

OPIS Retail Pricing Methodology

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This document outlines the methodology employed by OPIS, a Dow Jones company, for Retail prices.

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Retail Gasoline Pricing

Price Discovery

Every day OPIS captures nearly 5 million retail gasoline and diesel prices for up to 150,000 unique fuel stations throughout North America. Through relationships with fleet card companies, direct feeds from leading retailers, and crowdsourced data from popular mobile applications, OPIS is able to provide the most comprehensive and accurate pump prices in the industry.

The OPIS retail data is relied on by many of the top fuel retailers in the country to replace store manager surveys. Additionally, many websites and mobile applications source fuel prices from OPIS, and most of the largest automobile manufacturers display our real-time fuel prices in their connected car onboard platforms.

Data Integrity

To ensure accuracy of the retail prices and station information, OPIS scrubs the incoming data from our suppliers using many quality control processes. Automated queries such as station brand changes, product mapping, and price flipping among many others alert our team of more than a dozen data quality analysts of changes in real time, who validate and update station and pricing information to ensure the highest standard of accuracy.

Through close relationships with fuel-industry customers, OPIS is alerted of potential discrepancies in our data set, which further enhances our ability to manage and correct pricing issues. Additionally, OPIS has begun to utilize data science and machine learning techniques to help identify and eliminate problematic data.

Standard Levels of Coverage

(U.S. Data for Regular Unleaded Gasoline)

- **Within Last 24-Hour Period:** At least 1 price at 87% of all stations
- **Within Last 48-Hour Period:** At least 1 price at 96% of all stations
- **Within Last 72-Hour Period:** At least 1 price at 98% of all stations

Retail Diesel Pricing

Price Discovery

OPIS surveys the current retail prices of No. 2 low sulfur and Ultra Low Sulfur diesel fuel from more than 9,000 active truckstops and travel plazas in the U.S. and Canada. Retail prices are gathered by major fuel card companies including Comdata and TCH as well as through direct feeds from major truckstop chains.

OPIS reports wholesale fuel prices by products as defined by EPA standards more so than by any type of product use. For example, the EPA defines low-sulfur fuels as having a sulfur content of less than 500ppm and Ultra Low Sulfur diesel as less than 15 ppm.

Data Integrity

OPIS combines this retail price data with current rack and tax rate information as well as the latest reported freight rates to calculate the estimated laid-in costs and profit margins of fuel at each of the fueling sites included in the OPIS survey. The OPIS estimated cost figures

are recognized as the industry standard for benchmarking “Cost Plus” fuel purchases by large trucking fleets.

Cost Plus is a method of purchasing fuel at the retail level where the fleet (buyer) and truckstop (seller) agree to a fixed margin above the cost of the fuel to the truckstop. This fixed margin protects both the fleet and the truckstop by ensuring the cost of fuel to the fleet and the profit to the truckstop is tied to a legitimate market index.

Products & Specifications

- **No. 2 Ultra Low-Sulfur:** No. 2 Ultra Low Sulfur has a sulfur content of less than 15 ppm and must be used to supply at least 80% of the nation's on road diesel fuel sold at the retail level as of October 15, 2006. In addition to clear No. 2 low sulfur, OPIS also provides pricing for Red Dye, Premium, Low Emissions and Winter grades of Ultra low-sulfur diesel fuels. All of the OPIS Ultra Low-Sulfur diesel products are understood to include lubricity.
- **No. 2 Low-Sulfur:** Clear low-sulfur (LS No.2) diesel has a sulfur content up to 500 ppm and can be used for up to 20% of the nation's on road diesel fuel sold at the retail level. In addition to clear No. 2 low sulfur, OPIS also provides pricing for Red Dye, Premium, Winter, Low Emissions Diesel and Lubricity grades of low-sulfur diesel fuels.
- **No. 2 High-Sulfur:** Clear high-sulfur No.2 diesel is used as an off-road fuel for equipment such as farm machinery or as home heating oil.
- **No. 1 Low-Sulfur:** Clear low-sulfur fuel is commonly used for “blending” on-road fuels. Diesel is blended during winter months to create a diesel fuel that will not solidify or gel in colder temperatures.
- **No. 1 High-Sulfur:** Clear high sulfur is used for various off road agricultural and industrial purposes. Crop drying ovens is one example.
- **Kerosene:** Kerosene has a lower freeze point, lower flash point and lower pour point.
- **Red-dye:** Diesel fuel is dyed red to denote it is being used for tax-exempt purposes. Entities that are tax-exempt (school boards, etc.) use red-dyed fuel because it is tax exempt. There is no difference in red-dyed product specifications. Red-dyed prices typically are 0.25 to 0.35cts higher than clear prices to recoup the charge for the dye and dying process.
- **Premium Diesel:** The higher cetane rating is what makes a regular diesel a premium diesel, along with some type of detergent package that serves to clean the engine as the fuel is burned. Cetane is to diesel what octane is to gasoline. Premium diesel typically has a minimum 45 cetane rating, whereas regular diesel is closer to a 38 to 40 cetane rating.
- **Winter Diesel:** During the winter months, on road diesel fuels may be blended with other diesel fuels or chemical additives to produce a Winter diesel that will not begin to solidify or gel due to cold temperatures. OPIS also provides pricing for Red Dye, Premium, and Lubricity grades of Winter diesel fuels.
- **Lubricity:** Several states have mandated the use of a lubricity additive in several on road Low Sulfur diesel fuels. OPIS provides separate pricing displays for Low Sulfur and Low Sulfur with lubricity products. Diesel postings which may include lubricity are Low Sulfur, Red Dye, Winter and Premium diesel products. Since all Ultra Low Sulfur products must have a lubricity component, it is not necessary to maintain a separate lubricity product grouping within Ultra Low Sulfur products.

- **CARB Diesel:** As of June 1, 2006, all diesel fuel sold for vehicular use in California must meet a 15 ppm maximum sulfur limit (Ultra Low), in addition to meeting all of the current low aromatics CARB diesel specifications. The definition of “vehicular use” in California includes on-highway vehicles and non-road vehicles such as agriculture and construction equipment.
- **Low Emissions Diesel:** Beginning in October 2005, 110 counties East/Central Texas required the use of Low Emissions Diesel or LED in both on-road vehicles and in non-road agricultural and construction equipment. LED diesel must contain less than 10 percent by volume of aromatic hydrocarbons and must have a cetane number of 48 or greater.
- **NRLM Diesel:** Effective June 1, 2007 for refiners and October 1, 2007 for marketers, U.S. supply points required lower sulfur diesel for off-road transportation use in locomotives and for marine use in boats, etc. in various states. This new fuel, called NRLM diesel for Non-Road Locomotive Marine, contains more than 15 ppm sulfur but less than 500 ppm sulfur and replaced the high-sulfur diesel fuel that exceeds 500 ppm and is still used for home-heating oil purposes. Where it exists, OPIS racks display NRLM diesel simply as “NRLM.” By 2010, all off-road locomotive and marine transportation fuel must meet NRLM specs.

Publish Times

- **7:30 a.m.:** Retail Diesel Price files available.
- **10:00 a.m.:** Cost Plus Prices are available.

The Retail Diesel prices and the OPIS Gross Contract Average are used to create these numbers. The data is delivered Monday through Friday by email, the Internet, FTP and many third-party vendors.

Retail Volumes

OPIS is confidentially collecting weekly fuel sales data directly from retailers at the individual site level to create this report.

OPIS will not identify any participating retailers who are providing data in any way.

OPIS will launch reports on the national, regional, and state-by-state levels as coverage levels permit. Regions include Northeast, Mid-Continent, Southeast, Southwest, Western, Midwest and Great Lakes.

OPIS will use this data to launch state-level volume demand benchmark reports. In order to launch a state-level report, OPIS must collect data from a minimum of 5 separate sources. Additionally, OPIS will make every effort to reach 20% coverage prior to launch for a state-level report. OPIS reserves the right to publish the state-level report with less than 20% coverage as long as no one data supplier makes up more than 40% of the total volumes collected, and the report is a valid statistical representation of the market.

Volumes will never be displayed by site, brand, or company. Volumes will only be displayed by aggregating site-specific data into regional benchmarks.

Data Collection & Aggregation

Volumes are collected on a weekly basis, which is typically a Sunday-Saturday time period for the prior week. We encourage all retailers to provide data in this timeframe, however if a retailer is unable to provide data on a Sunday-Saturday timeframe, we reserve the right to include it in our weekly dataset as long as it is a full week's worth of data.

Participating retailers provide files no later than 12 p.m. ET Thursdays for the previous week's data. OPIS also collects a minimum of two years of historical weekly data by site in order to do year-on-year same-store comparisons.

OPIS reserves the right to add a new source of data to a regional report at any time. Adding more sources and additional outlet coverage to an existing regional report will increase the accuracy with a larger sample size, however OPIS will not re-publish reports for prior weeks.

When adding new sources of data, historical volume figures may change.

A week is assigned to a year and a month based on its week ending date. For example, if the week-ending date is 01/03/2015, that week will be assigned to the 2015 annual average and the January 2015 monthly average, despite having days during the week that were in 2014.

OPIS reserves the right to modify incoming files from data sources at our discretion while keeping the integrity of the results.

Publish Times

OPIS will release weekly reports at 11:00 a.m. ET on Mondays.

If a data source is unable to provide data by the 12 p.m. ET deadline Thursday, OPIS reserves the right to delay the publishing of the report. If source is unable to provide data in a reasonable timeframe to be determined by OPIS, OPIS reserves the right to publish the report excluding that data source provided it does not materially impact the coverage.

Volume Calculations

All volume data is based on same-store sales. If a store opened last week it will be included in the week-to-week volume comparison, but not in the prior-month or prior-year comparisons until such time when a valid comparison can be made. Thus, the average volume for the current week could be slightly different when compared to last week, last month, or last year.

- **Monthly Average:** The average of the sum of all the weeks included in that month, divided by the number of weeks included in that month.
- **Average Weekly Station Volume:** Calculated weekly for each region of the report down to the state level. Average volume is derived using an algorithm that combines proprietary OPIS station and volume data in combination with official state taxable gallons data along with the number of stations in the region. As new sources of data are added to the report, the average volume number is subject to change.
- **Average Weekly Profitability per Site and Average Weekly Profitability Percentage Change:** Calculated weekly as an estimate of profitability using the Average Weekly

Station Volume number for each region of the report, multiplied by the implied OPIS Retail Margin average for that region.

Each week, OPIS calculates a percentage change for each individual site compared to the previous week and the same-week previous year data. If a site experiences a positive change of over 150% or a negative change greater than 75%, OPIS excludes that data from the report as that is generally considered an anomaly.

- **Average Store Volume Percentage Change:** Compares the average station volume of all reporting stations to the same stores that had volumes for the previous period.
- **Median Store Volume Percentage Change:** Compares the station with the volume that is in the middle when volumes are sorted from biggest to smallest with the station with the middle volume for the previous period.
- **Average Change per Site:** The average percentage change in volume of individual stations versus the previous period. This may be slightly different than the Average Store Volume because it is a comparison of each station's volume change individually. OPIS has high-volume sites as well as low-volume sites. Some of the low-volume sites may see a big percentage move, while actual volume difference from the previous period is small.
- **Year-to-Date OPIS Average Store Volume Change vs. EIA Year-to-Date Change:** A year-to-date percentage change comparison versus same year-to-date period from prior year for OPIS Average Store Volumes versus EIA Demand.
- **Weekly OPIS Basis vs. EIA Basis Year Over Year:** Chart shows the weekly percentage change in OPIS Average Store Volumes for this week versus same-week prior year compared to the percentage change of this week's EIA Demand versus same-week prior year.
- **Weekly Average Volumes per Site for Past 52 Weeks vs. EIA Implied Demand:** Chart displays the Weekly OPIS Average Store Volumes versus EIA Demand for both current and prior years.
- **4-Week Average Store Volume Rolling Demand vs. EIA 4-Week Rolling Demand:** Chart displays the 4-Week Rolling OPIS Store Volume Average versus the 4-Week Rolling EIA Average for both current and prior years.
- **National Monthly Volume Change Compared to Same Month Previous Year:** Chart compares the Monthly OPIS Average Store Volume Percentage Change versus the same month of the prior year.
- **52 Week Rolling Average Year Over Year Change:** Is a rolling chart of the 52-Week OPIS Average Store Volume Percentage Change versus the 52-Week EIA Average Demand Percentage Change for the most recent 52-week period compared to the same 52-week period for the prior year.

Commentary

OPIS will write 6 versions of commentary for the OPIS Demand Report, one on a national basis, and one for each of the 5 large-scale regional reports that it publishes. A state report will include the commentary from the large-scale region in which it falls (i.e. the Massachusetts state report will include the Northeast commentary.)