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July/August 2018 Logistics Manager's Index Report®

LMI® at 68.8%
Growth is INCREASING AT AN INCREASING RATE for: Inventory Costs, Warehousing Price, and Warehousing Capacity.
Growth is INCREASING AT A DECREASING RATE for: Inventory Levels, Warehousing Utilization, Transportation Utilization, and Transportation Price.
Transportation Capacity is DECREASING.

(Fort Collins, Colorado) — According to a sample of North American logistics executives, economic activity across the logistics sector continued to expand through the end of summer. While the rate of growth is down for some sections of the industry, we register a

record-high rate of growth for Warehouse Prices, suggesting that logistics capacity continues to strain to keep up with demand. We also see high rates of growth in Transportation Price and Inventory Cost.

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 of all of the other components that make up the index 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 July/August 2018 overall LMI® index registered 68.8 percent which is down very slightly from the May/June 2018 reading of 69.0. This decrease was primarily driven by decreases in the growth rate of Warehouse and Transportation Utilization – decreases that might be partially explained by increasing prices. Overall, the index score of 68.8 suggests a healthy rate of growth in the overall logistics industry, and is up 6 points year-over-year.

For the third consecutive reading, we track an all-time index high score in the rate of growth for Warehousing Prices. The overall index score is tempered by the low score of 38.4 in Transportation Capacity – which indicates that availably capacity is decreasing, as well as the Warehousing Capacity index score of 53.5 – which indicates a *very* moderate rate of growth. The lack of excess capacity in both the transportation and industrial real estate markets are most likely driving forces behind the soaring Warehousing and Transportation Costs. This trend is likely to continue, according to The Wall Street Journal, approximately 452,000 new workers will need to be hired at U.S. fulfillment and distribution centers between now and the holiday season of 2019[1]. Current prices very closely match our panel's future projections, with respondents predicting nearly identical growth rates in both Warehouse (77.8) and Transportation (92.4) prices. Growth in Warehouse Prices has been trending up for a full year since July/August of 2017, and reached an all-time index high in the most recent period. Transportation Prices have been steadily increasing for the last year, and have achieved index scores greater than 90.0 in every reading in 2018 (for reference, the highest possible score in a diffusion index is 100.0). Given this, it is unsurprising respondents do not see much relief on the horizon.

High costs are likely driven by the aforementioned dearth of available capacity. Available Warehouse Capacity has hovered between 49.4 and 53.6 for the past year, indicating minimal rates of growth. Transportation Capacity has been contracting for the same year-long period, with an average score of 34.5, indicating significant rates of contraction, since July/August of 2017. Simply put, available capacity is in high demand, and the logistics industry is strained.

[1] Phillips, Erica. "E-Commerce Driving Need for More Warehouse Workers". *The Wall Street Journal,* September 4, 2018

We note growing Inventory Levels (67.27 – a slightly decreased rate) and Inventory Costs (79.02 – a slightly increased rate and close to an all-time high). This may indicate that firms continue to be bullish on the prospect of future sales. The need to store and move increasing inventory is likely correlated with the shortage of warehouse and transportation capacity and the corresponding increase in price.

We also track the anticipated movement of all eight components of the LMI over the next 12 months. Seven of the eight are predicted to experience varying levels of growth over the next year. With Transportation Price growing the most (92.4) and Warehousing Capacity the least (57.9). The only metric that is predicted to decline over the next 12 months is Transportation Capacity, with a score of 45.8. This suggests that Transportation Prices will only continue increasing as supply struggles to match demand.

Finally, we should note that while all of the readings in this period are consistent with the readings in recent reports, some aspects of the economy in the second quarter may have been "super-charged" by firms attempting to avoid the incoming tariffs[2]. The realization of the Trump administration's proposed tariffs, which may be levied on approximately $200 billion of goods during September 2018[3], could lead potentially lead to a slower rate of growth[4][5]. It remains unclear how these tariffs or potential trade wars may impact the overall logistics industry, but we will continue to track any potential impact over the coming months.

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. Warehousing Capacity is very slightly growing, although with an index score of 53.5 it is approximately at a steady state. Transportation Capacity is contracting. Inventory Levels, Inventory Costs, Warehousing Utilization, Transportation Utilization, Transportation Prices, and the overall Logistics Managers' Index are increasing, at slightly to moderately decreasing rates. Warehousing Prices are increasing at an increasing rate – reaching an all-time metric high in the history of the LMI®.

LOGISTICS AT A GLANCE

Index	July/August 2018 Index	May/June 2018 Index	Month-Over-Month Change	Projected Direction	Rate of Change
LMI®	68.79	69.00	-0.2	Growing	Decreasing
Inventory Levels	67.27	69.21	-1.9	Growing	Decreasing
Inventory Costs	79.02	76.94	+2.1	Growing	Increasing
Warehousing Capacity	53.50	52.21	+1.3	Slightly Growing	Increasing
Warehousing Utilization	69.90	74.38	-4.5	Growing	Decreasing
Warehousing Prices	80.38	79.12	+1.3	Growing	Increasing
Transportation Capacity	38.44	33.57	+4.9	Contracting	Decreasing
Transportation Utilization	69.10	72.48	-3.4	Growing	Decreasing
Transportation Prices	92.68	94.05	-1.4	Growing	Decreasing

[2]Rue, Tim. "Second quarter's hot economic growth may have been helped by increased activity to get ahead of tariffs" *CNBC,* July 25, 2018.

[3]Lobasco, Katie. " Trump's tariffs could hit $200 billion of Chinese goods this week". *CNN*, September 4, 2018.

[4] Koenig, David "Port of New Orleans feeling impact of steel tariffs; many U.S. ports taking at least 10 percent hit". *The New Orleans Advocate*, August 31, 2018.

[5] Arnold, Chris. "Tariffs Are Having A Chilling Effect On More U.S. Businesses". *NPR*, July 24, 2018.

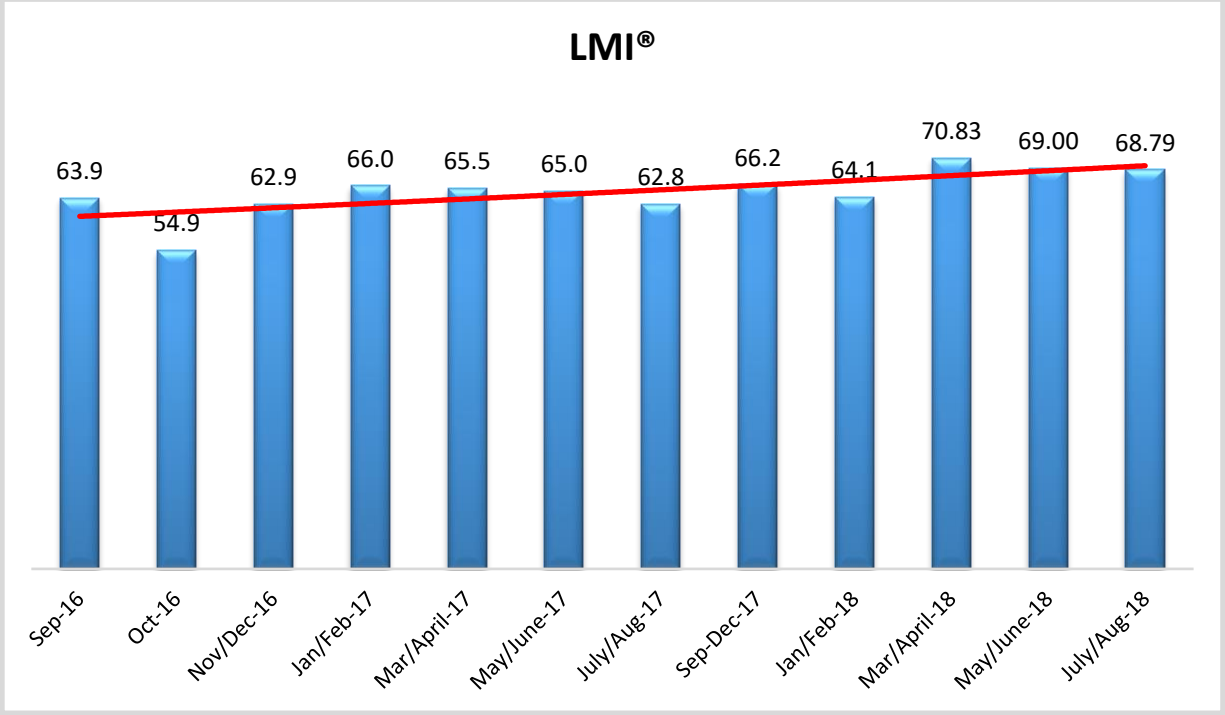
Historic Logistics Managers' Index Scores

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

Month	***LMI***	Average for previous readings – 65.0 High – 70.8 Low – 54.9 Std. Dev – 3.9
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 69.0 in the July/August 2018 reading. This is a marginally lower rate of growth than the May/June index, which at 72.6, was the highest level tracked in the 22 months of the LMI®. While the rate of growth is down slightly in July/August, it is still higher than the average overall index score of 64.6. This indicates that the logistics industry continues to grow at a rapid pace. As mentioned above, this growth is primarily driven by significant rates of growth in Inventory Costs, Warehouse and Transportation Utilization, and Warehouse and Transportation Prices. Warehouse prices are higher in July/August 2018 than at any other time in the history of the LMI®. As mentioned above, 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.

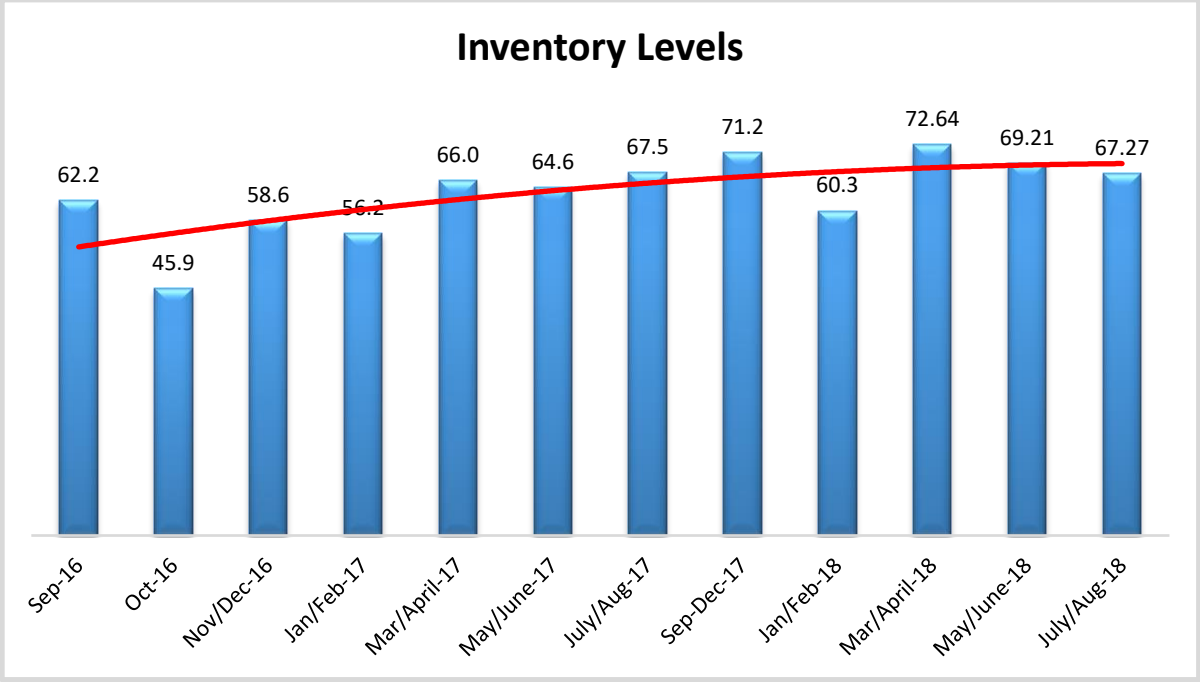


Every reading since the beginning of this project in September of 2016 has indicated growth in the logistics industry. The July/August 2018 reading continues that trend, with the overall index score reading at 69.0, 19 points above the growth/contraction threshold of 50.0. Firms appear to be increasing inventory levels, turning up demand for warehousing and transportation and leading to a subsequent increase in prices for both. While the researchers feel strongly that warehousing, transportation, and inventory trends are key economic indicators, the exact relationship between the LMI and the overall economy as indicated by GDP has yet to be established empirically.

Inventory Levels

The Inventory Level index is 67.27, down from the previous result, which was also lower than the period before. This represents a 7.4% lowering from March/April. Because these numbers are all above 50, inventory levels are still growing, but the rate of growth is slowing. This level is almost exactly equal to the level a year ago at this time, of 67.5. In the two most recent reports, we saw levels significantly higher than the previous year, but now we see levels equal to those of last year at this time, so the fast growth we were seeing before has slowed to a lower growth rate, but still significant. The current reading of 67.27 is the fifth highest in the history of the index. The short term trend is a slight decrease, but the long-term trend line shows that values are expected to stay in the growth region for the foreseeable future.

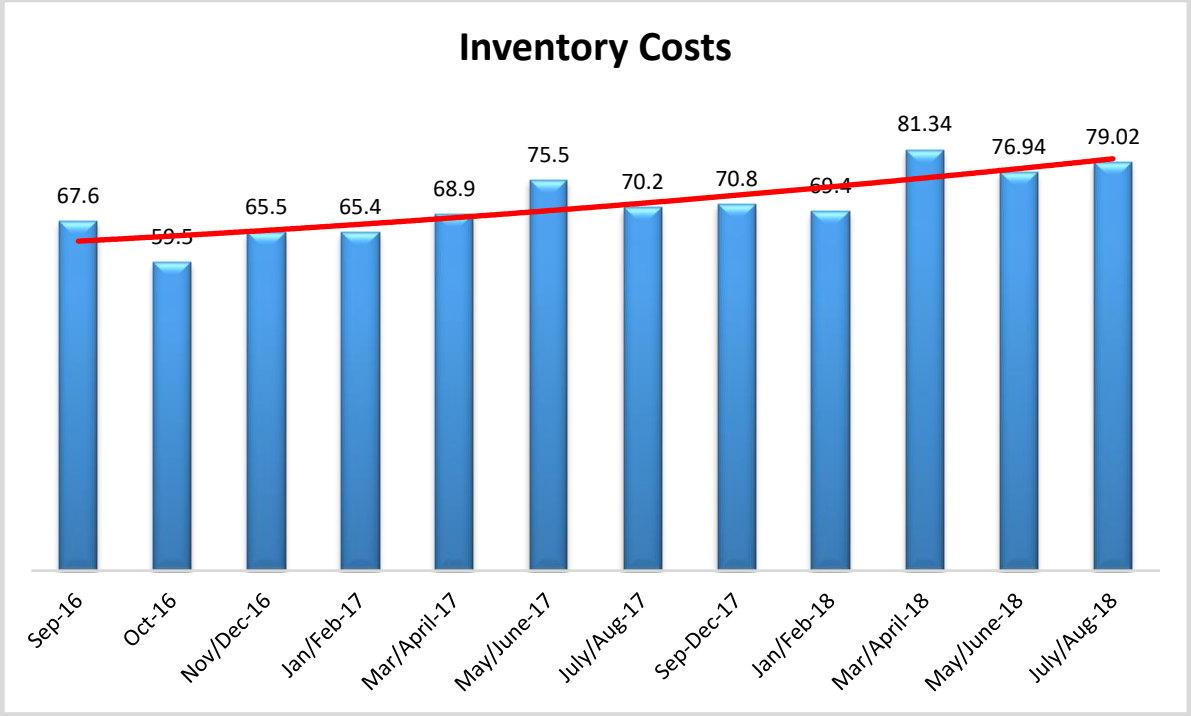
Looking forward at the next 12 months, the Inventory Levels are expected to grow at a rate of 61.3, which indicates panelists expect inventory levels to continue increasing over the next 12 months.



Inventory Costs

Given the high levels of inventories, it is not surprising that inventory costs are near their all-time highest values. The Inventory Cost index value is 79.02, down just over 2 points from the all-time high in March/April of 2018. The value of 79.02 is 8.8 points higher than the value last year at this time. Any value above 50 indicates growth, and respondents say inventory costs have continued to climb, significantly. The growth rate may have decreased slightly in the last two periods, but only slightly. The current value is the second-highest in the history of the index, so costs have continued to increase significantly. Because costs have stayed above 50 consistently, costs are expected to continue to grow, and the trend line shows that cost growth is increasing over time, so if current trends continue, inventory costs may continue to grow for the indefinite future.

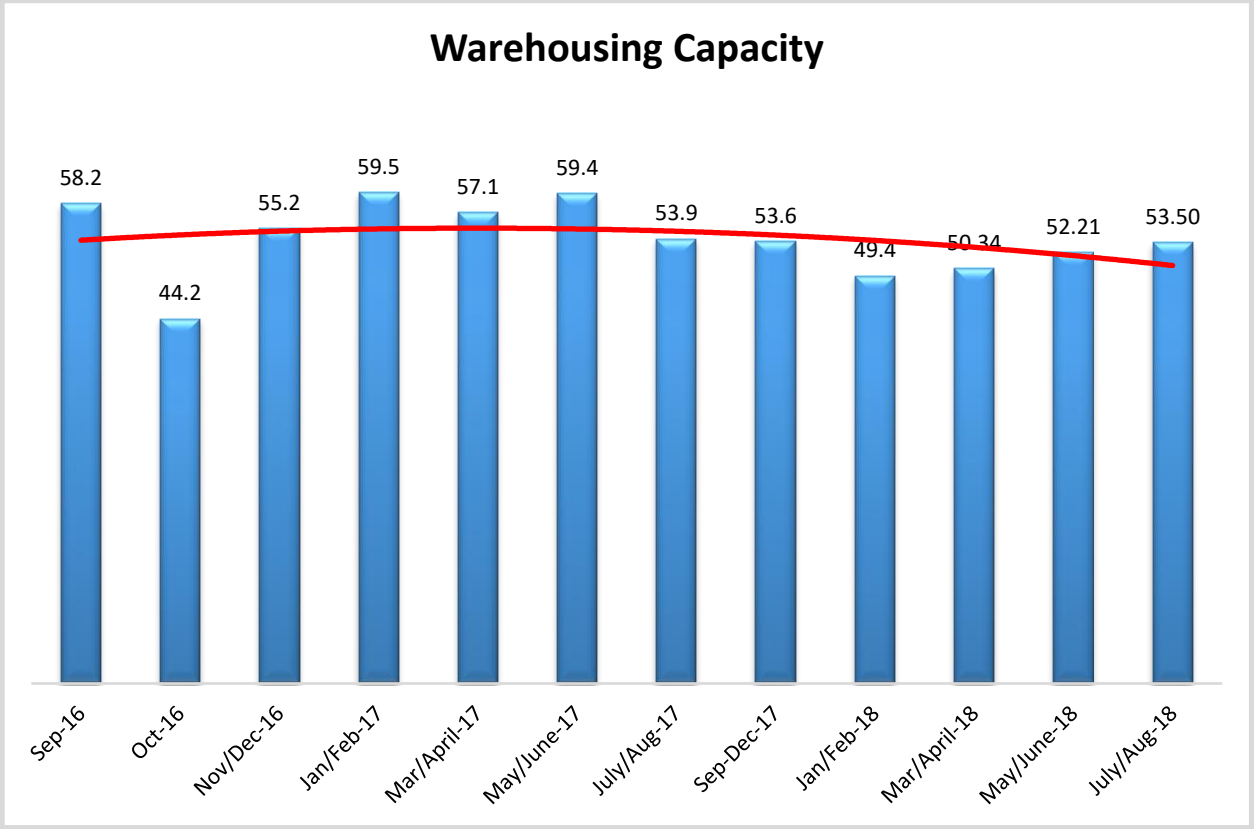
When asked about the upcoming 12 months, panelists returned a value of 79.0, indicating that inventory costs are expected to continue to climb for the next year.



Warehousing Capacity

The Warehousing Capacity Index registered 53.50 percent in July-August 2018. This represents a nearly 1.3 percentage point increase from the May-June reading of 52.21 and is still a rather large decline from the Jan/Feb 2017 high of 59.5, though the highest reading this year (2018). This is the fifth lowest reading ever recorded in the LMI®. It would appear that warehousing capacity is continuing its rise from the yearly low of 49.4 in the January-February 2018 reading.

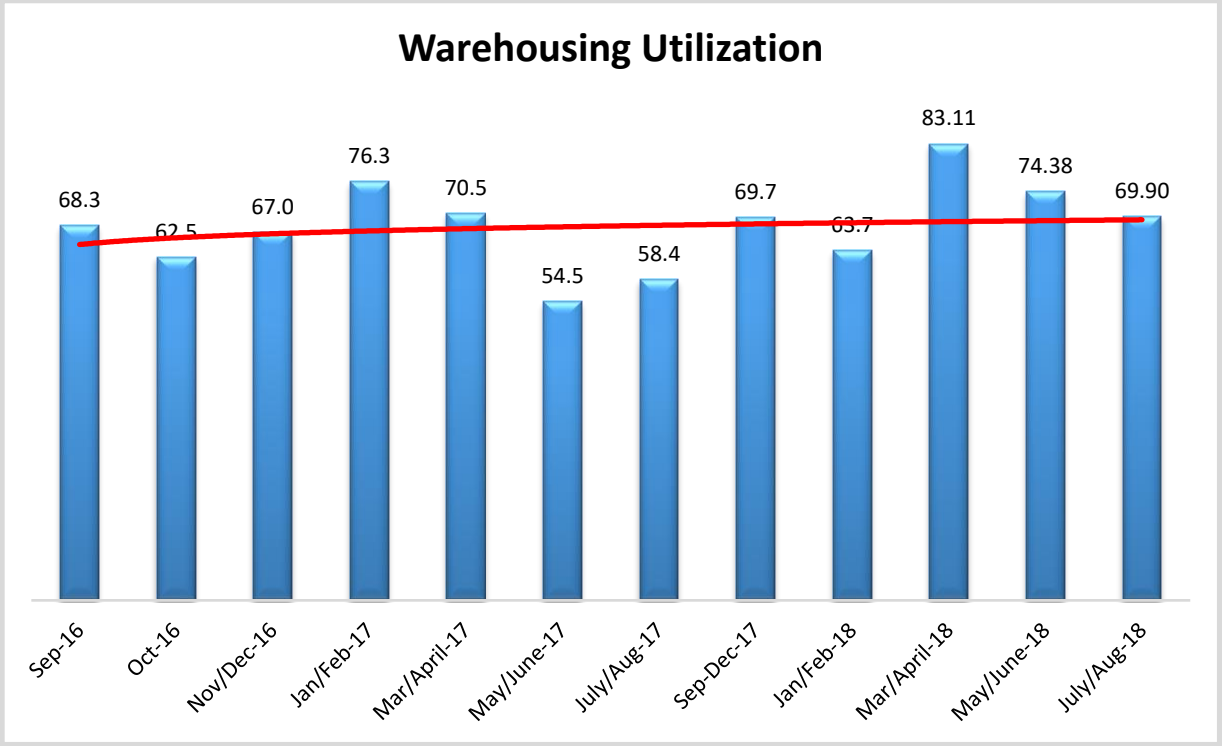
Looking forward at the next 12 months, the predicted Warehousing Capacity index is 57.9. This indicates that firms are hopeful that more warehouse space will become available over the next year, but not at a significantly high rate.



Warehousing Utilization

The Warehousing Utilization Index registered 69.9 percent in July-August 2018. This is a decline of 4.48 percentage points from the May-June reading of 74.38. This is the fifth highest level of Warehousing Utilization overall, and is still up 15.4 points from the all-time low of 54.5 in June 2017. The decrease from the previous period, coupled with the increased capacity noted above might suggest that more availability is coming on the market.

Looking forward at the next 12 months, the predicted Warehousing Utilization index is 70.5, indicating that firms anticipate utilizing existing warehouse capacity consistently over the next year.



Warehousing Prices

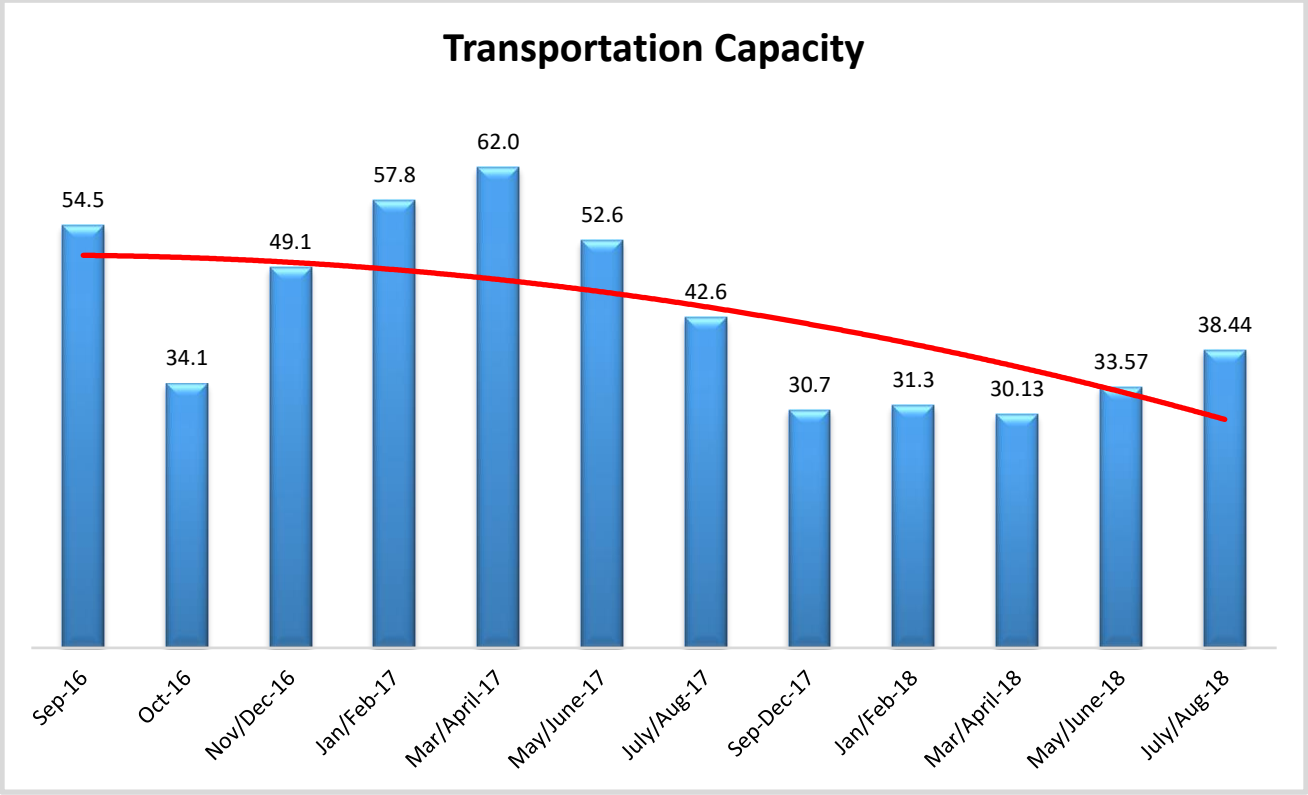
Finally, the Warehousing Prices Index registered 80.38 percent in July-August. This is a slight increase of 1.26 percentage points from the May-June 2018 reading of 79.12. The reading of 80.38 is the highest value for the Warehousing Prices Index to date, and this is the third month in a row with a historically high warehousing price value.

Looking forward at the next 12 months, the predicted Warehousing Prices index is 77.8, indicating little relief from increasing warehousing prices.

Transportation Capacity

The Transportation Capacity Index registered 38.44 percent in July-August 2018. This is an increase of 4.87 percentage points from the May-June reading of 33.57. It would appear that transportation excess capacity is still historically low, but the rate of contraction has continued to slow.

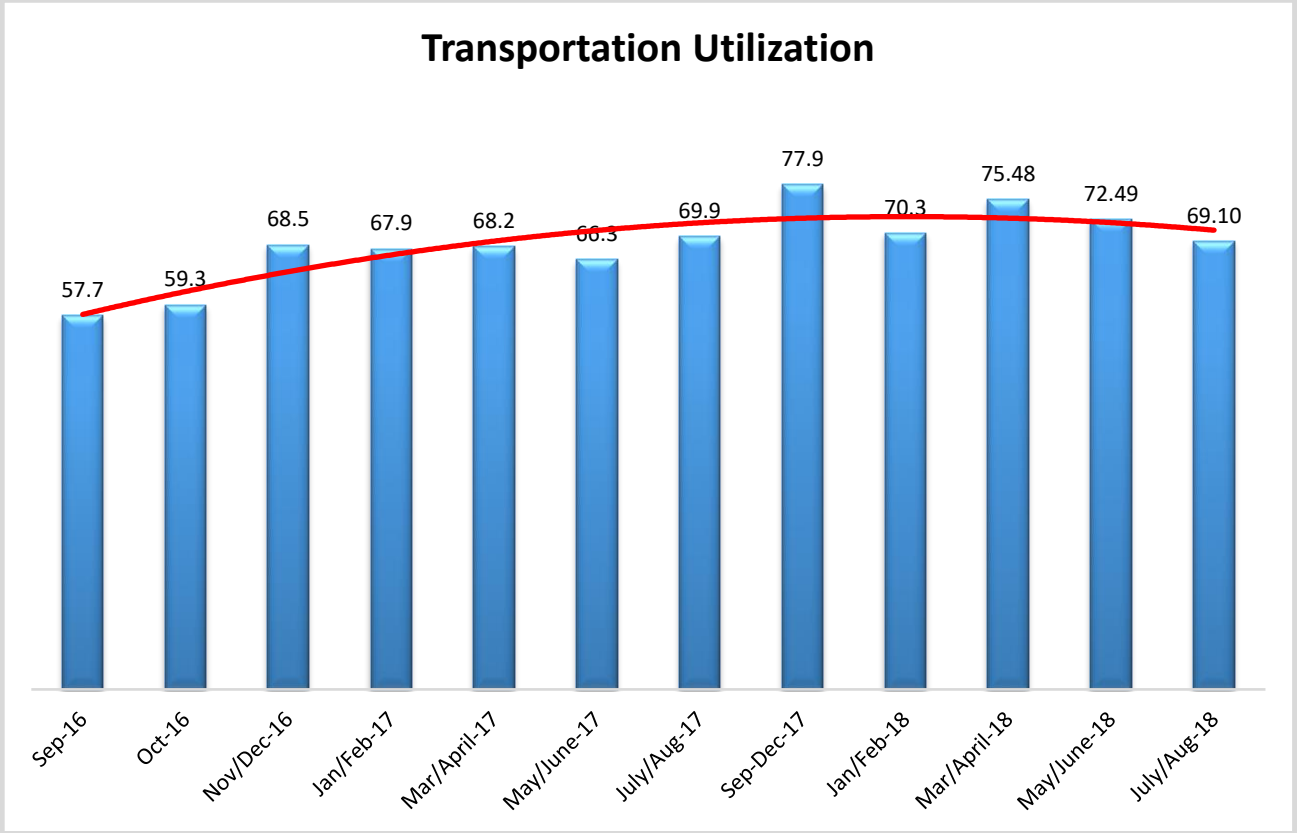
Looking forward at the next 12 months, the predicted Inventory Level index is 45.8. The decreased rate of contraction indicates that respondents are hopeful that more capacity will be coming online in the next year. Interestingly, this is the only component of the LMI that is predicted to continue decreasing over the upcoming year. Respondents are pessimistic that the level of available transportation supply will be sufficient to meet demand over the next 12 months.



Transportation Utilization

The Transportation Utilization Index registered 69.10 percent in July-August 2018. This is a decrease of 3.39 percentage points from the May-June reading of 72.49. This is the second consecutive reading indicating a decrease in transportation utilization and very close to the 69.9 percent reading of a year ago.

Looking forward at the next 12 months, the predicted Transportation Utilization is 71.8. This indicates that utilization will continue to increase over the next year as companies attempt to make the most out of limited, expensive space.

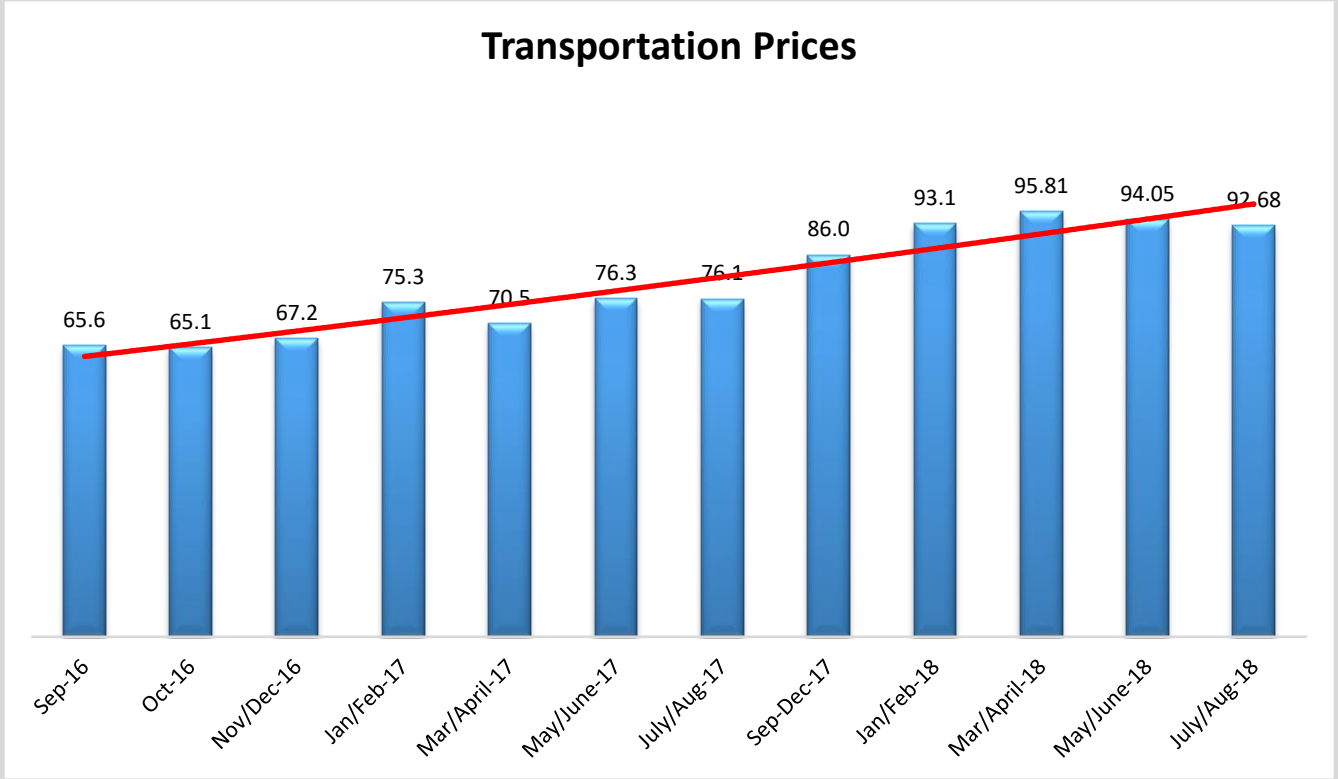


Transportation Prices

The Transportation Prices Index registered 92.68 percent in July-August 2018. This is 1.37 percent lower than the previous reading and 3.13 percentage points lower than the historical high registered in March-April 2018. Transportation prices can still be considered historically high, latest reading being 16.58 percentage points higher than a year ago, but a downward trend might be emerging.

This is up nearly 18 points from the July/August 2017 index score of 76.3 (which at the time, was the highest in the history of the index). The maximum score in a diffusion index is 100.0, and the Transportation Price index has been over 90.0, four consecutive periods, and in every reading of 2018. The shortage of Transportation Capacity reported above, is driving prices to historic levels.

Looking forward at the next 12 months, the predicted Transportation Prices index is 92.4. Respondents expect further increases in prices and are extremely pessimistic of receiving any relief from escalating transportation costs.



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

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.