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December 2018 Logistics Manager's Index Report®

LMI® at 64.65%
Growth is INCREASING AT AN INCREASING RATE for: Inventory Levels and Transportation Capacity.
Growth is INCREASING AT A DECREASING RATE for: Inventory Costs, Warehousing Utilization, Warehousing Price, and Transportation Utilization, Transportation Price.
Warehouse Capacity is DECREASING.

(Fort Collins, Colorado) — According to a sample of North American logistics executives, growth continued across the logistics sector in December 2018, but at a *considerably decreased* rate. We track a significant drop in the rates of growth for Warehousing

Utilization (down 8.0 points), Transportation Price (down 5.5 points) and Transportation Utilization (down 6.4 points). Once again we observe Transportation Capacity moving in the opposite direction (up 5.2 points) of the other two Transportation metrics.

Evidence suggests that the logistics industry continues to expand, but at an increasingly slower rate than for much of 2018. In the 28 months of the LMI® Transportation Price has been that metric that is most closely tied to U.S. economic activity. It is somewhat surprising that the yearly low reading for Transportation Price (74.34) comes in what should be one of the busiest retail months of the year. Again, this still shows growth, but at a much slower pace than earlier in the year with readings in the 80's and 90's.

The report was issued today by researchers at Arizona State University, Colorado State University, Rochester Institute of Technology, Rutgers University, and the University of Nevada, Reno, and in conjunction with the Council of Supply Chain Management Professionals (CSCMP).

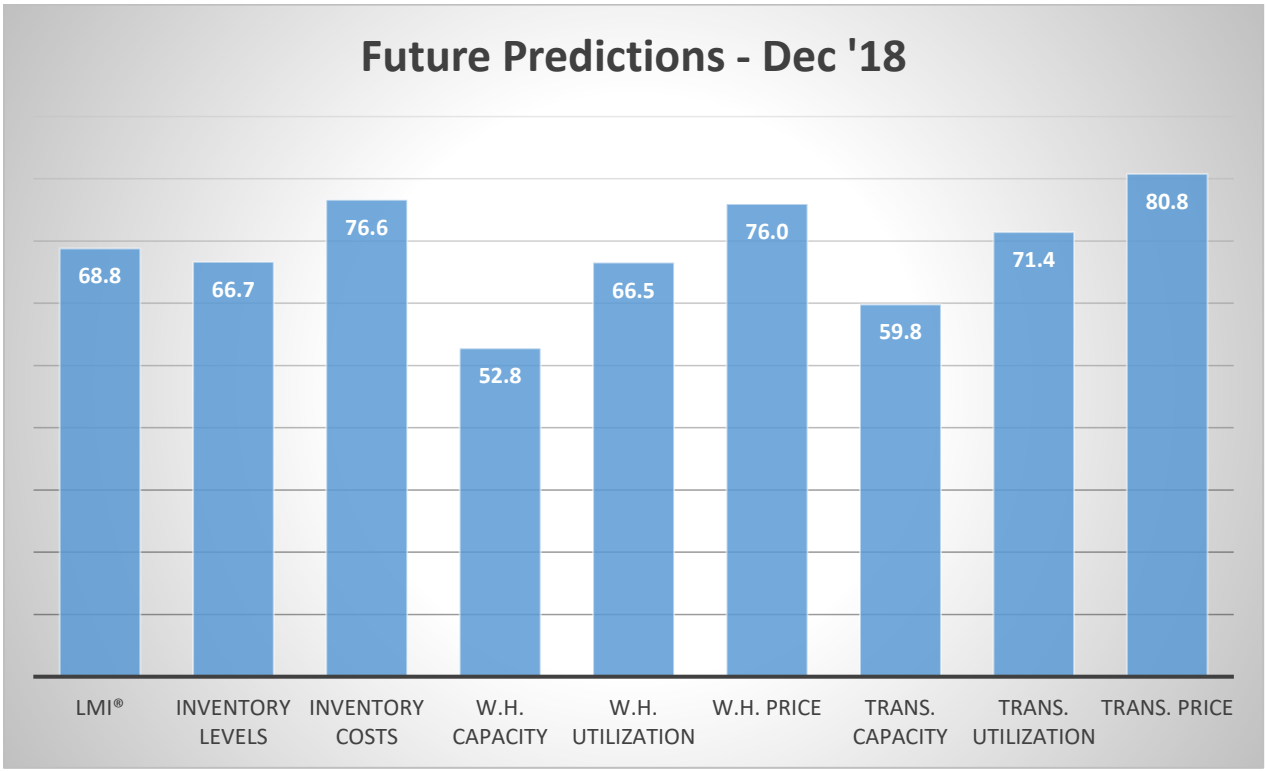
Results Overview

The LMI score is a combination eight unique other components that make up the logistics industry, including: inventory levels and costs, warehousing capacity, utilization, and prices, and transportation capacity, utilization, and prices. The LMI is calculated using a diffusion index, in which any reading above 50 percent indicates that logistics is expanding; a reading below 50 percent is indicative of a shrinking logistics industry. The latest results of the LMI summarize the responses of over 120 supply chain professionals collected in December 2018.

As mentioned above, we recorded much slower rates of growth in many metrics in December. Traditionally the fourth quarter, and the holiday season in particular, see an increased level of economic activity. However, Transportation Prices, Transportation Utilization and Warehouse Prices register their lowest readings of the entire year. Transportation Costs are at their lowest rate of growth since March/April 2017. This is likely tied to the continuing increase in Transportation Capacity (56.25) which is growing at its highest rate since March/April 2017, and since then had primarily been contracting. We also register the second lowest rates of growth for Warehouse Utilization and the overall LMI. These metrics are all still growing. Whether or not the diminishing rates are reflective of the other recent indicators (the Dow, truck orders, PMI, etc.) that the economy may be slowing down remains to be seen. However, we have now registered a significant drop in growth rates for two consecutive readings.

Interestingly, the inventory metrics were relatively stable in December. Inventory Levels (63.06) are up a point, and Inventory Costs (72.73) are down one. The increase in Inventory Levels combined with the increase in both Warehouse and Transportation Capacity may be reflective of the massive amounts of capacity that have been added over the last year.

Future predictions indicate that respondents predict an increase in available Warehousing and Transportation Capacity over the next 12 months. However, they also predict significant continued growth in all three cost variables (Transportation, Warehousing, and Inventory). However, they all read in slightly lower than the future predictions from November, potentially indicating that respondents are more optimistic that supply will be able to support demand for logistics services. It is worth noting that over the past year LMI® respondents have been very accurate in their future predictions. Whether or not this period's dip in growth rates will have an impact on this accuracy remains to be seen. Future predictions for LMI components 12 months from now are displayed below:



The index scores for each of the eight components of the Logistics Managers' Index, as well as the overall index score, are presented in the table below. Inventory Levels and Transportation Capacity are increasing at increasing rates. Inventory Costs, Warehousing Utilization, Warehousing Price, Transportation Utilization and Transportation Price are increasing at decreasing rates - although they are all still growing. Finally, Warehousing Capacity is decreasing but at a decreasing rate. The overall LMI® index score is down, but still indicates growth in the logistics industry.

LOGISTICS AT A GLANCE

Index	December 2018 Index	November 2018 Index	Month-Over-Month Change	Projected Direction	Rate of Change
LMI®	64.65	66.66	-2.0	Growing	Decreasing
Inventory Levels	63.06	61.89	+1.2	Growing	Increasing
Inventory Costs	72.73	73.53	-0.8	Growing	Decreasing
Warehousing Capacity	48.18	47.62	+0.6	Contracting	Decreasing
Warehousing Utilization	64.60	72.62	-8.0	Growing	Decreasing
Warehousing Prices	74.76	77.02	-2.3	Growing	Decreasing
Transportation Capacity	56.25	51.02	+5.2	Growing	Increasing
Transportation Utilization	63.27	69.71	-6.4	Growing	Decreasing
Transportation Prices	74.34	79.79	-5.5	Growing	Decreasing

Historic Logistics Managers' Index Scores

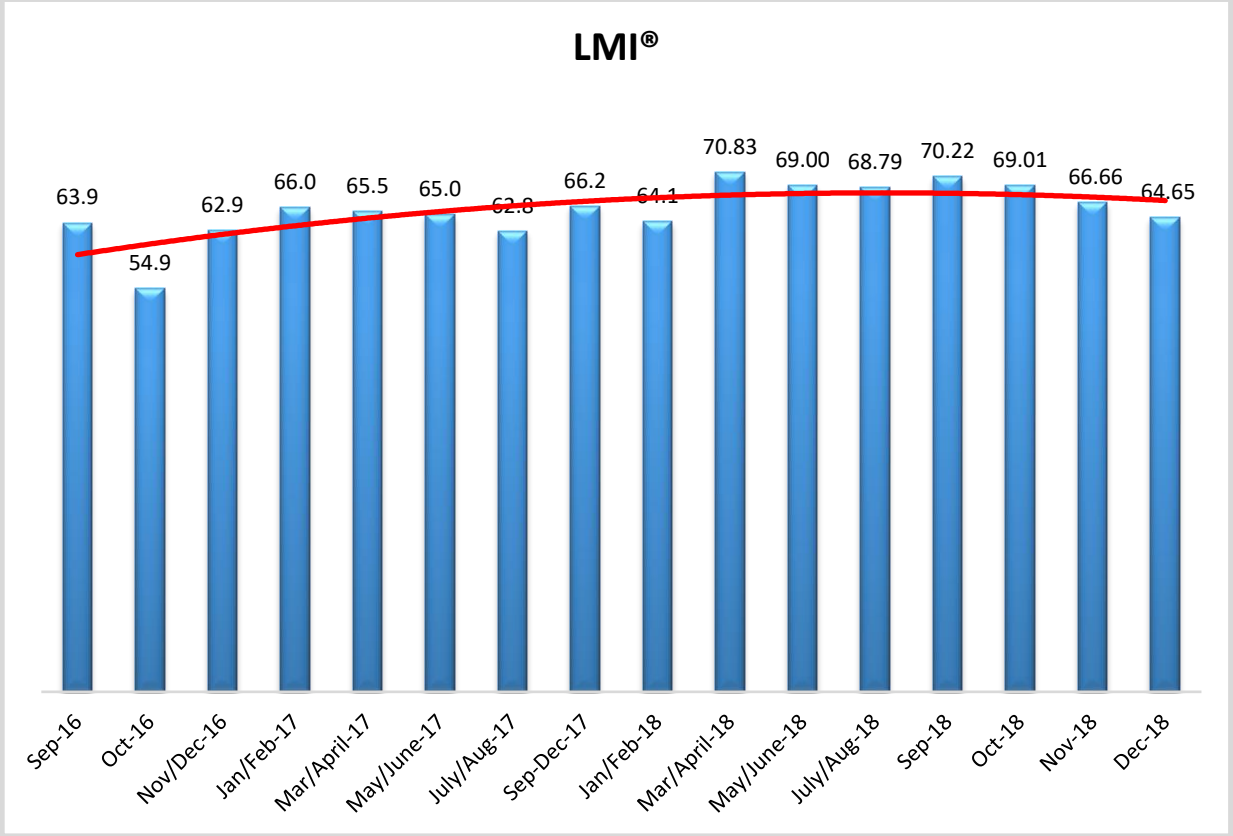
This period's along with the prior 14 readings of the LMI are presented table below:

Month	***LMI***	Average for previous readings – 65.6 High – 70.8 Low – 54.9 Std. Dev – 3.71
December '18	64.65	
November '18	66.6	
October '18	69.01	
September '18	70.22	
July/August '18	68.8	
May/June '18	69.0	
March/April '18	70.8	
January/February'18	64.1	
September-December '17	66.18	
July/August '17	62.78	
July/August '17	65.0	
Mar/April '17	65.5	
Jan/Feb '17	66.0	
Nov/Dec '16	62.9	
Oct '16	54.9	
Sep '16	63.9	

LMI®

The overall LMI index is 64.65 in the December 2018 reading. This is down slightly from the rate of growth in from November (66.66), continuing a trend of declining rates of growth throughout the fourth quarter of 2018. Seven of the eight metrics are reporting a state of growth (although six of these are at a decreasing rate), with only Warehousing Capacity currently contracting. December's reading is below the average index score or 65.6. This is the first reading to come in below the dynamically-adjusted average since July/August of 2017. to be of 66.66 is not far removed from 65.7, the average reading over the first 26 months of the index

Looking forward, respondents predict the overall LMI will continue to grow over the next year, predicting an overall index score of 68.8. This indicates an expectation of steady growth in the logistics industry through 2019.

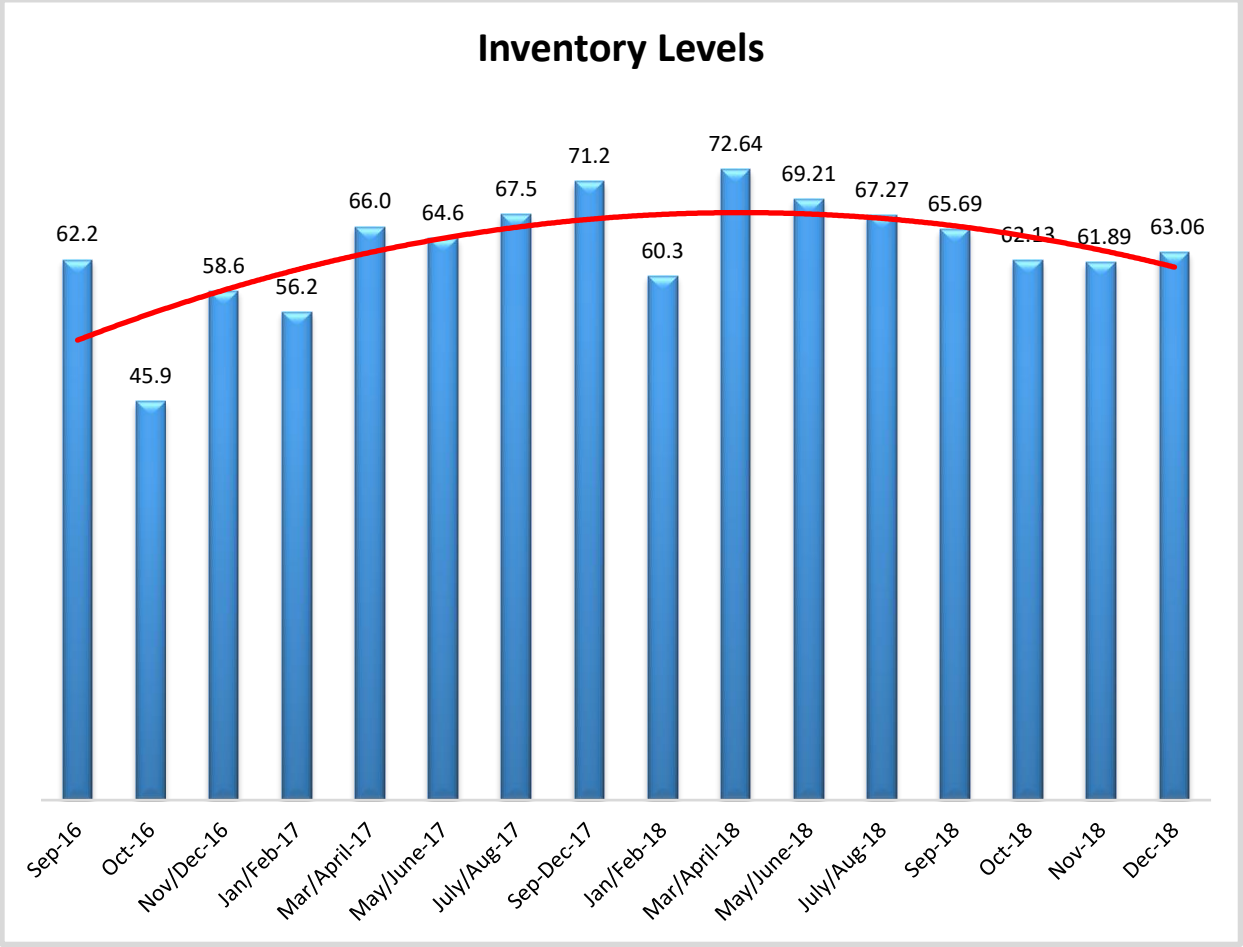


Every reading since the beginning of this project in September of 2016 has indicated growth in the logistics industry. The December reading continues a trend November 2018 reading continues that trend, with the overall index score reading at 66.66, 16.7 points above the growth/contraction threshold of 50.0.

Inventory Levels

The Inventory Level index is 63.06, which indicates that inventory levels are continuing to rise. Because this is well above 50, inventory levels are still growing, and this is the first month with an increase after six months of decreasing rates of growth. This value is 8.14 points below the level a year ago at this time, of 71.2. In July/August of this year, the current year's value was equal to last year's value, but values at this time last year were increasing, and in the most recent periods, values have been decreasing. It would appear that the fast growth we were seeing before has slowed to a lower growth rate, but still significant. The long-term trend line shows that values are expected to stay in the growth region, that is, above 50, for the near future. If current trends continue, it could fall below 50 at some point in the future.

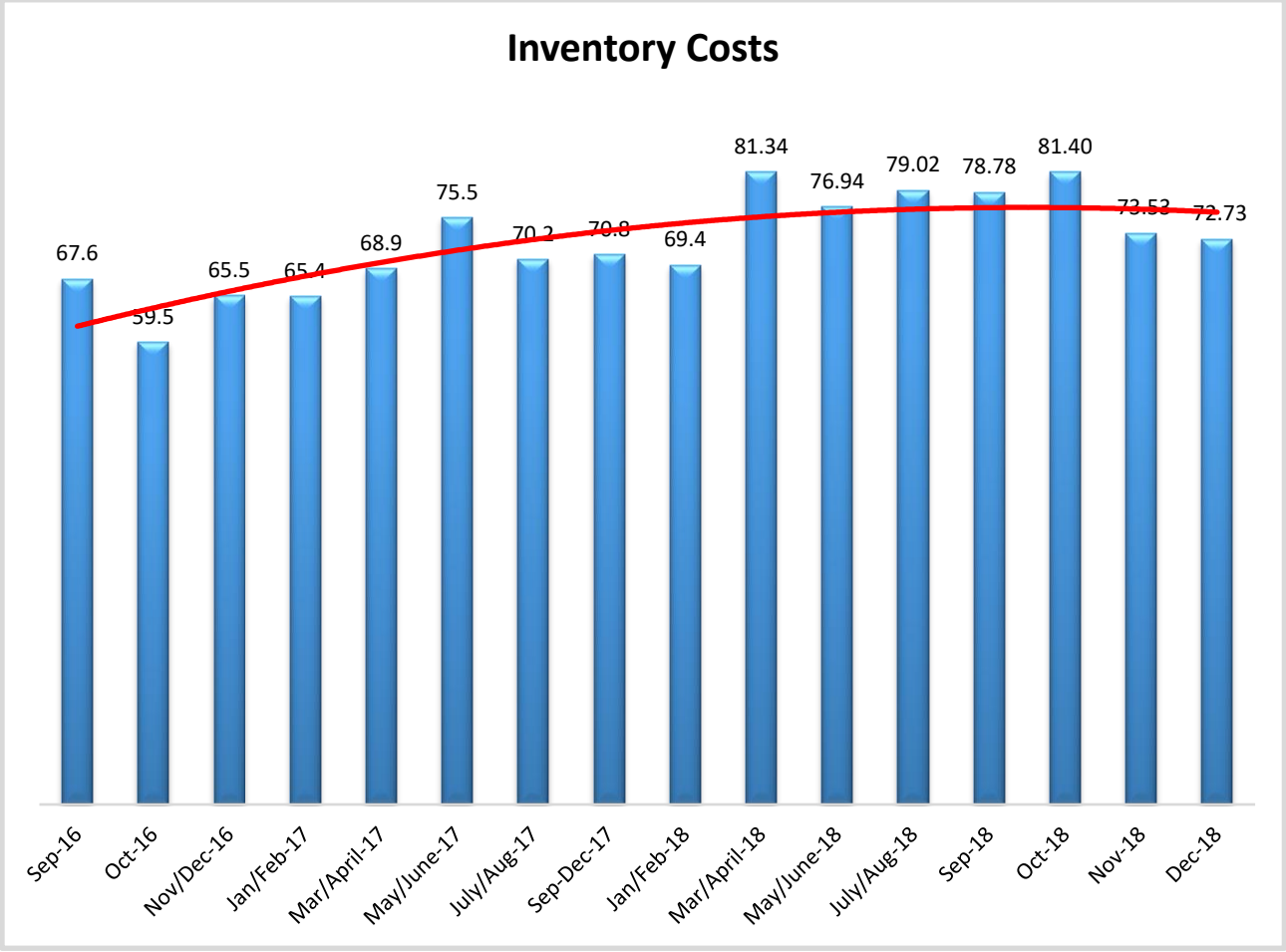
When asked to predict what will conditions will be like 12 months from now, the average value is 66.7, indicating inventory levels are expected to be higher than current levels. This value is slightly less than last month's year-ahead prediction of 68.9, which indicates a consistent prediction of increasing levels next year.



Inventory Costs

Given the high levels of inventory growth, it is not surprising that inventory costs are also increasing (though at a slightly decreasing rate). These continued high levels indicate strong continued growth in inventory costs, and at a higher level than the first year and a half of the data. The current value of 72.73 is 3.7 points higher than both the 70.8 value last year at this time and the long-term average of 72.3.

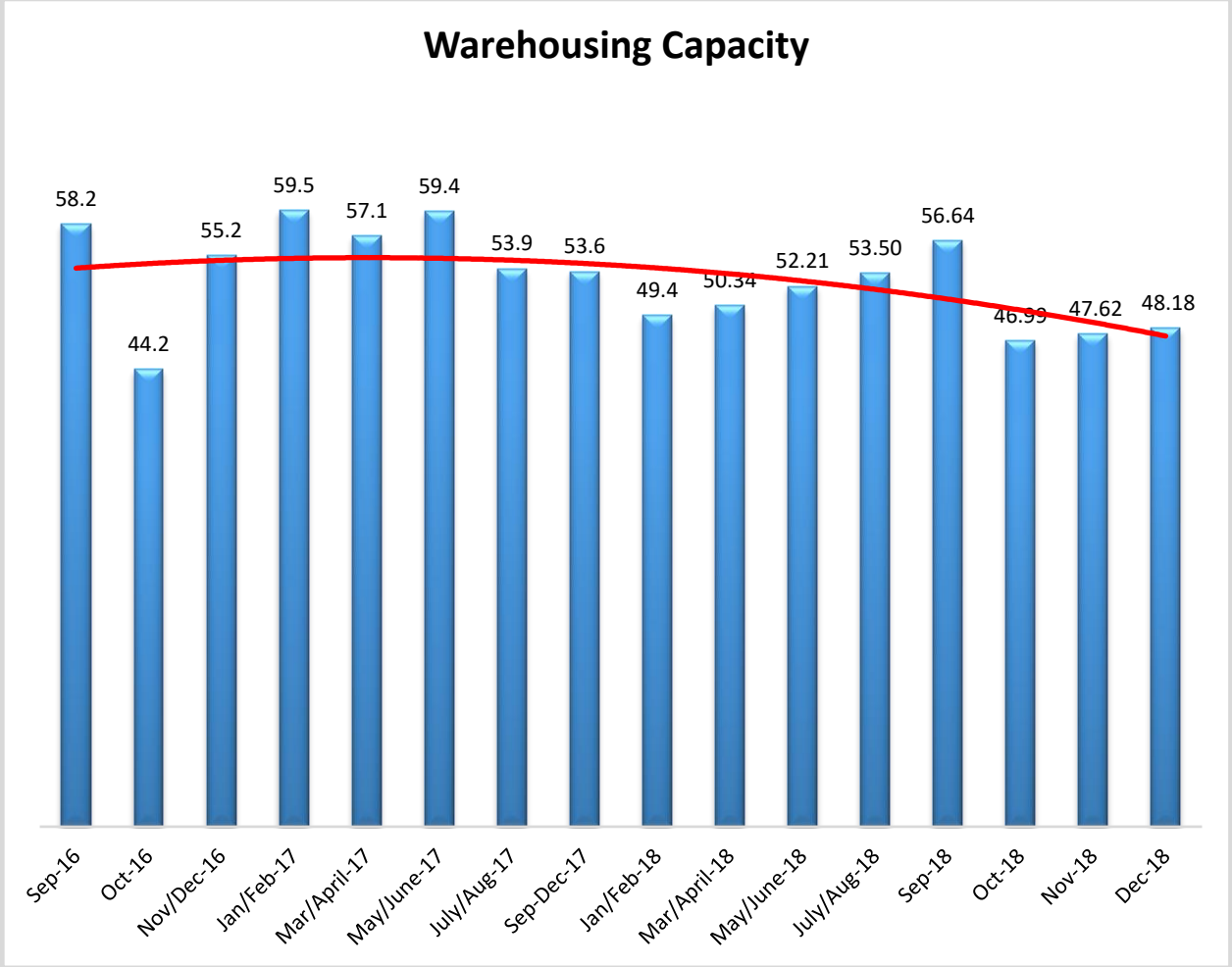
Taking this graph and the previous graph of inventory values together, it is somewhat surprising that cost growth seems to be consistently stable at high levels, while the growth of inventory levels seems to have slowed. This could be related to the fact that warehousing capacity is increasing only slightly. Because inventory levels are continuing to increase, and warehousing capacity is only increasing slightly, it seems quite likely costs will continue to rise. Respondents agree with this analysis. When asked about what they expect inventory costs to be like 12 months from now, the index value is 76.6, a slight decrease over last month's value of 81.3. Respondents clearly expect inventory costs to continue to be high for the next 12 months.



Warehousing Capacity

The Warehousing Capacity Index registered 48.18 percent in December 2018. This represents slight increase (less than 1%) from the November reading of 47.62, and a nearly 12 point decrease from the September 2018 reading of 56.64 and is still sharply down from the Jan/Feb 2017 high of 59.5. This is the *fourth lowest* reading ever recorded in the LMI®. It would appear that warehousing capacity is contracting, now three months in a row.

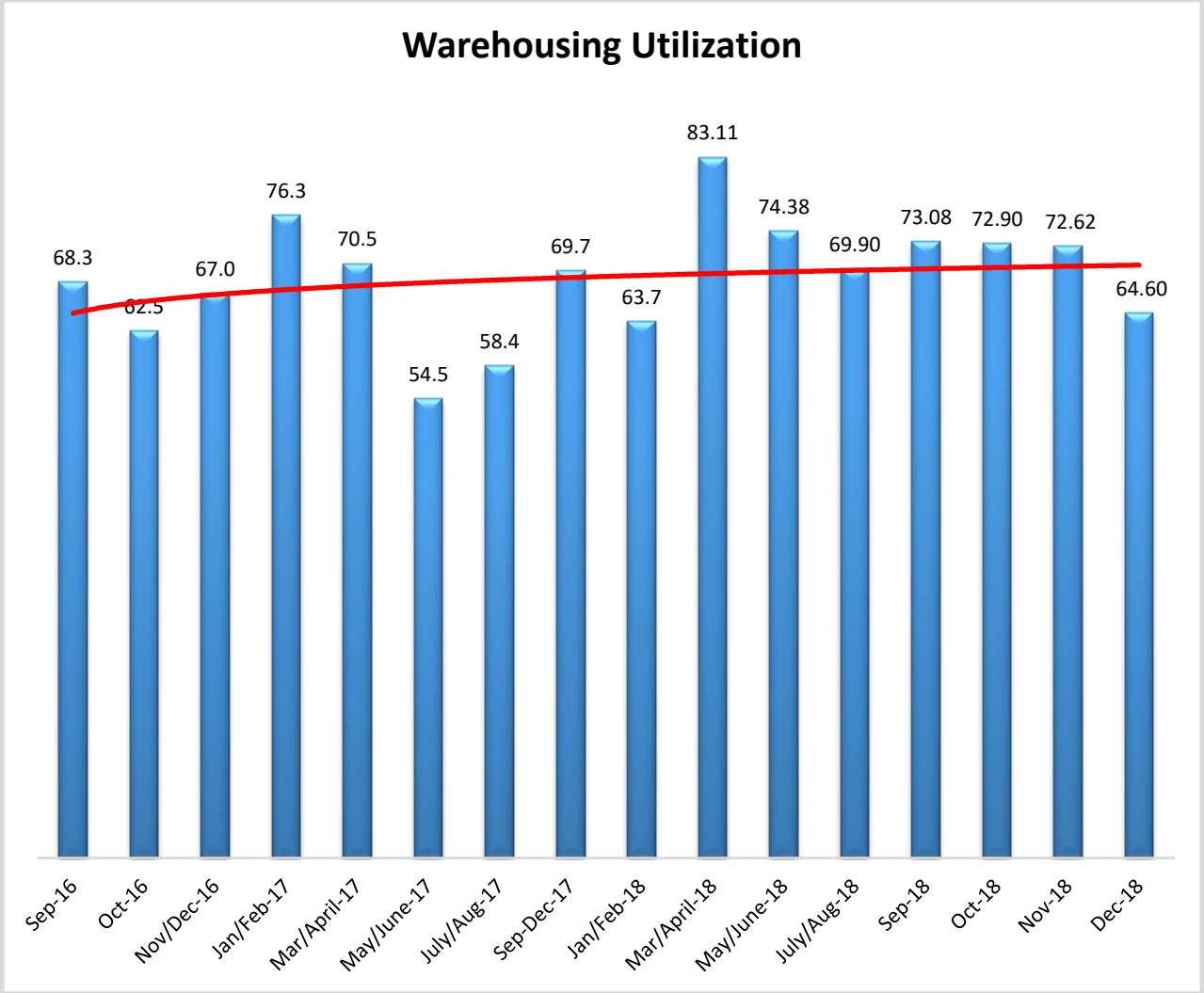
Looking forward at the next 12 months, the predicted Warehousing Capacity index is 52.8. This is close to the break-even of 50.0, indicating that respondents are not hopeful we will see significant gains in available capacity over the next 12 months.



Warehousing Utilization

The Warehousing Utilization Index registered 64.60 percent in December 2018. This is a rather sharp decrease of 8.02 percentage points from the November 2018 reading of 72.62. This is the fifth lowest level of Warehousing Utilization overall, and is up only 10.1 points from the all-time low of 54.5 in June 2017.

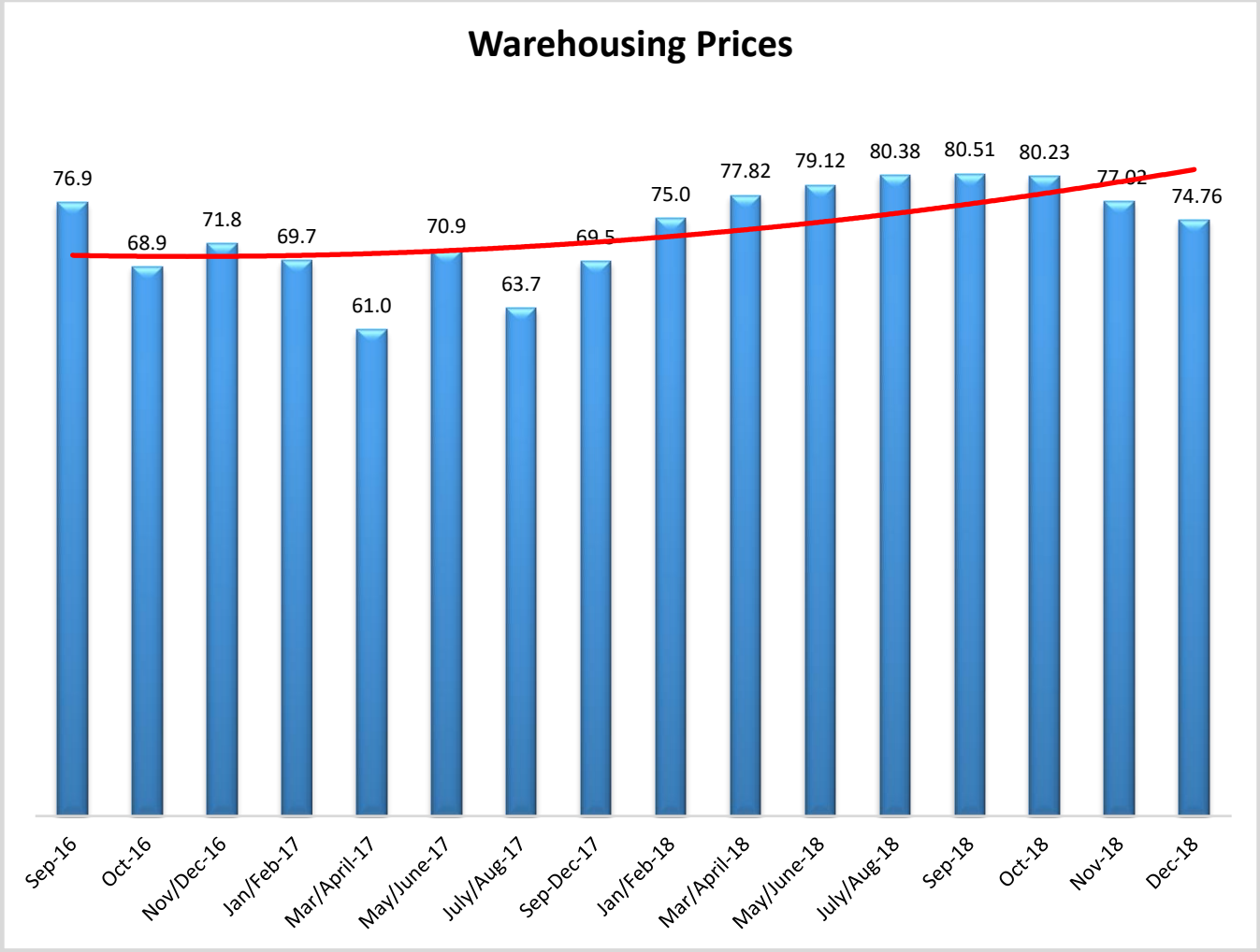
Looking forward at the next 12 months, the predicted Warehousing Utilization index is 66.5, indicating that firms anticipate utilizing existing warehouse capacity consistently over the next year.



Warehousing Prices

Finally, the Warehousing Prices Index registered 74.76 percent in December 2018. This is a somewhat sharp decrease of 2.26 percentage points from the November 2018 reading of 77.02. This also represents three months in a row of a decreasing rate of increase on warehousing prices. Taken together with the results noted above, it appears that the warehousing sector is softening slightly.

Looking forward at the next 12 months, the predicted Warehousing Prices index is 76.0. This is lower than previous predictions, but still indicates respondents expect little relief from increasing warehousing prices.

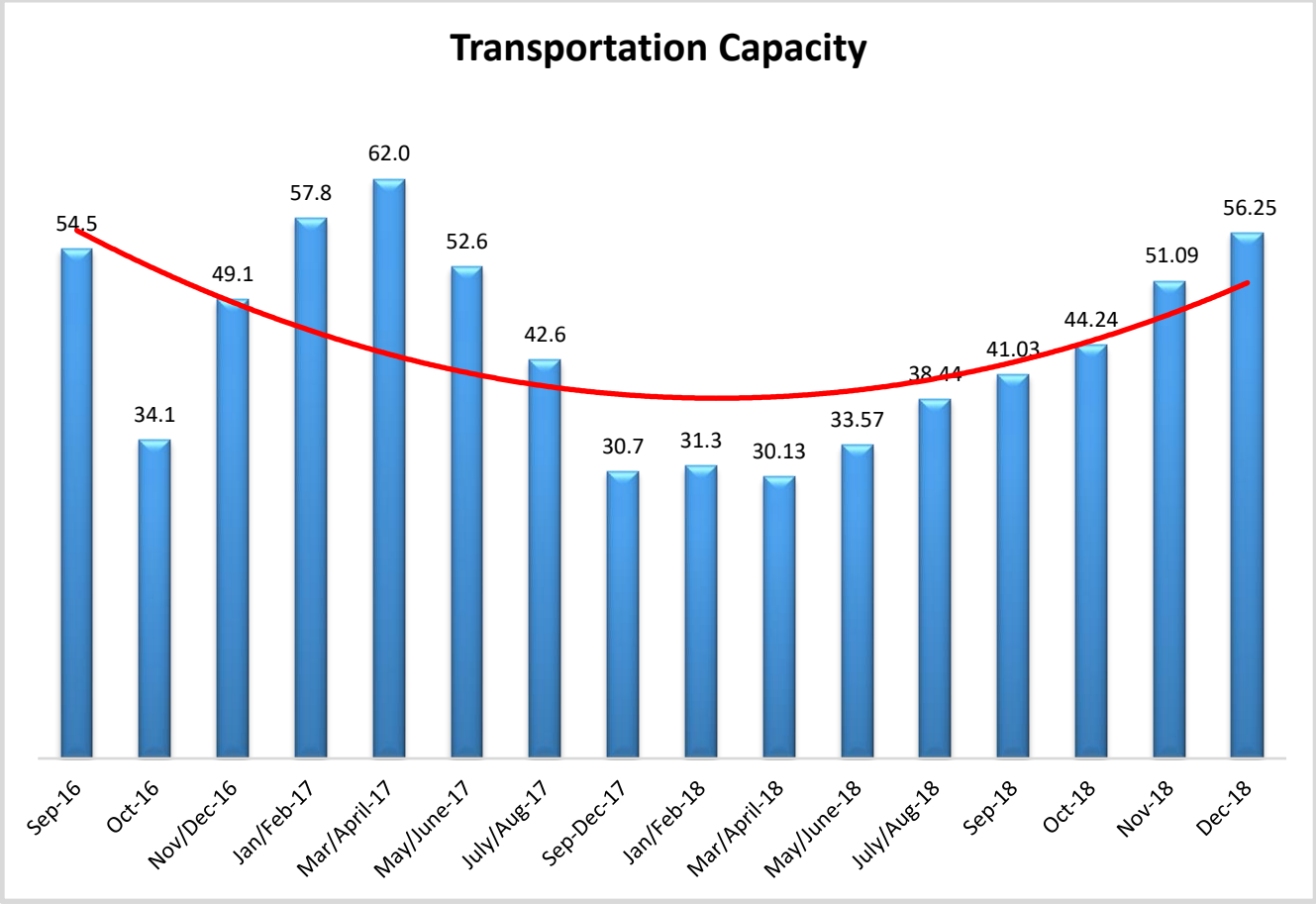


Transportation Capacity

The Transportation Capacity Index registered 56.25 percent in December 2018. This is an increase of 5.16 percentage points from the November reading of 51.09. The upward trend in transportation capacity is continuing, the latest reading being the sixth consecutive period showing an increase from the previous reading. Further, a reading above 50 percent indicates expansion, and this is the second consecutive reading above 50. It should be noted the data also indicates a score of 59.82 percent for the next year. Hence, the expectation, over the next year, is continuing improvement from the current Transportation Capacity Index.

The perceived increase in Transportation Capacity may also signify that there is not as much competition for it as there has been. At this time last year, the Transportation Capacity index score was 30.7, 21 points lower than this period's reading, resulting in a U-shaped curve in the historical index score graph below. It is too early to tell for certain, but this may be an indicator of slowing demand.

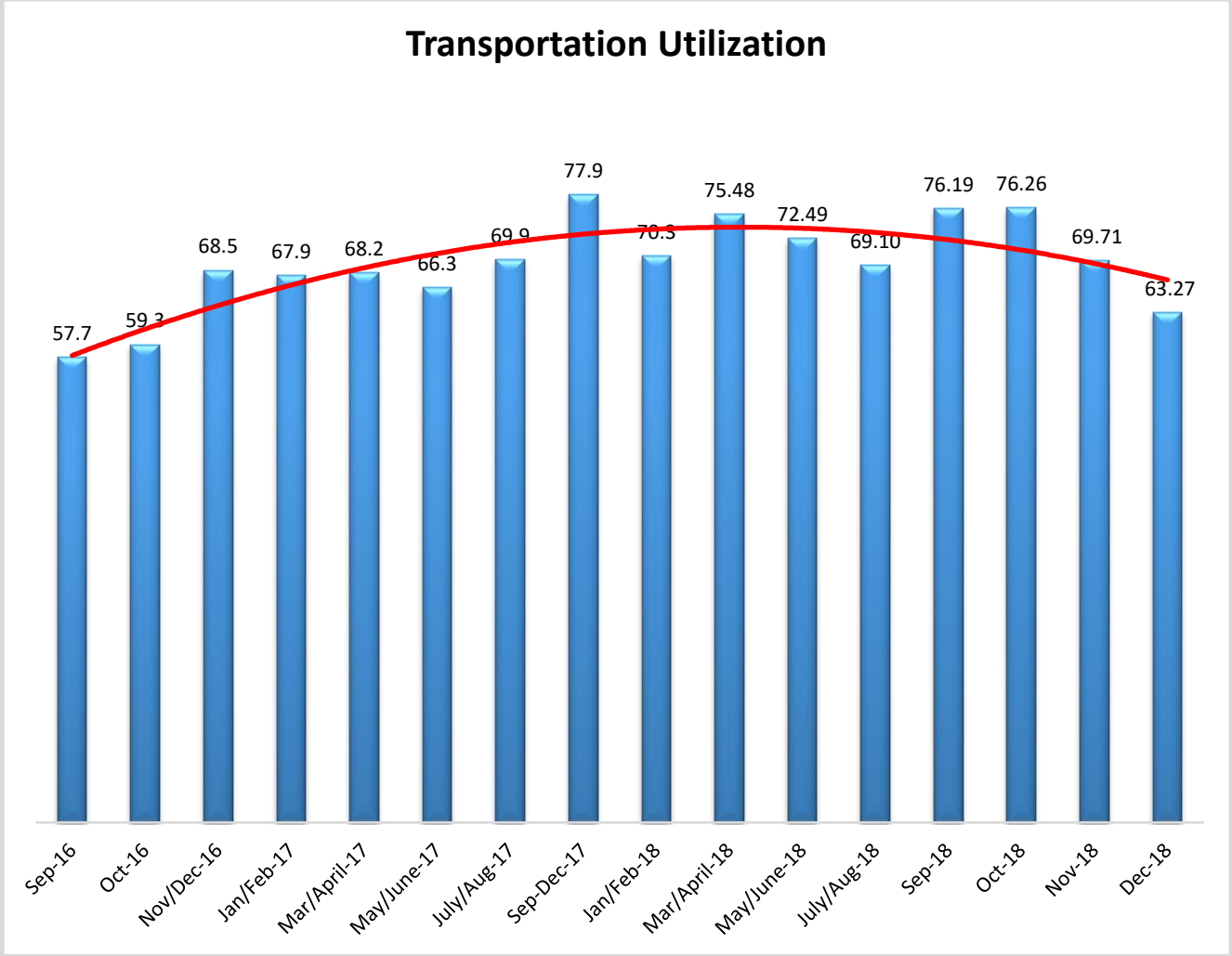
It should be noted the data also indicates a score of 59.8 for the next year. The expectation being that more Transportation Capacity will continue to come online, easing pressure across the overall logistics industry over the next 12 months.



Transportation Utilization

The Transportation Utilization Index registered 63.27 percent in December 2018. This is a decrease of 6.44 percentage points from the November reading of 69.71. This score indicates a continuing expansion trend in transportation utilization, but the rate of the increase is continuing to slow down. Our future Transportation Utilization Index indicates a 71.43 percent level for the next 12 months, indicating persistent expectations for continuing the expansion in transportation utilization.

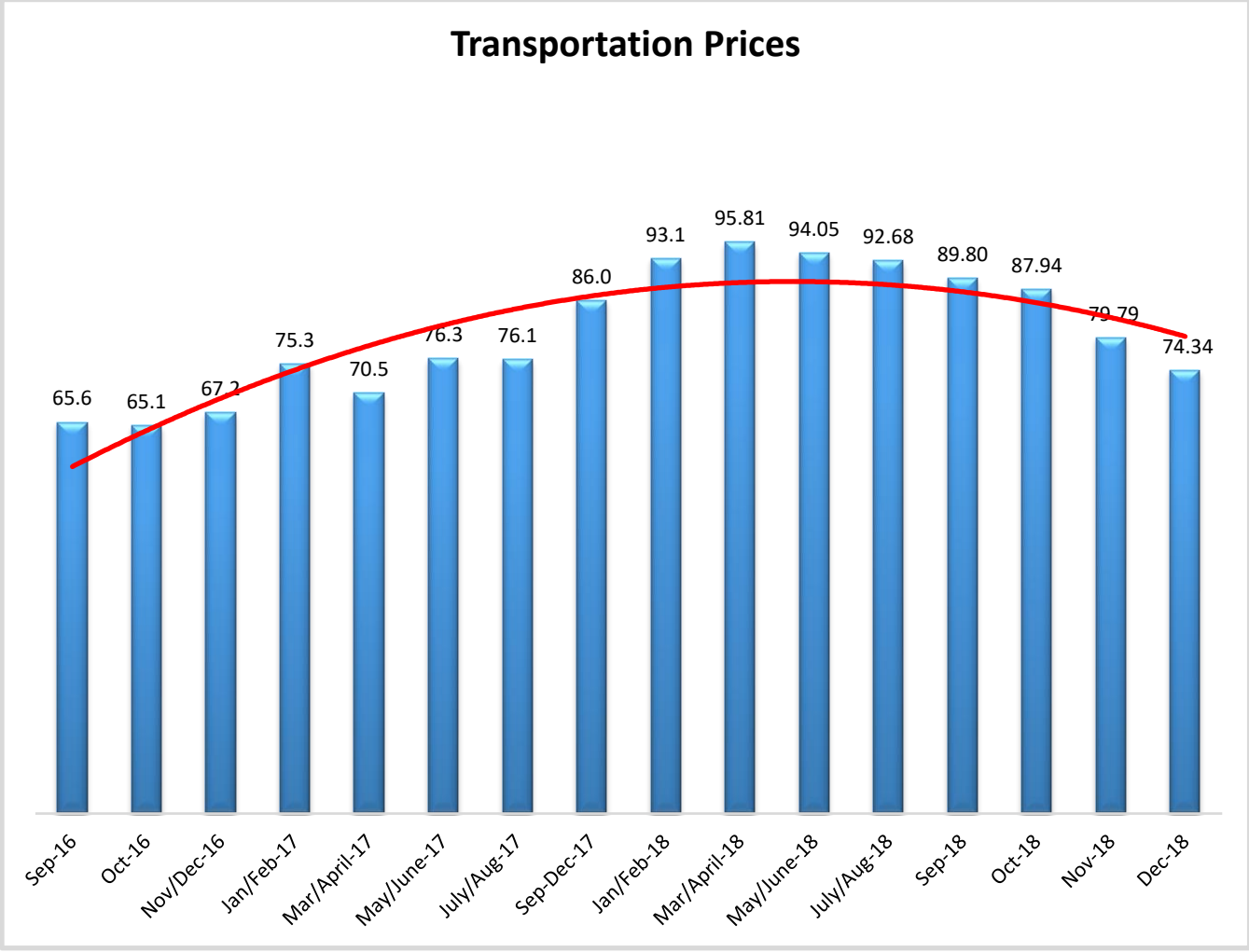
Our future Transportation Utilization Index indicates a 71.4 percent level for the next 12 months, indicating strong expectations for continuing the increase in Transportation Utilization rate.



Transportation Prices

The Transportation Prices Index registered 74.34 percent in December 2018. This is 5.45 percent lower than the November 2018 transportation prices reading of 79.79. Transportation Prices Index is continuing to come off its historical highs, with the latest reading being the sixth consecutive decrease from the all-time high registered in March-April 2018. The future expectations for transportation prices are at 80.80 percent, indicating that the upward pressure on transportation prices is likely to persist over the next 12 months. Yet, it should be noted that the future expectations are also slightly (1.47 percent) lower than they were in November.

The future expectations for transportation prices are at 80.3. All three cost/price metrics are predicted to increase over the next 12 months, but to a lesser extent than they were in November.



About This Report

The data presented herein are obtained from a survey of logistics supply executives based on information they have collected within their respective organizations. LMI® makes no representation, other than that stated within this release, regarding the individual company data collection procedures. The data should be compared to all other economic data sources when used in decision-making.

Data and Method of Presentation

Data for the Logistics Manager's Index is collected in a monthly survey of leading logistics professionals. The respondents are CSCMP members working at the director-level or above. Upper-level managers are preferable as they are more likely to have macro-level information on trends in Inventory, Warehousing *and* Transportation trends within their firm. Data is also collected from subscribers to both DC Velocity and Supply Chain Quarterly as well. Respondents hail from firms working on all six continents, with the majority of them working at firms with annual revenues over a billion dollars. The industries represented in this respondent pool include, but are not limited to: Apparel, Automotive, Consumer Goods, Electronics, Food & Drug, Home Furnishings, Logistics, Shipping & Transportation, and Warehousing.

Respondents are asked to identify the monthly change across each of the eight metrics collected in this survey (Inventory Levels, Inventory Costs, Warehousing Capacity, Warehousing Utilization, Warehousing Prices, Transportation Capacity, Transportation Utilization, and Transportation Prices). In addition, they also forecast future trends for each metric ranging over the next 12 months. The raw data is then analyzed using a diffusion index. Diffusion Indexes measure how widely something is diffused, or spread across a group. The Bureau of Labor Statistics has been using a diffusion index for the Current Employment Statics program since 1974, and the Institute for Supply Management (ISM) has been using a diffusion index to compute the Purchasing Managers Index since 1948. The ISM Index of New Orders is considered a Leading Economic Indicator.

We compute the Diffusion Index as follows:

PD = Percentage of respondents saying the category is Declining,
PU = Percentage of respondents saying the category is Unchanged,
PI = Percentage of respondents saying the category is Increasing,
Diffusion Index = 0.5 * PD + 0.5 * PU + 1.0 * PI

For example, if 25% say the category is declining, 38% say it is unchanged, and 37% say it is increasing, we would calculate an index value of 0*0.25 + 0.5*0.38 + 1.0*0.37 = 0 + 0.19 + 0.37 = 0.56, and the index is increasing overall. For an index value above 0.5 indicates the category is increasing, a value below 0.5 indicates it is decreasing, and a value of 0.5 means the category is unchanged. When a full year's worth of data has been collected, adjustments will be made for seasonal factors as well.

Logistics Managers Index

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About The Logistics Manager's Index®

The Logistics Manager's Index (LMI) is a joint project between researchers from Arizona State University, Colorado State University, University of Nevada, Reno, Rochester Institute of Technology and Rutgers University, supported by CSCMP.