

Go West

Who's Moving to the Petroplex

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The oil and gas sector has seen its ups and downs since the Great Recession. Several unforeseen events, such as an explosion in new fracking technology, Russia's war with Ukraine, and the COVID pandemic, have contributed to significant oil and natural gas price swings.

Since 2011, the price of West Texas Intermediate (WTI) crude oil has fluctuated from a high of more than \$120 to a low of -\$36 per barrel. The drop below zero in 2020 was the first since trading in the commodity on the New York Mercantile Exchange began in 1983. Natural gas followed suit with a Henry Hub spot price high of more than \$23 and a low of \$1.33 per million BTUs during the same period.

Several local and regional economies in Texas remain heavily influenced by oil and gas activity. Located in the heart of the Permian Basin, Midland and Odessa are two notable examples. The first commercial oil well was completed in the Permian in 1921, and the region remains just as important to U.S. oil and gas production today as it ever was.

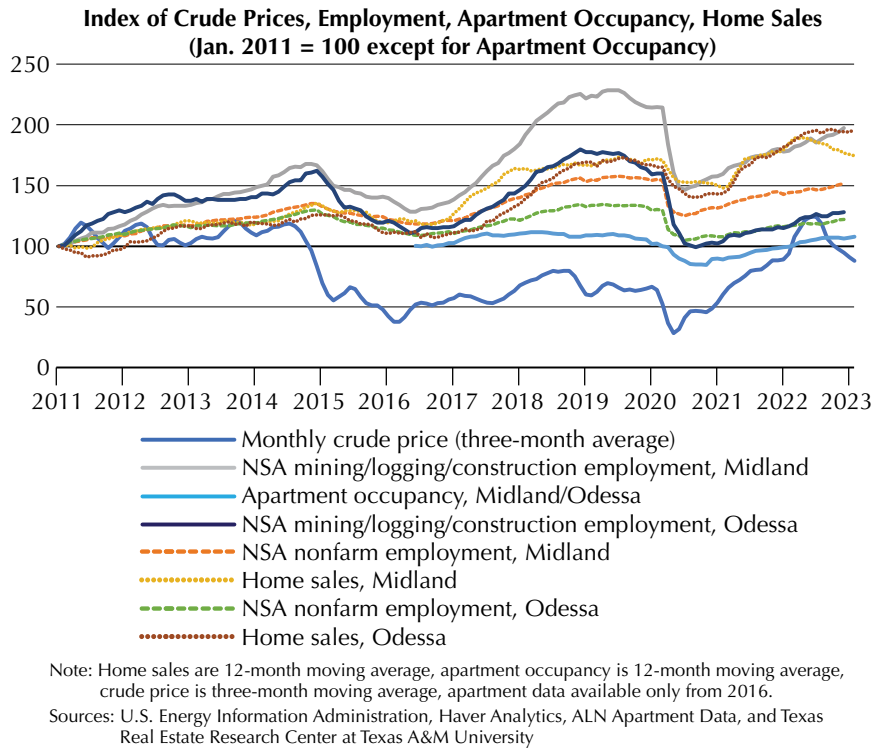
It should be no surprise that oil and gas price volatility has often been accompanied by employment volatility in the Permian. Oilfield jobs are some of the few remaining that

Takeaway

Oil and gas jobs remain the lifeblood of Midland and Odessa, attracting workers from across the state and country. Knowing about these migrants and what they do sheds light on how they've impacted each city's economy and housing market.

can provide an above average income for workers with varying levels of skills and education. As a result, during good times workers have been drawn to the Permian from many areas of the state and country, often from areas that don't pay as well for a given skill or are less prosperous economically.

Although the impact may vary, employment volatility can significantly influence local housing markets. Crude price, employment, home sales, and apartment occupancy have often moved in tandem in Midland and Odessa (see figure). A deeper look into the characteristics of migrants relocating to Midland and Odessa from 2011 to 2021 provides further insight into their composition and possible influence on local housing and job markets.



Who Are the New Arrivals?

Workers, often accompanied by their families, came from a number of different states to many parts of the Permian Basin in the 11-year period being analyzed.

Although the Permian covers 17 counties in Texas as well as a large part of southeastern New Mexico, the focus here is restricted to the Midland and Odessa Metropolitan Statistical Areas (MSAs). Each MSA is composed of only one county—Midland County (Midland) and Ector County (Odessa). The data source for migrant characteristics is IPUMS USA, University of Minnesota, www.ipums.org,

which collects, preserves, and harmonizes U.S. Census Bureau microdata from decennial censuses and the annual American Community Survey (ACS).

Out-of-state households came to Odessa from 28 different states between 2011 and 2021. However, the top five states accounted for 52.1 percent of the total. Meanwhile, households relocating to Midland came from 31 states, with the top five accounting for 54.7 percent of the total. New Mexico and California were the top two states sending migrants to both MSAs (Table 1). The year with the highest total out-of-state migration was 2013, a year when WTI

**Table 1. Top 5 States Moving Households to Petroplex
(2011-21 Average Annual Percentage)**

Odessa			Midland		
State	Percent of Total from Other States	Total Households	State	Percent of Total from Other States	Total Households
New Mexico	21.2	2,685	New Mexico	20.1	3,123
California	13.6	1,718	California	13.2	2,049
Virginia	6.7	849	Colorado	8.3	1,291
Nebraska	5.8	728	Oklahoma	7.1	1,110
Tennessee	4.8	610	Florida	5.9	920
Total	52.1	6,590	Total	54.7	8,493

Source: IPUMS USA

**Table 2. Education Level of Movers to Petroplex
(2011-21 Average Annual Percentage)**

Odessa			Midland		
Status	Percent of Total from Other States	Percent of Total from Within Texas	Status	Percent of Total from Other States	Percent of Total from Within Texas
High school (grade 9-12)	38.0	58.0	High school (grade 9-12)	43.0	45.0
Some college	31.0	23.0	Some college	28.0	28.0
College degree	25.0	14.0	College degree	26.0	22.0
Total	94.0	95.0	Total	97.0	95.0

Source: IPUMS USA

price peaked at \$107 per barrel (\$140 per barrel in 2023 inflation-adjusted dollars).

Total households moving to Midland, including those from within Texas and from other states, exceeded 43,000. In-state moves were 64 percent, or about two thirds, of the total. Odessa’s total moves exceeded 34,000, with 62 percent coming from inside Texas. The median age of all movers over the age of 18 was 36 for folks moving to Midland and 35 for those moving to Odessa.

Average household incomes for the 11-year period were somewhat similar for in-state and out-of-state movers, although incomes varied widely by year. For Midland, the average was \$79,600 for out-of-state movers and \$81,400 for in-state movers. Odessa’s averages were lower at \$67,600 for out-of-state movers and \$65,900 for those coming from within Texas. The average household income for

the state during the same period came in significantly lower at \$58,500.

Educational attainment showed mixed results. From 2011 to 2021, Odessa exceeded Midland in the percentage of movers from inside Texas who had some high school education. The percentage of college graduates moving from out of state was almost the same for both cities. The percentage of movers from out of state with some high school education moving to Midland was greater than the percentage moving to Odessa (Table 2). The highest percentage of college graduates moving to Midland from out of state (48 percent) occurred in 2011, while the peak year for Odessa was 2021 (74 percent).

Marital status is often a factor when deciding what type of housing to occupy. Married movers from outside Texas were much more likely to bring a spouse with them than

**Table 3. Marital Status of Movers to Petroplex
(2011-21 Average Annual Percentage)**

Odessa			Midland		
Status	Percent of Total from Other States	Percent of Total from Within Texas	Status	Percent of Total from Other States	Percent of Total from Within Texas
Divorced	6.0	12.0	Divorced	11.0	14.0
Married, spouse absent	6.0	5.0	Married, spouse absent	6.0	5.0
Married, spouse present	49.0	36.0	Married, spouse present	51.0	39.0
Never married, single	23.0	39.0	Never married, single	28.0	36.0
Widowed or separated	16.0	8.0	Widowed or separated	4.0	6.0
Total	100.0	100.0	Total	100.0	100.0

Source: IPUMS USA

those moving from within Texas. Conversely, a greater percentage of single movers came from within Texas than from other states (Table 3).

All movers overwhelmingly selected rentals over homeownership as their housing choice in both MSAs. The average homeownership rate for out-of-state movers from 2011 to 2021 was higher in Odessa (31 percent) than in Midland (23 percent). Conversely, the average homeownership rate during the same period for in-state movers was higher in Midland (30 percent) than in Odessa (26 percent).

Peak homeownership rates for out-of-state movers by year occurred in 2020 for Midland and 2016 for Odessa. Both were years when the average 30-year mortgage rate based on Freddie Mac data was quite low at 3.1 percent for Midland and 3.7 percent for Odessa. Average homeownership rate by nonmovers was extremely high at 75 percent for

Midland and 73 percent for Odessa. The overall U.S. homeownership rate varied between 64 and 66 percent during the same 11-year period.

On the whole, movers favored multifamily properties over single-family homes. In-state movers chose to live in single-family homes more often than out-of-state movers. Manufactured housing was a more popular choice in Odessa than in Midland for both in-state and out-of-state movers (Table 4).

Fluctuations in annual home sales and median prices were similar for the two cities, but they were by no means identical (Table 5). Moderately similar periods of lower sales and prices are evident in 2015 and 2020. Rig count, WTI price, and employment growth all trended downward during both years. Periods of increasing sales and prices were similar in 2012, 2017, and 2021. WTI price, rig count, and employment

Table 4. Housing Type Chosen by Movers to Petroplex (2011-21 Average Annual Percentage)

Status	Odessa		Midland	
	Percent of Total from Other States	Percent of Total from Within Texas	Percent of Total from Other States	Percent of Total from Within Texas
Single-family home, detached	37.0	43.0	28.0	39.0
Multifamily bldg. (small)	12.0	18.0	34.0	27.0
Multifamily bldg. (large)	35.0	25.0	26.0	23.0
Manufactured home	12.0	11.0	6.0	5.0
Other	4.0	3.0	6.0	6.0
Total	100.0	100.0	100.0	100.0

Source: IPUMS USA

Table 5. New, Used Residential Properties Sold Through MLS

Year	Midland Sales	Annual % Change	Midland Median Price	Annual % Change	Odessa Sales	Annual % Change	Odessa Median Price	Annual % Change
2011	1,820	N/A	\$185,000	N/A	965	N/A	\$135,000	N/A
2012	2,028	11.4	\$207,250	12.0	1,159	20.1	\$150,000	11.1
2013	1,966	-3.1	\$222,000	7.1	1,194	3.0	\$159,000	6.0
2014	2,271	15.5	\$244,901	10.3	1,253	4.9	\$173,000	8.8
2015	2,005	-11.7	\$240,000	-2.0	1,107	-11.7	\$175,000	1.2
2016	2,052	2.3	\$235,450	-1.9	1,096	-1.0	\$165,750	-5.3
2017	2,747	33.9	\$255,000	8.3	1,319	20.3	\$175,000	5.6
2018	2,795	1.7	\$289,900	13.7	1,677	27.1	\$202,130	15.5
2019	2,874	2.8	\$300,500	3.7	1,663	-0.8	\$227,000	12.3
2020	2,545	-11.4	\$299,900	-0.2	1,426	-14.3	\$228,000	0.4
2021	2,972	16.8	\$310,000	3.4	1,777	24.6	\$225,000	-1.3

Source: Texas Real Estate Research Center at Texas A&M University

Table 6. Selected Occupations Where Percentage of Out-of-State Workers Was Higher Than 2.6 Percent Average (Persons employed sometime during 11-year study period in Midland or Odessa)

Occupation	Total Number of Persons Hired in This Occupation	Number of Out-of-State Persons Hired in This Occupation	Percentage of Out-of-State Workers
Bus drivers, transit and intercity	354	247	69.8
Physicians	1,294	502	38.8
Computer programmers	1,774	316	17.8
Computer support specialists	5,355	712	13.3
Pipelayers, plumbers, pipefitters, and steamfitters	10,431	1,241	11.9
Bus and truck mechanics and diesel engine specialists	8,890	768	8.6

Source: IPUMS USA

Table 7. Selected Occupations Where Percentage of Out-of-State Workers Was Lower Than 2.6 Percent Average (Persons employed sometime during 11-year study period in Midland or Odessa)

Occupation	Total Number of Persons Hired in This Occupation	Number of Out-of-State Persons Hired in This Occupation	Percentage of Out-of-State Workers
Secretaries and administrative assistants	36,668	144	0.4
Accountants and auditors	20,570	143	0.7
First-line supervisors of construction trades and extraction workers	37,310	310	0.8
Nursing, psychiatric, and home health aides	15,045	196	1.3
Civil engineers	2,877	45	1.6
Property, real estate, and community association managers	17,163	277	1.6

Source: IPUMS USA

peaked in 2012 and 2017. However, only WTI price and employment were strengthening in 2021. Rig count was extremely low, bottoming in August of that year.

Impact on Labor Force Trends

IPUMS data reported 546 specific job categories for all workers employed in either Midland or Odessa from 2011 to 2021. The total number of workers employed in all 546 occupations during the 11-year period averaged over 181,000 per year. Restricting the count of job categories to occupations where at least one employee relocated from outside Texas, that number drops to 167. Just under 53,000

people working in these occupations came from other states during the 11-year study period, an average of approximately 4,800 per year or 2.6 percent of the total workforce.

Of those 167 occupations, 106 logged employment proportions by out-of-state workers higher than 2.6 percent, meaning those 106 occupations employed a higher-than-average number of out-of-state workers. Although all occupations cannot be listed, a selected sample of more familiar occupations with higher- and lower-than-average employment by out-of-state workers is shown in Tables 6 and 7.

Table 8. Occupations Reporting Higher 2022 Hourly Wage Rates in Midland or Odessa Compared With Texas Overall

Occupation	Midland Wage (/hr.)	Odessa Wage (/hr.)	Texas Wage (/hr.)
Administrative services managers	63.57	54.63	53.26
Automotive body and related repairers	28.60	23.75	24.52
Civil engineers	48.24	40.53	45.18
Compliance officers	43.97	34.42	35.31
Computer and information systems managers	83.99	65.28	75.07
Computer systems analysts	60.82	41.29	51.31
Construction managers	60.52	51.94	49.91
Crane and tower operators	34.77	30.23	29.57
Electricians	29.47	26.44	26.43
Executive secretaries and executive administrative assistants	37.36	32.86	32.58
Facilities managers	58.03	66.02	52.12
Financial managers	94.45	71.19	78.37
First-line supervisors of construction trades and extraction workers	42.03	36.61	34.39
First-line supervisors of production and operating workers	48.26	35.14	33.36
General and operations managers	59.45	53.79	52.96
Industrial production managers	75.76	60.89	61.30
Inspectors, testers, sorters, samplers, and weighers	22.93	27.84	22.53
Marketing managers	76.35	68.64	66.60
Production, planning, and expediting clerks	32.14	28.74	25.67
Project management specialists	50.99	50.19	45.38
Property, real estate, and community association managers	56.28	41.86	36.86
Sales reps of services, except advertising, insurance, finance & travel	42.93	37.84	33.62

Source: IPUMS USA and U.S. Bureau of Labor Statistics

Both Odessa and Midland employed workers in 424 of the 546 occupations during the 11-year study period. Workers employed in an occupation in Midland averaged just under 94,000 per year, while Odessa averaged approximately 87,000 per year, a somewhat even split.

Comparing Texas, Midland, Odessa Wage Rates

U.S. Bureau of Labor Statistics individual job category wage data for 2022 for Texas, Midland, and Odessa were used to show inequalities between wage rates by geography (Table 8). Unfortunately, only some of the 546 total occupations reported wages for all three geographies.

Still, a selected comparison of wages shows disparities do exist that could cause workers to migrate from other parts of Texas to Midland or Odessa for higher pay.

Although oil and gas prices are impossible to predict, Midland and Odessa’s position as a global competitor in their production should continue to be a magnet for both out-of-state and in-state workers for the foreseeable future. ➔

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