



Crane Commentary

Q3 2019

Prepared by Rouse Appraisals LLC

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Crane Market Conditions

In the most recent 3Q19, mobile crane sales prices have displayed a weaker trend in the auction markets relative to the price trends observed in the prior quarters of 2019. This underperformance has been most notable with the rough-terrain category. Although auction sales have achieved lower prices, retail sales appear to be steady across categories. The overall crane environment is thus a mixed picture of some weakness in the auction market and stability in the retail market.

Looking back for historical context, crane values peaked in 2008, and since that time, the crane industry has undergone various periods of contraction and expansion. In tandem with the rest of the economy, there was a precipitous decline in crane values from late 2008 through 2009, followed by a period of stagnation through 2012. Starting in late 2012, tower cranes began a rapid ascent in valuation in connection with the commercial and residential housing construction boom. For most other crane categories, Rouse observed a moderate price increase, which began in 2014 and lasted through 2015. This was in response to increased demand for energy and power projects. In 2016, these crane categories began another decline related to oil prices and this trend persisted throughout most of 2017 in the climate of decreased rental rate, utilization, and equipment values.

While 2017 primarily demonstrated an accelerated trend of declining crane values, late 2017 started to show signs of stability as equipment values began to firm up. Throughout 2018, values primarily demonstrated a stable trend, indicating that used equipment values have bottomed for most mobile crane categories. This trend of stability continued through the first half of 2019, while the market may be indicating some softness in the most recent 3rd quarter.

Over the last five years, large mobile crane values have been closely tied to activity in both the traditional and alternative energy sectors, and there has been some correlation between oil price changes and mobile crane values. Because many crane types are used in energy-related industries, as the price of crude oil adjusts either upward or downward, crane values may follow suit. Coming out of the economic bottom in 2008-2009, crude oil recovered and remained stable until 2014, and this period witnessed a recovery of the crane industry and equipment values.

The first leg of oil price declines in late 2014 (from ~\$110 down to ~\$35) had a meaningful impact on overall utilization trends and rental rate achievement for several players in the crane rental space, particularly those with material exposure to upstream oil and gas projects. However, the persistence in oil price declines did not impact the used equipment markets in a material way until 2016, at which point Rouse began to see downward pressure in equipment values, which persisted throughout 2017.

At the tail end of 2017, oil prices broke the \$60/barrel mark and continued an upward price trend through the first three quarters of 2018. In Q4 2018, oil prices sharply declined to the \$45/barrel range, as concerns of widespread economic slowdown dampened the outlook on future demand for fuel. Oil prices steadily climbed back up, but the latest price data shows a continuing trend of price volatility. Q3 2019 prices have fluctuated in the mid \$50's/barrel. The recent sentiment in the oil markets is one of uncertainty as several factors have been impacting the markets including increasing US crude production, global demand, and continuing friction in US-China trade relations. ([Click here for Oil Rig Counts and Crude Oil Prices for more detail.](#))

Amid this backdrop, many industry players focused on reallocating fleets into markets with more robust demand while maintaining good discipline over their fleet management. Although there have been consistent levels of activity across a variety of end markets (plant maintenance, repair, and retrofitting work, wind energy, and infrastructure), the combination of decreased oil prices and slower non-residential construction spending growth placed downward pressure on utilization, rental rates, and equipment values in 2017. Toward the tail end of 2017, utilization began increasing, but rental rate increases remained challenged through most of 2018. Today's crane landscape shows a persistence of improved and stable utilization with rental rate at a steady state.

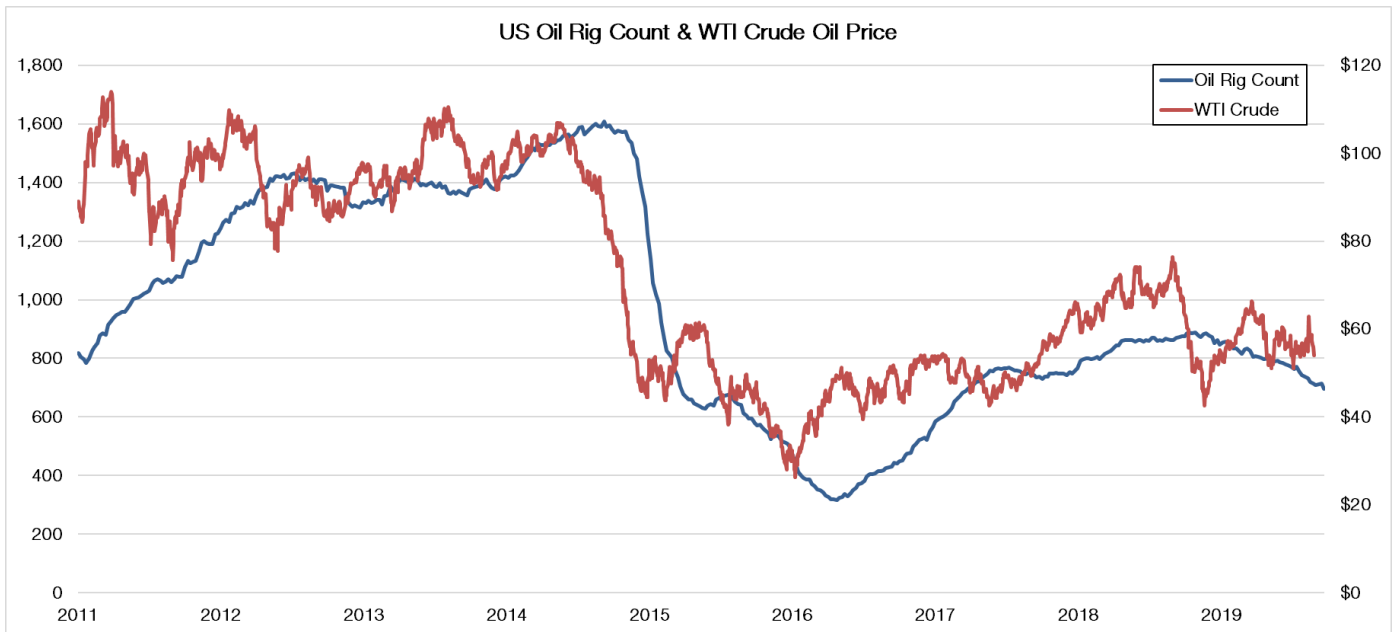
In terms of secondary market sales, crane values began stabilizing in late 2017. Used crane values have mostly held through 2019, but the latest auction results indicate some softness in various mobile crane categories, particularly for rough-terrains.

Oil Rig Counts and Crude Oil Prices

Oil rig counts continue to move down through Q3 2019 as WTI crude oil prices remain in the mid \$50's per barrel range. The declining rig count figure may indicate slowing economic activity in oil production as drillers have been reducing the number of rigs in areas such as the Permian Basin.

Because the crane rental industry has material exposure to the oil and gas markets, Rouse tracks oil rig counts and crude oil pricing as an indicator of overall market conditions. The population of oil rigs correlates to crane demand, as cranes are needed at oil sites for lifting work, and oil-related projects are among the primary use cases of cranes. As oil rig count and pricing increase, the demand for oil-related project work also increases, which favorably impacts utilization and rental rate for mobile cranes.

As oil prices witnessed substantial declines in 2014-15, oil rig counts correspondingly followed suit, and oil-related crane work substantially declined. These market forces flowed through to used equipment values starting in 2016 and persisted throughout 2017. The current market environment is a partial recovery from the bottom of 2016.



Key Trends: Utilization, Rental Rates, and Equipment Values

Thus far in Q3 2019, utilization has remained stable in connection with an oil price environment that has remained in the mid \$50's per barrel. While mobile crane demand is off the recent peaks of 2014-15, tower crane utilization continues to be high as non-residential construction demand has continued.

Based on conversations with over 10 major North American crane rental firms, Rouse has identified the key utilization trends, by crane type, experienced broadly across the industry. Throughout most of 2017, utilization remained weak due to the lack of availability of substantial project work. Toward the end of 2017, Rouse observed utilization beginning to increase for the mobile crane categories. In 2019, most mobile crane categories have shown a stable utilization trend. Tower cranes, which are seeing consistent demand and full order books for as much as 18 months ahead, continue to show a strong utilization environment. The key trends are summarized in the table below.

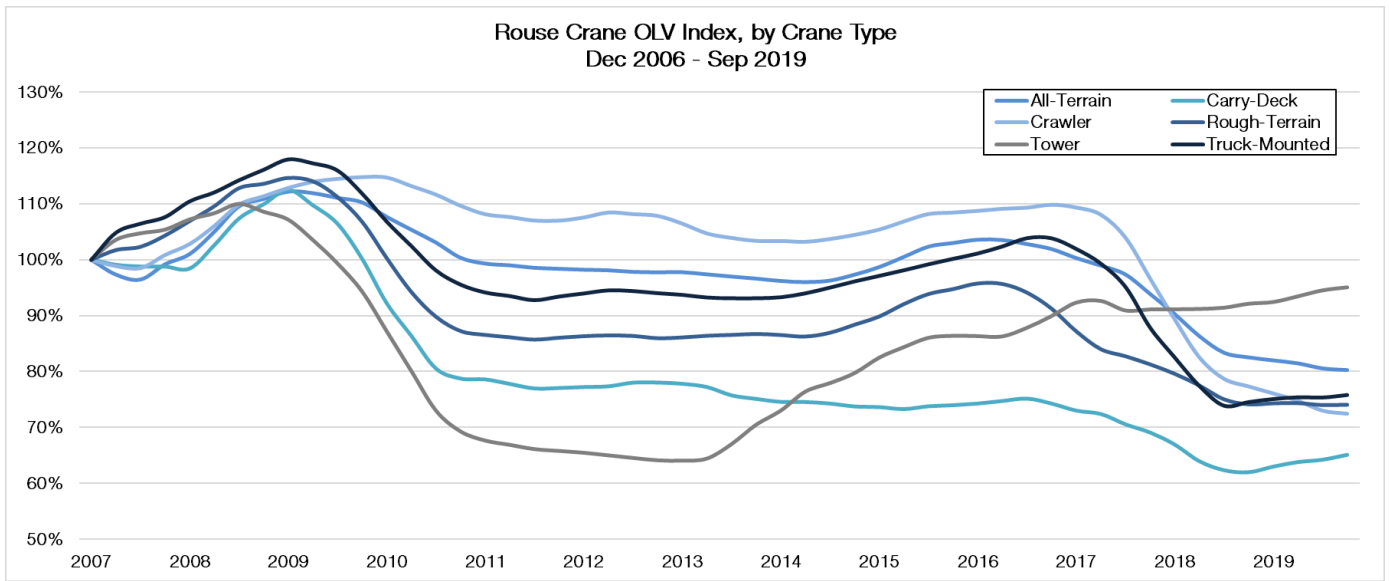
| Crane Category | Utilization Trend | Notes |
|----------------------|-------------------|---|
| Tower Cranes | High demand | Commercial construction strong |
| Crawler Cranes | Stable demand | Crude oil prices stable in 3Q19; utilization trend remains stable |
| All Terrain Cranes | Stable demand | Crude oil prices stable in 3Q19; utilization trend remains stable |
| Truck-Mounted Cranes | Stable demand | Crude oil prices stable in 3Q19; utilization trend remains stable |
| Rough Terrain Cranes | Stable demand | Crude oil prices stable in 3Q19; utilization trend remains stable |

Subsequent to the oil price declines of 2014-15, cranes began to come off of long-term project work 12+ months later. After this, for a sustained period, utilization remained weak for all mobile crane categories. Starting toward the end of 2017 and persisting through early 2019, there was an increasing utilization trend for several mobile crane categories. Most recent data suggest that physical utilization is continuing at a stable level for the mobile crane categories.

As utilization declined in the period mentioned above, Rouse observed a simultaneous downward pressure on rental rates. Due to high competition, crane rental companies reduced rental rate or provided other margin-reducing incentives such as free freight in order to win project work.

2018 witnessed some small increases in rental rate in select pockets of work, but the overarching theme had been one of continued competition in terms of rental rate. In 2019, there appears to be a continued stabilizing trend for rental rate, though rates are not back at the peak levels when oil was over \$100/barrel. While the uptick in utilization and rental rate for some categories are positive signs for the industry, it does not appear that rate and used equipment values will reach back to pre-downturn levels during the near term.

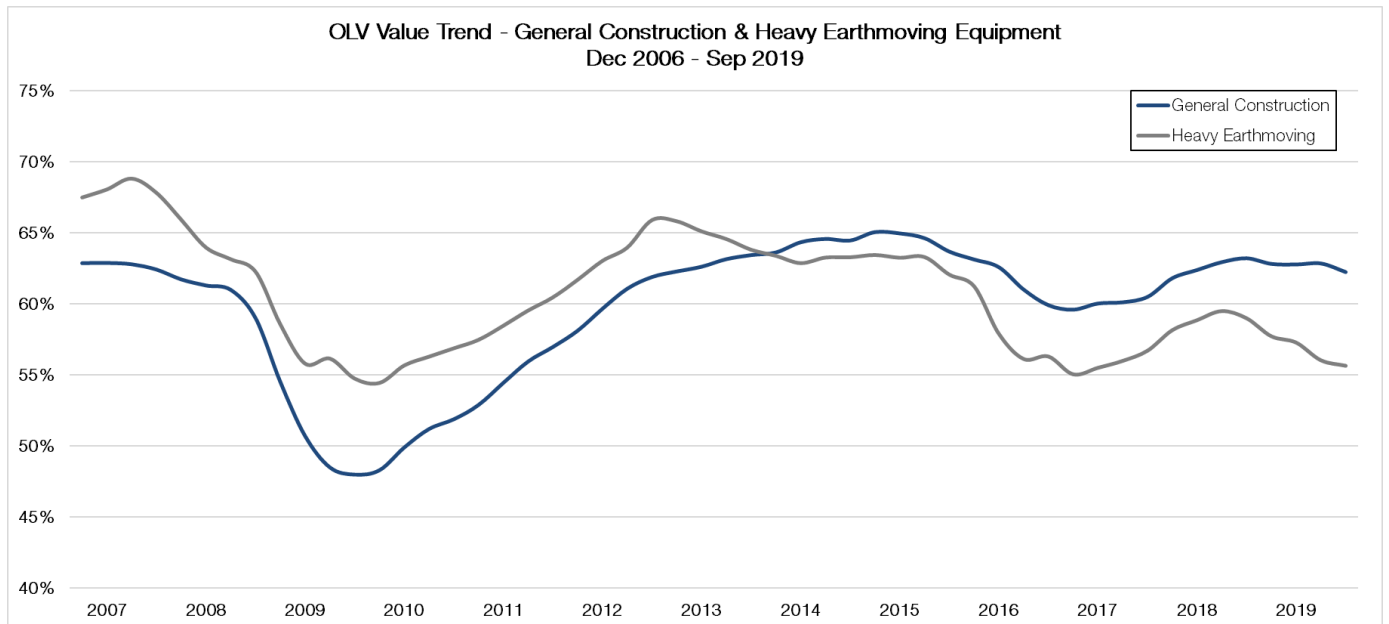
In connection with the more challenging utilization and rate environment, Rouse observed consistent and material weakening in used equipment valuations throughout 2016; this was most evident in the auction markets. Through the majority of 2017, Rouse observed an accelerated downward trend in equipment values. Overall, mobile cranes displayed approximately a 15%-20% decline on an OLV basis since the peak in 2015 through 2017. Starting in late 2017 and continuing through 2018, most mobile crane categories showed signs of bottoming. The most recent data through 2019 suggest that there is continued stability for most crane equipment types. Rouse tracks an OLV index by crane type as shown on the following page, and this chart demonstrates the value trends that have been observed in the marketplace.



Relationship Between General Rental Equipment Values and Crane Values

Lastly, Rouse tracks OLV trends across the broader, general construction equipment environment. One useful comparison point is the downturn in 2009. Although all asset classes experienced a decline in 2009, there is an important relationship observed between the general equipment market and the crane rental market: Rouse notes that the downturn in crane values occurred with a lag of approximately 12-18 months as compared to general rental equipment categories. This is notable considering what Rouse has observed in the general equipment market since May 2015 (see Rouse General Construction OLV Value Trend below). During 2016-17, values declined on average by approximately 8-15% (varying by category), and the more recent pains seen across the crane segment appear to correlate to a similar time lag that was experienced in the prior downturn. Throughout 2017, the general construction curve flattened and started to increase with that trend continuing through 2019.

In 2019, for general construction, auction sales performance has been showing slight weakness while retail sales have held steady, resulting in a flat OLV trend below. For heavy earthmoving, both auction and retail sales have been coming in lower than they were in 2018, resulting in an OLV trend declining throughout 2019.



Year-Over-Year Auction Sales Volume

Below are two charts compiling 3Q year-over-year auction sales in North America. The most notable observation is that crawler crane volume has increased substantially from prior year, and the age of crawlers going to auction has declined.

3Q 2018

| Category | Units | Sale Price (USD) | Age (Months) |
|----------------------|------------|---------------------|--------------|
| Rough-Terrain Cranes | 108 | \$5,266,689 | 243.7 |
| Truck-Mounted Cranes | 21 | \$2,257,678 | 216.4 |
| All-Terrain Cranes | 4 | \$1,651,309 | 176.4 |
| Crawler Cranes | 9 | \$910,315 | 345.3 |
| Carry-Deck Cranes | 44 | \$617,001 | 180.5 |
| Total | 186 | \$10,702,992 | 236.8 |

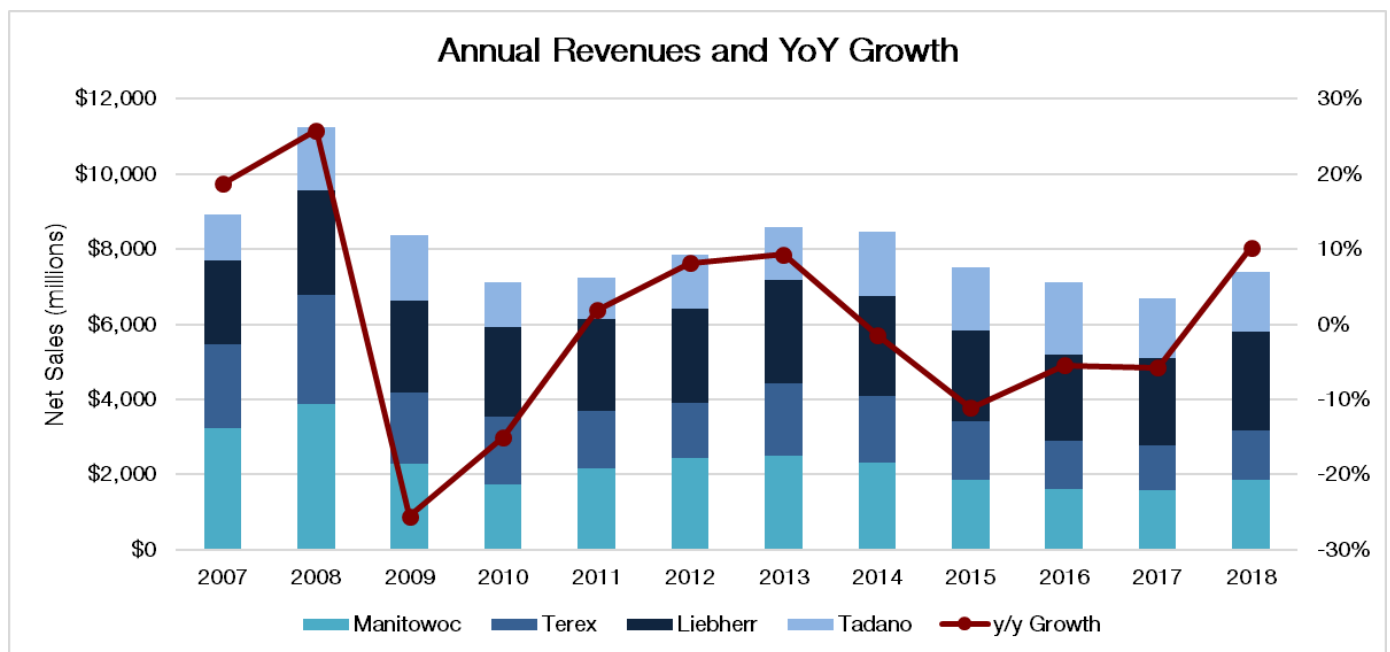
3Q 2019

| Category | Units | Sale Price (USD) | Age (Months) |
|----------------------|------------|---------------------|--------------|
| Rough-Terrain Cranes | 89 | \$4,962,409 | 226.0 |
| Crawler Cranes | 25 | \$4,585,809 | 224.4 |
| Truck-Mounted Cranes | 25 | \$2,476,300 | 213.4 |
| All-Terrain Cranes | 10 | \$1,815,100 | 175.9 |
| Carry-Deck Cranes | 39 | \$391,261 | 180.3 |
| Total | 188 | \$14,230,880 | 215.3 |

OEM & Dealer Trends

Annual Revenues

Annual revenues for major manufacturers through 2018 display a pattern similar to the Rouse OLV Index for most crane categories. Although revenue declines have tapered off after the most recent oil downturn, the revenues have not ever achieved back to the 2008 peak.



Mobile Cranes

Throughout the most recent downturn, crane manufacturers across the globe have reported a predominantly challenging environment for mobile cranes across their production lines. Since the oil price fallout, OEMs have reported increasing revenues in 2018-19, but these figures were coming off the lows of 2016-17. Manufacturers have generally commented on a softening demand market going forward as construction appears to be slowing in North America and Europe.

Below is a summary of publicly reported sales figures from several manufacturers in the most recent period.

Manufacturer Revenues – Period Over Period

| OEM | 2017 | % Δ Y/Y | 2018 | % Δ Y/Y | 2019 | % Δ Y/Y |
|-----------|---------|---------|---------|---------|---------|---------|
| Manitowoc | \$394.6 | -13.8% | \$495.3 | +25.5% | \$504.7 | +1.9% |
| Liebherr | €2,057 | -0.7% | €2,243 | +9.3% | N/A | N/A |
| Tadano | ¥18,996 | -29.7% | ¥18,924 | -0.4% | ¥23,396 | +23.6% |

*Above figures are for the most recent period of financial results at time of writing.

-Manitowoc: Quarterly results ending 6/30. Figures represented in millions of dollars.

-Liebherr: Annual results ending Dec 31 each year. Figures represented in millions of euros.

-Tadano: Quarterly results for FY Q1 (Apr – Jun). Figures represented in millions of yen.

*Liebherr results for Mobile Cranes division only.

*Tadano results for Mobile Cranes division only.

In North America, Manitowoc reported 3Q19 revenues of \$505m, representing a 1.9% increase year-over-year. The company is seeing increased shipments to the commercial construction, utility and energy end markets. There appears to be some market softness globally stemming from trade disputes and other macro trends contributing to uncertainty. US and European construction is slowing.

US crane companies have noted some potentially challenging trends in the near to medium-term with demand appetite moderating.

The Liebherr Group and Tadano Global have echoed similar themes in their reports, indicating that the business environment outside of North America has been slowing and relatively flat.

Liebherr posted year-end revenues of €2,243 million in 2018, a 9.3% increase compared year-over-year. The company cited a decline in the crawler crane market, especially for large machines, with the underlying cause being a downturn in the wind energy industry. Four to six-axle all-terrain cranes are the most popular products in the mobile cranes division.

Although Tadano has reported an increased revenue figure in its latest quarterly results, the increase is coming off a period of low revenues. With the Demag purchase now complete, it remains to be seen how the company will be impacted.

Tower Cranes

In light of the continued, stable commercial construction market activity, demand for tower cranes continues to exhibit strength in both North America and Europe. Non-residential construction spending continues on an upward trajectory, and there is a corresponding need for tower cranes to support those development projects.

Manitowoc reported in its latest quarterly earnings call that tower cranes slightly exceeded expectations, indicating a stable market for towers.

Liebherr reported sales of €571 million, a 6.9% increase year-over-year. Expansion in the construction industry worldwide contributed to this increase, with particular strength in Europe, and North America also exhibiting this increasing trend. The primary growth drivers are top-slewing and fast-erecting tower cranes.

Inventory

H&E Equipment Services reported in its 3Q19 call that crane sales have declined 15.6% year-over-year. Although only a few crane sales in a quarter can significantly impact H&E's reported figure, it may indicate an environment in which crane demand is softening in connection with slowing construction projects and other uncertain economic conditions.

Conclusions

Although the first half of 2019 appeared to display a continued trend of stability, the latest 3Q19 sales results and industry commentary may indicate a decelerating crane environment. Mobile crane values have shown some weakness in the latest quarter's auction sales results, but it remains to be seen if this trend will persist.

The market read through 2017 was one of continued softness across several metrics including utilization and rental rate achievement. Toward the tail end of 2017, equipment values and OEM/dealer performance began to show early signs of stability. Through 2018, used crane values started showing signs of bottoming for most of the mobile categories.

Rouse continues to monitor secondary-market crane sales, rate and utilization achievement among crane rental companies, end market activity, and OEM trends. In Q4 2018, oil prices declined sharply, and in 2019 prices have modestly recovered but remain volatile. While most rental companies have reported continued stable utilization rates in the most recent quarter, and rental rate appears to be improving, there has not been a corresponding increase in used equipment values.

In October 2019, Rouse co-sponsored and presented at Fleet Cost & Care's Interface conference in Nashville, TN. This event brought together a variety of North American crane rental companies and provided an opportunity for industry participants to network as well as discuss some technology and data solutions to better manage fleets.

About Rouse

Rouse Services is the leader in construction equipment appraisals, used equipment sales support and fleet management analytics, specializing in the rental sector. Rouse appraises over \$40 billion of fleet and collects over \$14 billion of equipment transactions, annually, across North America and the United Kingdom.

Christopher Chung is a Director at Rouse Appraisals. You may contact Christopher at christopher.chung@rouseservices.com or +1 (310) 360-9200.