than diesel in the state. For the purposes of this report, the term “gasoline” refers to both gasoline and gasohol, and the term “diesel” refers to diesel, biodiesel, and liquified petroleum gas.

HISTORICAL MOTOR FUEL CONSUMPTION AND REVENUE

Motor fuel demand in South Carolina has generally increased over time. However, in 2020, consumption significantly decreased due to the effects of the COVID-19 pandemic. Reduced travel and restrictions significantly impacted demand, particularly for gasoline in late FY 2019-20. Additional factors such as motor fuel prices and an increasing demand for electric and hybrid motor vehicles have also affected the consumption of motor fuels, especially gasoline.

The following chart and table show the motor fuel gallons subject to the user fees in South Carolina since 2005.

Figure 1. SC Motor Fuel Consumption

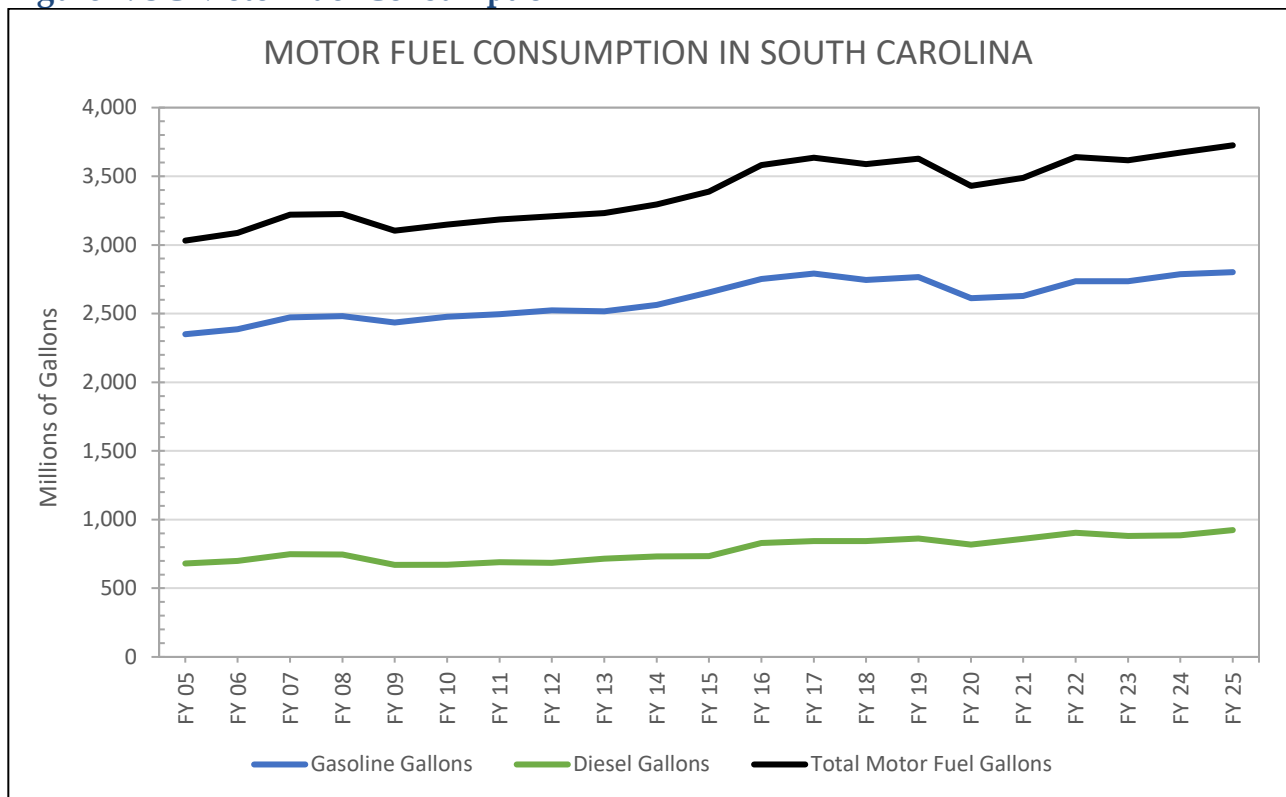


Table 1. Summary of Motor Fuel Gallons Subject to the User Fees

Fiscal Year	Gasoline (Billions of Gallons)	Diesel Fuel (Billions of Gallons)	Total Motor Fuel (Billions of Gallons)
2009-10	2.477	0.720	3.462
2010-11	2.497	0.739	3.353
2011-12	2.523	0.723	3.357
2012-13	2.517	0.756	3.409
2013-14	2.563	0.775	3.438
2014-15	2.655	0.790	3.535
2015-16	2.751	0.872	3.742
2016-17	2.791	0.893	3.771
2017-18	2.745	0.895	3.781
2018-19	2.767	0.902	3.787
2019-20	2.611	0.853	3.544
2020-21	2.629	0.908	3.659
2021-22	2.737	0.901	3.852
2022-23	2.735	0.880	3.615
2023-24	2.787	0.886	3.673
2024-25	2.802	0.924	3.725

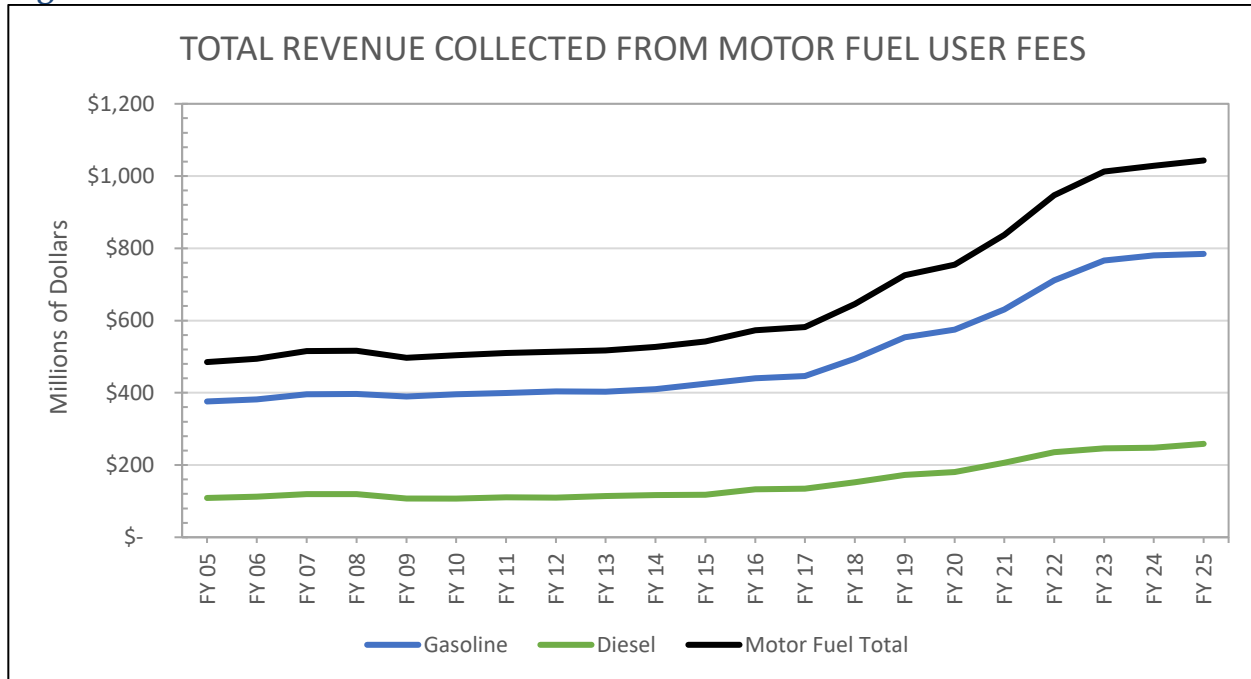
*Motor fuel gallons subject to the user fee are calculated based on total revenue.

Due to changes in the fee over time, revenue is comprised of three main components in South Carolina:

- a 16 cents-per-gallon “base” fee,
- an additional fee component that increased by 2 cents each year from FY 2017-18 through FY 2022-23, and
- a 0.75 cents-per-gallon environmental and inspection fee.

The current total fee for FY 2025-26 is 28.75 cents per gallon. Further discussion on these components, the allocations of fee revenue, and the tax rate schedule can be found in the Appendix. Figure 2 depicts the revenue collected from motor fuel user fees without the 0.75 cents environmental and inspection fee.

Figure 2. Total Revenue Collected from Motor Fuel User Fees



Note: These amounts exclude the \$0.75 environmental and inspection fees.

PROJECTIONS FOR FISCAL YEARS 2025-26 AND 2026-27

Projections for motor fuel revenue are based upon a regression model for gasoline and historical growth for diesel fuel. Gasoline demand is predicted using the lagged three-year moving average of average fuel economy, per capita personal income, and the amount of the motor fuel user fee. Additional details for this model are available in the Appendix.

Projecting gasoline consumption for FY 2025-2026 and FY 2026-2027 requires projections for most of the input variables for the model. The accuracy of the forecasts of these variables affects the ability of the model to forecast gasoline revenue. To account for the risk involved in forecasting gasoline revenue based on forecasted input variables, we have provided forecast ranges for gasoline consumption.

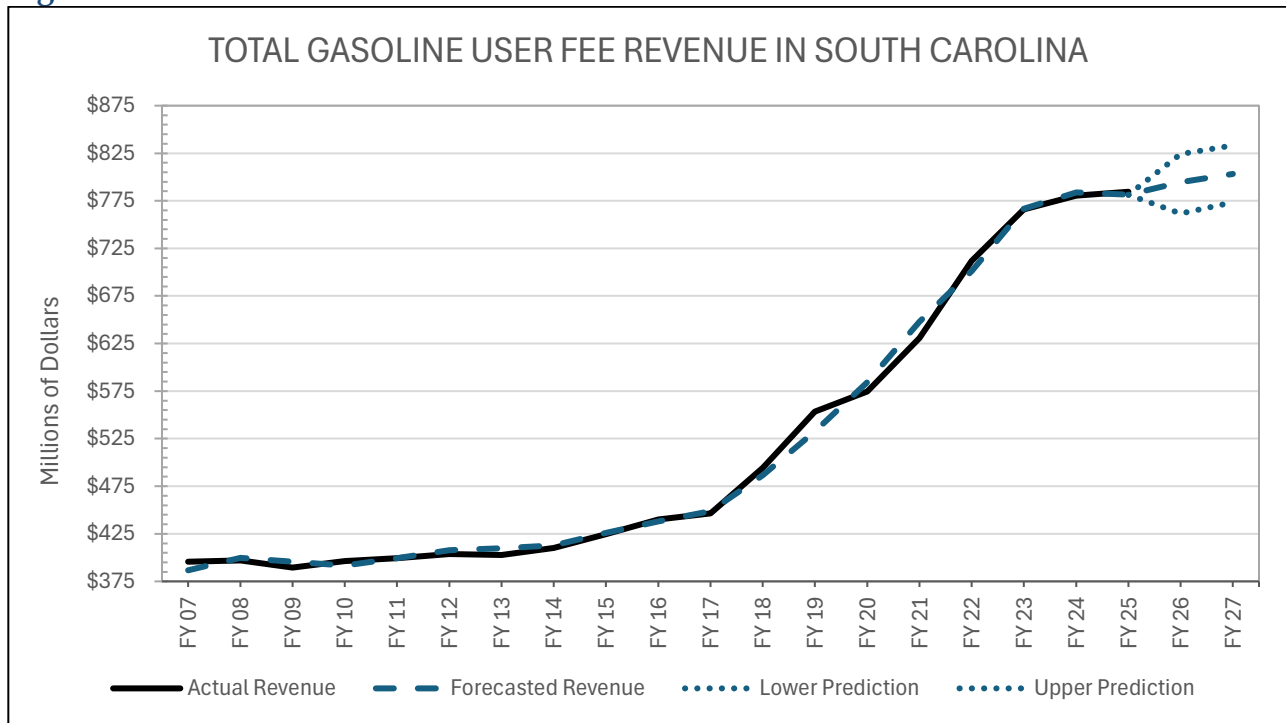
Based upon the model, we estimate motor fuel fee revenue for gasoline and its corresponding forecast range for FY 2025-26 and FY 2026-27 as follows:

Table 2. Gasoline User Fee Revenue Projections and Forecast Ranges

Fiscal Year	Gasoline User Fee Revenue Projections (Millions)	Gasoline User Fee Revenue Forecast Range* (Millions)
2024-25 (actual)	\$784.502	N/A
2025-26	\$794.717	\$761.633 – 824.320
2026-27	\$803.245	\$773.295 – 833.166

*(95% Prediction Intervals)

Figure 3. Gasoline User Fee Revenue in South Carolina



In forecasting diesel fuel, a variety of both quarterly and annual models with differing independent variables were considered. These models included models that historically produced estimates consistent with overall economic expectations as well as new models. This year, however, the models reviewed either were not statistically significant or provided forecast results that were inconsistent with our overall economic expectations. This change may be attributable to changes in dynamics of the independent variables or the projections of the variables for the forecast period. Given these discrepancies, this year's projections for FY 2025-26 and FY 2026-27 are based on historical diesel motor fuel revenue growth in the state, expectations for the overall economy in the state, and short-term motor fuel demand estimates from other states and entities.

The following table provides our projections of the total revenue from the diesel user fee.

Table 3. Diesel Fuel User Fee Revenue Projections

Fiscal Year	Diesel User Fee Revenue Projections (Millions)
2024-25 (actual)	\$258.617
2025-26	\$267.669
2026-27	\$275.697

Figure 4. Diesel Fuel User Fee Revenue in South Carolina

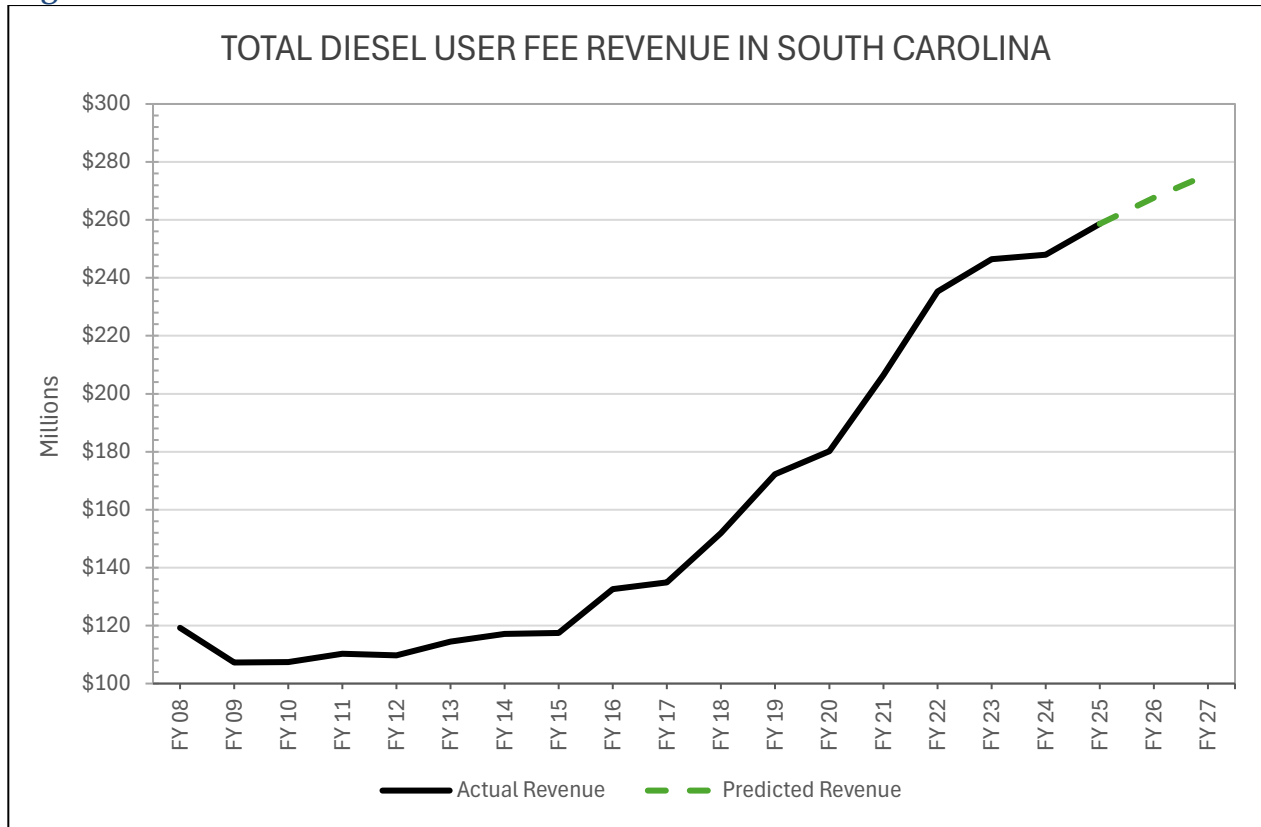


Table 4. Motor Fuel User Fee Revenue History and Estimates

Fiscal Year	Fee Per Gallon	Gasoline		Diesel Revenue		Total Motor Fuel Revenue	
		Dollars	% Change	Dollars	% Change	Dollars	% Change
2009-10	16	\$396,262,582	1.74%	\$107,442,882	0.16%	\$503,705,464	1.40%
2010-11	16	\$399,487,621	0.81%	\$110,325,004	2.68%	\$509,812,625	1.21%
2011-12	16	\$403,834,314	1.09%	\$109,744,365	(0.53%)	\$513,578,679	0.74%
2012-13	16	\$402,667,179	(0.29%)	\$114,511,278	4.34%	\$517,178,457	0.70%
2013-14	16	\$410,108,790	1.85%	\$117,137,065	2.29%	\$527,245,855	1.95%
2014-15	16	\$424,754,788	3.57%	\$117,457,502	0.27%	\$542,212,290	2.84%
2015-16	16	\$440,218,179	3.64%	\$132,645,553	12.93%	\$572,863,733	5.65%
2016-17	16	\$446,608,833	1.45%	\$134,870,908	1.68%	\$581,479,741	1.50%
2017-18	18	\$494,128,760	10.64%	\$151,935,565	12.65%	\$646,064,325	11.11%
2018-19	20	\$553,345,125	11.98%	\$172,225,934	13.35%	\$725,571,058	12.31%
2019-20	22	\$574,486,486	3.82%	\$180,172,095	4.61%	\$754,658,582	4.01%
2020-21	24	\$630,855,710	9.81%	\$206,466,083	14.59%	\$837,321,793	10.95%
2021-22	26	\$711,666,268	12.81%	\$235,278,106	13.95%	\$946,944,374	13.09%
2022-23	28	\$765,912,026	7.62%	\$246,459,165	4.75%	\$1,012,287,036	6.90%
2023-24	28	\$780,367,239	1.89%	\$248,003,945	0.63%	\$1,028,371,185	1.58%
2024-25	28	\$784,502,179	0.53%	\$258,616,974	4.28%	\$1,043,119,152	1.43%
2025-26e	28	\$794,716,859	1.30%	\$267,668,568	3.50%	\$1,062,385,427	1.85%
2026-27e	28	\$803,244,721	1.07%	\$275,698,625	3.00%	\$1,078,943,346	1.56%

e-Estimates

Note: Figures do not include the 0.75 cents per gallon environmental and inspection fees.

APPENDIX

I. SOUTH CAROLINA MOTOR FUEL TAX RATES

The following table gives an overview of how the motor fuel tax rate has changed since it was first enacted. The rate increased to 28 cents on July 1, 2022, the last year of the increases enacted in 2017.

Table A1. South Carolina Motor Fuel Tax Rate Schedule

Year	Tax	Legislative Enactment
1922	2 cents	Act 494 of 1922
1923	3 cents	Act 146 of 1923
1925	5 cents	Act 34 of 1925
1929	6 cents	Act 102 of 1929
1958	7 cents	Act 855 of 1958
1972	8 cents	Act 1575 of 1972
1977	9 cents	Act 141 of 1977
1979	10 cents	Act 197 of 1979
1980	11 cents	Act 506 of 1980
1981	13 cents	Act 177 of 1981
1987	15 cents	Act 197 of 1987
1995	16 cents	Act 136 of 1995
2017	18 cents	Act 40 of 2017
2018	20 cents	Act 40 of 2017
2019	22 cents	Act 40 of 2017
2020	24 cents	Act 40 of 2017
2021	26 cents	Act 40 of 2017
2022	28 cents	Act 40 of 2017

II. SOUTH CAROLINA MOTOR FUEL FEE DISTRIBUTION

Funds collected from the motor fuel user fee are distributed among various agencies and funds. Act 40 of 2017 set a yearly increase of the fee through FY 2022-23 and restructured the way the fee revenue is allocated. Table A2 shows a breakdown of the current distributions.

Table A2. Motor Fuel User Fee Distribution as of July 1, 2022

Gasoline Revenue Distribution	Code of Laws Section
\$18 million of the first 3¢ to the State Non-Federal Aid Highway Fund	§12-28-2910
13¢ component	-
0.13¢ (1% of 13¢) to DNR	§12-28-2730 (A)
12.87¢	-
2.66¢ to "C" Funds	§12-28-2740 (A)
10.11¢ to DOT	§12-28-2720
0.25¢ of this amount to Mass Transit	§12-28-2725
12¢ component ¹	-
1.33¢ to "C" Funds ²	§12-28-2740 (A)
10.67¢ to Infrastructure Maintenance Trust Fund ³	§12-28-310 (D)
Remaining 3¢ to the State Highway Fund	§12-28-2750

Diesel Revenue Distribution	Code of Laws Section
12¢ to Infrastructure Maintenance Trust Fund ¹	§12-28-310 (D)
Remaining 16¢ to the State Highway Fund	§12-28-2750

Total Motor Fuel User Fee³: 28¢	§12-28-310 (Act 40 of 2017)
Total Environmental and Inspection Fee: 0.75¢	§12-28-2355
0.25¢ Inspection Fee to DOT State Non-Federal Aid Highway Fund	§12-28-2355 (C) (Act 40 of 2017)
0.50¢ Environmental Impact Fee to DHEC	§12-28-2355 (B)

1 – Motor fuel user fee increased by 2¢ per year for six years beginning July 1, 2017, for a total increase of 12¢ by July 1, 2022.

2 - Pursuant to Proviso 86.1 of the FY 2023-24 Appropriations Act, the increase in "C" Funds is taken from the 2¢ increase per year of the gasoline user fee.

3 - Pursuant to Proviso 86.1 of the FY 2023-24 Appropriations Act, the Motor Fuel User Fee increase pursuant to §12-28-310 on gasoline is reduced by the increase in the allocation to "C" Funds. (See footnote 1)

III. MODEL AND STATISTICS

GASOLINE

The general equation for gasoline user fee revenue may be written as:

$$\ln R_t = f(\text{lag}E_t, \ln I_t, F_t),$$

where

R_t is the amount of per capita gasoline user fee revenue at time t ,

$\text{lag}E_t$ is the lagged three-year moving average of average fuel economy at time t ,

I_t is per capita personal income at time t ,

F_t is the motor fuel user fee at time t .

After estimating the model using annual data from fiscal year 2008 to fiscal year 2025, the following model was produced:

$$\ln R_t = 2.67 - 0.03\text{lag}E_t + 0.55\ln I_t + 2.77\ln F_t$$

Table A3. Gasoline Demand Model Statistics and Fit

<i>Regression Statistics</i>						
Multiple R	0.997					
R Square	0.994					
Adjusted R Square	0.993					
Standard Error	0.017					
Observations	19					

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	3	0.7339	0.2446	830.8937	6.8513E-17	
Residual	15	0.0044	0.0003			
Total	18	0.7383				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	2.672	0.251	10.631	2.221E-08	2.136	3.207
lag E_t	-0.026	0.007	-3.475	0.003	-0.042	-0.010
$\ln I_t$	0.546	0.125	4.379	0.001	0.280	0.811
F_t	2.769	0.315	8.788	2.656E-07	2.098	3.441

IV. DATA SOURCES

Motor Fuel User Fee Revenue: S.C. Department of Transportation

Population Estimates: S&P Global Market Intelligence
State Analysis Data, Quarterly, South Carolina (7/14/25)

Personal Income: S&P Global Market Intelligence
State Analysis Data, Quarterly, South Carolina (7/14/25)

Fuel Economy:
U.S. Environmental Protection Agency (EPA)

Population Forecasts: S&P Global Market Intelligence
S&P State Analysis Forecast Data, Quarterly Data, South Carolina (7/14/25)

Personal Income Forecasts: S&P Global Market Intelligence
S&P State Analysis Forecast Data, Quarterly Data, South Carolina (7/14/25)

Fuel Economy Forecasts:
Based on the ratio of fuel economy to Corporate Average Fuel Economy (CAFE)
Standards from the U.S. EPA, using fuel economy growth