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## March 2019 Logistics Manager's Index Report®

**LMI® at 60.41%**

**Growth is INCREASING AT AN INCREASING RATE for: Warehouse Prices,  
Warehouse Capacity and Transportation Utilization.**

**Growth is INCREASING AT A DECREASING RATE for: Inventor Levels, Inventory  
Costs, Warehousing Prices, Transportation Utilization and Transportation Price.  
Warehouse Capacity is DECREASING.**

(Fort Collins, Colorado) — According to a sample of North American logistics executives, growth continued (although at a decreasing rate) across the logistics sector in March 2019. Warehouse Prices are up while the rates of growth for Inventory Levels, Inventory Costs, and Transportation Price are decreasing. This is the fifth consecutive drop in the overall LMI, and the second lowest score measured in the history of the index. The LMI® is down significantly from this time a year ago, when it registered at 75.71 – the index's all-time high.

With that being said, March's score of 60.4 is still above 50.0, which indicates growth (albeit at a decreasing rate).

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) issued this report today.

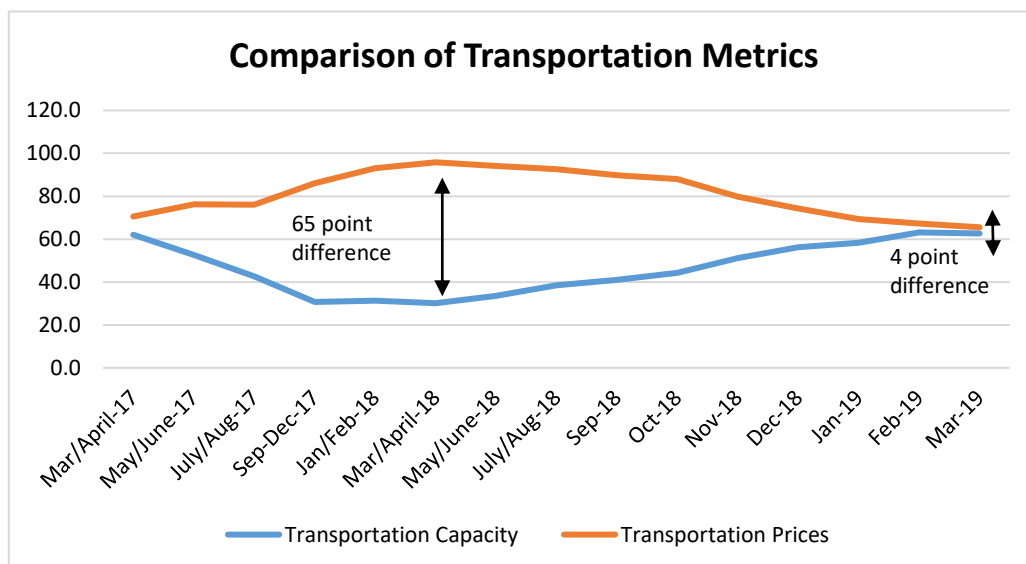
## Results Overview

The LMI score is a combination eight unique 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 130 supply chain professionals collected in March 2019.

This month, Inventory Levels (-12.70) and Inventory Costs (-4.59) are down sharply. This suggests that firms are adding inventory, but at much slower levels than in the past. There are a few potential reasons behind this:

- 1) Warehousing Capacity held steady (up 1.42 to 50.0) in March, and Warehouse Prices are up (+4.34). It has become more expensive to store inventory so firms may be cutting back.
- or,
- 2) Consistent with recent analysis by the Federal Reserve<sup>1</sup> firms may be responding to an economic slowdown in first quarter of 2019. Whether inventories will be built back up if Warehouse Prices stabilize or consumer sentiment improves remains to be seen.

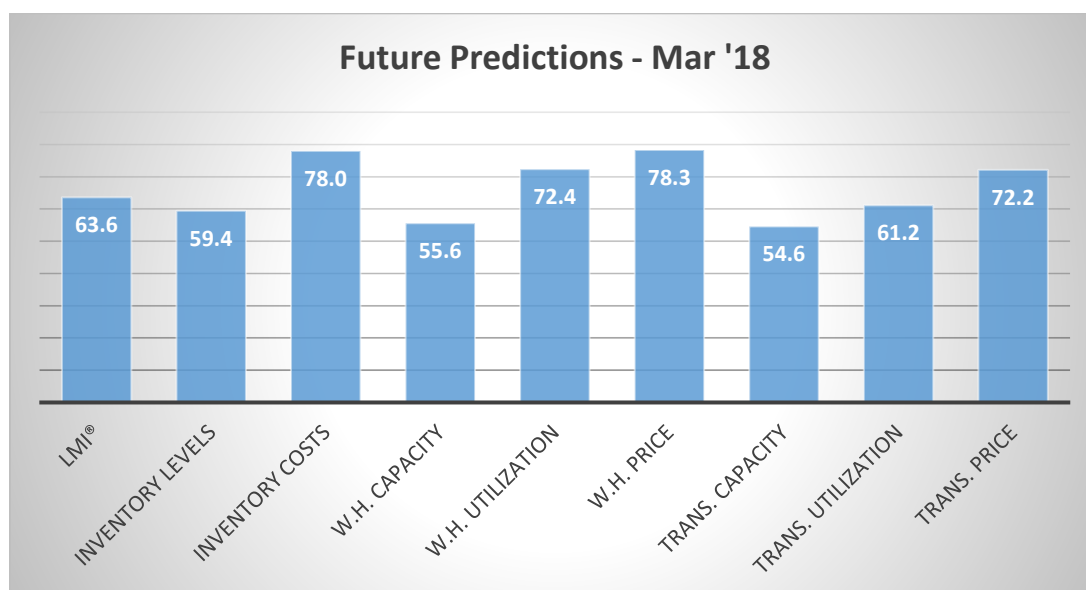
Transportation metrics have been the most dynamic over the history of the LMI®. Transportation Capacity is growing, but at a slightly slower rate than February (-0.54). Prior to this month's stabilization, it had increased in every period since reaching a nadir of 30.1 in March/April 2018. The rate of growth for Transportation Costs has decreased for the fifth consecutive period (-1.70), and is down significantly from its peak of 95.8 in March/April 2018. As presented in the figure below, the difference between these two metrics was 65 points a year ago, and only 4 points today.



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. All eight components are either at or above 50.0, meaning that none of the metrics are actively contracting. However, only Warehousing Prices and Transportation Utilization are increasing at increasing rates. All other metrics are either holding steady or increasing at decreasing rates. The overall LMI® index score is down to its second lowest point in the history of the index, but still indicates growth in the logistics industry.

LOGISTICS AT A GLANCE					
Index	February 2019 Index	January 2019 Index	Month-Over-Month Change	Projected Direction	Rate of Change
LMI®	60.4	61.95	-1.54	Growing	Decreasing
Inventory Levels	54.9	67.62	-12.70	Growing	Decreasing
Inventory Costs	69.9	74.51	-4.59	Growing	Decreasing
Warehousing Capacity	50.0	48.58	+1.42	Steady State	Increasing
Warehousing Utilization	67.6	67.93	-0.33	Growing	Decreasing
Warehousing Prices	76.7	72.33	+4.34	Growing	Increasing
Transportation Capacity	62.6	63.14	-0.54	Growing	Decreasing
Transportation Utilization	61.2	57.69	+3.55	Growing	Increasing
Transportation Prices	65.5	67.23	-1.70	Growing	Decreasing

Future predictions indicate that respondents predict an increase in all eight LMI® metrics over the next 12 months. Both Transportation and Warehouse Prices are predicted to grow at slightly higher rates than they are currently. Capacity is anticipated to be up, but still struggling to keep pace with demand. 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:



### **Historic Logistics Managers' Index Scores**

This period's along with the prior 17 readings of the LMI are presented table below. The values have been updated to reflect the method for calculating the overall LMI:

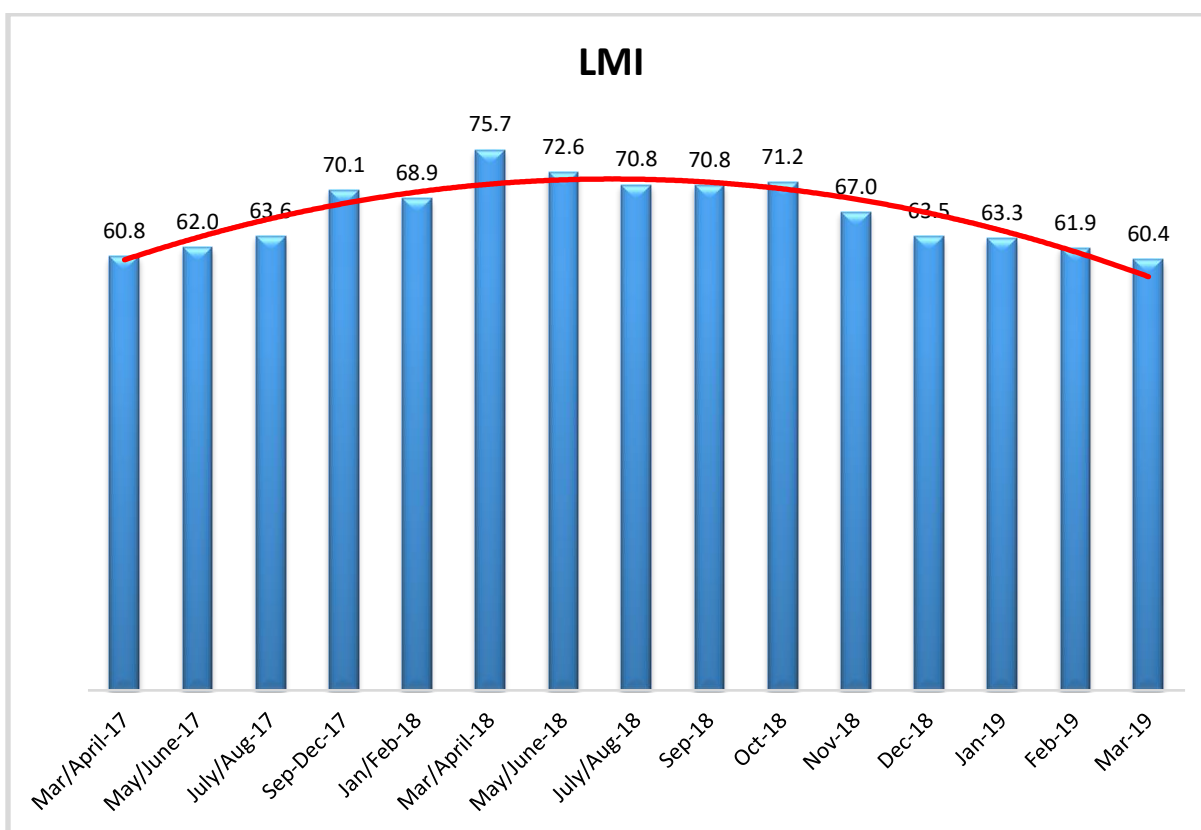
<b><i>Month</i></b>	<b><i>LMI</i></b>	Average for previous readings – 65.6 High – 75.71 Low – 60.36 Std. Dev – 4.81
March '19	60.41	
February '19	61.95	
January '19	63.33	
December '18	63.54	
November '18	66.98	
October '18	71.20	
September '18	70.80	
July/August '18	70.80	
May/June '18	72.55	
March/April '18	75.71	
January/February '18	68.89	
September-December '17	70.09	
July/August '17	63.64	
May/June '17	62.02	
Mar/April '17	60.76	
Jan/Feb '17	61.69	
Nov/Dec '16	61.79	
Oct '16	60.36	
Sep '16	60.70	

**LMI®**

The overall LMI index is 60.4 in the March 2019 reading. This is down from February's index score of 61.9. A year ago at this time the LMI overall score was at 75.7, an all-time high reading for this index. It has trended down since then, with rates of growth decreasing in every period since October 2018. This decrease seems to be primarily driven by decreasing rates of growth in Inventory Costs, Inventory Levels, and Transportation Price.

While March 2019's LMI is the second lowest overall score in the history of the index (by 0.05 points over October 2016), the score of 60.4 is still well above 50.0, the threshold indicating growth. This means that while the logistics industry is currently growing at its slowest rate since September 2016.

Looking forward, respondents predict the overall LMI will continue to grow over the next year, predicting an overall index score of 63.6. This indicates an expectation of similar levels of steady, if unspectacular growth, in the logistics industry through early 2020.

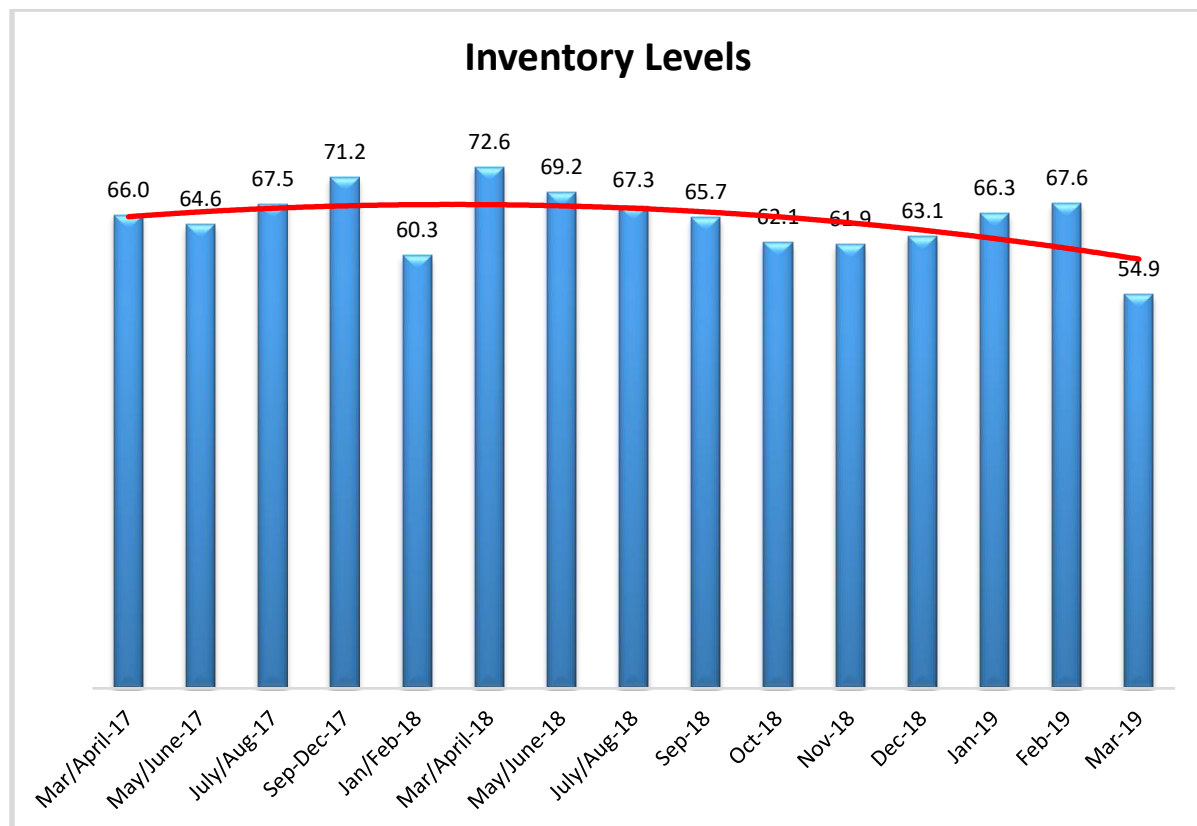


## Inventory Levels

The Inventory Level index is 54.9, which indicates that inventory levels are continuing to rise. Because this is only slightly above 50, inventory levels are still growing, but not at a significant rate. The current value is 12.7 points below the previous level, indicating a significant reduction in the rate of increase. This is also 17.7 points below the level a year ago at this time.

The long-term trend-line had been showing, in previous periods, that levels would decrease, but the current drop is more than was expected. Based on the current value and trend-line, it seems quite possible that levels could fall below 50 in the near future. On the other hand, it is also quite possible that levels might bounce back up after the surprising drop in the current month.

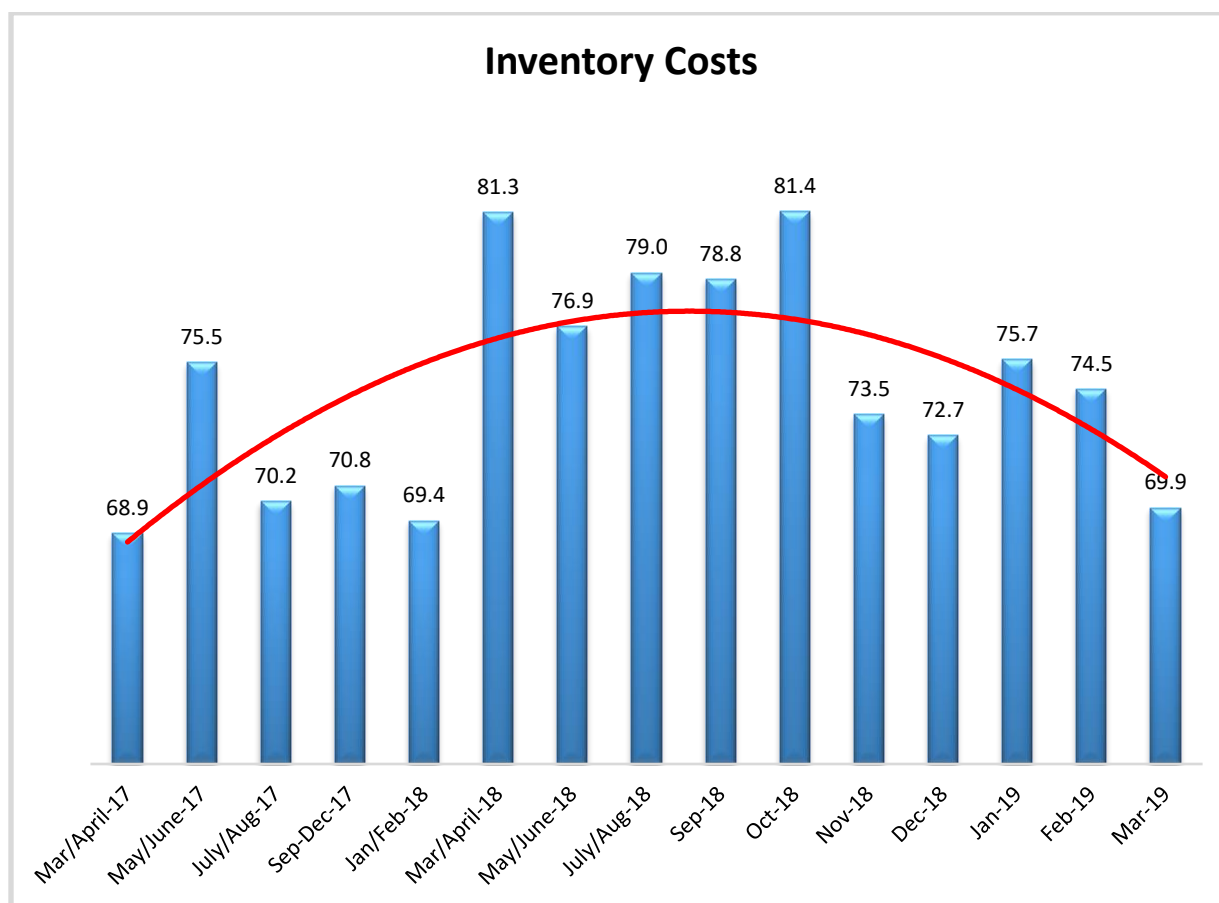
When asked to predict what conditions will be like 12 months from now, the average value is 59.4, indicating inventory levels are expected to continue to grow. This value is below last month's year-ahead prediction of 63.0, but still consistent with a prediction of increasing levels next year.



## Inventory Costs

The current Inventory Costs index value is 69.9. This is a 4.6 point reduction from the previous reading of 74.5. This is also 11.4 points lower than the 81.3 value last year at this time. The reduction we see here is consistent with what we observe for Inventory Levels. Taking them together, decreased rate of growth in inventory may be causing inventory costs continue to grow at a slower rate as well. This could also be related to the fact that warehousing capacity is decreasing slightly or not growing. Because inventory levels are continuing to increase, and warehousing capacity is decreasing, it seems quite likely costs will continue to rise.

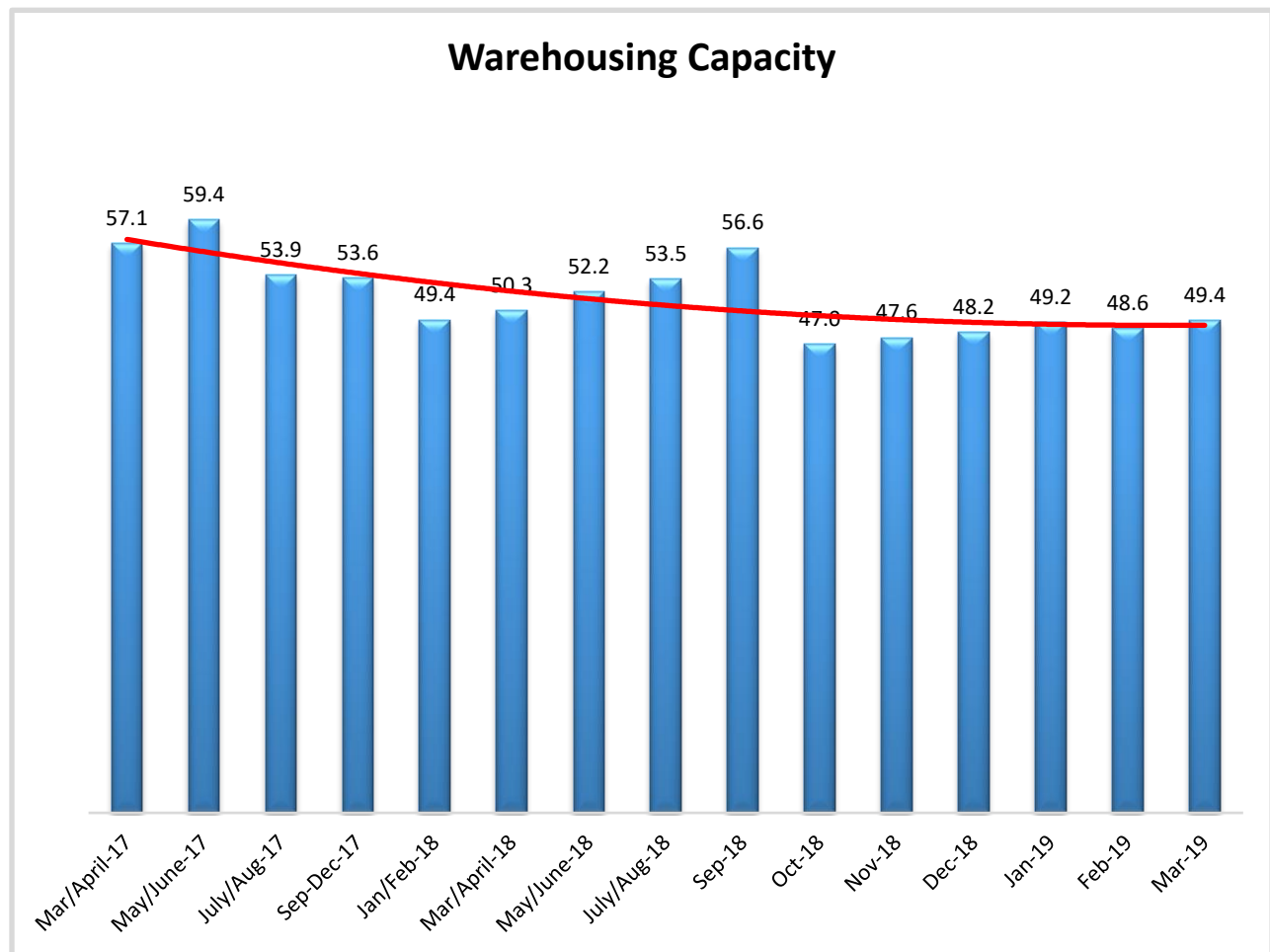
The current value is slightly lower than the long-term average of 72.4, another sign that costs are expected to rise by a greater than expected amount. Respondents agree with this analysis. When asked about what they expect inventory costs to be like 12 months from now, the index value is 78.0, a significant increase over last month's value of 73.8. Respondents clearly expect inventory costs to increase for the next 12 months.



### **Warehousing Capacity**

The Warehousing Capacity Index registered 49.4 percent in March 2019. This represents a slight decrease (<1%) from the February 2019 reading of 48.6, and a 7.2 point decrease from the September 2018 reading of 56.64 and is still sharply down from the Jan/Feb 2017 high of 59.5. The results indicate that warehousing capacity is continuing to contract, now for the 6<sup>th</sup> straight month.

Looking forward at the next 12 months, the predicted Warehousing Capacity index is 55.6, which is up slightly from January's prediction (54.7). 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.

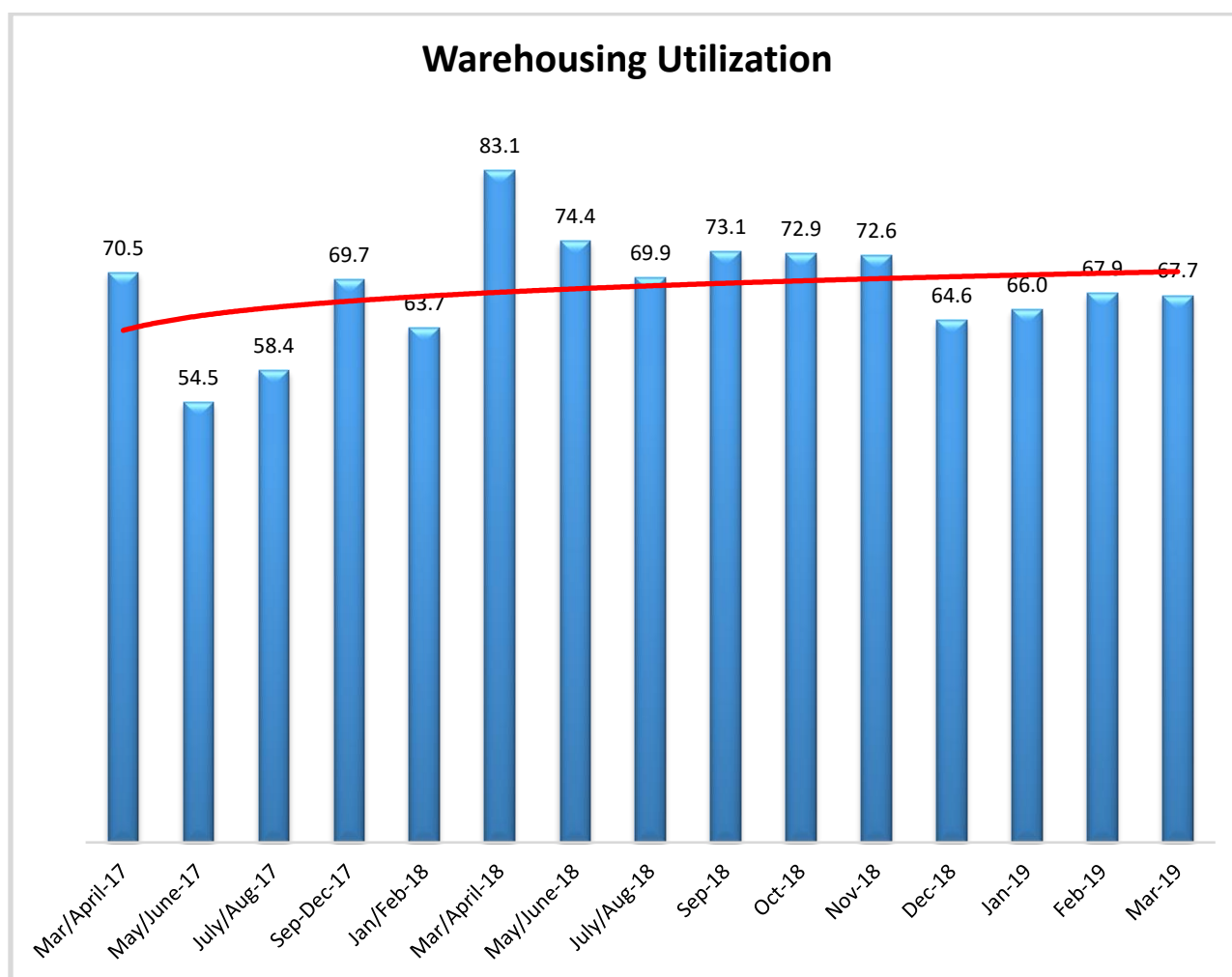




## Warehousing Utilization

The Warehousing Utilization Index registered 67.7 percent in March 2019. This is nearly identical to the February 2019 reading of 67.93, and a still very sharp decline of 15.4 percentage points from the March/April 2018 reading of 83.1. This is the third month in a row in increased utilization overall, and is up 13.23 points from the all-time low of 54.5 in June 2017. This, the third month of increased utilization, along with the decreasing capacity, suggesting that the market may be further tightening.

Looking forward at the next 12 months, the predicted Warehousing Utilization index is 72.4, which is up slightly from January's prediction (68.4), indicating that firms anticipate utilizing existing warehouse capacity consistently over the next year.



## **Warehousing Prices**

Finally, the Warehousing Prices Index registered 74.66 percent in March 2019. This is a small increase of 2.3 percentage points from the February 2019 reading of 72.3, and a rebound to a point closer to the to the December 2018 level. This reading is down 3.2 points from one year ago. With the contracting of the warehousing capacity, the increase in utilization, this increase in the rate of price falls suggests that there is pressure in the warehousing market. Readings suggest that the price of warehousing will continue to increase.

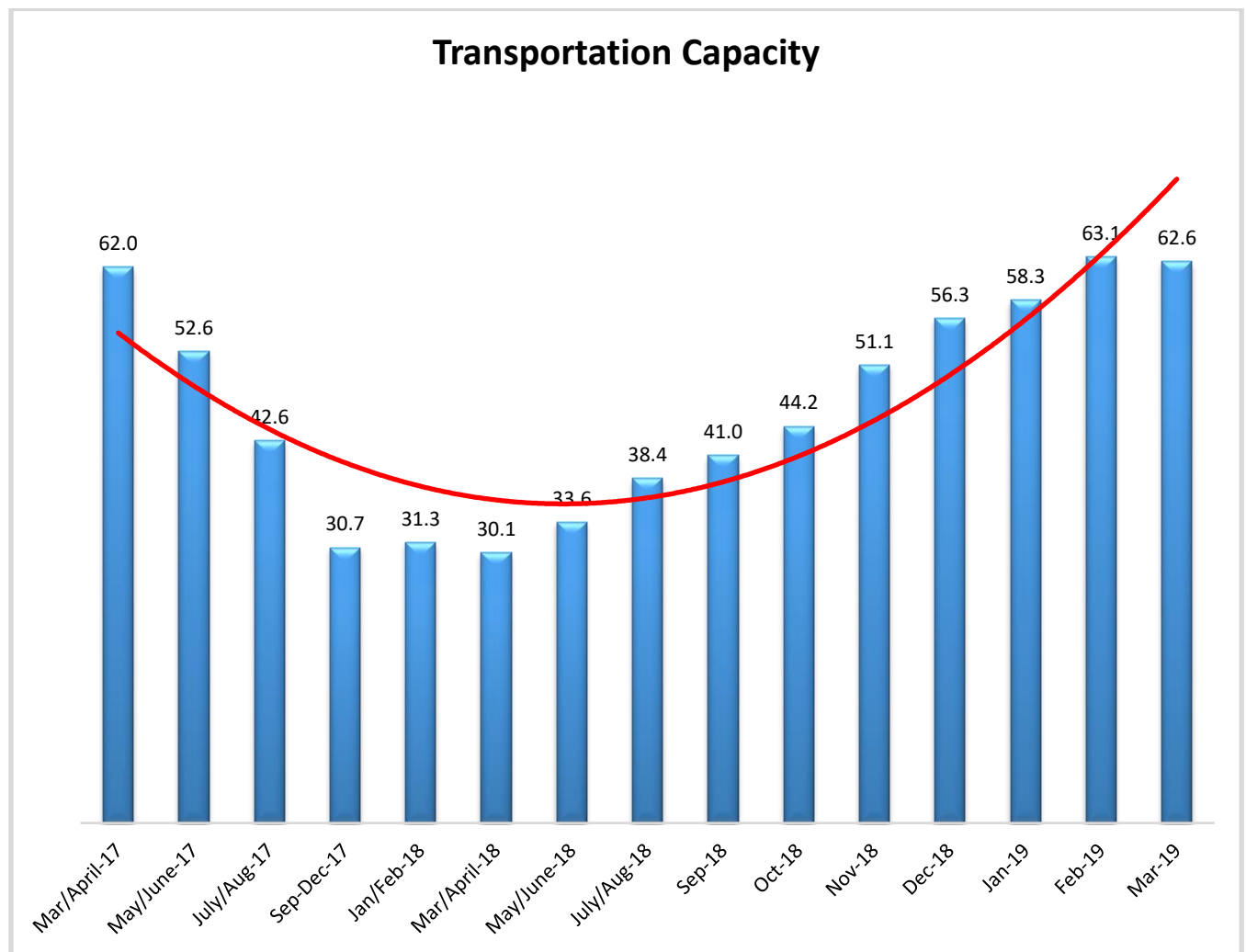
Looking forward at the next 12 months, the predicted Warehousing Prices index is 78.3, which is up from February's prediction (75.5). This indicates that firms are expecting consistent, significant growth in Warehouse Prices over the next 12 months.



### **Transportation Capacity**

The Transportation Capacity Index registered 62.6 percent in March 2019. This is a decrease of .5 percentage points from the February reading of 63.1. Transportation Capacity had increased every period since March/April 2018, but now the upward trend in Transportation Capacity appears to have stopped. Further, a reading above 50 percent indicates expansion, and this is the fifth consecutive reading above 50. It should be noted the data also indicates a score of 54.6 percent for the next year.

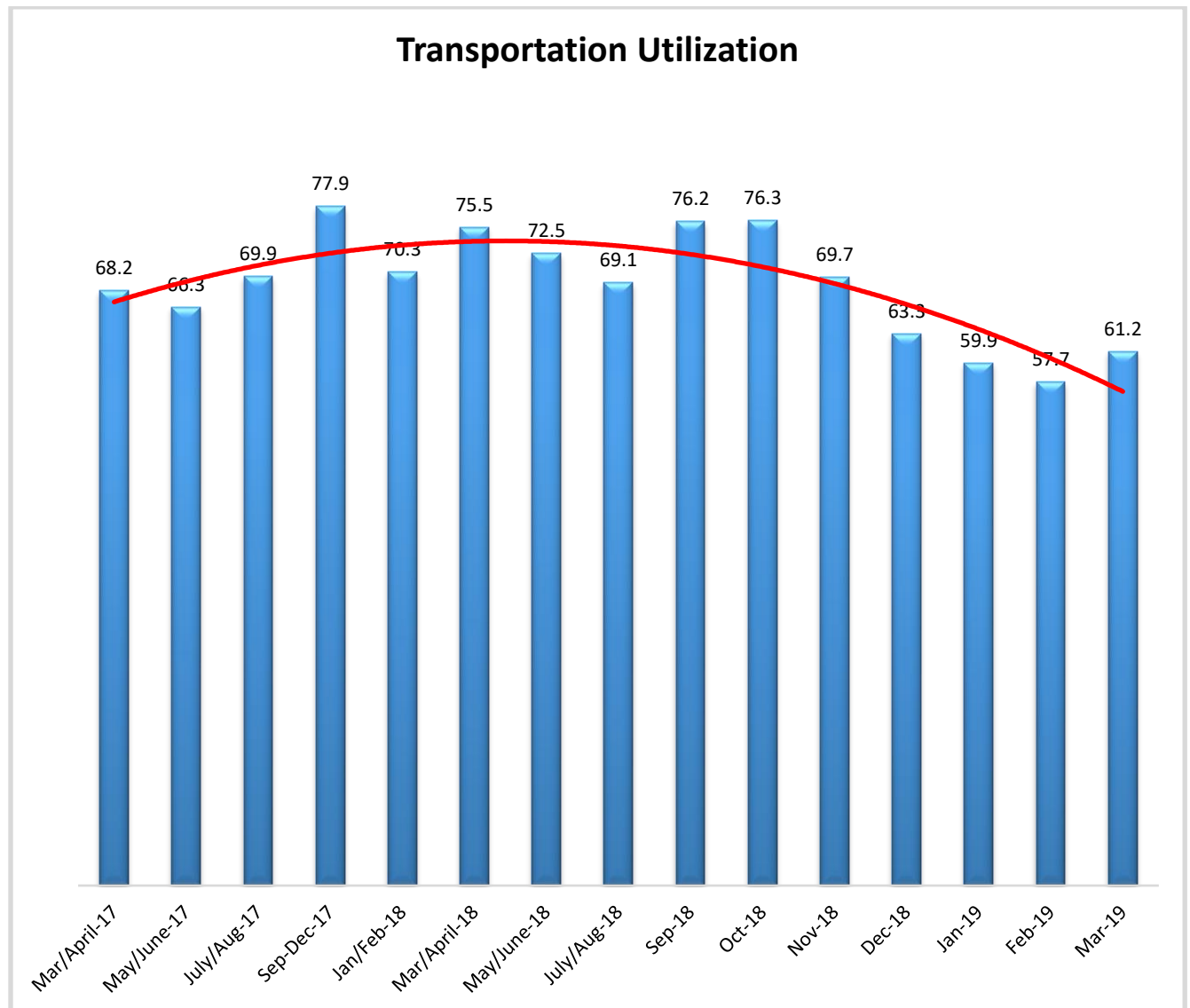
This is a 2.7 percent decrease in future expectations when compared to February data.



### **Transportation Utilization**

The Transportation Utilization Index registered 61.2 percent in March 2019. This is an increase of 3.5 percentage points from the February reading of 57.7. This score indicates a continuing expansion trend in Transportation Utilization, and the downward trend in the rate of the increase appears to have stopped.

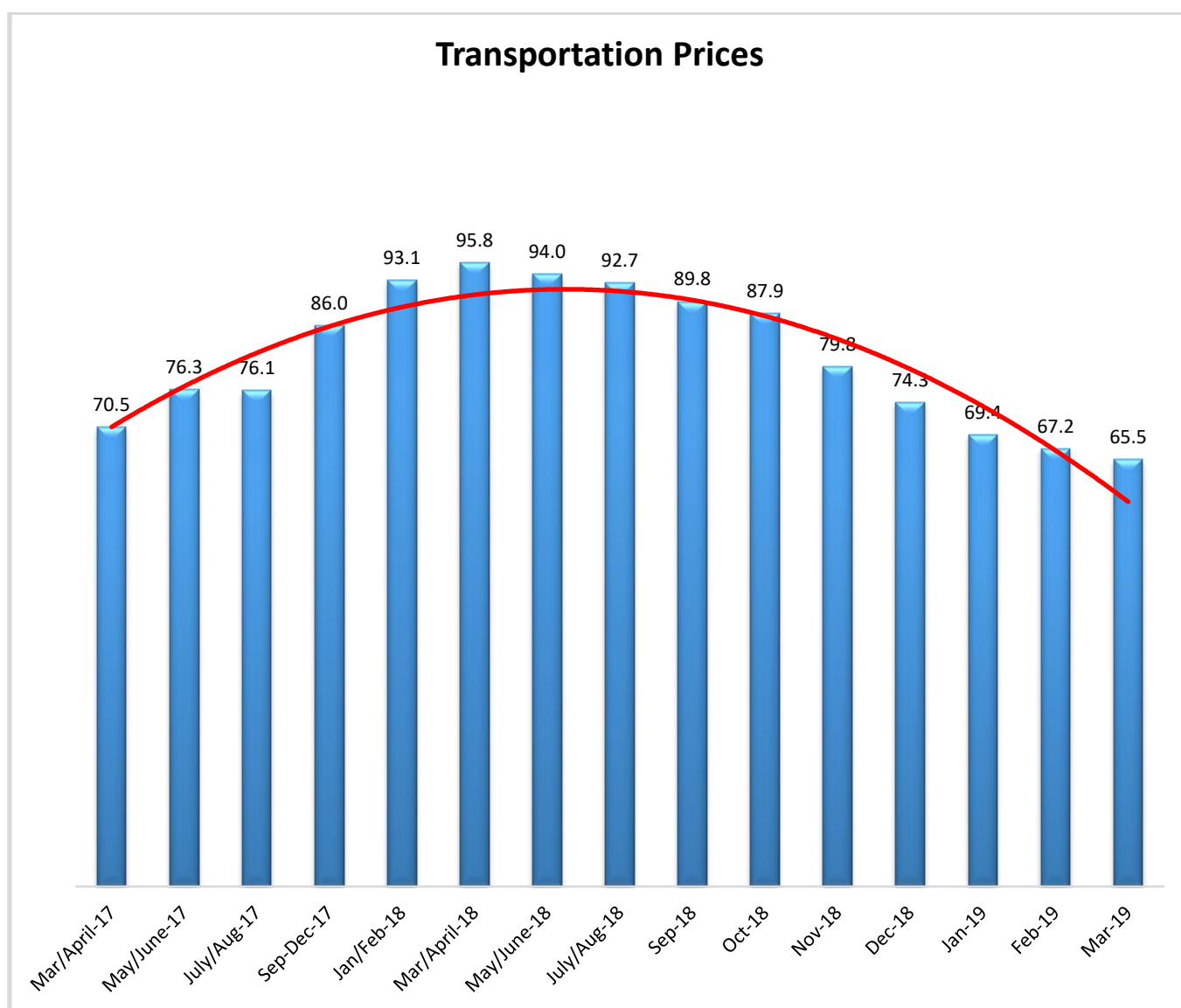
Our future Transportation Utilization Index also indicates a 61.2 percent level for the next 12 months. Future expectations are unchanged from their February levels.



## **Transportation Prices**

The Transportation Prices Index registered 65.5 percent in March 2019. This is 1.7 percent lower than the February 2018 transportation prices reading of 67.2. Transportation Prices Index is continuing to come off its historical highs, with the latest reading being the ninth consecutive decrease from the all-time high registered in March/April 2018. Shrinking growth rates in Transportation Price have been the most significant driver in the decrease of the LMI® over the last year.

The future expectations for Transportation Prices are at 72.2 percent, indicating that the upward pressure on Transportation Prices may increase over the next 12 months. Yet, it should be noted that the future price expectations are 2.6 percent lower than they were in February.



## **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,  
 $\text{Diffusion Index} = 0.5 * PD + 0.5 * PU + 1.0 * PI$

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. It is authored by Zac Rogers Ph.D., Steven Carnovale Ph.D., Shen Yeniyurt Ph.D., Ron Lembke Ph.D., and Dale Rogers Ph.D.

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<sup>i</sup> Kliesen, Kevin L. 2019. "Forecasters See U.S. GDP Growth Easing in 2019 after 2018 Surge." *Federal Reserve Bank of St. Louis*. <https://www.stlouisfed.org/publications/regional-economist/fourth-quarter-2018/forecasters-gdp-growth-2019> (April 1, 2019).