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# October 2021 Fuel and Vehicle Trends Report

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October 29, 2021

This report is a summary of the latest fuel prices and other oil industry key statistics. In addition, this report provides the latest trends in vehicle registrations and transportation tax collections for the state of Washington. It also summarizes articles appearing in popular, business, and technical media referring to fuel price, production and supplies as well as vehicle sales and registration trends. At the end of the report is a listing of all articles summarized, with hyperlinks to internet sources where available. Some hyperlinks may require free registration or paid subscriptions to access. The appearance of articles, products, opinions, and links in this summary does not constitute an endorsement by the Washington State Department of Transportation. Photos and other artwork included in the report are either included with permission or are in the public domain. *The Fuel and Vehicle Trends Report* (ISSN 1948-2388) is compiled by Scott, Smith, Lizbeth Martin-Mahar, Ph. D., and David Ding, Ph. D., Economic Analysis Section, Budget, and Financial Analysis Office of the Washington State Department of Transportation. Contact the editors by email at [smithsc@wsdot.wa.gov](mailto:smithsc@wsdot.wa.gov) [martinli@wsdot.wa.gov](mailto:martinli@wsdot.wa.gov) or [DingDav@wsdot.wa.gov](mailto:DingDav@wsdot.wa.gov) by telephone at (360) 705-7991 (360) 705-7942 or (360) 705-7502.

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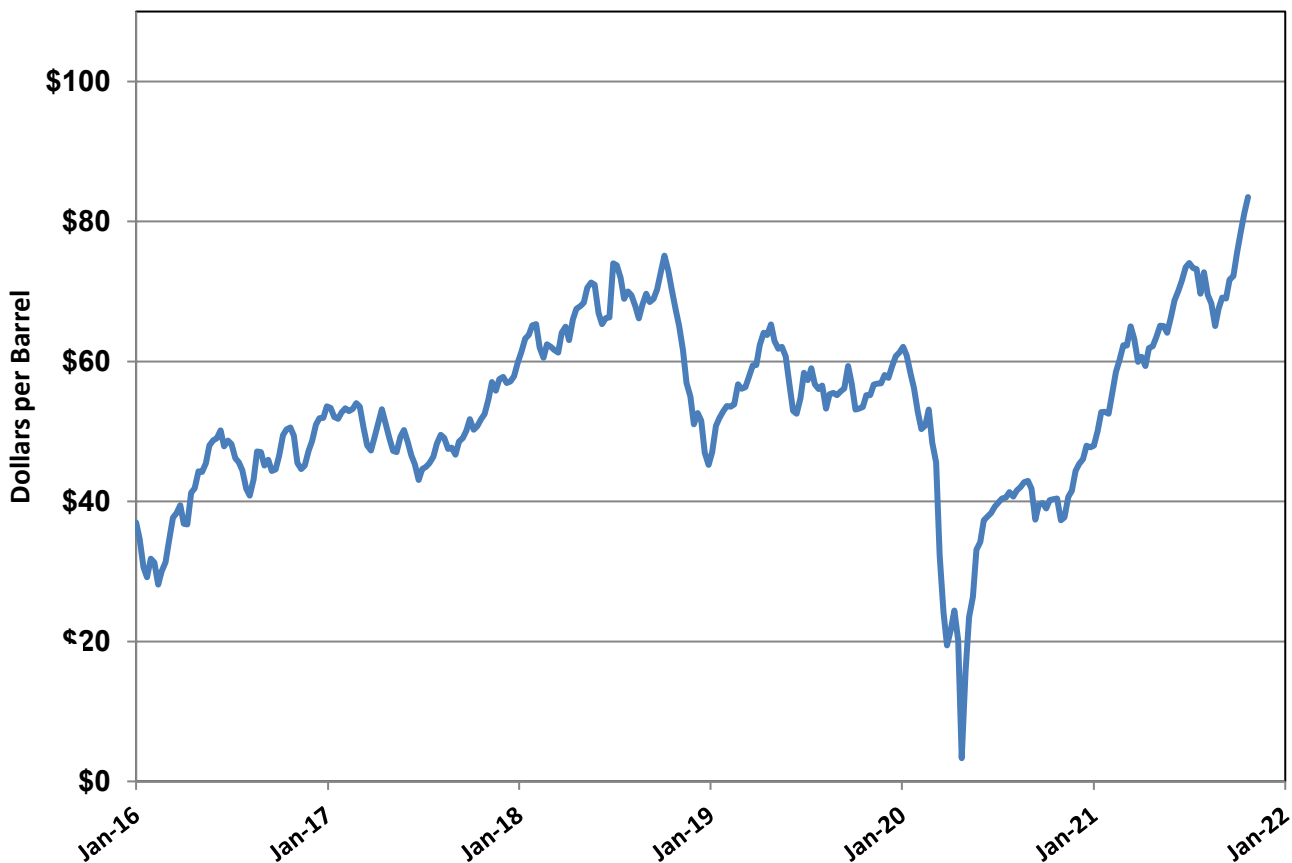
## FUEL PRICE TRENDS: Crude, Gasoline and Diesel Markets

### Analysis by Scott Smith

Figure 1 shows the recent average weekly price history for the U.S. benchmark crude, West Texas Intermediate (WTI) in dollars per barrel (bbl) through the week of October 17, 2021. Spot prices are currently trading in the low \$80/bbl range during October. This spike shows the inherent volatility of commodity cycles; overinvestment always morphs into underinvestment. Note that since September 11, 2020, the weekly average WTI crude oil prices have been on an upward trend through now October. Recall that on April 20, 2020, the front-month May 2020 WTI crude contract settled at negative \$37.63/bbl. It also shows that reduced consumption of an item does not necessarily imply a decline in price.

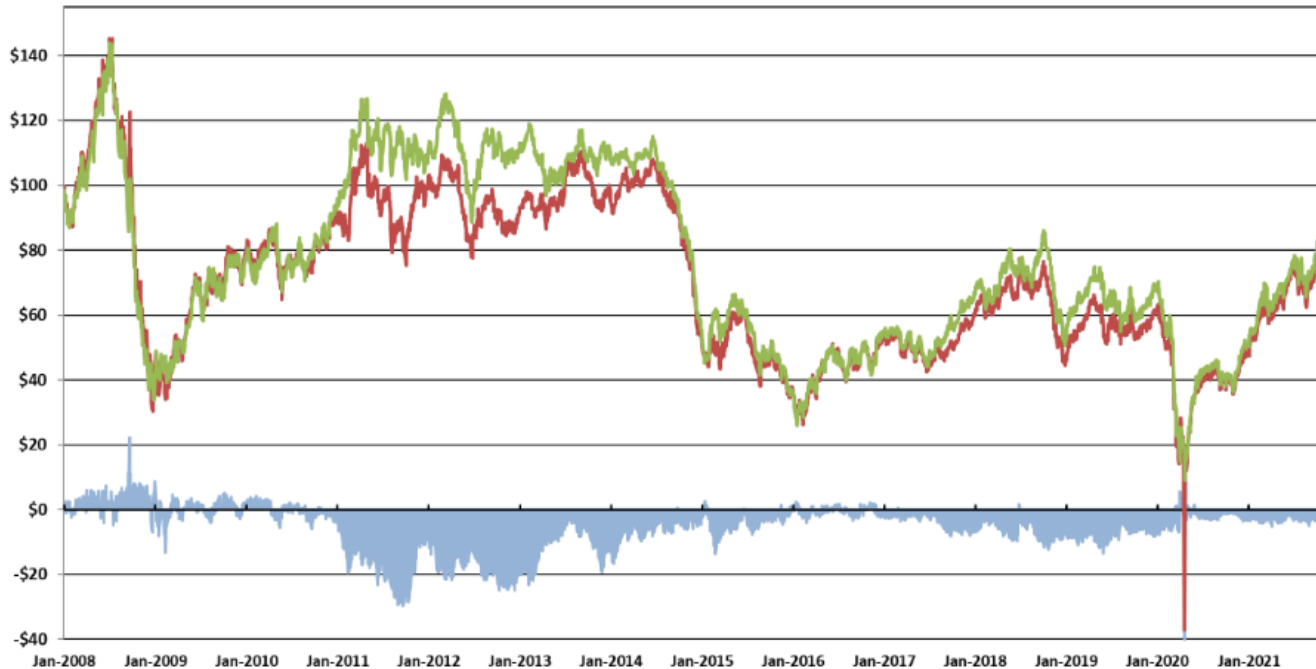
The U.S. Energy Information Administration (EIA) has substantially increased its 2022 average crude oil price forecast; the current forecast of WTI published in its October Short Term Economic Outlook (STEO) for CY 2021 is \$68.33/bbl, more than \$5/bbl than the average published in July 2021, the date of the last *Fuel and Vehicle Trends* report. Consensus Economics (a collection of investment bank and boutique forecasters) expects an average price of 65.86/bbl in 2022.

**Figure 1: Weekly WTI Spot Price: January 2008 to October 2021**



Source: Data from Energy Information Administration

Figure 2 shows WTI and Brent prices and spreads since January 2006. Brent spreads have averaged \$3.12/ bbl in September and \$2.67/bbl in October. The trend is that the Brent – WIT spread is getting smaller. Since January 2021, the Brent – WTI spread has averaged \$2.84/bbl. EIA anticipates a roughly \$3.67 spread for 2022. As noted in previous reports, increased pipeline capacity from the Permian basin have reduced this spread substantially.



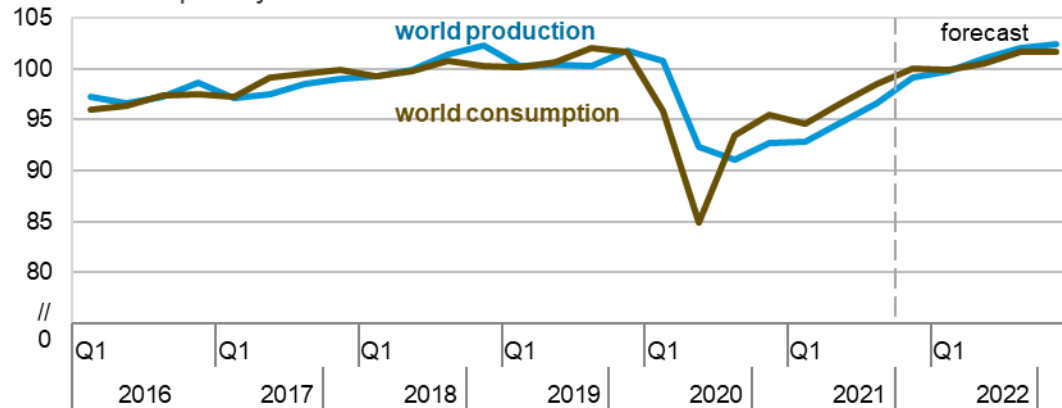
Source: Data from Energy Information Administration

Figure 3 shows world fuel production and consumption while Figure 4 shows Organization for Economic Cooperation and Development (OECD) Commercial Stocks of Crude Oil and Other Liquids. EIA's October production forecast averages 101.3 million/bbd for 2022, 0.5percent less than July. Calendar year 2022 consumption is anticipated to average 100.9 million/ bbd, a 0.4 percent decrease when compared to the July forecast.

At 61 days of supply, the October 2022 inventories forecast is 2 days lower than envisioned in July. The October 9th leader in The Economist magazine was "The age of fossil-fuel abundance is dead" Their theses is that "...an underlying factor is expected to worsen the scarcity in the next few years: a slump in investment in oil wells, natural-gas hubs and coal mines. This is partly a hangover from the period of abundance, with years of overinvestment giving rise to more capital discipline. It is also the result of growing pressures to decarbonize.

### World liquid fuels production and consumption balance

million barrels per day

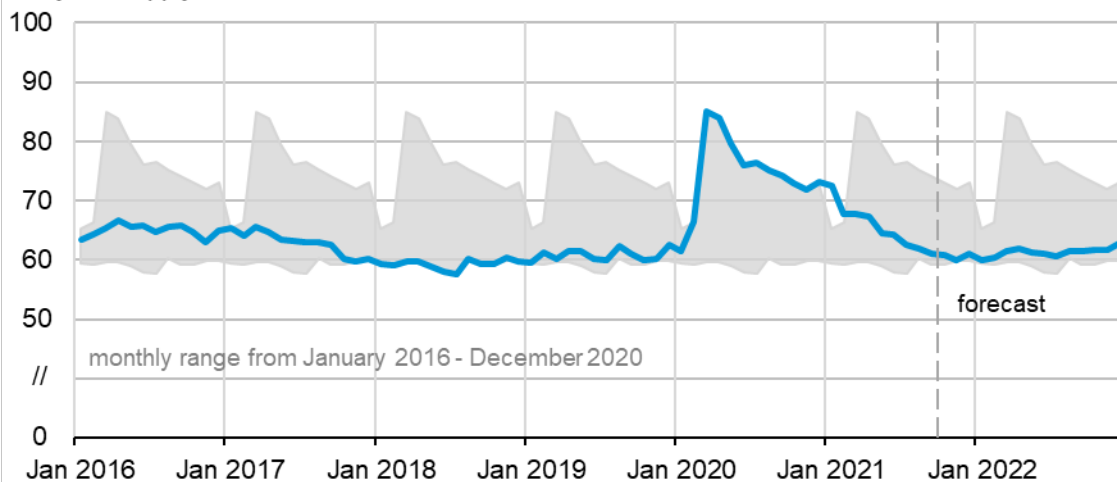


Source: Energy Information Administration

### Organization for Economic Cooperation and Development (OECD)

#### commercial inventories of crude oil and other liquids

days of supply



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

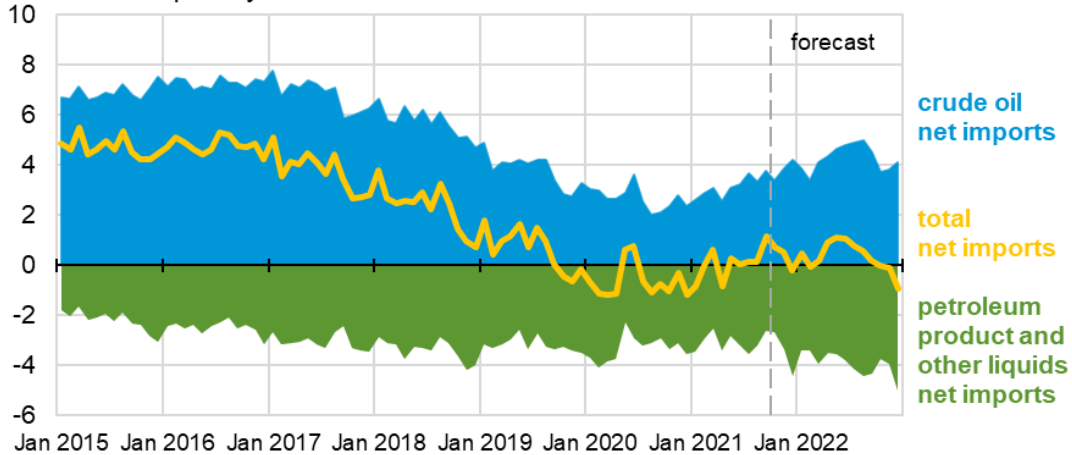


Figure 5 shows the recent U.S. import /export history and EIA's forecast. Note U.S. refineries are biased toward heavy grades of crudes; therefore, it is common to be simultaneously importing and exporting crude oil. EIA's latest forecast is little changed from July; 2022 net imports are expected to average 0.35 million/bbd, somewhat less than the 0.45 million/bbd envisioned in July.

Figure 5: US Net Imports

**U.S. net imports of crude oil and liquid fuels**

million barrels per day



Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

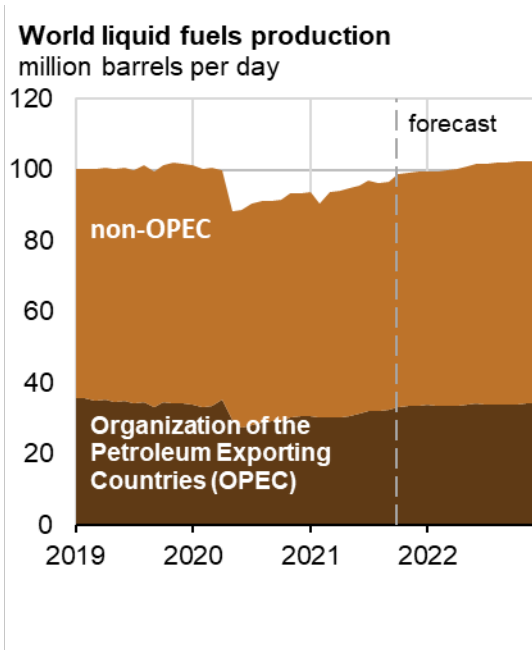
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

**World and US Oil Production**

The same Economist leader quoted above notes:

“A rule of thumb is that oil companies are supposed to allocate about four-fifths of their capital expenditure each year just to stopping their level of reserves from being depleted. Yet annual investment by the industry has fallen from \$750bn in 2014 (when oil prices were above \$100 a barrel) to an estimated \$350bn this year, reckons Saad Rahim of Trafigura, a commodity trader. Analysts at Goldman Sachs, a bank, say that over the same period, the number of years’ worth of current production held in reserves in some of the world’s biggest projects has fallen from 50 to about 25.”

Figure 6 shows world liquid fuel production by OPEC and non-OPEC countries. 2022 production is anticipated to be 33.89 million /bbd, a 0.7 percent decrease from July. 2022 OPEC share of world production is estimated at 33.4 percent, a roughly 0.1 percent decrease over the share reported in July. OPEC+ has been significantly producing less oil than anticipated.

**Figure 6: World Liquid Fuels Production: 2019-2022**

Source: Energy Information Administration

Paraskova reported in the October 18 edition of Oilprice.com that OPEC+ was pumping 15 percent less crude oil than its overall production quota for September. “The high compliance rate despite the monthly easing of the cuts by 400,000 bpd from the OPEC+ group suggests that not all members of the pact are capable of raising supply as quickly as their quotas under the deal stipulate.”

In an October 16 article for the same website, Kimani noted that analysts believe “that only Saudi Arabia, the United Arab Emirates, Kuwait, Iraq, and Azerbaijan are in a position to boost their production to meet set OPEC quotas, while the other eight members are likely to struggle due to sharp declines in production and years of underinvestment.”

This withering of production capacity extends to the oil super majors, Exxon Chevron, Royal Dutch Shell, BP, and Total. A recent study by Goehring & Rosenzweig, a commodities investment company, notes the long-term decline in Supermajor production despite targeting 5 percent increases for most of the 2000’s. “. Exxon’s upstream production is down 12 percent while Royal Dutch Shell is down 9percent. Only Total and Chevron have distinguished themselves by showing any annual production growth at all — 1.7 and 0.6 percent CAGR respectively since 2020. Proved oil and gas reserves paint the same picture. Exxon’s reserves are 27 percent lower while Royal Dutch Shell’s are 56 percent lower, and Chevron’s are 3 percent lower. Only Total has grown at all over the last 20 years: its proved oil and gas reserves are 14 percent greater than in 2000.”

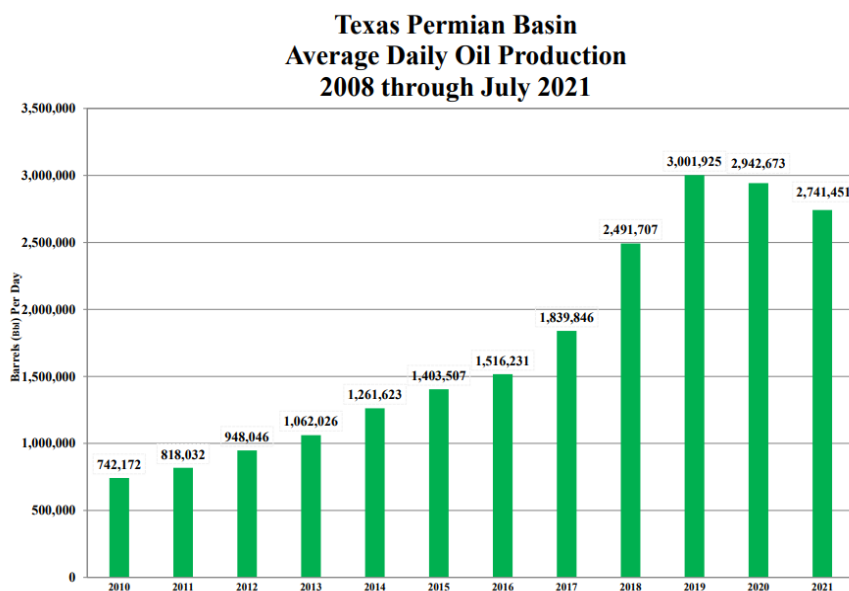
Figure 7 shows annual U.S. crude oil production by source. At 11.7 million/bbd, EIA’s 2022 has been lowered 1.2 percent since July. Almost all this revision stems from a more muted view of lower 48 states production.

Figure 7: U.S. Crude Oil Production by Source

	U.S. crude oil production (million barrels/day)				
	2018	2019	2020	2021	2022
Alaska	0.48	0.47	0.45	0.43	0.42
Federal Gulf of Mexico	1.76	1.90	1.64	1.64	1.75
Lower 48 States (excl GOM)	8.70	9.93	9.19	8.95	9.56
Total U.S. production	10.94	12.29	11.28	11.02	11.73

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, October 2021

Figure 8 shows crude oil production in Texas (roughly two-thirds of Permian production) as calculated by the state's regulatory agency. Production as of July 2021 was down 6 percent when compared to 2020.



10/14/2021

Source: Railroad Commission of Texas Production Data Query System (PDQ)

Source: Texas Railroad Commission

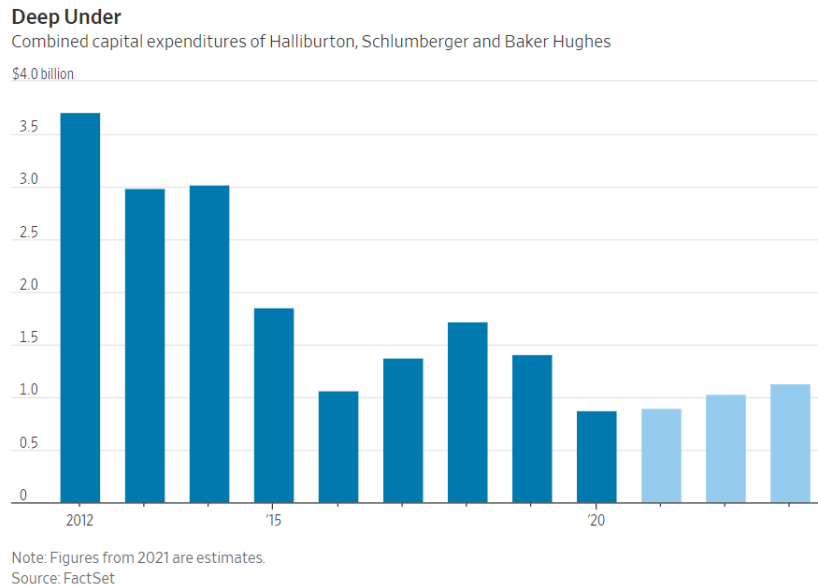
August monthly data from the New Mexico Oil and Gas Conservation Division (roughly one-third of Permian production) shows year-to-date output down 5.2 percent. The North Dakota Department of Mineral Resources reported that 2021 production decreased 5.1 percent when compared to 2020.

Again, capital discipline has morphed into underinvestment. This publication has previously noted that the high depletion rates experienced by fracked wells allow Permian and Bakken producers to “turn off the taps” by simply suspending drilling operations. This has caused a downstream effect on oil field service companies which



have drastically reduced their capital budgets. Lee reported in the July 23 Wall Street Journal that capital expenditures for the three major service companies (Halliburton, Schlumberger, and Baker Hughes) was only \$0.88 billion. In 2019 expenditures were \$1.41 billion and in 2014 expenditures were \$3.02 billion. This is shown in Figure 9.

**Figure 9: Oil Service Company Capital Expenditures.**



Source: Wall Street Journal

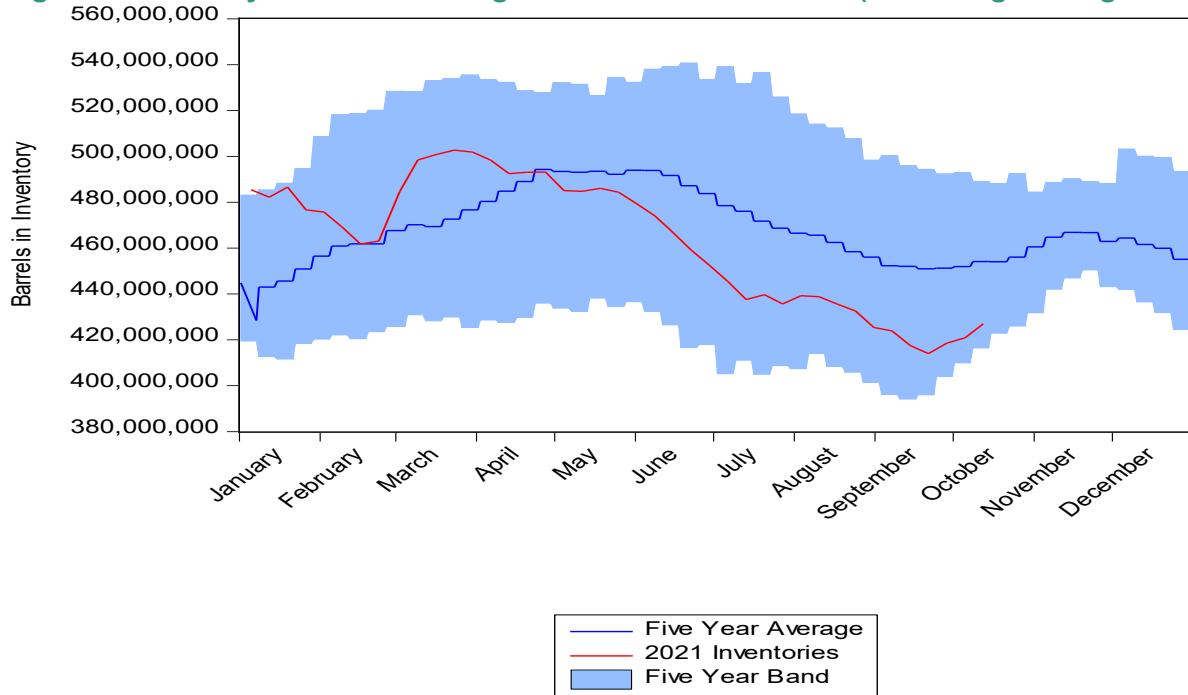
US producers have been cherry picking their inventory of drilled but uncompleted wells (DUCs), known in the press as the “fracklog”. Rystad Energy, an often-quoted consultancy, reported in an October research note that “A significant share of total DUCs is from old pre-2019 spud vintages, which no longer contribute materially to frac activity. This means that live DUCs – DUCs that are still viewed as good candidates for frac operations – fell from 4,150 wells in June 2020 to 2,370 wells in September 2021, the smallest live DUC inventory since the first half of 2013.”

## US Crude Oil Inventories

This *Report* employs five-year averages and bands of inventories to compare to current inventory levels. Inventories have traditionally used as a measure of over/ undersupply and includes all the U.S. crude oil and lease condensate (mixture of heavy hydrocarbons and pentanes) currently held at refineries, within pipelines, and at pipeline terminals.

Figure 10 shows monthly crude oil inventories. Inventories mid-month October was 427 million bbl, very close to the bottom of their historical range and have been the driver of the current price rally.

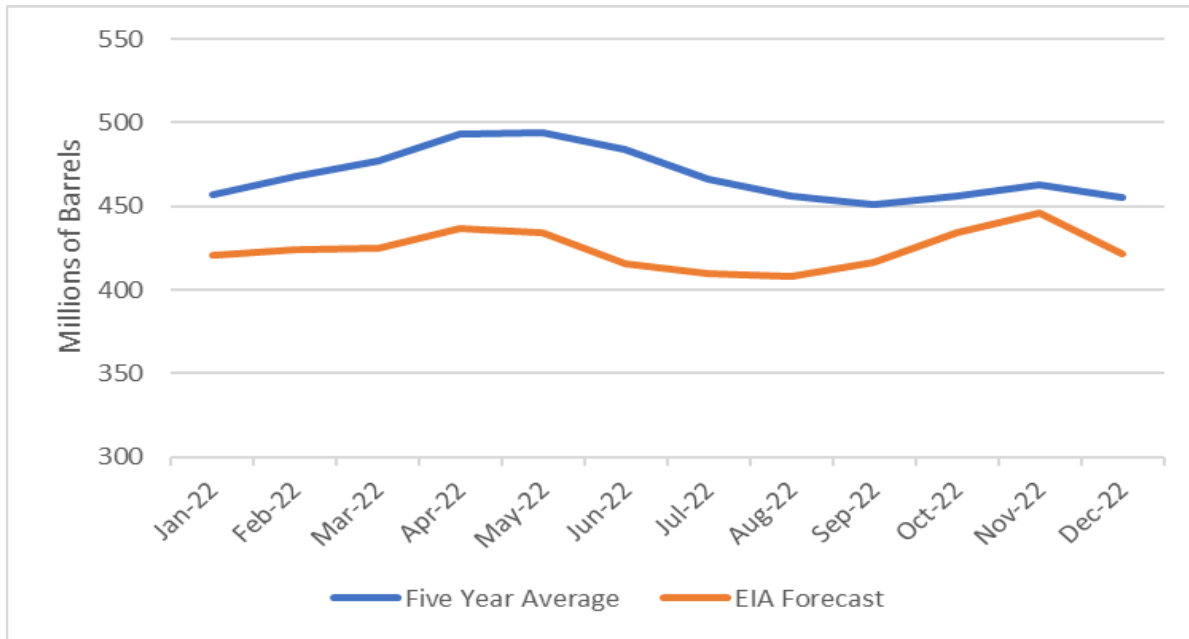
**Figure 10: Weekly 2021 U.S. Ending Inventories of Crude Oil (Excluding Strategic Petroleum Reserve)**



Source: Energy Information Administration, WSDOT

Figure 11 compares the current EIA inventory forecast to historical five-year averages. This forecast implies weak stocks throughout next summer's driving season. The spread between stocks and the five-year average is January ending inventories are anticipated to be 8 percent in January. That spread is anticipated to widen to 14 percent in June before falling to single digits in the fall.

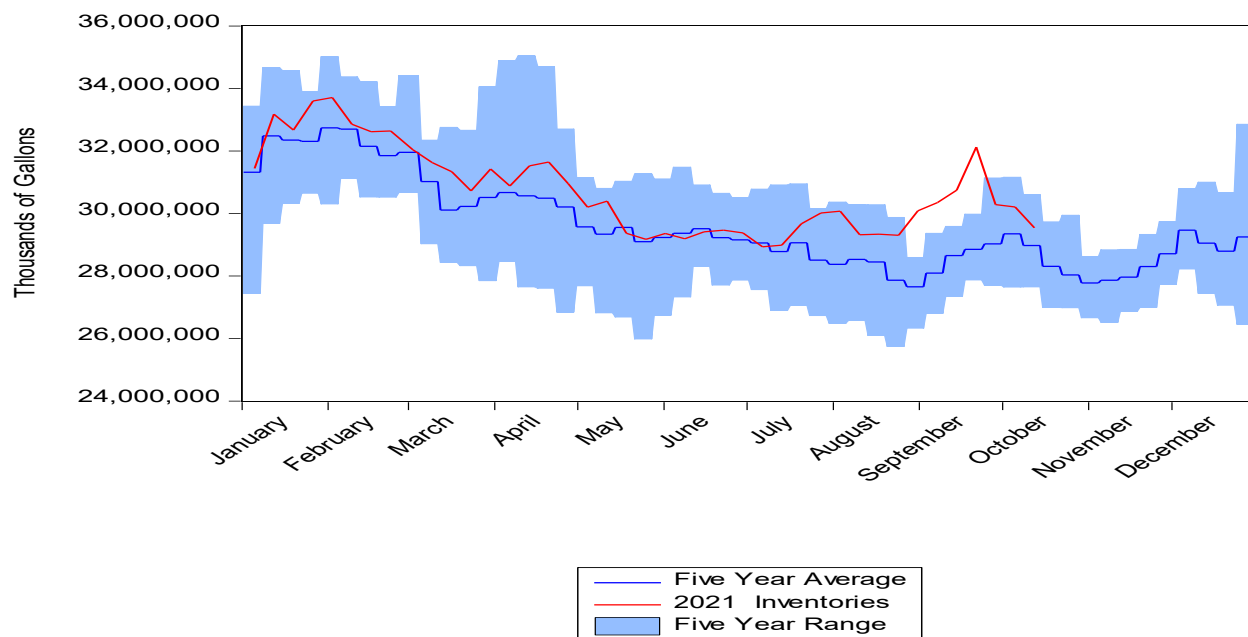
**Figure 11: EIA Forecast of 2022 Monthly U.S. Ending Inventories of Crude Oil and Five-Year Averages (Excluding Strategic Petroleum Reserve)**



Source: Energy Information Administration, WSDOT

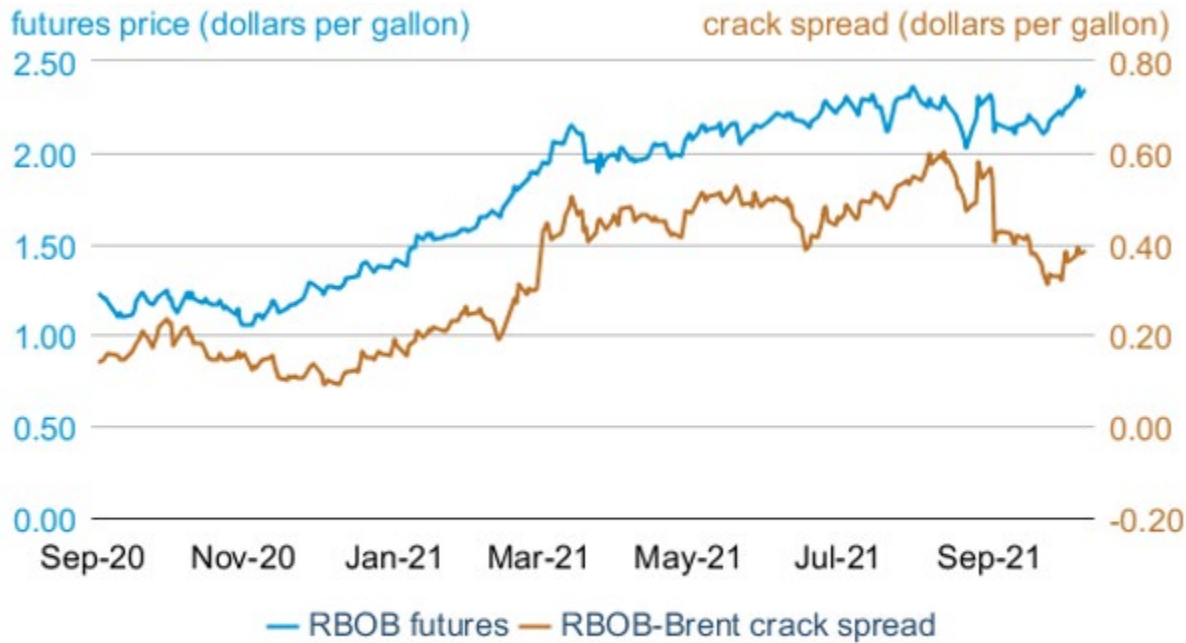
Figure 12 shows gasoline inventories for the West Coast, PADD5. Refiners clearly overestimated the summer driving season and are using the fall months to reduce stockpiles. This decline closely tracks gasoline crack spreads as shown in Figure 13. As crack spreads declined, West Coast refiners reduced production.

**Figure 12: 2021 Weekly Ending Gasoline Inventories (West Coast PADD5)**



Source: Energy Information Administration, WSDOT

Figure 13: Gasoline Crack Spreads



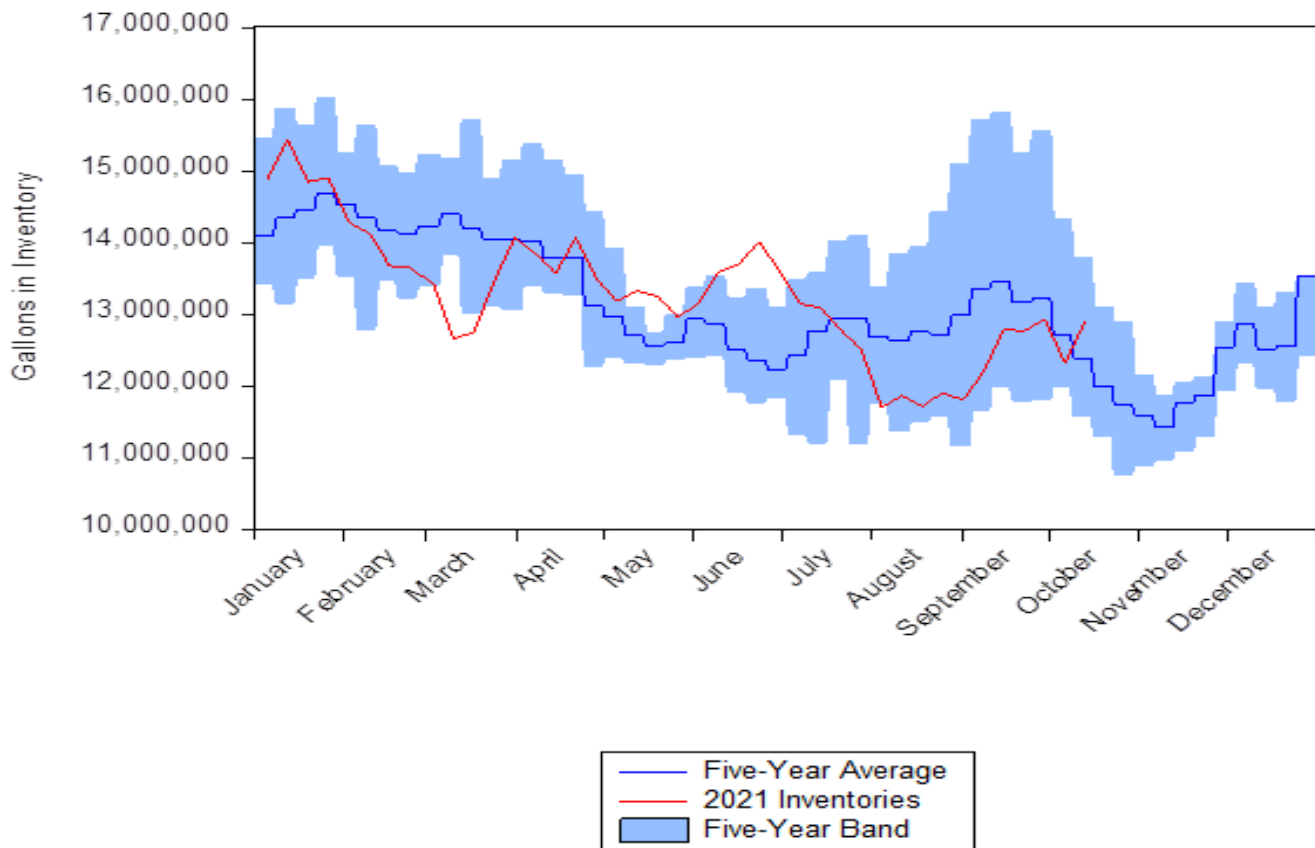
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.  
 Note: RBOB is the petroleum component of gasoline used in many parts of the country.

/

Source: Energy Information Administration

Figure 14 shows the analogous figures for diesel stocks. In contrast to gasoline stocks, diesel inventory declined to near the bottom of its five-year range throughout the summer before increasing in early fall. In its current STEO, EIA notes that “Distillate inventories typically increase in the summer to prepare for growth in demand in the fall and winter, when diesel-powered agricultural equipment is used to harvest crops and the winter heating season begins.) With minimal heating oil usage and a proportionately smaller agricultural base, this is not the case on the West Coast.

Figure 14: 2021 Weekly Ending Diesel Inventories (West Coast PADD5).

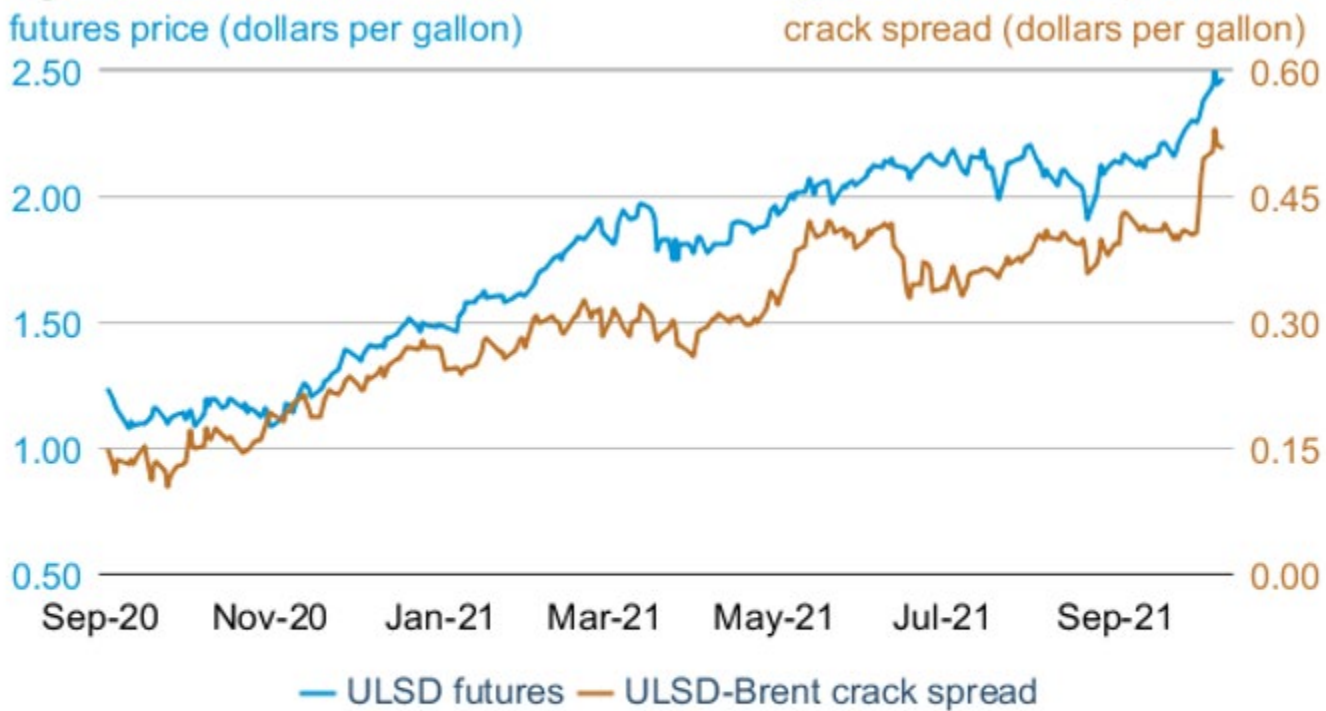


Source: Energy Information Administration, WSDOT

Figure 15 shows diesel crack spreads. From the current STEO:

“We estimate that distillate consumption was 4 million b/d in September—the highest September level since 2018. Hurricane-related disruptions, including refinery shutdowns and brief closures of Colonial Pipeline Line 2, contributed to reduced production and higher inventory withdrawals. Also, increases in the American Trucking Associations’ Truck Tonnage Index and the Cass Freight Index suggest trucking demand remains high as supply chains continue to navigate a backlog of shipping orders. Rapidly rising shipping activity will likely contribute to high distillate demand. While we forecast gasoline demand to remain below 2019 levels throughout 2022, we forecast distillate demand to increase next year to its highest level since 2018.”

Figure 15 Diesel Crack Spreads



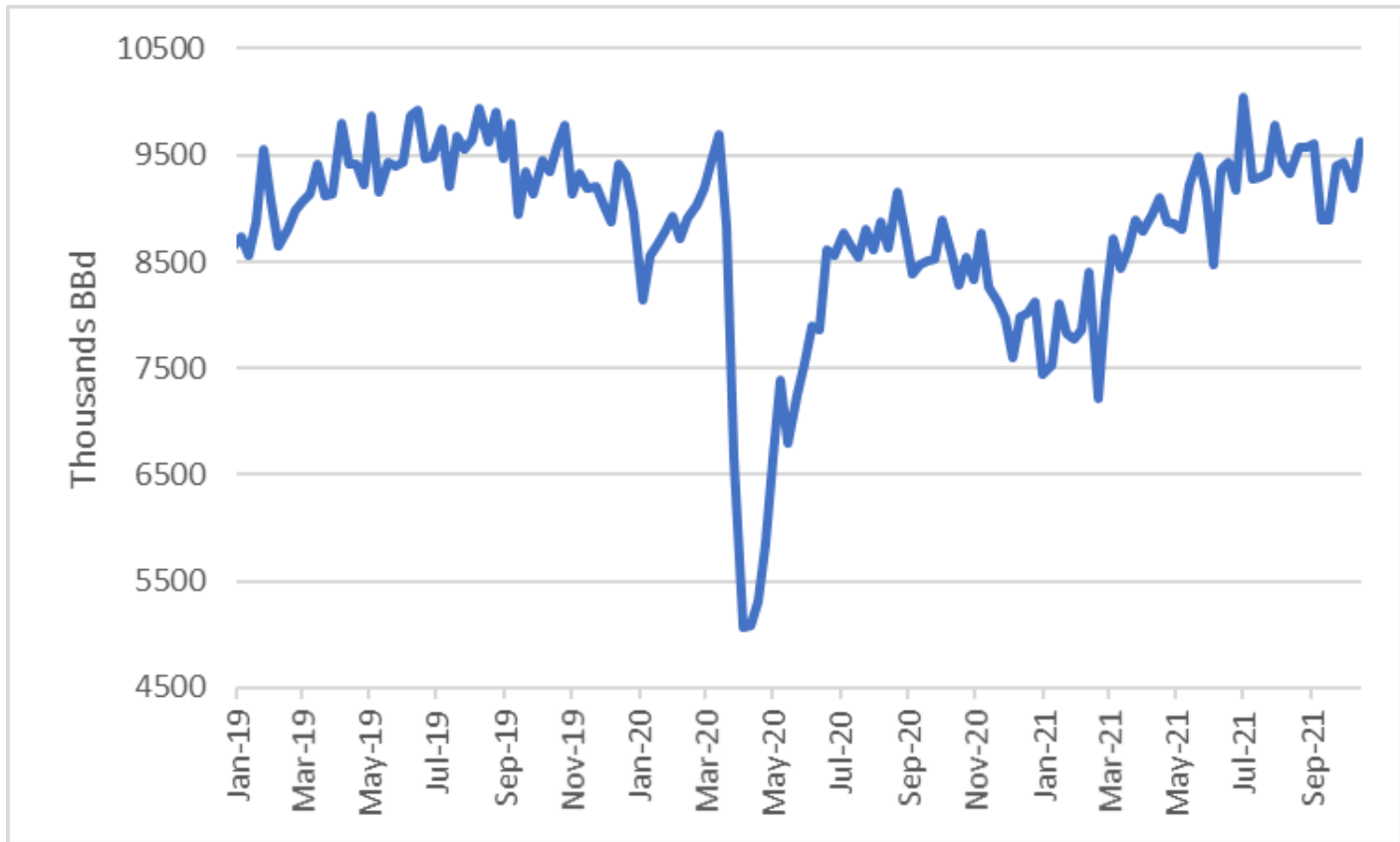
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

Note: ULSD=ultra-low sulfur diesel

Source: Energy Information Administration

## US Consumption and Prices

Figure 16 shows the collapse and recovery in national gasoline consumption since 2019. The four-week rolling average for the latest October 2021 weekly consumption statistic was roughly 9.4 million bbd, roughly equal to the comparable period in 2019 (pre-pandemic). However, in our last report, this writer expressed concern about the fall and winter when consumption is dominated by commuting patterns. As noted above, EIA does not expect gasoline demand to reach 2019 levels throughout 2022.



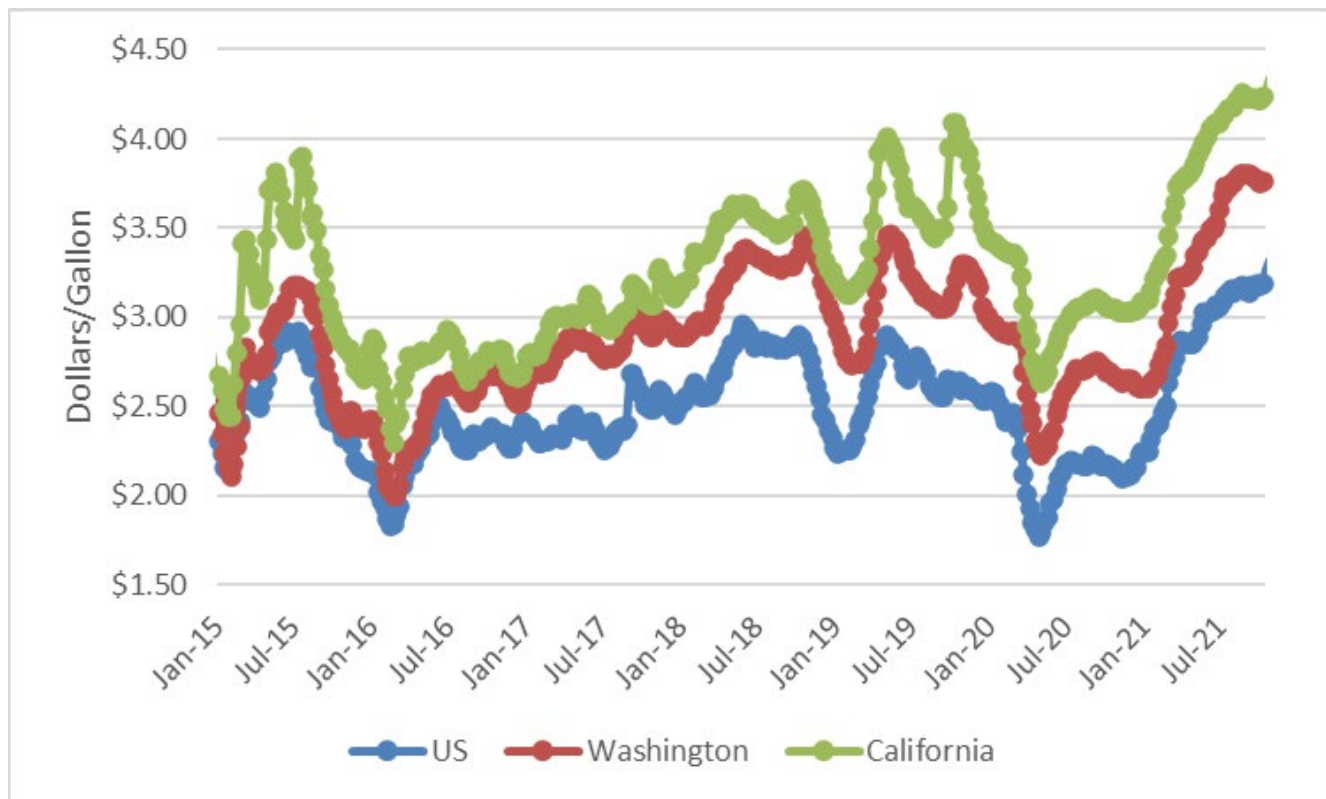
Source: Energy Information Administration

Although obscured by refinery inventory changes and other factors, national consumption is highly correlated with Washington taxable gallons. Although Washington taxable gallons seem to track generally lower than national data. This makes sense since Washington has a more sophisticated job mix than the nation as a whole and is therefore more susceptible to telecommuting. However, August sales (the latest available data) were up 4.3 percent when compared to August 2019, a pre pandemic month. At this point analysts discount this strength due to unusual “lumpiness” in July/August 2019.

Again, it is problematic to compare diesel fuel tax activity to EIA consumption data: the series covers both significant off-road use and railroad consumption. Diesel fuel is used almost exclusively in commerce, the EPA estimates that only 3 percent of new cars use diesel. August special fuels taxable gallons are up 7.4 percent when compared to (pre-pandemic) August 2019. As noted above, EIA is bullish on (total off and on road) diesel consumption.

Figure 17 shows the history of the monthly gasoline prices for the Washington, California, and the national markets since 2015. Prices for California and Washington are highly correlated because Washington is the major exporter to the California market. This publication has previously shown that West Coast markets are physically cut off from the bulk of U.S. refining capacity. Correlations between US and west coast prices are almost completely a function of the price of oil.

Retail gas prices have increased in concert with increased demand and decreased supply. The average national retail gas price in October was \$3.24/gallon, about 40 percent more than in January and 7 cents higher than the prior monthly average of \$3.17 per gallon. The Washington retail gas price average for October was \$3.76/gallon, 44 percent greater than in January and 52 cents higher in Washington than the US average retail gas price. The current monthly average California price was \$4.27/gallon in July, 35 cents more than in January and 51 cents higher than in Washington for the month of October.

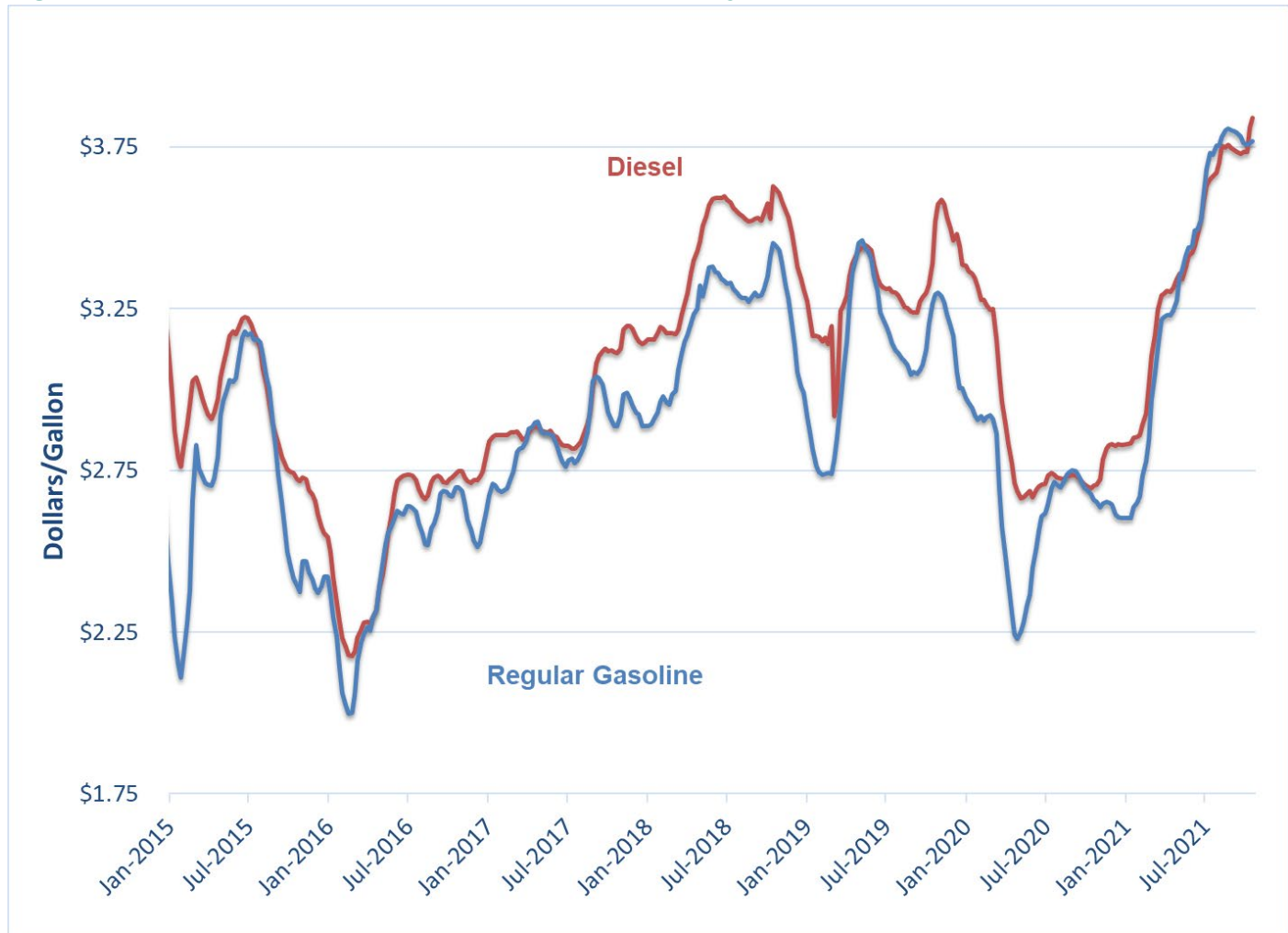


Source: Energy Information Administration

Figure 18 shows retail gasoline and diesel prices for Washington. As noted above, the average Washington retail gasoline price for October was \$3.76/gallon, while the analogous diesel price was \$3.78/gallon. Monthly average diesel prices have risen 33 percent since January, less than the above mentioned 44 percent for gasoline. The spread between the two fuels has tightened appreciably since January. Spreads averaged 7.7 percent at the beginning of the year; the October average is only 1.7 percent.



Figure 18: WA Retail Gasoline and Diesel Prices- January 2008 –October 2021



Source: AAA, Energy Information Administration

## BIODIESEL PRICE PREMIUM TRENDS

Analysis by Lizbeth Martin-Mahar, Ph.D.

### *Biodiesel Production and Prices: Comparison of Historical and Recent Prices*

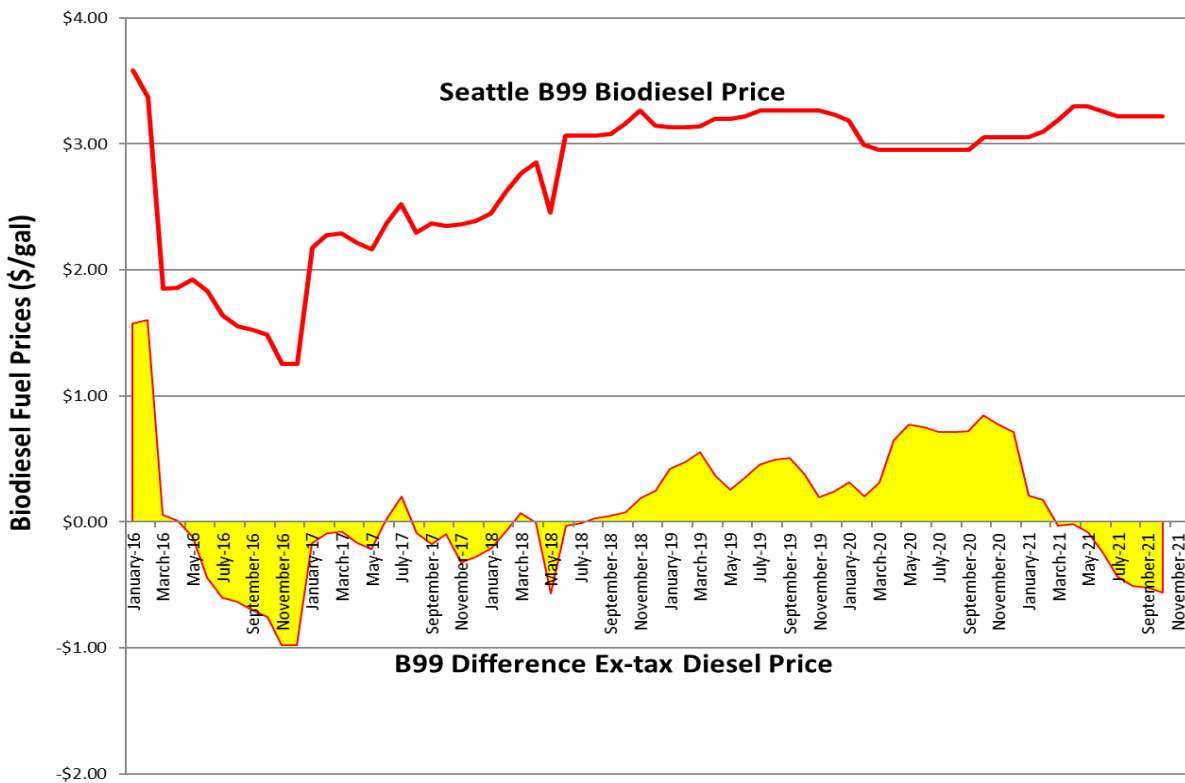
According to EIA monthly biodiesel production report, biodiesel production in Washington state consists of two companies producing 112 million gallons per year. This biodiesel production makes up nearly 90 percent of the PADD 5 production as of December 2020. Washington's biodiesel production makes up 6 percent of the total US biodiesel production. On the other hand, Oregon only has one company producing 17 million gallons per year of biodiesel. California has 8 companies producing 81 million gallons per year of biodiesel. These statistics reveal that Washington state has the largest production of biodiesel than any of the states in the PADD 5 region. The

biodiesel market in PADD 5 states indicate that the market is not filled with a lot of different producers and thus is not very competitive.

### Recent Trends: Washington B99 Biodiesel Prices

Since January 2019, the Washington B99 price has remained at an average price of \$3 per gallon. While national B99/B100 prices, the average price since January 2019 has been \$3.20 in gasoline gallon equivalent per gallon. Since March, B99 biodiesel prices have been about the same at \$3.2 per gallon. Still in October 2021, the B99 biodiesel price in Washington was \$3.2 per gallon and it has been at this level since July 2021. B99 prices are not as subject to fluctuations and regular diesel prices. Figure 19 shows the Washington B99 price and the price premium since January 2016.

**Figure 19: Monthly B99 Biodiesel Prices since January 2016**



Source: B99, Seattle biodiesel price data - OPIS Fuel Price Survey

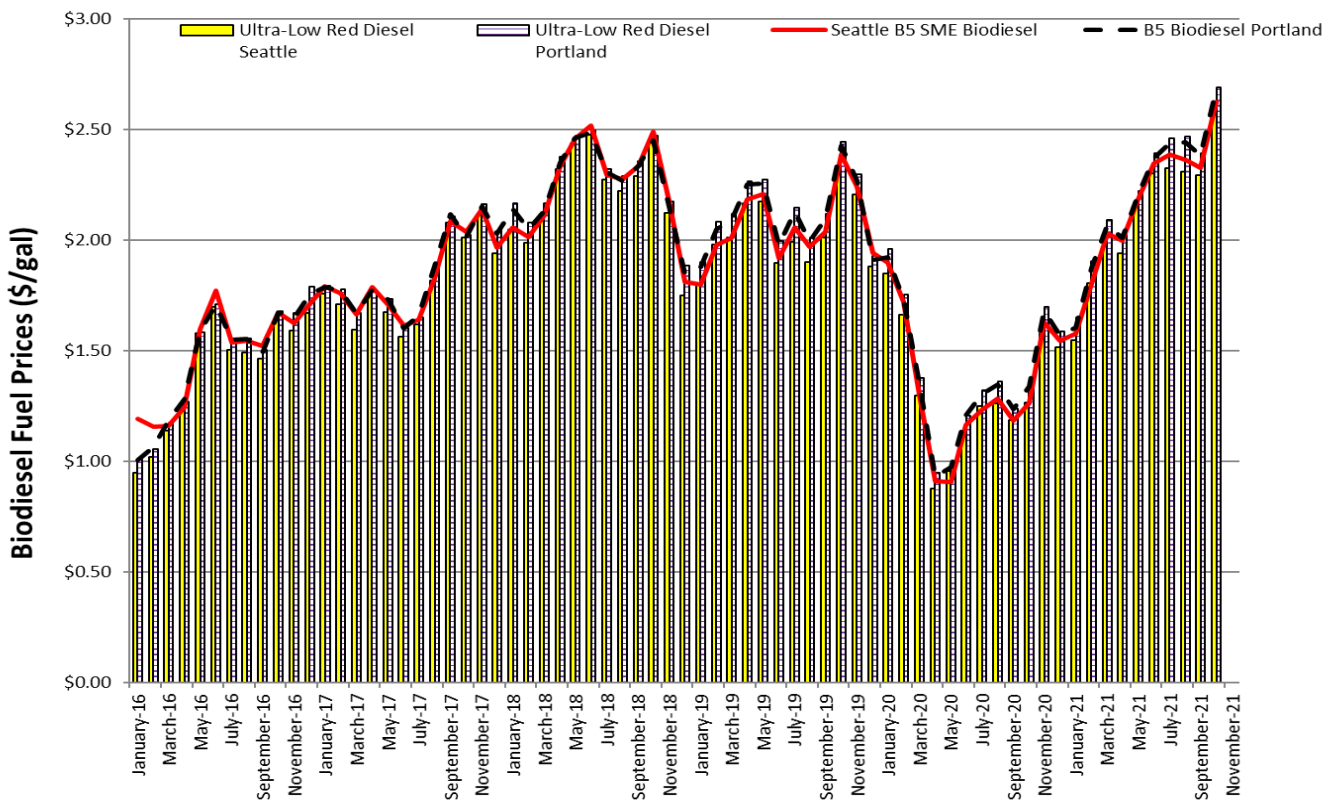
### Recent Trends: Seattle and Portland B5 Biodiesel Prices

Seattle and Portland B5 red dyed biodiesel prices are tracked because the Washington State Ferries contract for fuel purchases is based on the Portland B5 red dyed biodiesel prices. We have also compared the B5 red dyed biodiesel price with red dyed diesel as well. Figures 20 and 21 reveal the significant declines in B5 prices beginning in March through December mostly due to COVID-19 shutdowns beginning during the last few weeks of March 2020. Since the beginning of 2021, B5 biodiesel and red-dyed diesel prices have steadily risen in price. The B5 prices hit their peak in July 2021 at an average of \$2.44 and \$2.38 per gallon respectively in Portland and Seattle. The results also reveal that B5 prices in Portland and Seattle are typically moving in the same direction

with similar declines and both B5 prices have risen significantly from a year ago but now recently in June and July 2021, the B5 Portland and Seattle prices have risen above the 2019 prices for those months.

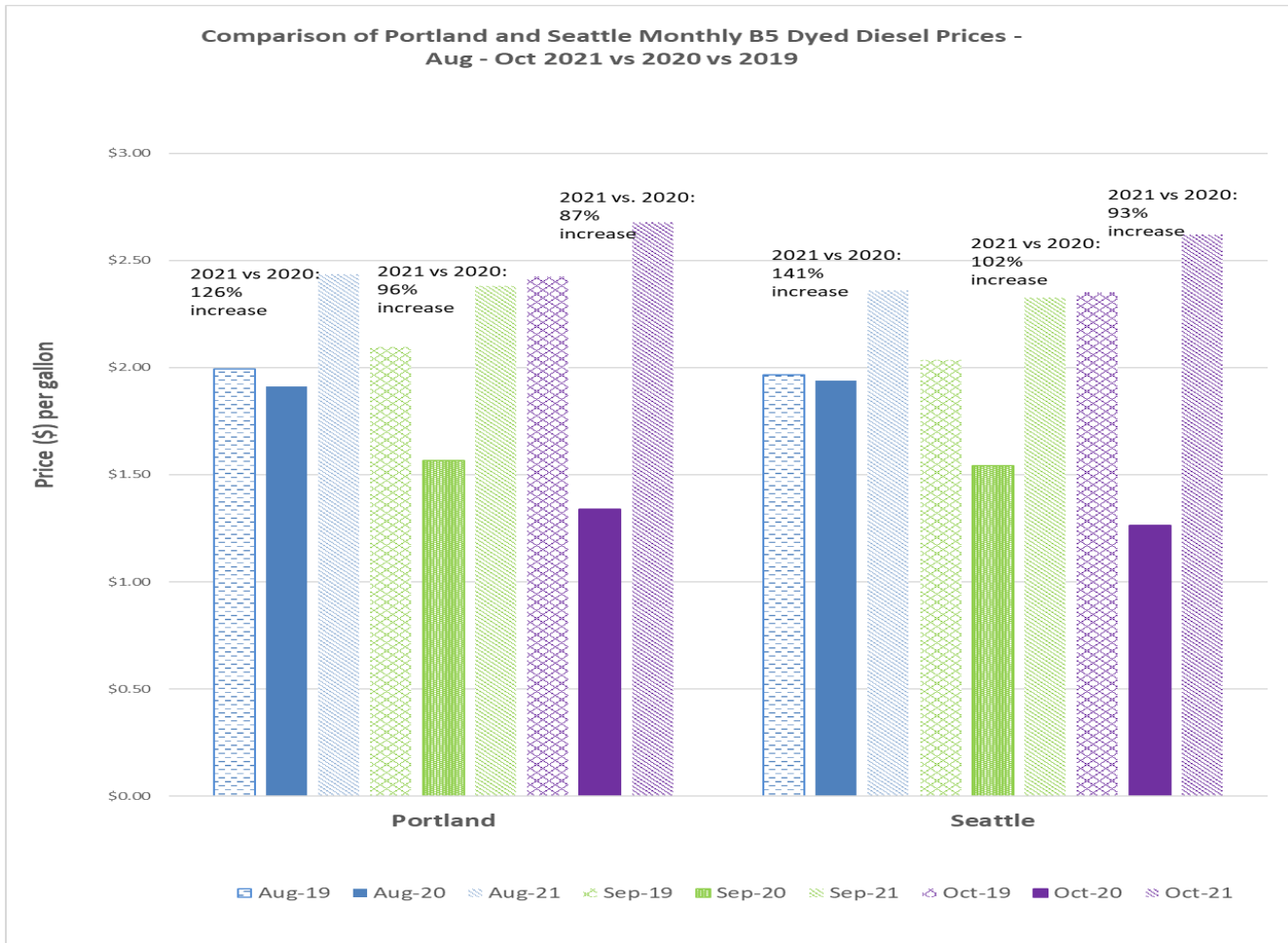
Figure 21 shows how the monthly B5 prices have changed in Portland and Seattle from a and two years ago. In August 2021, B5 prices were 81 and 83 percent higher than the average prices a year ago in both Portland and Seattle, respectively. In September, the B5 prices were above (13 percent for Portland and 14 percent for Seattle) the pre-pandemic B5 prices in September 2019. In October 2021, the Portland B5 prices were 98 percent higher than October 2020 average prices and Seattle B5 prices were 106 percent above the October 2020 prices. In October, the B5 prices were above the pre-pandemic B5 prices by 10 percent for Portland and 12 percent for Seattle. Since January 2021, both Portland and Seattle B5 prices have risen substantially and now are stabilized at around \$2.46 per gallon during the last three months.

**Figure 20: Seattle and Portland OPIS Red Dyed Diesel and B5 Biodiesel Prices: Since January 2016**



Source: Seattle and Portland red dyed diesel and B5 biodiesel price data - OPIS Fuel Price Survey.

**Figure 21: Seattle and Portland OPIS B5 Biodiesel Prices: August – October 2021 Versus 1 and 2 Years Ago**



Source: B5, Seattle and Portland biodiesel price data - OPIS Fuel Price Survey.

## FUEL PRICES AND CRUDE OIL PRICE TRENDS COMPARED TO RECENT FORECASTS: US Crude Oil Prices, Washington Retail Prices of Gasoline and Diesel

### Analysis by Lizbeth Martin-Mahar, Ph.D.

As noted earlier in this October edition of the *Fuel and Vehicle Trends Report*, WTI crude oil prices have been rising steadily. By week ending Oct. 22, 2021, the first 4-week average in October was \$79.65 per barrel. In addition, retail gas and diesel prices have also risen a little since the last edition of this report. The dramatic fall in crude oil prices in 2020 due to the significant reduction in worldwide demand for oil from the pandemic has rebounded back to exceed 2019 pre-pandemic price levels. The WTI average crude price in August 2021 was

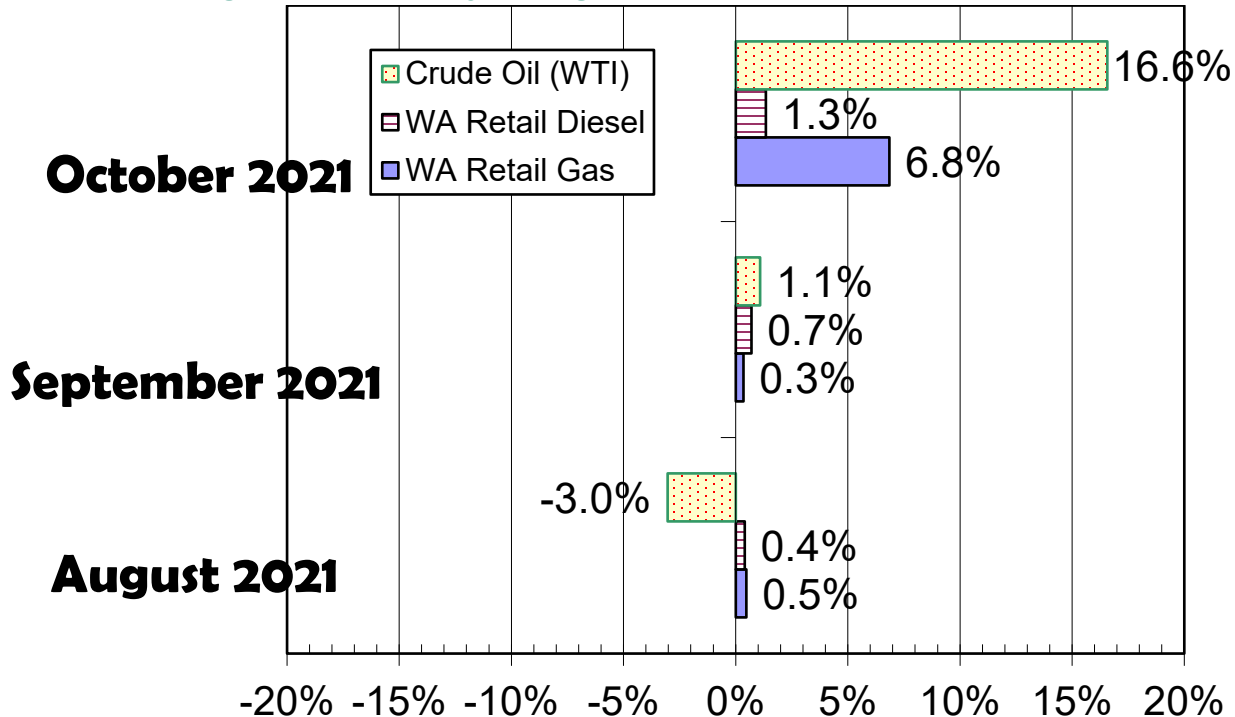
\$67.62 per barrel which is more than the August 2019 pre-pandemic average price of \$55.2 per barrel. Then the prices rose a little more to \$70.5 per barrel in September compared to \$57 per barrel in pre-pandemic September 2019. Then WTI crude oil prices rose further to \$79.65 per barrel in October. Since the beginning of calendar year 2021, WTI crude oil prices have risen 54 percent from \$56 per barrel in January to \$79.65 per barrel in October. We have been seeing WTI crude oil prices higher than the pre-pandemic prices like in January 2020 with a \$58 per barrel average monthly price. In the September forecast, we raised the crude oil price forecast because it included higher 2021 crude oil prices. The third and fourth quarter 2021 crude oil price projection for September were \$69.7 per barrel and \$68.3 per barrel respectively. In August, the average crude oil price was 3 percent lower than the third quarter 2021 projections. In September, the monthly average crude oil price of \$70.5 per barrel was slightly higher (1.1 percent) than the third quarter average forecast. In October, the average crude oil price for the quarter was forecasted at \$68.3 per barrel which was nearly 17 percent below the actual price for the month of October. See Figure 22 for more detail.

Retail fuel prices have shown similar trends as crude oil prices. In August and September, the retail gas prices have come in close to the third quarter average price but in October, retail gas prices came in above the fourth quarter projections. The September projections of retail gas prices in Washington were projected lower in the fourth than the third quarter projections which so far in the fourth quarter is not the case. Washington retail gas prices have grown 44 percent from \$2.62 per gallon in January to \$3.78 per gallon in September. The recent monthly averages of retail gas prices have been only slightly above (less than 0.5 percent) the projected third quarter 2021 of \$3.78 and \$3.79 per gallon respectively for August and September. In October though gas prices were slightly lower at \$3.76 per gallon but the fourth quarter projection of the average quarterly price was lowered to \$3.52 so that caused the retail gas price to come in 6.8 percent above the last projections. Over the past three months, gas prices have been essentially flat while the projections for fourth quarter 2021 went down.

The recent trends in retail diesel prices have been similar to gas prices in Washington except retail diesel prices came in very close to the quarterly projections for all three months and the third and fourth's quarter diesel price projections are nearly the same at \$3.71 and \$3.73 per gallon respectively. Since the beginning of CY 2021, Washington retail diesel prices have grown 32 percent from \$2.84 per gallon in January to \$3.73 per gallon in October. In the last three months, retail diesel prices have come in only slightly (1 percent or less) above the third and fourth quarter 2021 retail diesel price projections. The August monthly average diesel price was \$3.72 per gallon, which was nearly dead on (0.4 percent) with the projection for third quarter 2021. In September, diesel prices were \$3.74 per gallon or 0.7 percent above the third quarter 2021 projection. In October, retail diesel prices grew a little to \$3.78 per gallon and this was 1 percent above the fourth quarter 2021 projection. .

During the past three months (August through October), we have seen the difference between retail gas and diesel prices decrease from a -6 and -5 cents where retail diesel prices were below retail gas prices in August and September respectively. Now in October, the price differential is positive again at 2 cents where retail diesel prices are again above retail gas prices. This result occurred because retail gas prices have risen much faster than diesel prices in recent months; thus, reducing the difference between retail gas and diesel prices and even making the differential negative. Now in October retail gas prices fell month over month by 2 cents while retail diesel prices grew by 4 cents, so the price differential is now positive 2 cents again.

Figure 22: Percent Change in 2020 Monthly Average Fuel Prices Compared to the September Forecast



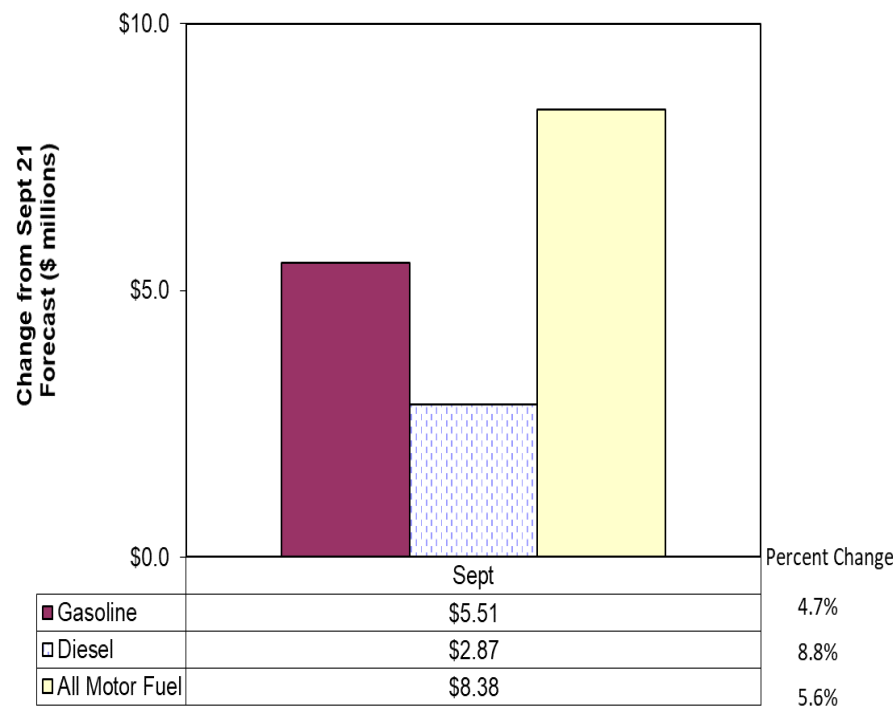
Source: Washington TRFC September 2021 Forecast, EIA, and AAA weekly fuel prices

## WA MOTOR VEHICLE FUEL TAX COLLECTION TRENDS COMPARED TO RECENT FORECASTS: Gasoline and Diesel Tax Collections

### Analysis by Lizbeth Martin-Mahar, Ph.D.

Since the adoption of the September 2021 forecast, one month of fuel tax collections have been reported. In September, total motor vehicle fuel tax collections came in above the forecast at \$159.04 million, which was \$8.38 million or 5.6 percent above the September forecast of \$150.66 million but this month was only 3 percent below September 2019 (pre-pandemic) at \$164.8 million. The September 2021 actual gas tax collections came in at \$123.7 million which was 4.7 percent ahead of last forecast and 5 percent below the pre-pandemic 2019 September gas tax level. Diesel tax collections came in at \$35.4 million which was above the September forecast by \$2.9 million or 8.8 percent. September's diesel tax collections were 3 percent above the September 2019 (pre-pandemic) level for that month.

Figure 23: Motor Vehicle Fuel Tax Collections Compared to the September 2021 Revenue Forecast



Source: Washington TRFC September 2021 Forecast and DOL and State Treasurer’s Office monthly fuel tax reports

WA MOTOR VEHICLE REGISTRATIONS AND REVENUE TRENDS  
COMPARED TO RECENT FORECASTS: Passenger Cars and Trucks

Analysis by David Ding

Car and Truck Registrations

For the one month of licensing registrations and revenue data we have received since the September forecast, vehicle registrations were up in September, see Figure 21. Passenger car registrations came in strong at 478,502 vehicles. On the other hand, we forecasted 444,441 vehicles. September’s actual passenger car registration was 7.7 percent higher or 34,061 vehicles more than projected for the month. The actual registrations for September were a little bit shy than September registration of 486,720 vehicles in 2020, but much more than 411,914 vehicles in 2019. which tells us that the passenger car registrations have come back past pre-pandemic levels. The passenger car result shows both September actuals in 2020 and 2021 are well exceeded the pre-pandemic registration levels.

Truck registrations had a similar pattern to passenger cars. The September truck registrations were

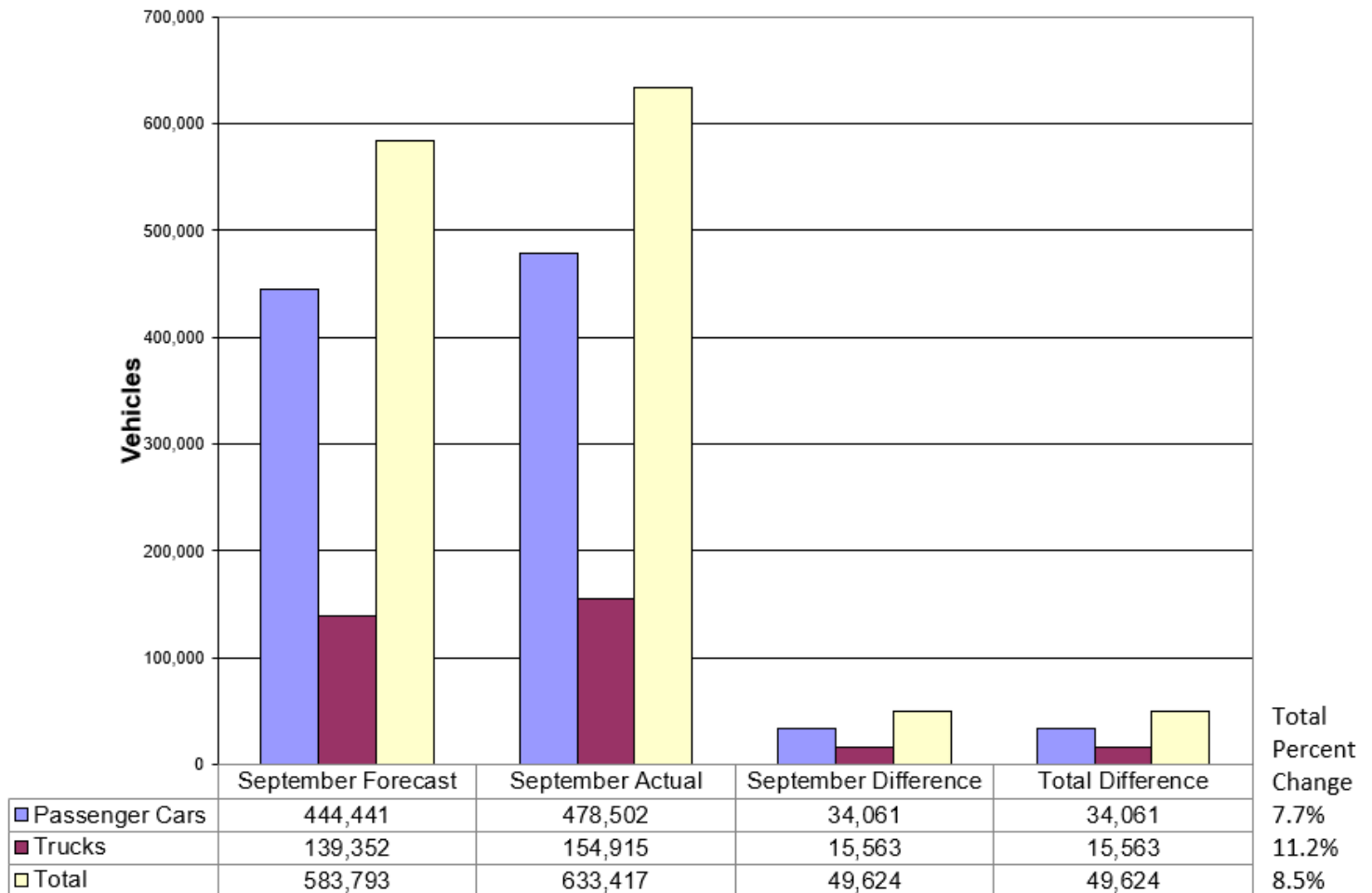


reported at 154,915 vehicles, meanwhile, the September forecast was 139,352 vehicles. The latest actual truck registrations were above the forecast by 11.2 percent, which shows a strong growth in truck registrations. Using the current September truck registrations compared with the September truck registration of 151,429 vehicles in 2020 and 123,125 vehicles in 2019, we can see it's higher than both previous two years. Just like with passenger cars, we also compared the September truck actual in 2020 and 2021 with the pre-pandemic actual in September 2019. The outcome shows both actuals are well above the actual from two years ago. This indicates the pandemic influence is gone in truck registrations and that the trucking industry demand remains high.

For both passenger cars and trucks combined for this period, vehicle registrations came in 49,624 vehicles or 8.5 percent above the September forecast. When comparing the passenger cars and trucks total this period with the same period in 2019, the current total is 18.4 percent more than two years ago.

**Figure 24: Vehicle registration, September 2021, Forecast vs. Actual**

### September Registration Trend



Source: Washington Transportation Revenue Forecast Council September 2021 Forecast and Department of Licensing Reports 13, September 2021



## License, Permit and Fee Revenue

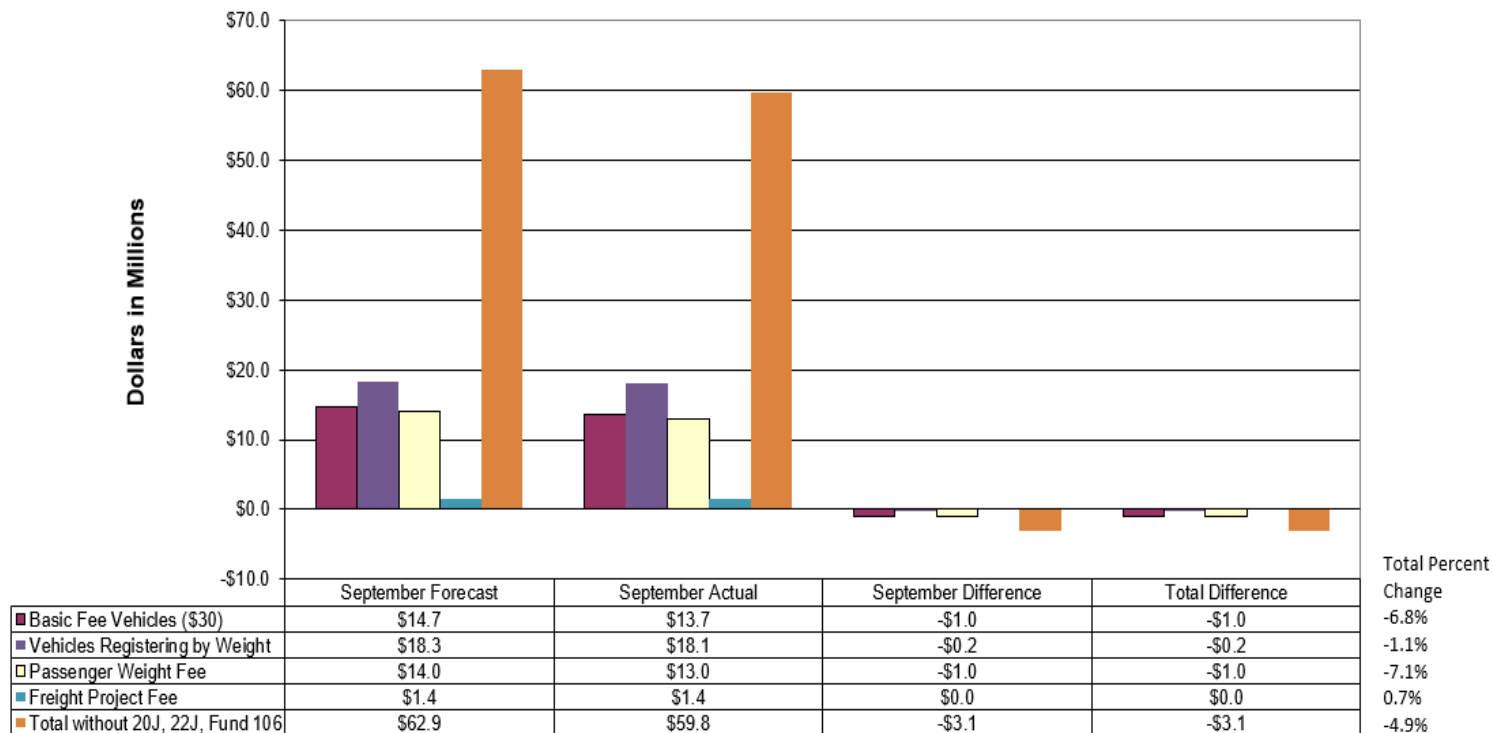
We also have one month of revenue to discuss in this report (Figure 22). In September, for \$30 basic license fee, the revenue came in at \$13.7 million. This was \$1 million or 6.8 percent lower than the \$14.7 million forecasted for that month. This revenue decrease does not agree with the passenger car registrations percentage increase. We have brought up this issue to DOL revenue accounting office but have not heard back from them yet.

Revenue for truck weight fee came in slightly lower than expected for September by \$0.2 million at \$18.1 million, which was 1.1 percent less than the last forecast. Comparing with the 11.2 percent increase in truck registrations, the revenue reduction in September looks abnormal. We have raised the question to DOL that if they made any JVs or adjustments in September for this revenue category.

Figure 25 also reveals that the revenue from the passenger weight fee came in lower than forecasted and the freight project fee revenue was slightly higher than the forecast. The passenger weight fee in September came in at \$13 million which was \$1 million or 7.1 percent less than the forecast. The freight project fee in September is almost right on the target to the forecast, the actual is only \$0.01 million higher than the September forecast. In total License, Permit, and Fee (LPF) revenues came in at \$59.8 million, which was 4.9 percent or \$3.1 million below the September forecast.

**Figure 25: Vehicle Revenues, September 2021, Forecast vs. Actual.**

### September Revenue Trend

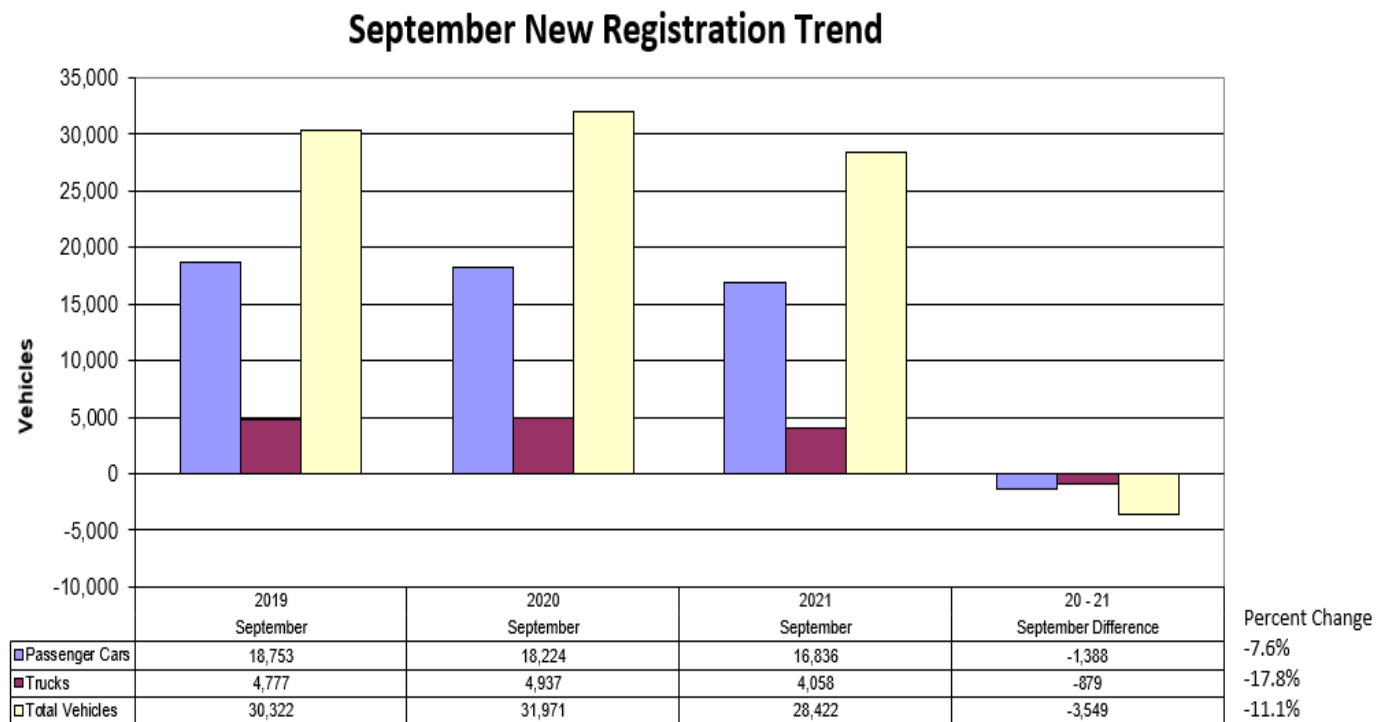


Source: Washington Transportation Revenue Forecast Council September 2021 Forecast and Department of Licensing ARFS Revenue Report, September 2021.

## New Car and Truck Registrations from Sales

This report also shows new car and truck registrations for September 2021, for more details, see Figure 26. In September, new car registrations were 1,388 vehicles less than the registrations in the same period a year ago, which was 7.6 percent lower than the previous year. September 2021 new car registrations are also 10 percent below pre-pandemic 2019 registrations. Same as the passenger cars, new truck registrations in Washington State showed a decrease in September 2021. The truck registrations went down by 879 trucks year over year, which represents a 17.8 percent decrease over last year. In addition, new trucks registrations are down 15 percent from the pre-pandemic 2019 level in September as well. This result indicates that the new truck registrations are slowing down from prior months. We know that there is a strong demand for new trucks because dealers all sold out their trucks but meanwhile the registration is down year over year. It tells that there are just not enough new truck supplies in the current market. This result indicates that the new vehicle registrations are slowing down likely due to the supply chain problems in the car industry as there are fewer new vehicles available in the market to be sold.

**Figure 26: New vehicle registrations Comparisons for September**



Source: Department of Licensing Report 14 for various months and years.

Overall, total new vehicle registrations in September decreased by 3,549 vehicles or 11.1 percent year over year. We think the decreased new vehicle registrations is not because of the demand but is the result of supply issues of new vehicles.

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