Truflation

Truflation U.S. CPI Gasoline Inflation Index (TruCPIGas-US)

Methodology

February 20, 2026

Contents

1. Executive Summary

The Truflation U.S. CPI Gasoline Inflation Index (TruCPIGas-US) is a real-time benchmark designed to track retail gasoline price movements across the United States using a high frequency, multi source methodology. The index captures changes in consumer gasoline costs by integrating nationwide retail price observations, official government benchmarks and supplementary market based pricing signals.

Gasoline is one of the most volatile and economically sensitive components of consumer inflation. Price movements are driven by a number of factors including prices of crude oil, refining capacity, distribution constraints, taxes, regional supply disruptions, strategic petroleum reserves and the geopolitical landscape. All of these can shift the price of Gasoline rapidly and having a real time price benchmark that is multi sourced allows the data to be dynamic.

By combining multiple data sources and updating on a daily basis, the Truflation U.S. CPI Gasoline Inflation Index delivers an immediate and representative view of gasoline price inflation as experienced by consumers. This approach provides earlier detection of inflationary and disinflationary pressures in transportation costs as well as input costs to both goods and services while improving insight into near term headline CPI movements.

2. Truflation U.S. CPI Gasoline Inflation Index Framework

The Truflation U.S. CPI Gasoline Inflation Index (TruCPIGas-US) is derived from a proprietary, weighted blend of gasoline price data sourced from four independent providers. Each source captures retail gasoline prices using distinct and unique methodologies, enabling the index to reflect both broad national trends and localized market dynamics. The index is constructed through the following steps:

Step 1: Data Sources
The index incorporates data from a diverse set of providers, each contributing a unique perspective on retail gasoline prices.

- *AAA:* Nationwide retail gasoline price averages derived from an extensive network of monitored fuel stations, reflecting prices paid by consumers across major metropolitan and regional markets.

- *EIA:* Official gasoline price data published by the Energy Information Administration, serving as a benchmark for national retail fuel price trends.
- *BLS:* Gasoline price data used in the Consumer Price Index, based on a statistically representative sample of urban retail fuel outlets across the United States.
- *Numbeo:* Crowdsourced gasoline price data reported by consumers, supplementing the index with additional real-time and localized pricing signals.

Step 2: Data Collection
The Truflation U.S. CPI Gasoline Inflation Index ingests data from partners operating at varying frequencies; daily, weekly, and monthly. All data are incorporated without temporal distortion and carried forward on a daily basis until a new verified observation becomes available, ensuring continuity while preserving the integrity of each source.

Truflation publishes its Gasoline Inflation reading daily at 23:59 Coordinated Universal Time (UTC), delivering a significantly more timely view of price movements compared to traditional inflation measures, which typically exhibits an average lag of around 30 days.

All source data tables within Truflation are immutable. Upon ingestion, every data point is time stamped and permanently preserved. Historical data is never overwritten, only supplemented with new or revised observations.

Step 3: Weighting Framework
The weighting framework is constructed using a two tier, bottom up approach combining state-level consumption weights with a data source weighting overlay.

State Level Consumption Weighting
At the first level, weights are derived from state-level gasoline consumption, measured in thousands of barrels, to reflect the relative share of demand across geographic markets. These weights are then systematically aggregated from the state level to regional groupings and ultimately to the national level. This establishes a consumption based baseline that aligns the index with the underlying consumption of gasoline usage across the United States, while enabling transparent attribution and consistent index behavior across all levels of aggregation.

State-Level Structure
The index is organized across three hierarchical layers:

- *State Layer:* Each state is assigned a weight, based on its share of total U.S. gasoline consumption, measured in thousands of barrels.
- *Region Layer:* Each state is mapped to a single region using a fixed state-to-region classification with regional weights calculated as the sum of their constituent state weights.
- *National Layer:* National weights are derived as the sum of all regional weights, ensuring the aggregate index reflects both localized price movements and overall consumption exposure.

This hierarchical structure preserves state-level granularity while enabling the construction of consistent and analytically robust regional and national sub-indices.

State-Level Weights

State weights are derived from gasoline consumption at the state level, measured in thousands of barrels. Each state's weight is calculated as its consumption divided by the total consumption across all states. Total U.S. gasoline consumption in 2023 was 3,264,918 thousand barrels. The detailed state-level consumption and corresponding weights are presented in Exhibit 1.

Exhibit 1: 2023 State Consumption Data and Corresponding State-Level Weights

State	000's of Barrels	State Level Weighting		State	000's of Barrels	State Level Weighting
Alabama	75,008	2.297%		Montana	12,786	0.392%
Alaska	6,248	0.191%		Nebraska	21,401	0.655%
Arizona	70,888	2.171%		Nevada	27,722	0.849%
Arkansas	36,356	1.114%		New Hampshire	16,352	0.501%
California	314,150	9.621%		New Jersey	85,559	2.621%
Colorado	55,621	1.704%		New Mexico	22,826	0.699%
Connecticut	33,518	1.027%		New York	124,770	3.822%
Delaware	11,862	0.363%		North Carolina	116,908	3.581%
District of Columbia	2,411	0.074%		North Dakota	9,973	0.305%
Florida	223,757	6.853%		Ohio	111,764	3.423%
Georgia	120,403	3.688%		Oklahoma	45,226	1.385%
Hawaii	9,986	0.306%		Oregon	35,006	1.072%
Idaho	19,893	0.609%		Pennsylvania	105,257	3.224%
Illinois	98,443	3.015%		Rhode Island	8,485	0.260%
Indiana	71,401	2.187%		South Carolina	66,266	2.030%
Iowa	36,044	1.104%		South Dakota	11,318	0.347%
Kansas	30,498	0.934%		Tennessee	81,200	2.487%
Kentucky	51,684	1.583%		Texas	347,210	10.634%

Source: Truflation

Louisiana	51,440	1.576%		Utah	30,452	0.933%
Maine	16,816	0.515%		Vermont	6,704	0.205%
Maryland	58,394	1.789%		Virginia	96,729	2.963%
Massachusetts	59,057	1.809%		Washington	62,061	1.901%
Michigan	101,970	3.123%		West Virginia	19,585	0.600%
Minnesota	57,322	1.756%		Wisconsin	61,731	1.891%
Mississippi	39,975	1.224%		Wyoming	7,613	0.233%
Missouri	76,869	2.354%				

State-to-Region Mapping

Each state is assigned to one of four regions as defined by the U.S. Census Bureau, using a fixed mapping table. This classification is applied consistently across all calculation periods to ensure stability, comparability, and reproducibility. The full mapping is presented in Exhibit 2.

Exhibit 2: State-to-Region Mapping Table

Northeast	Midwest	South	West
Connecticut (CT)	Illinois (IL)	Alabama (AL)	Alaska (AK)
Maine (ME)	Indiana (IN)	Arkansas (AR)	Arizona (AZ)
Massachusetts (MA)	Iowa (IA)	Delaware (DE)	California (CA)
New Hampshire (NH)	Kansas (KS)	Dist.of Col. (DC)	Colorado (CO)
New Jersey (NJ)	Michigan (MI)	Florida (FL)	Hawaii (HI)
New York (NY)	Minnesota (MN)	Georgia (GA)	Idaho (ID)
Pennsylvania (PA)	Missouri (MO)	Kentucky (KY)	Montana (MT)
Rhode Island (RI)	Nebraska (NE)	Louisiana (LA)	Nevada (NV)
Vermont (VT)	North Dakota (ND)	Maryland (MD)	New Mexico (NM)
	Ohio (OH)	Mississippi (MS)	Oregon (OR)
	South Dakota (SD)	North Carolina (NC)	Utah (UT)
	Wisconsin (WI)	Oklahoma (OK)	Washington (WA)
		South Carolina (SC)	Wyoming (WY)
		Tennessee (TN)	
		Texas (TX)	
		Virginia (VA)	
		West Virginia (WV)	

Regional Weights

The regional weights are calculated as the sum of state weights within each region. The resulting regional weights are shown in Exhibit 3.

Exhibit 3: State to Region Consumption Weights

Northeast	Midwest	South	West
13.984%	21.094%	44.241%	20.681%

Data Provider Weighting

At the second level, a provider weighting overlay is applied. Each eligible data provider is assigned a relative weight based on objective criteria, including station coverage, data representativeness and collection methodology. This ensures that sources with broader market coverage and higher quality data exert a proportionally greater influence. These weights determine the contribution of each provider in measuring prices within each state-level market.

Provider weights are calibrated using three equally weighted components:

- *Number of Gas Stations Tracked:* Sources covering a larger number of stations receive higher weightings. This is calculated as the number of stations tracked by each provider divided by the total across all providers.
- *Data Representativeness:* Representativeness is assessed based on geographic coverage and contribution to national sales. A fully national dataset receives a factor of 1, while sub-national datasets are scaled proportionally. For example:
    - Geographic coverage: 15% of the U.S. population → factor 0.15
    - Market share within that geography: 50%
    - Final representation factor: 0.15 × 0.50 = 0.075
- *Data Collection Methodology:* Weightings are adjusted to reflect the robustness of the collection approach:
    - Census level data has a factor of 1
    - Primary collection methods (e.g., structured surveys with quality controls): 50% discount
    - Secondary methods (e.g., crowdsourced or self-reported data): an additional 50% discount, resulting in a total discount of 75%

Together, these components ensure a balanced weighting framework that prioritizes scale, representativeness, and data quality. The initial provider weighting based on the three criteria are outlined in Exhibit 4.

Exhibit 4 - Initial Data Provider Weighting

Data Provider	# of Gas Stations Tracked	Data Representiveness	Data Collection Method
AAA	120,000	National	Census
EIA	1,000	National	Survey
BLS	800	National	Survey
Numbeo	12,000	National	Crowdsourcing

Finally, a minimum floor weight of 5% is applied to all providers to ensure each data source is represented in the index. The remaining weight is then redistributed proportionally across the other sources.

The combined framework ensures that observed gasoline prices are weighted both by their economic significance (consumption) and by the relative quality and coverage of the underlying data sources, resulting in a robust and representative measure of gasoline price movements.

Step 4: Calculation Framework

The TruCPIGas-US index is calculated using the State → Region → National framework, with all data providers blended at the state level. For each state, gasoline prices from all eligible providers are combined into a single state-level price index using the provider weighting methodology defined in Section 2.

Handling of Regional Level Data Sources

Not all data providers supply gasoline prices at the same level of geographic granularity. While the majority of providers report prices at the state level, there are two providers that publish data at a regional level.

To ensure consistency and full geographic coverage, for these two providers, a single regional price is assigned uniformly to all states within the corresponding region based on the fixed state to region classification defined in Section 2, Step 3. This approach enables the inclusion of all eligible data sources within the state-level calculation framework, ensuring that each provider contributes to the index even when data granularity differs.

State-level indices are then aggregated into regional indices using the state weights based on gasoline consumption. These regional indices are subsequently combined to form the national gasoline price index using derived regional weights.

This approach ensures that differences across data providers are resolved at the most granular level, while regional and national indices accurately reflect consumption-weighted gasoline price movements.

Step 5: Rebalancing Frequency
The Index is rebalanced annually at the end of February to reflect changes in state-level gasoline consumption, as well as any updates to the eligibility criteria for data providers.

Step 6: Scaling Factor (Divisor Adjustment)
A scaling factor is applied to maintain index continuity and prevent artificial changes in the index level resulting from structural events. Such events include constituent additions or deletions, changes in index weights due to scheduled rebalancing and other methodology driven adjustments.

The scaling factor is calculated as:

Scaling Factor = Old Weighted Sum / New Weighted Sum

The index level is calculated as:

Index Level = Weighted Sum × Scaling Factor

Prior to a structural event, the scaling factor remains unchanged. On the effective date of a constituent change or weight rebalance, the scaling factor is recalculated to ensure that the index remains consistent immediately before and after the event. The updated scaling factor remains in effect until the next structural event requiring adjustment.

All changes to the scaling factor are documented with effective dates to ensure transparency, auditability and historical consistency of the index series.

3. The Output Metrics

The Truflation U.S. CPI Gasoline Inflation Index is updated on a daily basis and produces the following indexes:

1. TruCPIGas-US Headline (USD) Index value
2. TruCPIGas-US Headline (USD) year on year change
3. TruCPIGas-US Regional (USD) Index value and year on year change
4. TruCPIGas-US State (USD) Index value and year on year change
5. Historical time series

The TruCPIGas-US Index was officially launched on February 20, 2026 with historical data starting from January 1, 1993.

4. Truflation U.S. CPI Gasoline Inflation Index Benefits

Gasoline is one of the most volatile and economically significant components of U.S. consumer inflation, with price movements rapidly transmitting into household budgets, transportation costs, and headline CPI. The Truflation U.S. CPI Gasoline Inflation Index is designed to capture these dynamics with greater speed, granularity, and realism than traditional monthly measures.

By integrating multiple independent data sources at state level, the index reflects gasoline prices as consumers actually experience them across different parts of the country. Consumption based state weighting ensures that price changes in high demand states appropriately influence the national signal, while regional aggregation preserves visibility into localized supply shocks, tax effects, and seasonal demand patterns.

Daily updates enable the index to detect inflationary and disinflationary turning points in gasoline prices weeks before they appear in official statistics. This makes it particularly valuable for near term inflation monitoring, macroeconomic analysis, energy market assessment and real-time policy or investment decision making.

The result is a transparent, resilient, and consumption aligned benchmark that provides a high resolution view of U.S. gasoline inflation and its role within broader price dynamics.

5. Summary

The Truflation U.S. CPI Gasoline Inflation Index provides a real-time, consumption weighted measure of gasoline price inflation across the United States. By blending multiple data sources at the state level and aggregating through a structured State → Region → National framework, the index captures price movements as experienced by consumers. Daily updates, combined with a transparent and robust methodology, make it a timely and reliable benchmark for monitoring energy driven inflation dynamics.

6. Version History

Version	Date Released	Notes
1.0	February 20, 2026	Genesis of the Truflation U.S. CPI Gasoline Inflation Index