

DAT VAN FREIGHT RATE INDEX METHODOLOGY

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Source Data

DAT sources its rates directly from the accounting systems of shippers, freight transportation brokers and trucking companies. Data submitted to DAT's rate database are from actual freight transactions. Rate contributions represent freight transportation billings of \$60 billion annually in 2018 from over 800 companies.

Parameters

Output

DAT publishes daily spot dry van rates in USD per mile for 7 directional lanes from which there will be 3 calculated regional indices and 1 calculated national average.

Origin/Destination Definitions

Lanes are based upon DAT's Expanded Key Market Areas (XMAS), which are comprised of the following 3-digit postal code prefixes:

Expanded Market Area	3-Digit Zip Codes
Los Angeles	900-908, 910-928, 930-931
Seattle	980-986, 988-989
Dallas	750-762, 766-767
Chicago	463-464, 600-611, 613
Atlanta	300-312, 399
Philadelphia	080-086, 173-176, 179-181, 189-198, 219

Trailer Type

Current methodology uses only Dry Van trailer types on which over 70% of all freight moves in the U.S.

Lane Methodology

Daily rate output includes freight transportation transactions between the following XMAS.

Index Name	Pickup XMA	Delivery XMA
Los Angeles to Seattle Van	Los Angeles	Seattle
Seattle to Los Angeles Van	Seattle	Los Angeles
Los Angeles to Dallas Van	Los Angeles	Dallas
Dallas to Los Angeles Van	Dallas	Los Angeles
Chicago to Atlanta Van	Chicago	Atlanta
Atlanta to Philadelphia Van	Atlanta	Philadelphia
Philadelphia to Chicago Van	Philadelphia	Chicago

Regional and National Basket Indices

The regional and national calculations are computed daily based on the lanes above:

Index Name	Calculation
West US Van	$(\text{Los Angeles to Seattle Van} + \text{Seattle to Los Angeles Van}) / 2$
South US Van	$(\text{Los Angeles to Dallas Van} + \text{Dallas to Los Angeles Van}) / 2$
East US Van	$(\text{Chicago to Atlanta Van} + \text{Atlanta to Philadelphia Van} + \text{Philadelphia to Chicago Van}) / 3$
National Van	$(\text{West US Van} + \text{South US Van} + \text{East US Van}) / 3$

Date Criteria

Rates are calculated for weekdays only

Indices will be published daily by 11 am PT, 5 business days after the index date.

Note: rates are not calculated for the following Holidays if they fall on a weekday:

- New Year's Day
- Labor Day
- Memorial Day
- Independence Day
- Thanksgiving Day
- Christmas Day

Data Sourcing

Data includes only Spot Market rates. Spot rates are typically representative of the rate paid by freight brokers to carriers. These rates are not governed by a contract or long term agreement and are representative of loads negotiated on a day to day, per individual load basis.

Historical files use rate data that best reflected the 1-day rate that was calculable at the time.

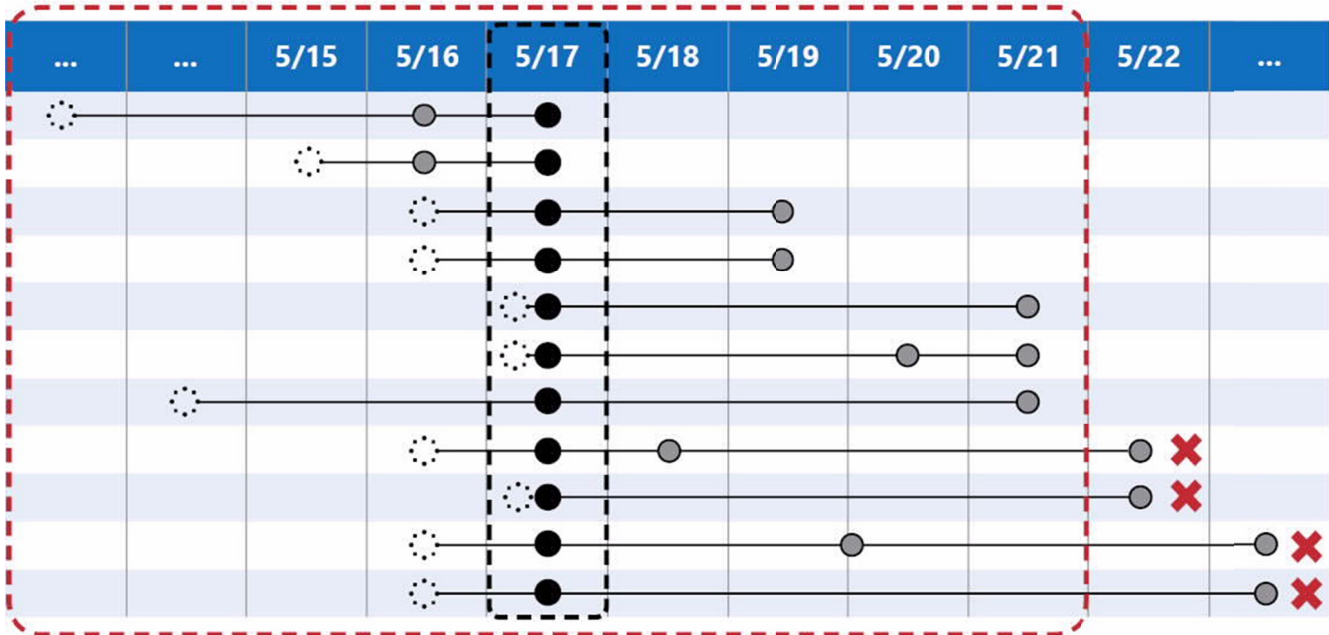
Lag

Dates for DAT Van Freight Rate Indices are defined as the day freight was scheduled to be loaded onto a trailer to haul, also referred to as the "pickup date".

There is a 4 business day window after the pickup date, referred to as the lag, during which time data is accepted. This lag window closes at 11:59 pm PT.

Publication of the Index occurs on the 5th business day after the pickup date. For example, in a typical work week, the rate for a Monday pickup date is published 5 business days later, on the following Monday.

- ⦿ Date a rate was "booked"
- Pickup Date for a rate
- Date received/updated
- ⏏ Date for One-Day Rate
- ⏏ Date included for Lag
- ✗ Rates excluded for updates outside the lag window



For a One-Day rate for 5/17 (black dots), we will include all rates that have arrived or updated (grey dots) before the Lag Date. A lag of 4 days includes any rates with a final grey dot on or before 5/21.

Linehaul and Linehaul per Mile

The DAT Van Freight Rate Index is derived from the base cost of freight transportation, referred to as "Linehaul". Accessorial fees such as tolls and fuel surcharges are excluded.

Mileage for a rate is defined by the 'Used Miles' field, which is the practical (truck compatible) mileage between origin and destination currently provided by ALK Maps, a trucking transportation standard for routing and mileage.

DAT Index rates will be Linehaul Per Mile (LPM) which is the 'Linehaul Amount' divided by the 'Used Miles'.

Rate Parameter Filtering

Irrelevant rate data described below will be removed before calculating and publishing DAT Van Freight Rate Indices.

- Mileage
 - Current methodology uses only long haul loads with trip mileage greater than 496.
- HazMat Rates
- Multiple Pickups
- Multiple Drop-offs
- Outlier Removal
 - Rates with a given pickup date, submitted or updated within the lag window, for a given origin destination pairing, with the trailer type defined for the lane, are sourced per the requirements above. Each rate has its LPM calculated. The average and standard deviation of these LPMs is calculated. Rates with an LPM more than two standard deviations away from the mean are filtered out of the calculation process.
- Minimum Data Check Filter
 - After filtering, DAT Van Freight Rate Indices require a minimum of 8 rates from a minimum of 3 separate contributors in order to proceed with the rate calculation process.
 - In the event that there is insufficient data to publish an index for a given day, the Insufficient Rate Methodology will be applied.

Calculation

Rates that meet the requirements for lane, dates, lag, trip type, and filtering are included in the calculations.

- The mean of the LPM of all qualifying rates is calculated. This is the overall average.
- The per contributor LPM is calculated.
- The weight for the weighted average is calculated.
- The weighted average is calculated.
- This final weighted average is the DAT Van Freight Rate Index value for the rate date.
- Rates are rounded to a precision of 3 decimal places (\$0.001)

Insufficient Rate Methodology

For some combinations of lane, date, and equipment, there are occasionally insufficient submitted rates or contributors to meet the minimum data check. In that event, the following methodology is applied:

The prior day's published value is incorporated into the existing pool of rates for the date, lane, and equipment. The process then calculates and publishes a weighted average, and the result is labeled an 'Extrapolated Rate'.

Recalculation of Extrapolated Rates

- The extrapolated rate is recalculated on the third business day after initial publication. The recalculation process includes additional rates submitted within three business days after the original lag window.
- If the additional submitted rates result in meeting the minimum data check filter then the standard rate calculation process is applied.
- If there are still insufficient rates, then the rate extrapolation process is applied.
- To keep all published rates for a week utilizing data from within that week, extrapolated Monday rates (or Tuesdays following a holiday Monday such as Labor Day) use the subsequent published rate instead of the prior published rate.
- Recalculated rate and basket indices are rounded to a precision of 3 decimal places (\$0.001).

Note: The DAT Van Freight Rate Index is a separate proprietary algorithm from that used by DAT RateView™.