Comparing prices for lower-RVP gasoline to prices for conventional gasoline in adjacent markets

August 2023

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Background

- In April 2022, the Governors of eight states petitioned EPA to eliminate the use of the 1-psi RVP waiver for E10 gasoline in the conventional gasoline areas of their states.
  - Removing the 1-psi RVP waiver would reduce evaporative emissions and create a level playing field for year-round sales of E15 in the conventional gasoline areas of these states.
  - This action would compel fuel refiners/suppliers to provide gasoline blendstock ("BOB") with 8-psi RVP for conventional gasoline in these states (vs. the current 9-psi BOB) during the summer ozone control season.
- Some oil refiners and pipeline/terminal operators have suggested the Governors' action could cause higher gasoline prices.
  - They argue lower-RVP fuels are more expensive to produce at the refinery. They also say investments will be needed in new fuel storage infrastructure and suggest that these costs will be passed on to consumers at the pump.
- However, analyses by MathPro and ICF suggest 1) the cost to refiners and fuel suppliers associated with lower-RVP fuel would be minimal, and 2) the existing refining, storage, and transportation infrastructure in the Midwest is generally sufficient to accommodate such a switch.
  - Added cost for refiners is likely in the 1-2 cent per gallon range, according to studies.

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Analysis of real-world data

- Refiners (e.g., AFPM) claim that a transition to lower-RVP gasoline will “significantly” increase retail pump prices for consumers. Analysis conducted for AFPM is based on a flawed methodology and unreasonable assumptions.
- **To test AFPM’s claim, RFA examined real-world retail gasoline price data from 2022 in markets where conventional gasoline (made with 9-psi RVP blendstock) is sold in close proximity to lower-RVP gasoline (made with 7- to 7.8-psi RVP blendstock).**
- RFA analyzed daily retail prices for lower-RVP and conventional gasoline in adjacent markets during the summer 2022 ozone control season (data from OPIS). These adjacent markets are typically served by the same pipeline/terminal systems.
- Based on the available data from OPIS, RFA selected four markets to analyze:

	Low-RVP Gasoline Market (BOB RVP)	Adjacent Conventional Gasoline Market (BOB RVP)
Market #1	Detroit, MI (7.0 psi)	Lansing, MI (9.0 psi)
Market #2	Tyler, TX (7.8 psi)	Shreveport, LA (9.0 psi)
Market #3	Waco, TX (7.8 psi)	Lubbock, TX (9.0 psi)
Market #4	Denver, CO (7.8 psi)	Colorado Springs (9.0 psi)

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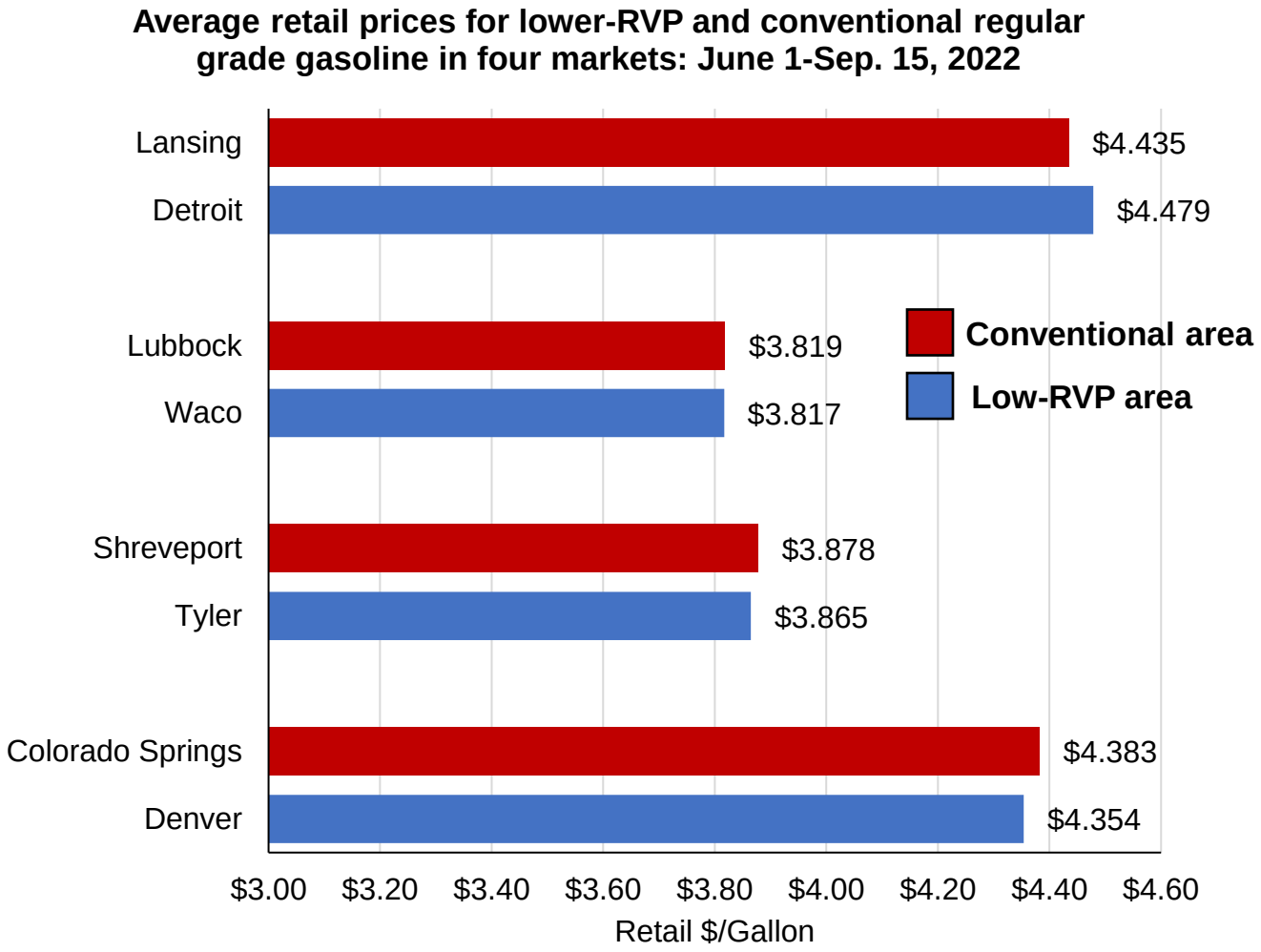
Conclusions

- **Retail prices for low-RVP gasoline were not noticeably different than retail prices for conventional gasoline in adjacent markets.**
- In three markets (Tyler/Shreveport; Waco/Lubbock; Denver/Colorado Springs), lower-RVP gasoline was ***slightly cheaper*** than conventional gasoline on average during the summer 2022 season.
    - Lower-RVP regular gasoline was 0-3 cents per gallon *cheaper* than conventional regular gasoline.
- In the Detroit/Lansing market, lower-RVP gasoline was 4 cents per gallon more expensive on average during the summer 2022 season.
    - Notably, the 2-psi difference between Detroit and Lansing is double the 1-psi reduction that would be required under the Governors' petition.
- These results are generally consistent with the findings of MathPro and ICF.



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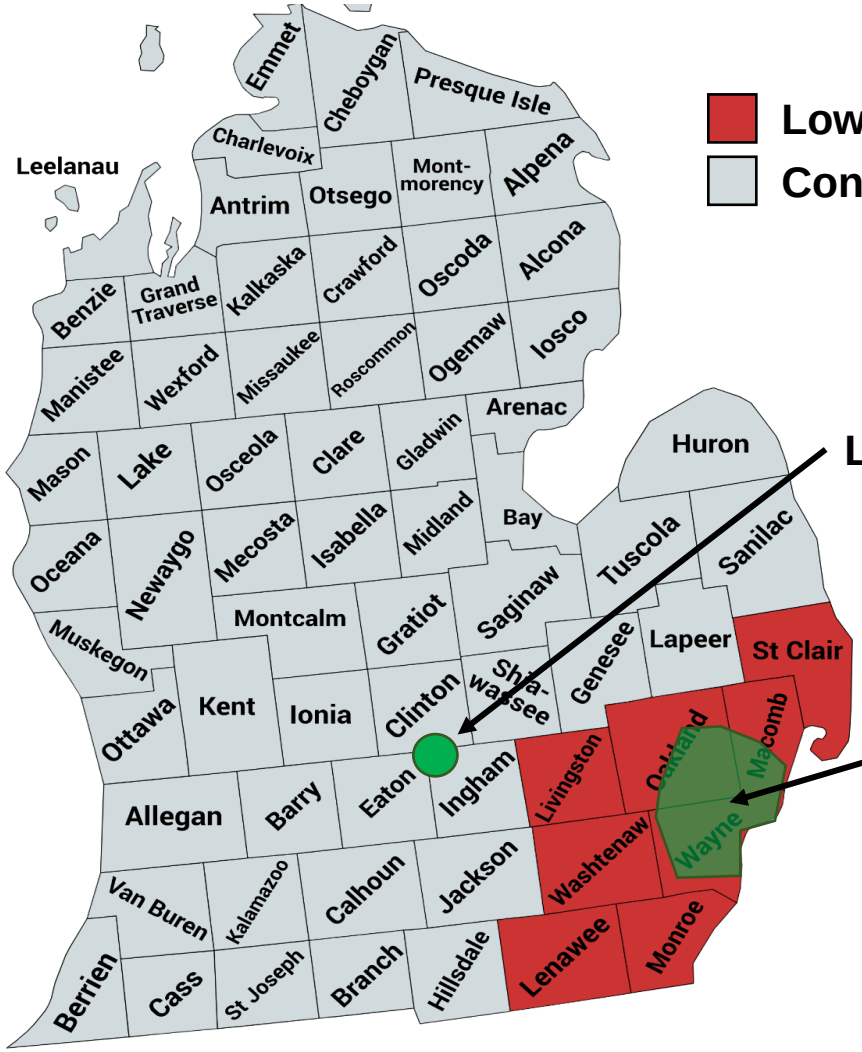
Detroit vs. Lansing comparison



Low-RVP counties

Conventional counties

Lansing: Conventional gasoline (9-psi BOB/10-psi E10)

Detroit metro: 7-psi BOB/8-psi E10

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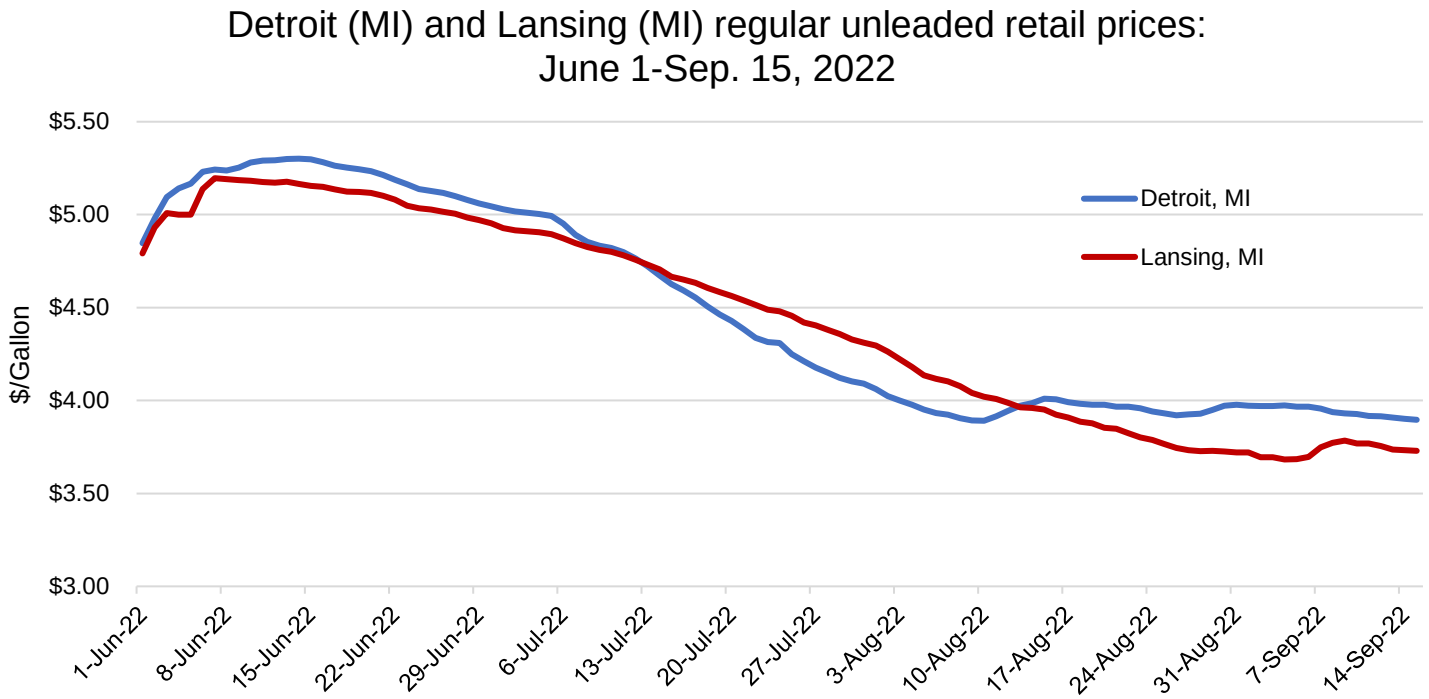

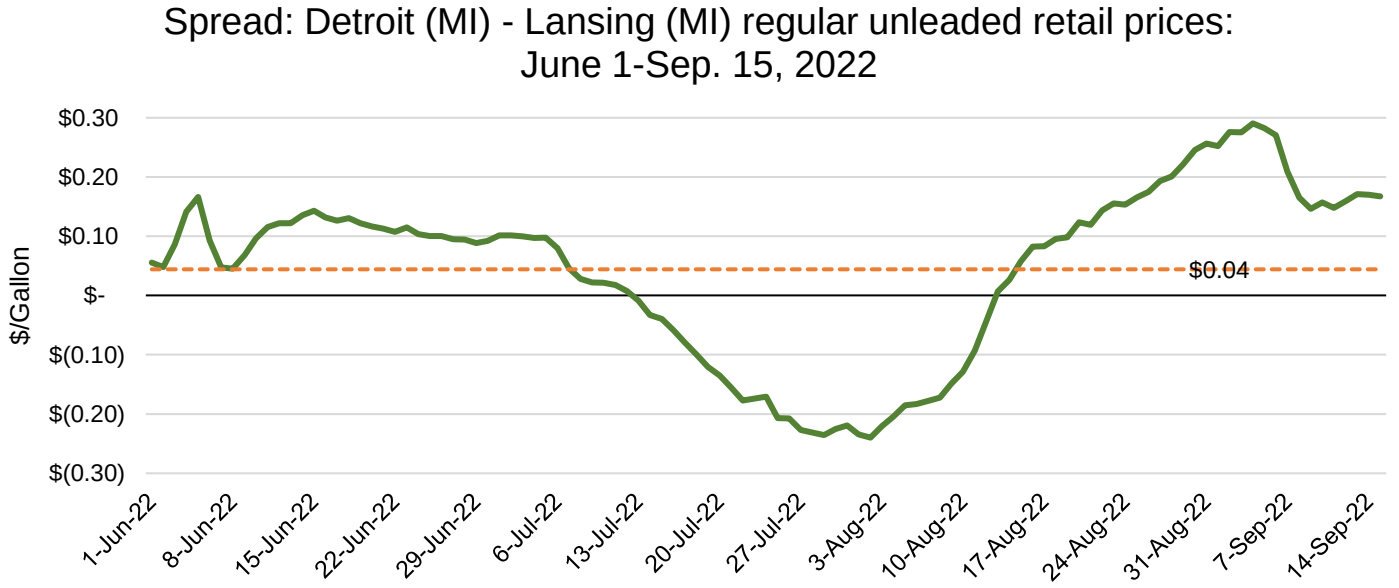

Detroit vs. Lansing comparison

Detroit's low-RVP gasoline was 4 cents per gallon more expensive, on average, than Lansing's conventional gasoline during the summer 2022 ozone control season.

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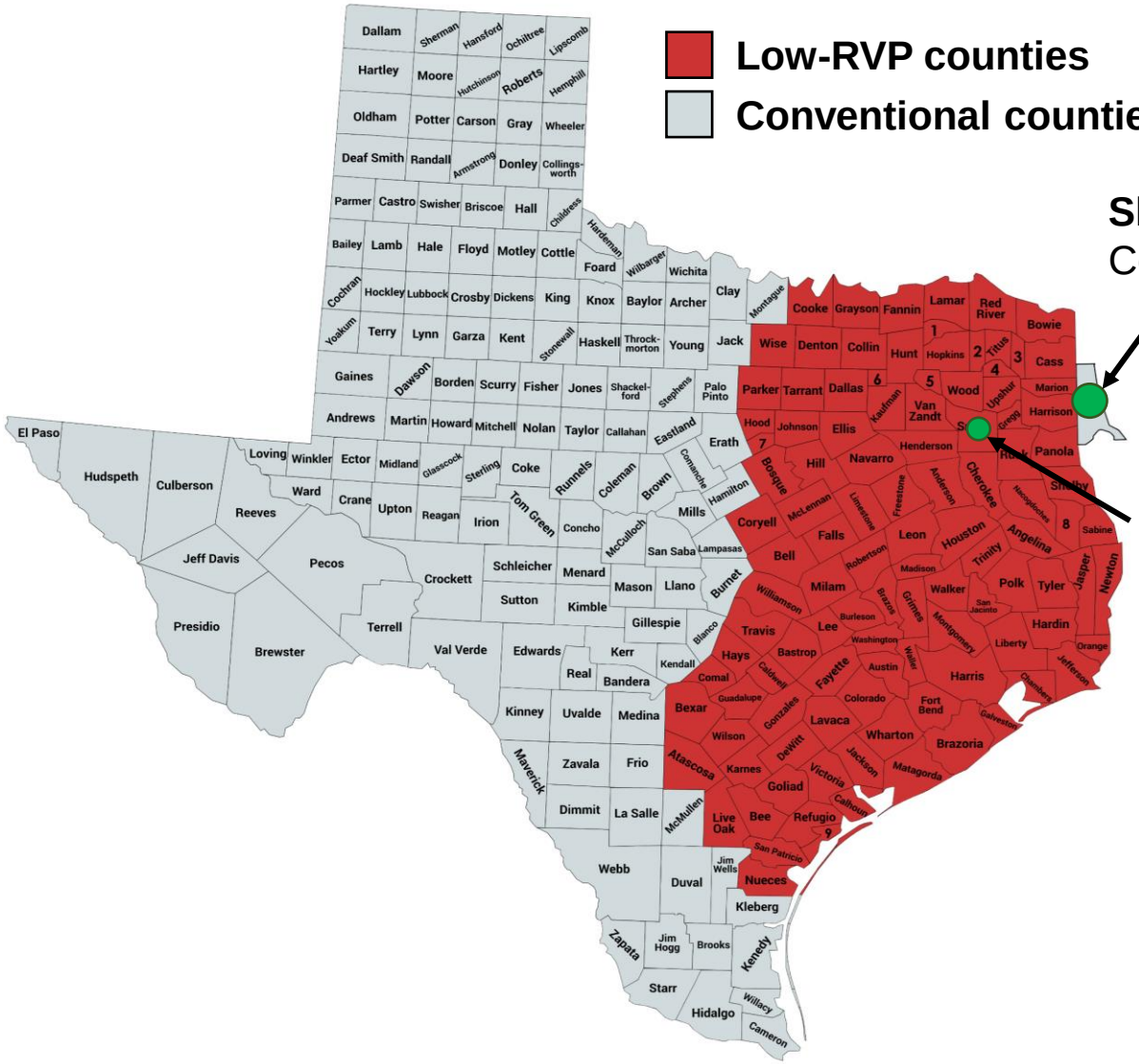
Tyler vs. Shreveport comparison



Shreveport, LA:
Conventional gasoline (9-psi BOB/10-psi E10)

Tyler, TX: 7.8-psi BOB/8.8-psi E10

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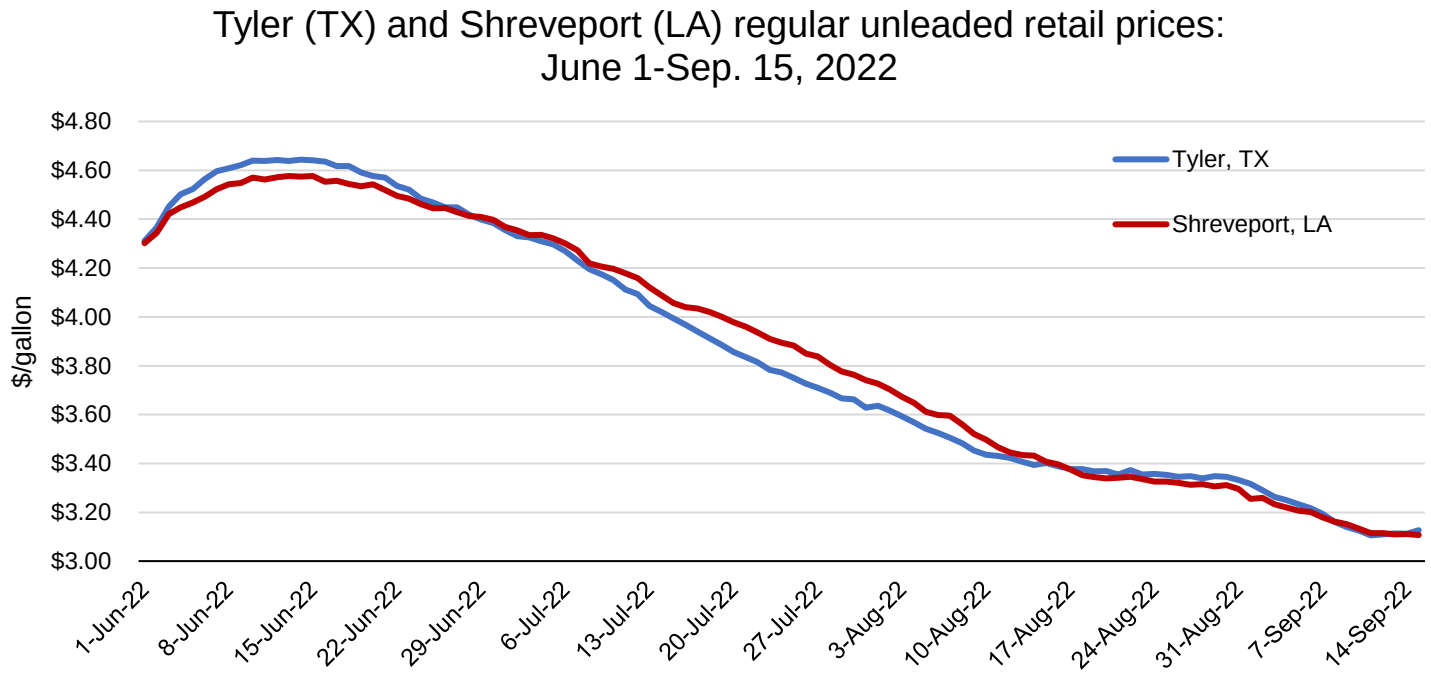

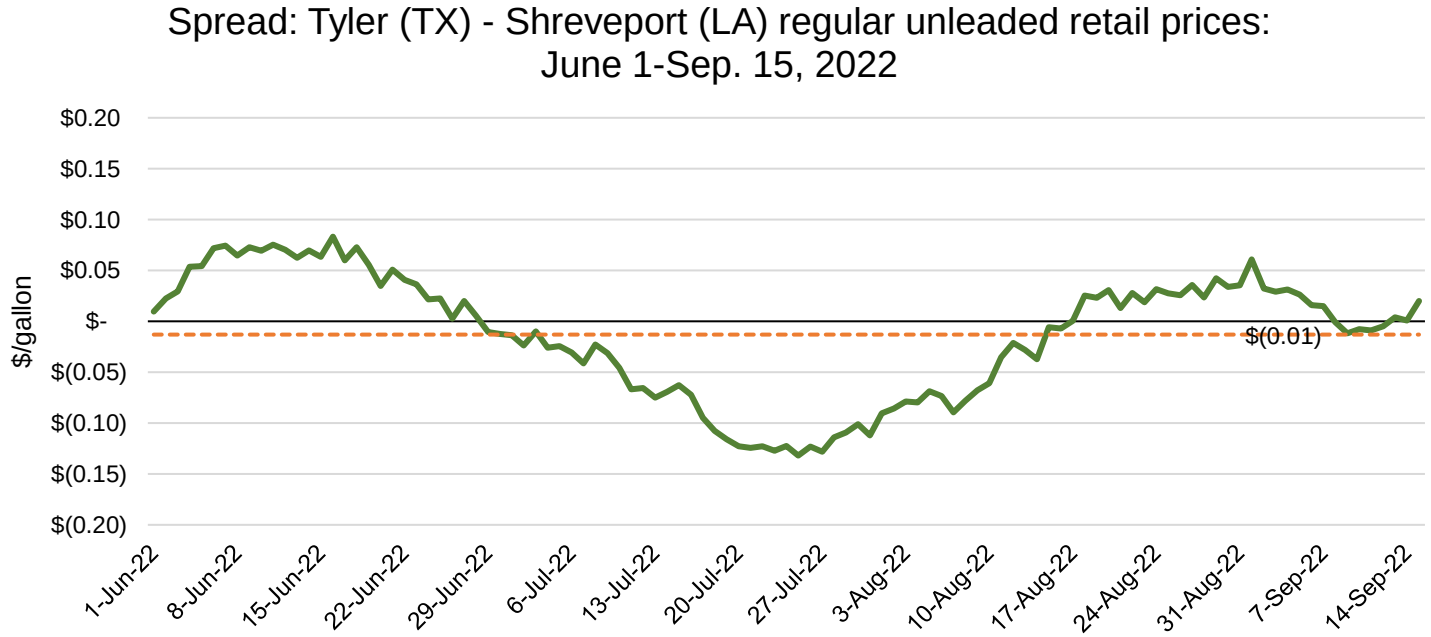

Tyler vs. Shreveport comparison

Tyler's low-RVP gasoline was 1.3 cents per gallon **cheaper**, on average, than Shreveport's conventional gasoline during the summer 2022 ozone control season.

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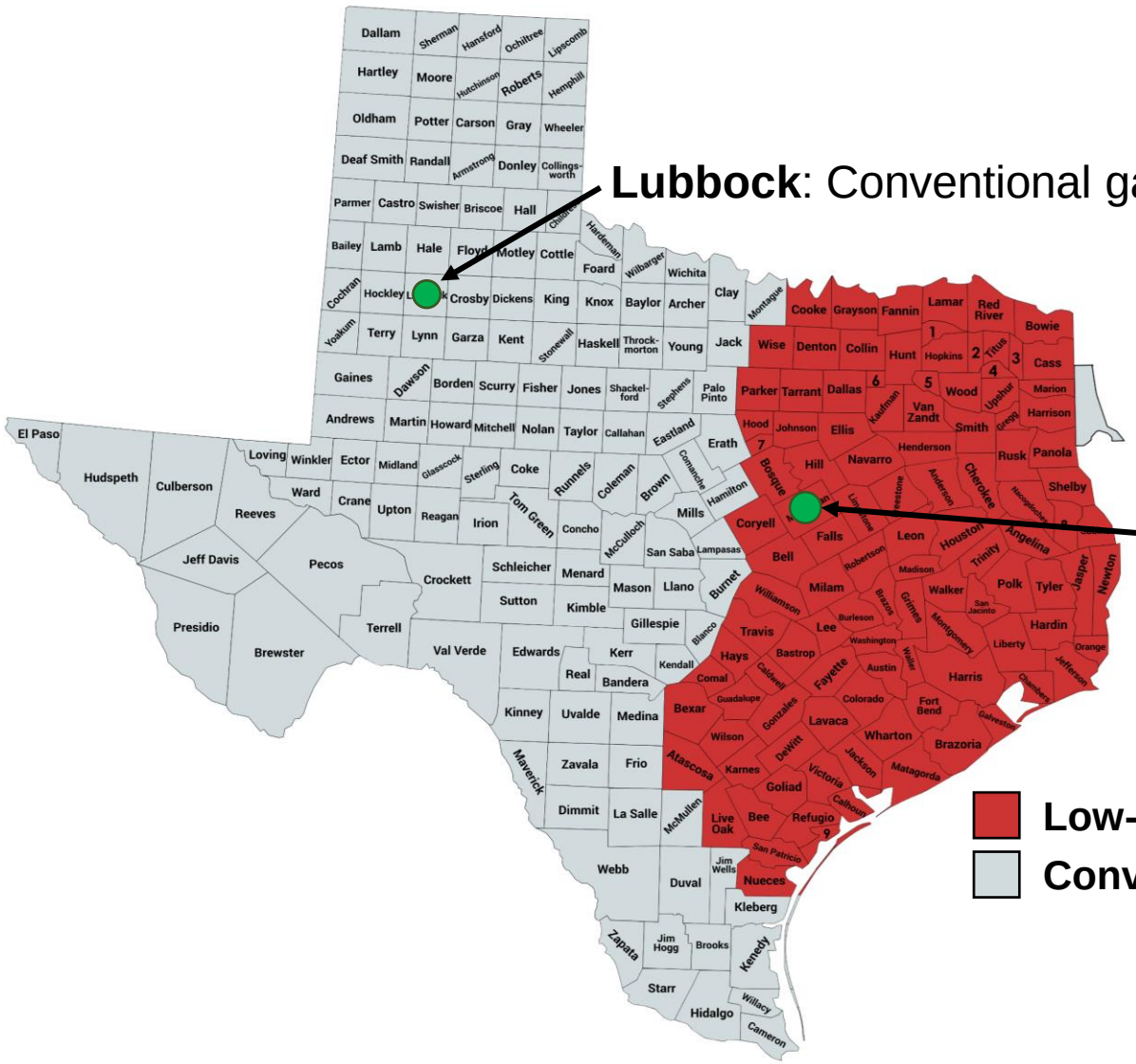
Waco vs. Lubbock comparison

Lubbock: Conventional gasoline (9-psi BOB/10-psi E10)

Waco: 7.8-psi BOB/8.8-psi E10



Low-RVP counties

Conventional counties

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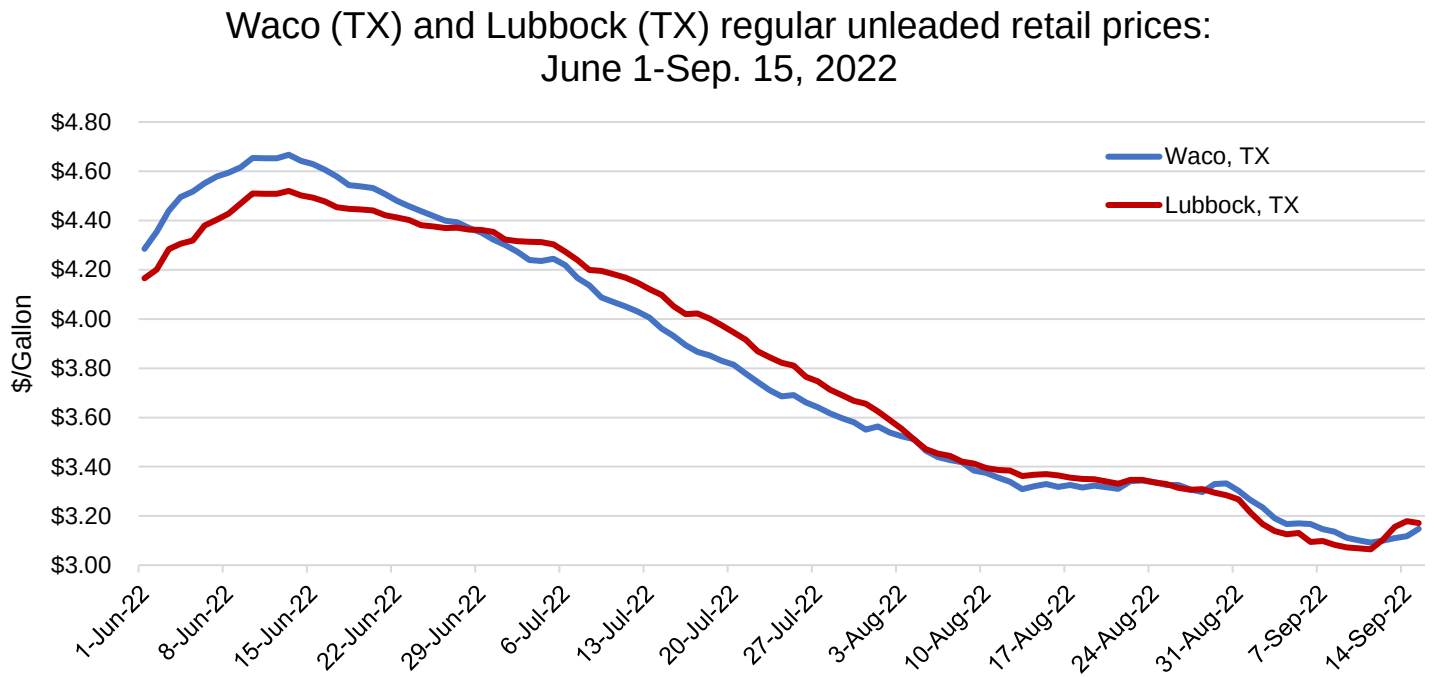

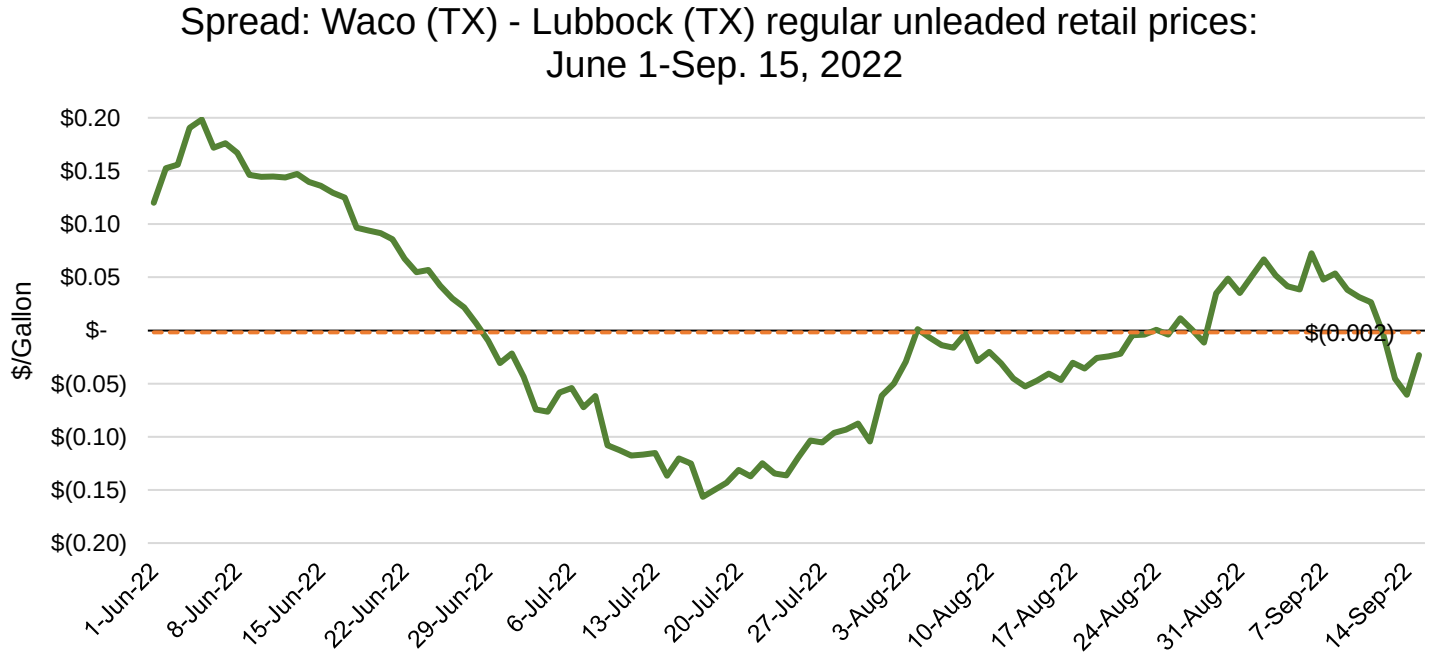

Waco vs. Lubbock comparison

Waco's low-RVP gasoline was 0.2 cents per gallon **cheaper**, on average, than Lubbock's conventional gasoline during the summer 2022 ozone control season.

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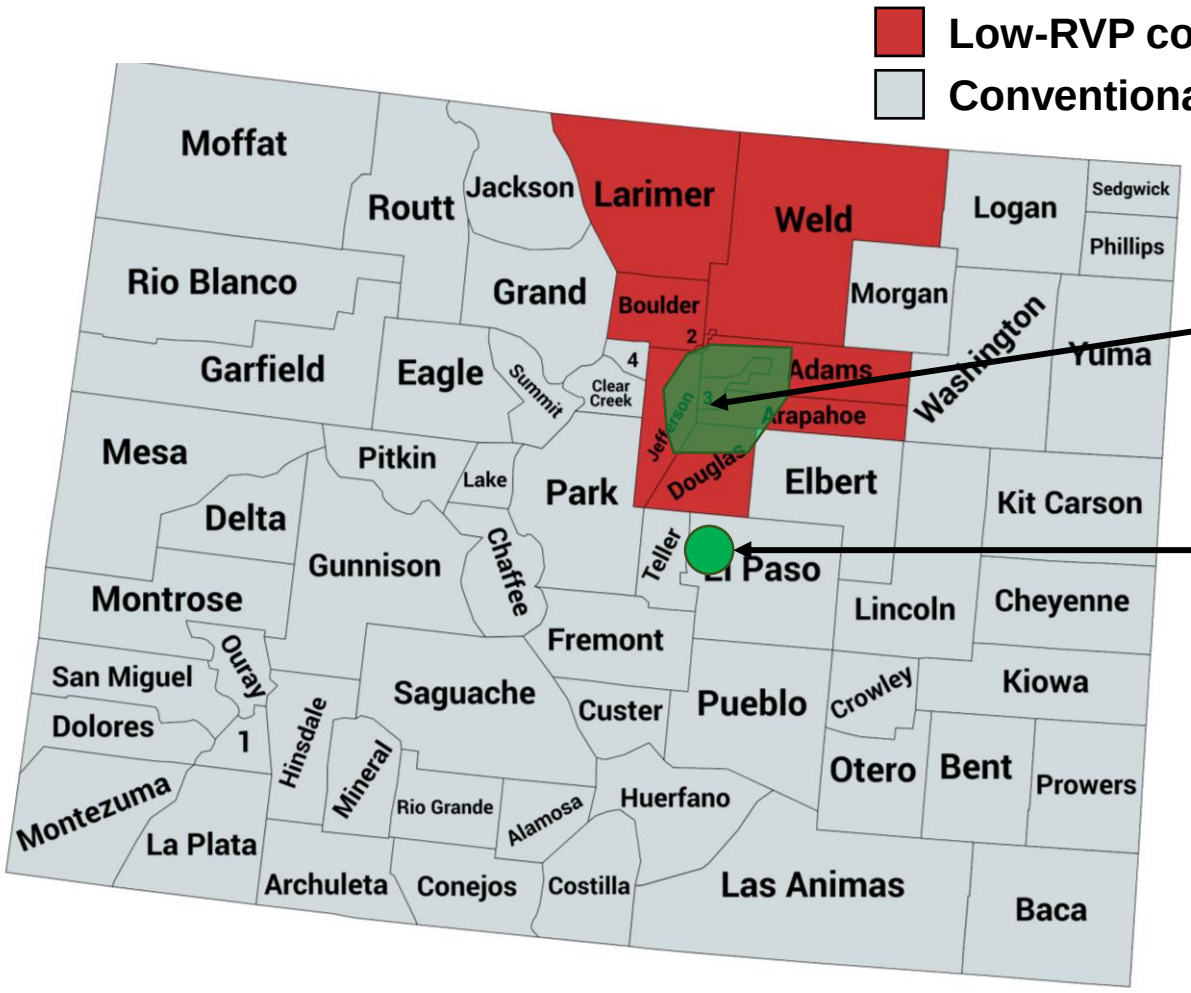
Denver vs. Colorado Springs comparison



Denver metro: 7.8-psi BOB/8.8-psi E10

Colorado Springs:
Conventional gasoline (9-psi BOB/10-psi E10)

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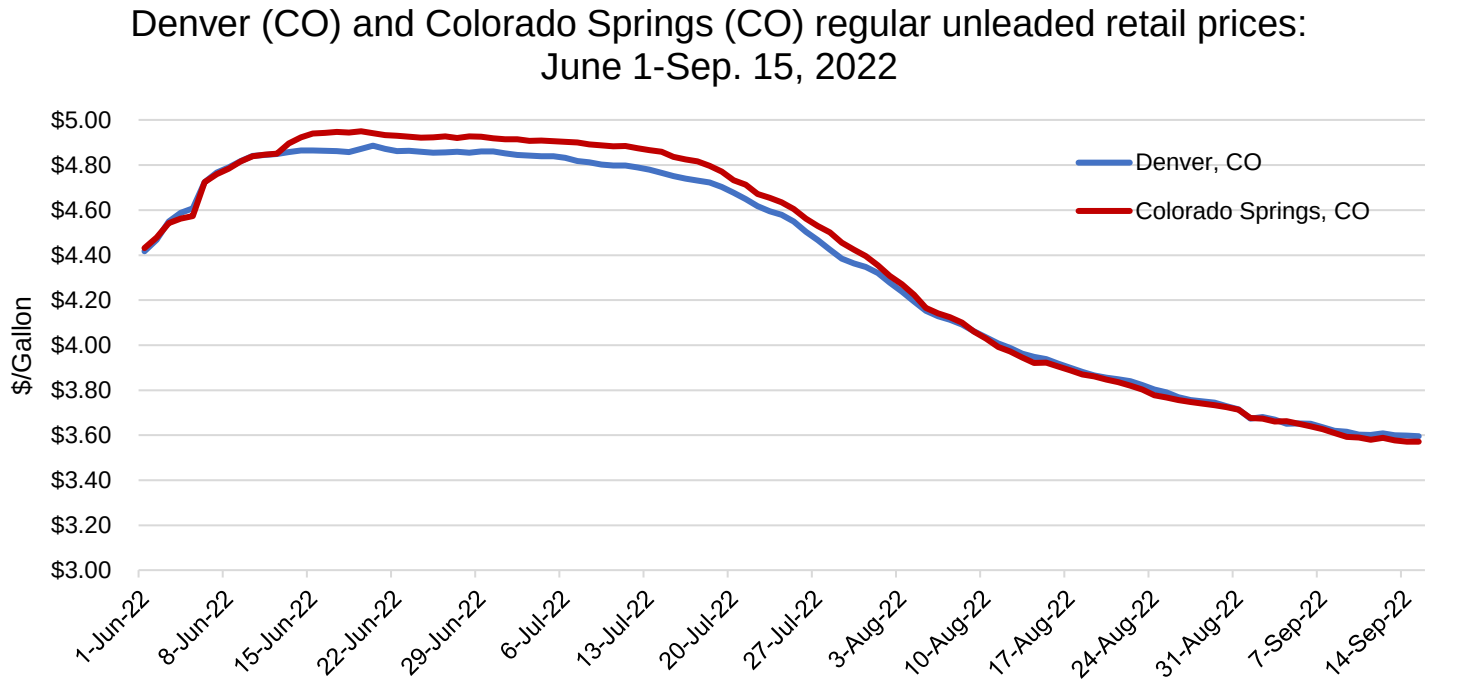

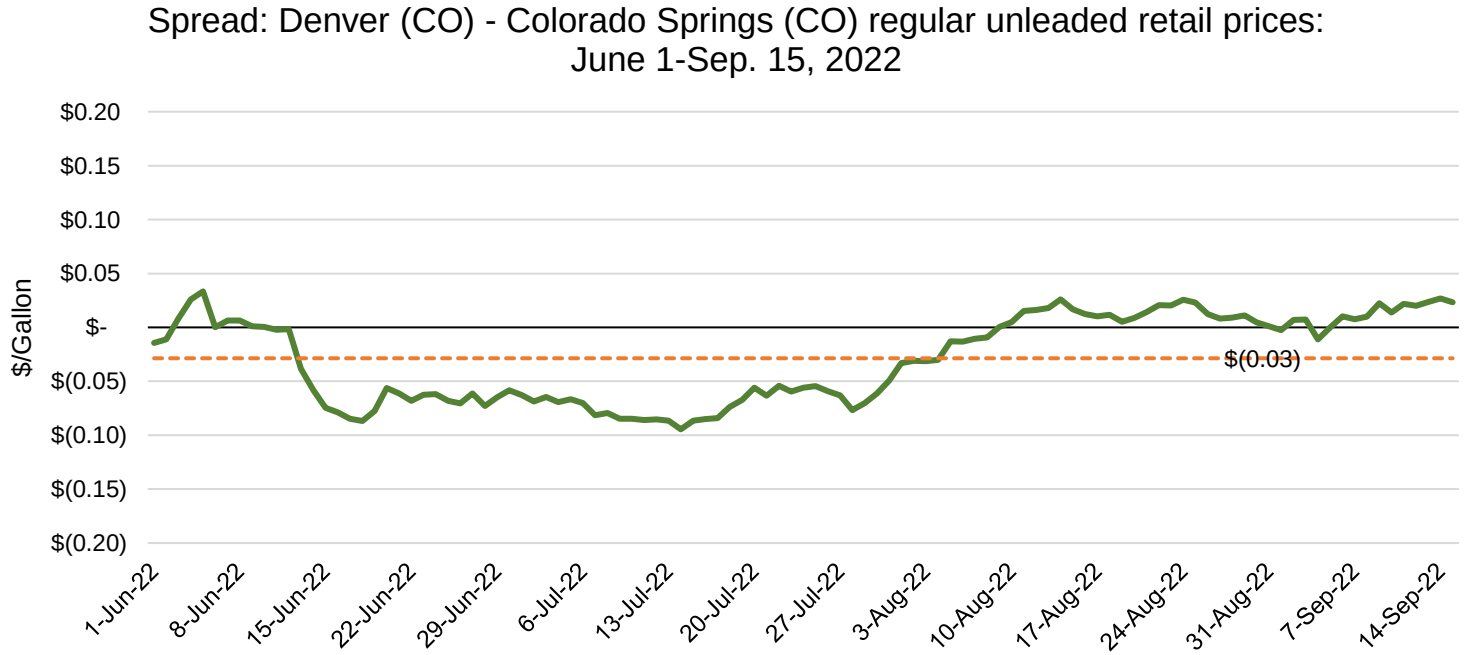

Denver vs. Colorado Springs comparison

Denver's low-RVP gasoline was 3 cents per gallon **cheaper**, on average, than Colorado Springs' conventional gasoline during the summer 2022 ozone control season.

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Price snapshots on July 25, 2023

- RFA also reviewed AAA's daily retail gasoline price data on **July 25, 2023**, as another anecdotal source to compare low-RVP gasoline prices to conventional regular-grade gasoline prices in certain adjacent markets. This "snapshot in time" review of five randomly selected, geographically diverse markets again showed only menial differences between retail prices for conventional and low-RVP (generally 0-3 cents/gallon). The **average difference was 1.2 cents/gallon**.

Conventional Gasoline (9.0 psi BOB)	Nearby Low-RVP Gasoline (7.4-7.8 psi BOB*)	Difference (Low-RVP minus Conv.)
Laredo (TX) = **$3.322**	San Antonio (TX) 7.8 psi = **$3.334**	$0.012
Colorado Springs (CO) = **$3.862**	Denver (CO) 7.8 psi = **$3.887**	$0.025
Columbia (MO) = **$3.361**	St. Louis RFG (MO) 7.4 psi* = **$3.375**	$0.014
Provo/Orem (UT) = **$3.950**	Salt Lake City (UT) 7.8 psi = **$3.946**	**$(0.004)**
Lancaster (PA) = **$3.756**	Philadelphia RFG (PA) 7.4 psi* = **$3.769**	$0.013

*The 1-psi waiver for E10 does not apply to RFG, meaning finished gasoline must meet a 7.4-psi RVP standard, which is 2.6-psi RVP below the conventional E10 gasoline RVP limit (i.e., 10-psi including the 1-psi waiver).

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More price snapshots on July 31, 2023

- RFA also reviewed AAA's daily retail gasoline price data on **July 31, 2023**, as another anecdotal source to compare low-RVP gasoline prices to conventional regular-grade gasoline prices in certain adjacent markets. This "snapshot in time" review of five randomly selected, geographically diverse markets again showed only menial differences between retail prices for conventional and low-RVP (generally -5 to 2 cents/gallon). The **average difference was -0.9 cents/gallon (i.e., low-RVP gasoline was cheaper)**.

Conventional Gasoline (9.0 psi BOB)	Nearby Low-RVP Gasoline (7.4-7.8 psi BOB*)	Difference (Low-RVP minus Conv.)
Bloomington (IN) = **$3.741**	Clarksville (IN) 7.8 psi = **$3.717**	**$(0.024)**
Colorado Springs (CO) = **$3.925**	Denver (CO) 7.8 psi = **$3.930**	$0.005
Columbia (MO) = **$3.475**	St. Louis RFG (MO) 7.4 psi* = **$3.421**	**$(0.054)**
Provo/Orem (UT) = **$3.933**	Salt Lake City (UT) 7.8 psi = **$3.929**	**$(0.004)**
Lancaster (PA) = **$3.885**	Philadelphia RFG (PA) 7.4 psi* = **$3.904**	$0.019

*The 1-psi waiver for E10 does not apply to RFG, meaning finished gasoline must meet a 7.4-psi RVP standard, which is 2.6-psi RVP below the conventional E10 gasoline RVP limit (i.e., 10-psi including the 1-psi waiver).

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More price snapshots on Aug. 1, 2023

- RFA also reviewed AAA's daily retail gasoline price data on **Aug. 1, 2023**, as another anecdotal source to compare low-RVP gasoline prices to conventional regular-grade gasoline prices in certain adjacent markets. This "snapshot in time" review of six randomly selected, geographically diverse markets again showed only menial differences between retail prices for conventional and low-RVP (generally -5 to 2 cents/gallon). The **average difference was -0.7 cents/gallon (i.e., low-RVP gasoline was cheaper)**.

Conventional Gasoline (9.0 psi BOB)	Nearby Low-RVP Gasoline (7.0-7.8 psi BOB*)	Difference (Low-RVP minus Conv.)
Prescott (AZ) = **$3.899**	Phoenix (AZ) 7.0 psi = **$3.909**	$0.010
Albany (NY)** = **$3.865**	New York City RFG (NY) 7.4 psi** = **$3.878**	$0.013
Medford (OR) = **$4.758**	Portland (OR) 7.8 psi = **$4.710**	**$(0.048)**
Provo/Orem (UT) = **$3.949**	Salt Lake City (UT) 7.8 psi = **$3.964**	$0.015
Wausau (WI) = **$3.605**	Milwaukee RFG (WI) 7.4 psi* = **$3.599**	**$(0.006)**
Bloomington (IN) = **$3.739**	Clarksville (IN) 7.8 psi = **$3.713**	**$(0.026)**

*The 1-psi waiver for E10 does not apply to RFG, meaning finished gasoline must meet a 7.4-psi RVP standard, which is 2.6-psi RVP below the conventional E10 gasoline RVP limit (i.e., 10-psi including the 1-psi waiver).
**New York has opted out of using the 1-psi waiver for E10, meaning finished conventional gasoline must meet a 9.0-psi RVP standard. RFG must meet a 7.4-psi RVP standard.

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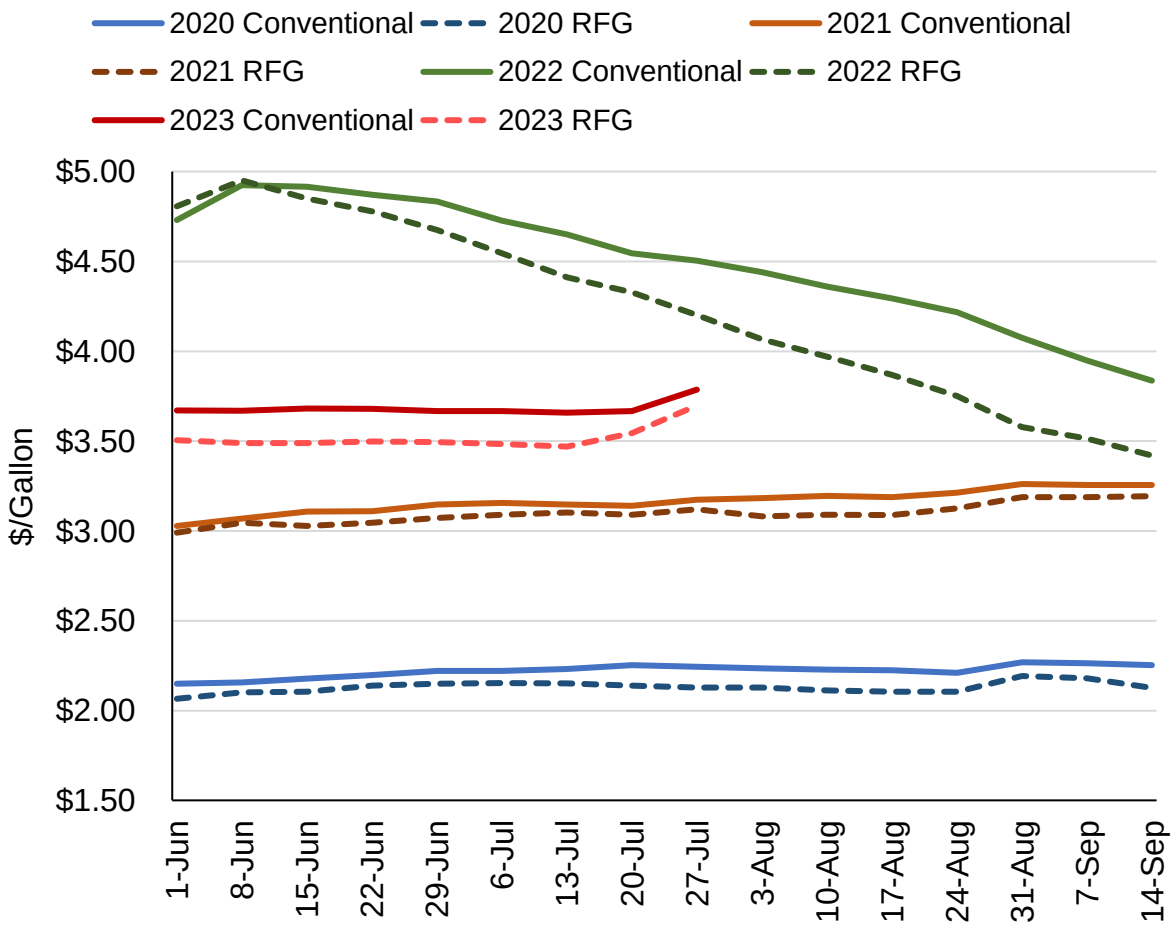
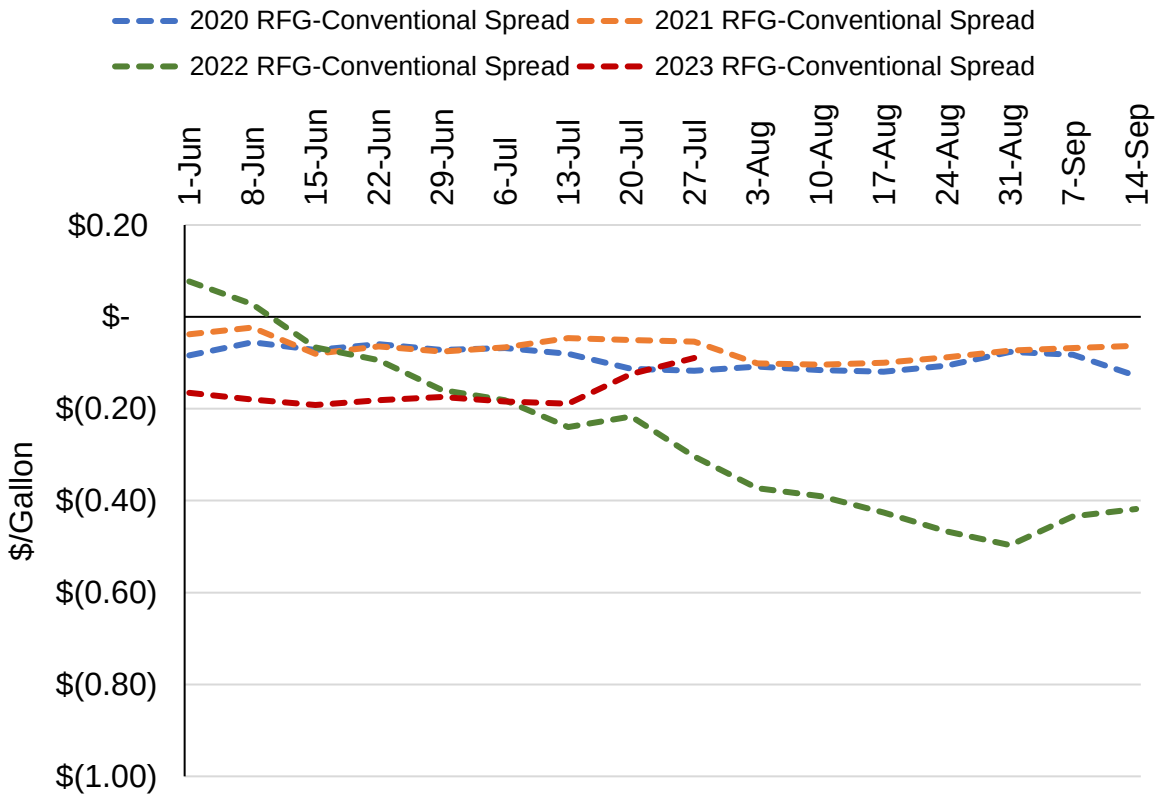
New York Conventional vs. RFG

Over the past four summers, low-RVP RFG has been 14 cents per gallon cheaper on average than conventional in NY.

New York Conventional vs. Reformulated Gasoline:
Weekly Average Retail Price for Regular Grade during Summer Ozone Control Season



New York Conventional vs. Reformulated Gasoline:
Weekly Average Retail Price **Spread** for Regular Grade during Summer Ozone Control Season



Source: EIA

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