

# × INDUSTRIAL MARKET OUTLOOK

FALL 2017



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# × US INDUSTRIAL MARKETS

## INDUSTRIAL SECTOR FINDING STRENGTH IN RETAIL'S WEAKNESSES


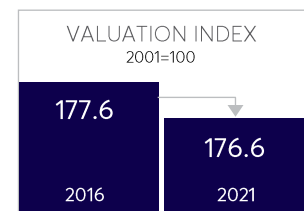
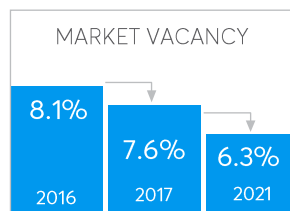


INDUSTRIAL **PRICING REACHED AN ALL-TIME PEAK** OF \$80 PSF IN THE SECOND QUARTER OF 2017



INDUSTRIAL **CAP RATES FELL 30 BPS** YEAR-OVER-YEAR TO 5.6% IN THE SECOND QUARTER

**DEAL VOLUME ROSE 14.4%** YEAR-OVER-YEAR TO **\$15.8 BILLION** IN THE SECOND QUARTER OF 2017


ANNUAL EFFECTIVE RENT GROWTH **WAS A CYCLE-HIGH 4.7%** IN 2016 AND IS FORECAST TO ACCELERATE TO 4.8% IN 2017

TEN-X RESEARCH AVERAGE RANK OF INDUSTRIAL METROS

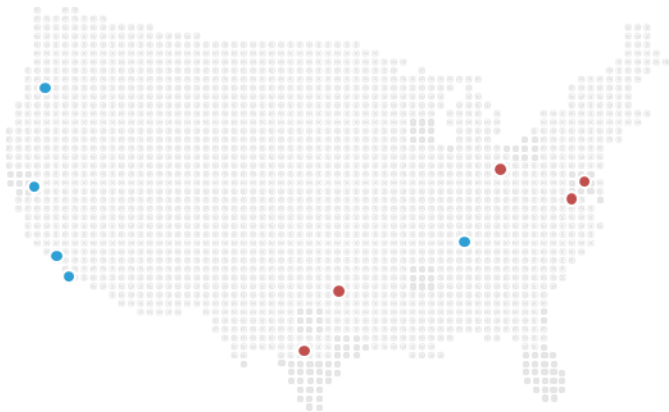
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RANKING SCALE

6 CONTRACTION

1 STRONG GROWTH

Rankings incorporate analysis of current and recent market conditions (vacancies, rent growth, construction activity, and absorption) with our forward view of these measures.



**TOP 5 BUY MARKETS**

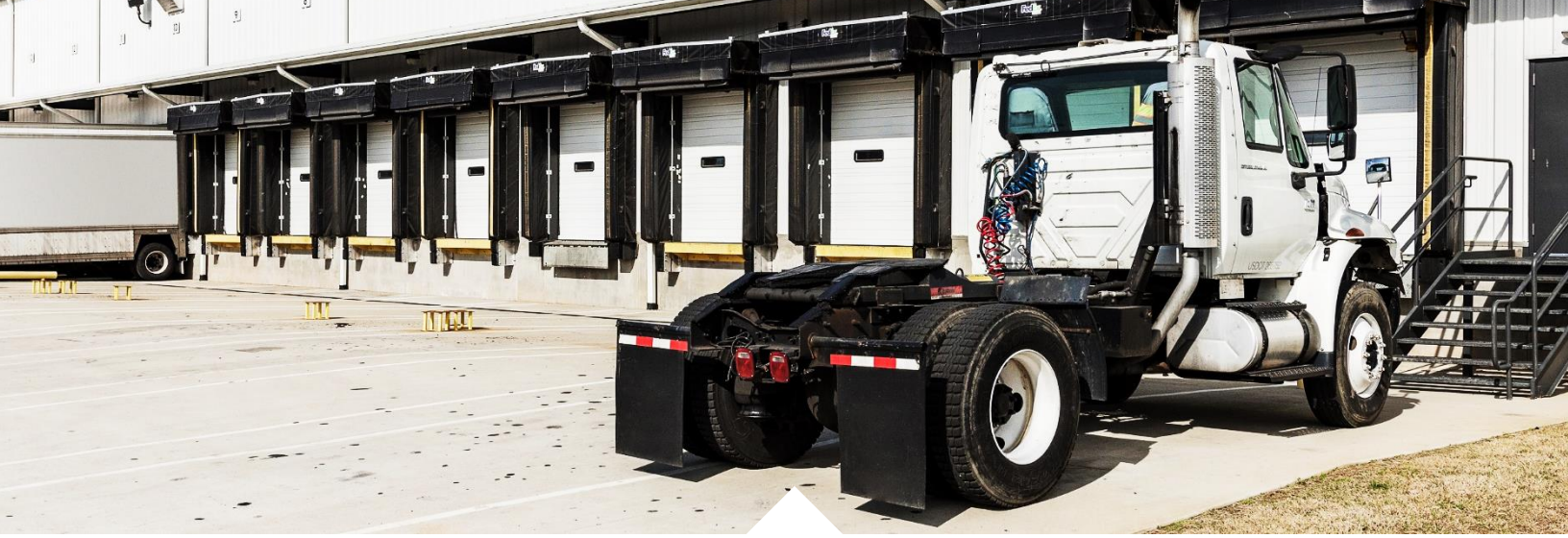
- Los Angeles, CA
- Nashville, TN
- San Diego, CA
- Portland, OR
- Sacramento, CA

**TOP 5 SELL MARKETS**

- Dallas, TX
- Baltimore, MD
- San Antonio, TX
- Suburban MD
- Columbus, OH

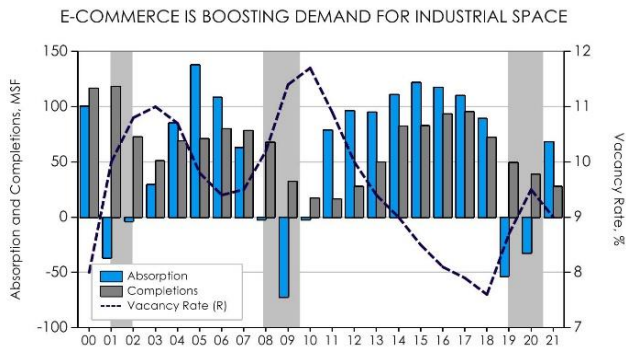
Sources: BLS, Real Capital Analytics <http://www.rcanalytics.com>, Reis, RERC, Ten-X Research forecasts



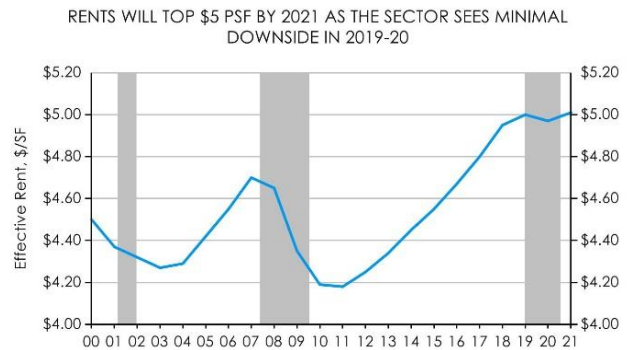


## × FRUITFUL MARRIAGE OF SHOPPING & SHIPPING

The technological and cyclical challenges that are negatively affecting the office and retail sectors are benefitting the industrial sector. The rise of e-commerce is fueling the demand for warehouse and distribution space. And although increased use of cloud computing has reduced the need for office space, it is also driving the demand for server farms. The robust absorption in recent years has driven vacancies down nearly 400 bps from their recessionary high to their lowest level in nearly two decades. Effective rent growth has held in the mid to upper-2% range in recent years, boosting rents to an historic peak.



Sources: Reis, Ten-X Research Forecasts



Sources: Reis, Ten-X Research Forecasts

We expect both supply and demand to soften through 2018 as we enter the latter stages of the current economic cycle. In this time, vacancies will bottom-out at the mid-7% range, below their 1990's cycle lows, while rent growth accelerates to the 3% range for the first time this cycle. Absorption is set to turn negative amid our 2019-20 recessionary scenario while supply additions continue, pushing vacancies to the mid-9% range by 2020, while rents remain largely unchanged. Absorption will bounce back in 2021 and vacancies will decline once again as we reintroduce economic growth to the forecast model.



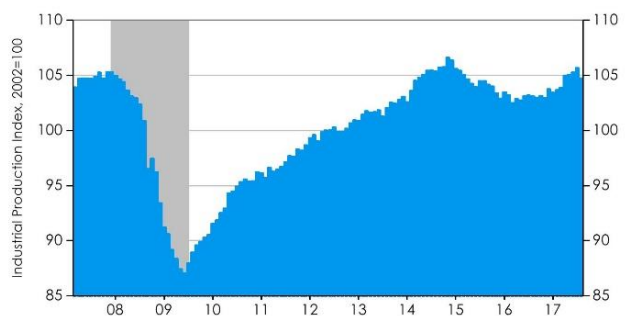
Oil prices have made some progress in recent months but remain low, around \$50 a barrel, limiting the energy sector’s contributions to growth in the industrial sector. Their incremental progress is permitting a rise in capacity utilization, which has been choppily trending upward throughout 2017. Improving oil prices have also revitalized industrial production, achieving levels not witnessed since 2014. Despite their heights, the levels of industrial production still do not match the strength of the sector, highlighting the weight of secular and cyclical trends that are driving fundamentals forward.

CAPACITY UTILIZATION GRADUALLY AND CHOPPLY DRIFTING NORTH



Sources: US Census Bureau, Ten-X Research

INDUSTRIAL PRODUCTION GROWING WITH RENEWED VIGOR



Sources: Federal Reserve, Ten-X Research

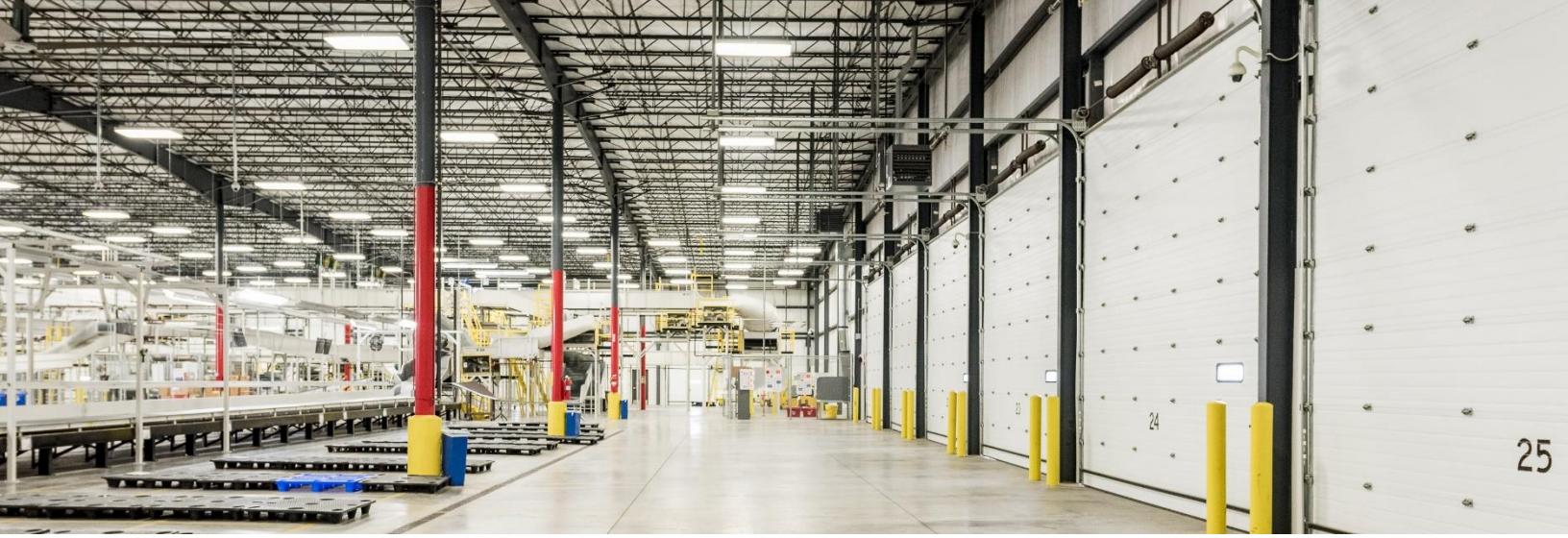
The weakening US dollar has improved trade flows throughout 2017, which now stand at an historical peak. This can be attributed to a resurgence of Asian trade flows as their intraregional shipments pick up, while import demand in North America has also recovered. However, risks to the world economy still exist, such as protectionist policies, rising geopolitical tensions, and the economic toll of natural disasters. And while the current administration’s tax plan is still uncertain, its decision not to pass a border adjustment tax is encouraging for future trade growth.

TRADE FLOWS ARE RISING AS US DOLLAR HAS WEAKENED THROUGHOUT 2017



Sources: US Census Bureau, Ten-X Research



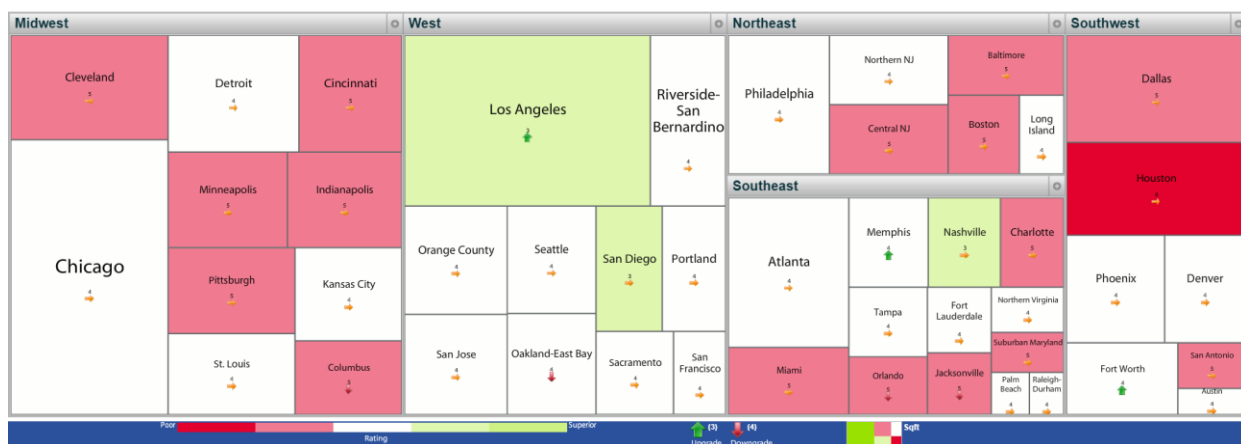


## × INDUSTRIAL SECTOR HEAT MAP

Despite the strong tailwind of e-retail, the continued emphasis of our cyclical downside scenario in 2019-20 is weighing on our industrial rankings. The aggregate industrial score edged down from 4.30 to 4.33 as four markets were downgrades and only 3 upgraded.

The industrial sector shows the least clear-cut regional variance, as most major markets are hovering around a score of 4. A number of Midwest markets are floundering due to poor economic conditions and population outflows that are crimping demand. The West continues to benefit from trade and distribution, though places like Riverside and Orange County have NOI growth constrained by already very low vacancy rates. The Southwest is battling high supply additions amid cooling demand as the energy sector has cooled off. Though Houston stands out as the only marked rated 6, we made no adjustments to the metro's score due to the extreme uncertainty that surrounds the entire metro outlook in the wake of the devastation caused by Hurricane Harvey.

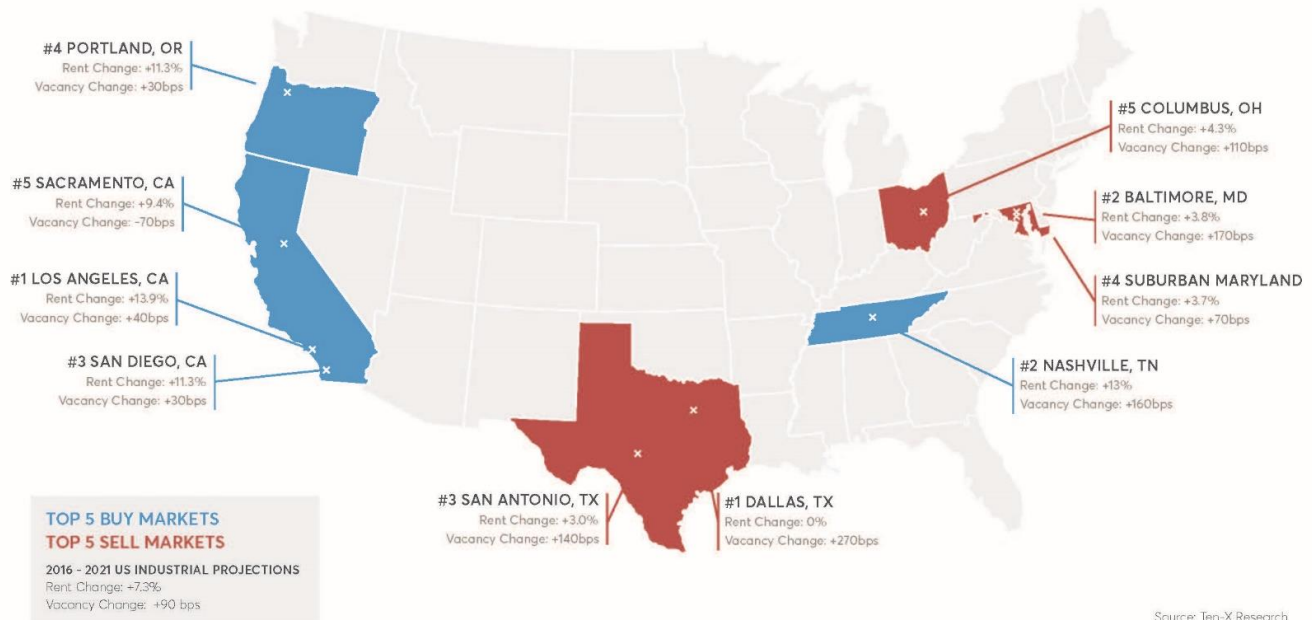
*The Ten-X Research Industrial Heatmap highlights regional and market-by-market dichotomies. The size of each market box represents each market's total industrial square footage, while the combined size of each regional box represents the relative size of each region. The numerical rankings and colors represent the current and four-year projected strength of each market, with 1 and dark green signifying the strongest performers, and 6 and dark red denoting the weakest. The direction of the arrow in each box represents the direction each market is moving in.*



Source: Ten-X Research

# ×TOP 5 INDUSTRIAL BUY AND SELL MARKETS

Ten-X Research chooses top buy and sell markets based on projected NOI growth, vacancy improvement, rent growth, and valuations as reflected in the Ten-X Research Long Term Forecast.



## 2016 - 2021 US INDUSTRIAL PROJECTIONS

Top 5 Buy Markets	2016 Rents (\$ psf)	2021 Rents (\$ psf)	Change in Rents (%)	2016 Vacancies (%)	2021 Vacancies (%)	Change in Vacancies (bps)
Los Angeles, CA	6.31	7.19	13.9%	3.2	3.6	40 bps
Nashville, TN	3.55	4.01	13.0%	3.9	5.5	160 bps
San Diego, CA	6.64	7.39	11.3%	6.0	6.3	30 bps
Portland, OR	4.17	4.64	11.3%	6.8	7.1	30 bps
Sacramento, CA	3.50	3.83	9.4%	10.4	9.7	-70 bps

Top 5 Sell Markets	2016 Rents (\$ psf)	2021 Rents (\$ psf)	Change in Rents (%)	2016 Vacancies (%)	2021 Vacancies (%)	Change in Vacancies (bps)
Dallas, TX	3.87	3.88	0.0%	11.6	14.3	270 bps
Baltimore, MD	4.73	4.91	3.8%	10.4	12.1	170 bps
San Antonio, TX	4.27	4.40	3.0%	7.2	8.6	140 bps
Suburban MD	7.47	7.75	3.7%	10.4	11.1	70 bps
Columbus, OH	3.75	3.91	4.3%	8.1	9.2	110 bps

US	4.67	5.01	7.3%	8.1	9.0	90 bps
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# × TOP BUY MARKETS

Investors considering purchasing industrial properties should consider these markets.

## #1 Los Angeles

### THE LOS ANGELES ECONOMY IS SLOWING DOWN...

- Metro employment recently dropped below 1% year over year, representing a cycle low, but employment levels remain near peak.
- The construction sector is seeing robust job gains in the 8% annual range from a year ago.
- Most other sectors are slowing, however. LA's outsized transportation/utilities and information sector are both contracting, the latter after experiencing double-digit growth in 2016.
- Population has slowed for a fifth straight year, amounting to less than 0.3% in 2016.



Sources: Reis, Ten-X Research Forecasts

### ...BUT VORACIOUS INDUSTRIAL DEMAND IS DRIVING LOW AVAILABILITY

- The industrial market is experiencing robust demand, outpacing completions by a wide margin. Vacancies have dropped 300 bps from their peak to the low 3% range.
- A solid pipeline will be outpaced by persistent absorption through 2018. Demand will reverse in our 2019-20 recession scenario, sending vacancies back above 4%, still well below the US level.
- Rent growth will maintain its mid-3% pace through 2018. Growth will continue at a slower pace through 2021.
- Growing rents and tight vacancy will spur annual NOI growth of 3% through 2021.

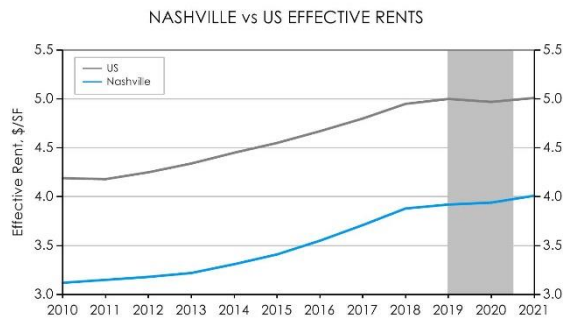


Sources: Reis, Ten-X Research Forecasts

## #2 Nashville

### NASHVILLE IS THRIVING AS EMPLOYMENT AND POPULATION REACH ALL-TIME PEAKS

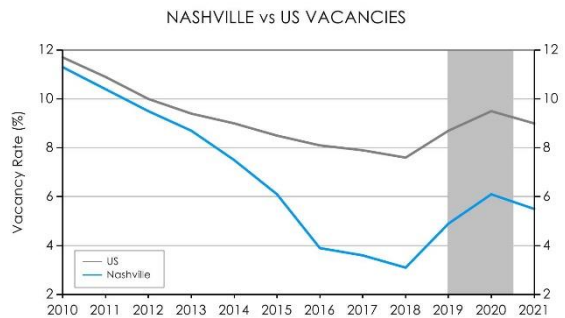
- Nashville employment continues to extend its peak on year-over-year job growth of 3.1%.
- Metro unemployment is currently 3.3%, well below the US level.
- Growth in the metro's leisure/hospitality sector has ramped up to the high-7% range. Gains have slowed in most sectors, but many are still expanding by 3-4% annually.
- Nashville continues to see outstanding demographic growth. Population growth has outpaced the US for over 25 years, and measured 2% in each of the last three years.



Sources: Reis, Ten-X Research Forecasts

### INDUSTRIAL RENTS ARE AT ALL-TIME HIGHS AS VACANCIES PLUNGE

- Industrial absorption reached a record 4.7 msf in 2016, helping lower vacancies some 200 bps.
- The robust demand spurred rent growth to a 20-year high at 4.1%. Rent growth will pick up to the mid-4% range through 2018, as demand pushes vacancies to an all-time low, just above 3%.
- Absorption turns negative in our 2019-20 recession model. Vacancies will climb above 6%, then return to the mid-5% range as demand returns in 2021.
- Healthy rent growth and low availability portends net NOI growth of 2.9% per annum through 2021.



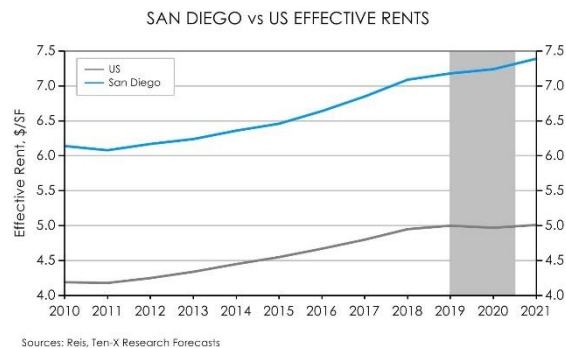
Sources: Reis, Ten-X Research Forecasts



## #3 San Diego

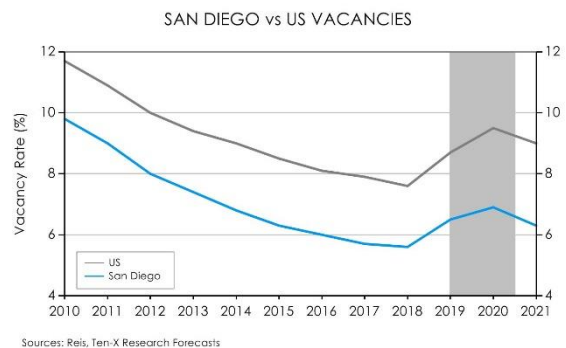
### SAN DIEGO'S ROBUST ECONOMY IS SHOWING SIGNS OF BRAKING...

- San Diego employment growth has slipped to the mid-1% range and is tracking below the US pace after several years of above-par performance.
- Most of the metro's major employment sectors have slowed down from their peak hiring pace.
- Unemployment has descended 640 bps from peak, but is still above the US level at 4.7%.
- Population growth slowed to 0.8% in 2016, above the most recent US level.



### ...BUT SOLID DEMAND HAS TIGHTENED VACANCIES AND LIFTED RENTS

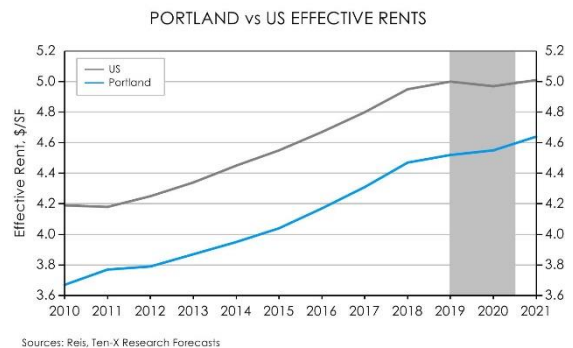
- San Diego industrial vacancies are currently near 6%, representing a low for the cycle and well below the US.
- Rent growth hit a cycle high last year at 2.8% and will ramp up through 2018 as the pipeline remains manageable. Demand will reverse in our 2019-20 cyclical model, lifting vacancies and slowing rent growth.
- Rent growth will pop back above 2% in 2021 as market conditions improve. While NOI will flatten during our recession model years, we project net annual growth of 2.5% through 2021.



## #4 Portland

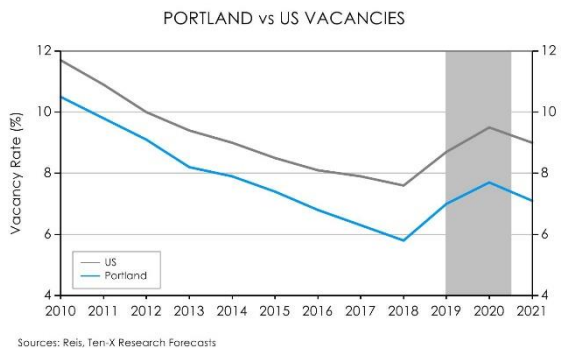
### PORTLAND IS BENEFITTING FROM STRONG JOB AND POPULATION GROWTH

- Portland is experiencing job growth in the high-2% range, as it continues to outpace the US.
- Unemployment has risen off its recent bottom but remains just below the US level.
- Portland's transportation/utilities sector is creating jobs at a cycle-high pace of 6.8% year over year. Sector employment is at an all-time peak.
- Population growth reached a ten-year high of 1.7% in 2016, more than double the US level.



### VACANCIES ARE AT A 20-YEAR LOW AS DEMAND SWELLS AND DRIVES RENT GAINS

- Deliveries reached a 15-year high in 2016, but the heavy pipeline has been outweighed by strong demand in the current cycle. Vacancies have dropped roughly 400 bps from the peak.
- Rent growth has swelled to the 3% range and is forecast to average 3.5% per annum through 2018.
- Negative absorption in our 2019-20 recession scenario will cause availability to increase. Levels should decline by 2021 as deliveries lessen and demand returns.
- Healthy rent growth and below-average vacancies will result in NOI growth of 2.7% per annum through 2021.



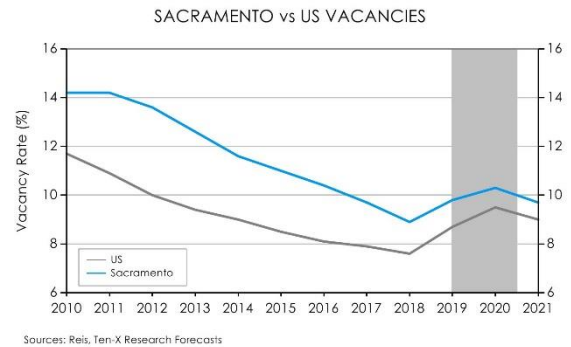
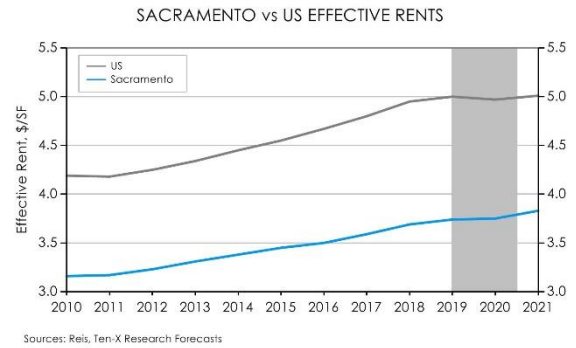
## #5 Sacramento

### THE METRO IS ENJOYING PEAK POPULATION AND EMPLOYMENT LEVELS

- Sacramento's population is approaching 2.3 million. Population growth has outpaced the US for more than 20 years and was a cycle-high 1.3% last year.
- Metro employment growth has slowed, but is on par with the US, and employment has already surpassed its pre-recession peak by 5%.
- The transportation/utilities sector is seeing robust gains of 4.2% year over year, while education/health care has grown nearly 6% from a year ago.

### INDUSTRIAL RENTS ARE APPROACHING A RECORD LEVEL

- Sacramento industrial vacancies have already fallen roughly 400 bps from their recessionary peak, as demand has stayed well ahead of new supply. We expect very strong demand to continue through 2018, pushing vacancies below 10%.
- Rent growth will pick up to 2.7% per annum through 2018.
- NOI will flatten and reverse as rent growth slows in our 2019-20 recessionary model, but both will revive as recovery begins. NOI will growth will average 2.5% per annum though 2021.



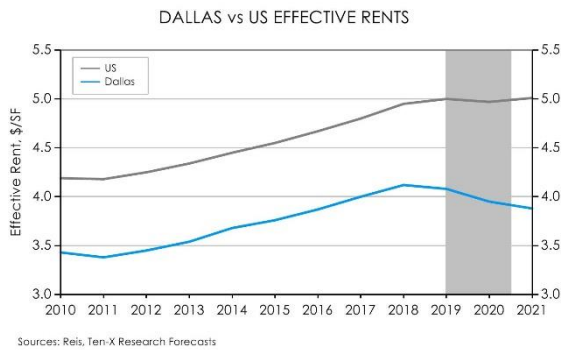
# × TOP SELL MARKETS

Owners of industrial properties in these markets might consider selling.

## #1 Dallas

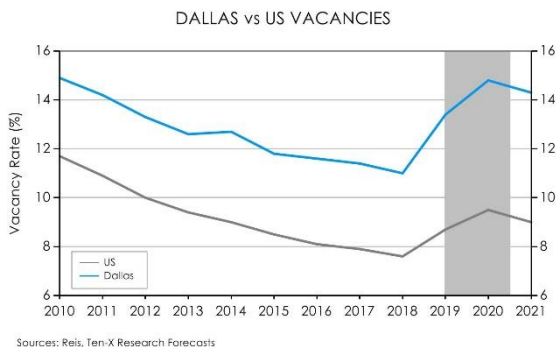
### DALLAS BENEFITS FROM ROBUST DEMOGRAPHICS AND A DIVERSE ECONOMY

- Employment growth remains very healthy at 2.9% per annum though it has slowed from the 4% range seen earlier in the cycle.
- Most of Dallas' key sectors continue to show solid job gains, though the burgeoning information sector has begun to decline.
- Population growth has far outpaced the US for the last 25 years and was triple the US pace in 2016.
- Metro unemployment remains near the cycle low at 3.7%, below the US level.



### AN OVERWHELMING SUPPLY PIPELINE WILL WREAK HAVOC ON THE INDUSTRIAL MARKET

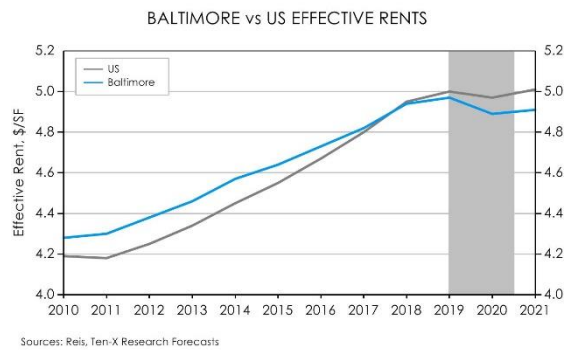
- Unprecedented demand in Dallas has tackled record levels of industrial supply in the last three years, moving vacancies to their lowest since 2001.
- However, absorption is set to crash in our 2019-20 recession scenario, sending vacancies back to recessionary levels as 60 msf is returned to market.
- Rents have been climbing steadily but face a decline in our 2019-20 cyclical model, and will continue descending through 2021. NOI will likewise be constrained, growing through 2018, but contracting from 2019-21.



## #2 Baltimore

### BALTIMORE'S ECONOMY IS LOSING STEAM AS IT CONTINUES ITS PLODDING RECOVERY

- Baltimore jobs are at record levels, but the pace of growth has dropped below the US rate.
- The transportation/utilities sector and wholesale trade sector, both key industrial drivers, are shedding jobs.
- Unemployment is just above the US level at 4.4%.
- Metro population growth continues to flatten and was just 0.2% in 2016, the lowest in at least 25 years.



### THE INDUSTRIAL MARKET FACES NEGATIVE DEMAND, PUTTING THE BRAKES ON RENT GROWTH

- Vacancies have declined to their lowest on record, currently in the low-10% range and forecast to decline to 9.8% by 2018.
- Availability will rise again in our 2019-20 recession scenario as demand turns negative, rising above 12% by 2021. Rent growth is intensifying, but will pull back through 2021 as fundamentals weaken.
- As a result of widening vacancies and slow rent gains, NOI will flatten, with a net gain of just 0.9% per annum through 2021.

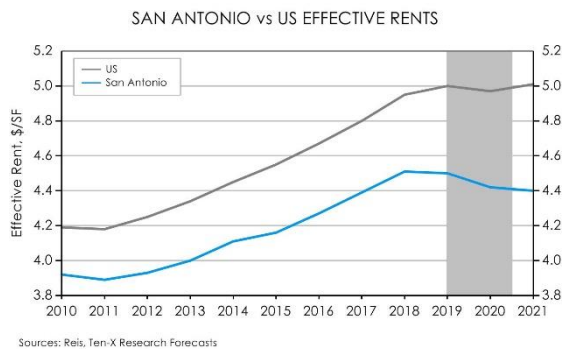




## #3 San Antonio

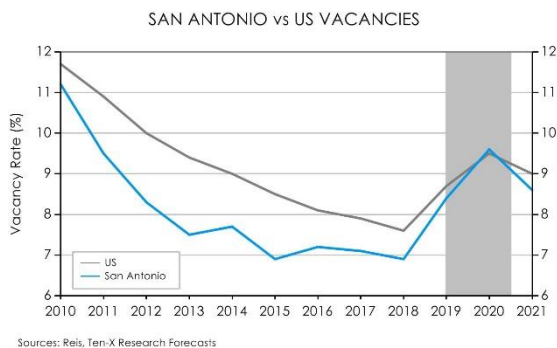
### THE METRO ECONOMY IS STILL HEALTHY, BUT SHOWING SIGNS OF COOLING

- San Antonio annual employment growth continues to outpace the US, though it has tempered to the mid-2% range in recent months.
- Jobs in the wholesale trade sector are declining year over year, though other crucial sectors are still showing robust growth.
- Unemployment is healthy at 3.7%, below the US level and near the cycle low.
- Population growth remains strong as annual population has posted gains of 2% or higher for more than a decade.



### DEMAND WILL SOUR, DRIVING VACANCIES ABOVE THE US LEVEL

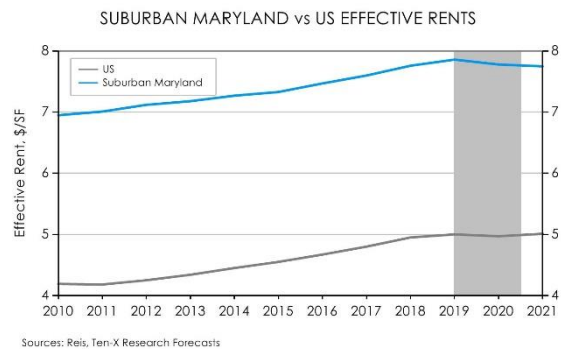
- Vacancies measure just above 7%, after reaching a cycle bottom of 6.9% in 2015. We project vacancies to dwell in this range through 2018.
- Availability will rise to the mid-9% range as absorption turns negative amid a steady supply pipeline in our 2019-20 recession model.
- Rents have surpassed their prior peak and will grow at 2.7% per annum through 2018, before contracting through 2021 as availability widens.
- Vacancies will begin to descend again as demand recovers in 2021. NOI growth will average just 1% per annum through 2021 on this weak outlook.



## #4 Suburban Maryland

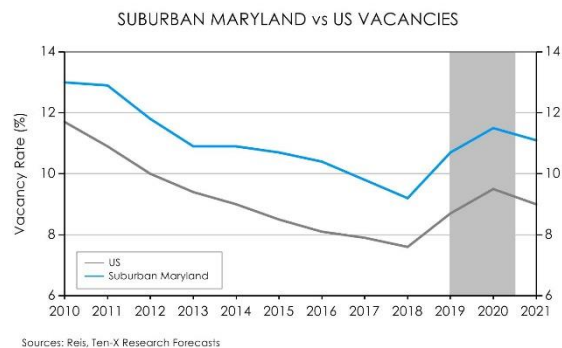
### SUBURBAN MARYLAND'S INDUSTRIAL-ORIENTED SECTORS ARE SHEDDING JOBS

- Suburban Maryland's economic growth has ramped up over the last few months and jobs have extended their peak, but some sectors are faltering.
- Employment in the metro's wholesale trade sector has declined nearly 25% since 2007, and transportation/utilities jobs have also contracted.
- Unemployment is a low 3.4%, though it has risen from its recent bottom.
- Poor demographics continue to be a problem; metro population has grown by less than 1% in each of the last three years, trailing the US average rate.



### HIGH AVAILABILITY AND CONTRACTING RENTS WILL CONSTRAIN NOI GAINS

- Both deliveries and demand were at a cycle high in 2016. Persistent demand should help vacancies descend another 100 bps to 9.2% by 2018.
- Rent growth should remain solid through 2019, but rents will contract in our 2019-20 recession scenario as negative demand drives vacancies up some 200 bps. As demand returns in 2021, vacancies will settle just above 11%, not enough to drive additional rent growth.
- We expect NOI to expand through 2018, but it will contract and eventually flatten through 2021 as vacancy remains high.



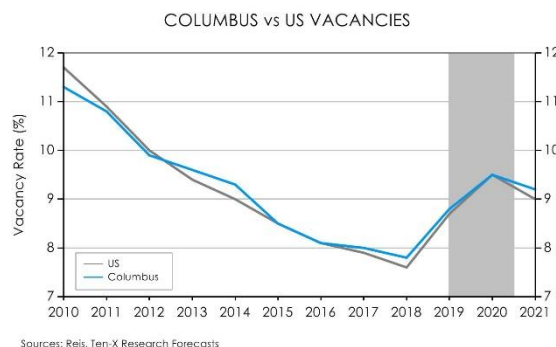
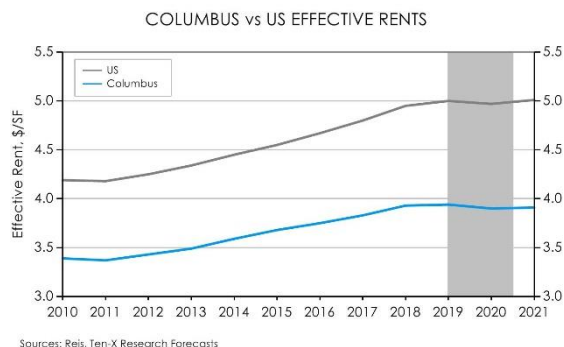
## #5 Columbus

### METRO EMPLOYMENT GROWTH IS BEING DRIVEN BY KEY SECTOR IMPROVEMENTS...

- Columbus employment is growing in the 2% range, ahead of the US pace. Unemployment sits just above the US level at 4.4%.
- The metro has seen an improvement in wholesale trade employment, but transportation/utilities and retail jobs have flattened.
- The economy is getting a boost from strong growth in manufacturing and construction jobs.
- Population grew by 1.1% last year, a contrast to the shrinking demographics across much of the Midwest.

### ...BUT INDUSTRIAL DEMAND WILL EVENTUALLY WEAKEN, HURTING NOI PROSPECTS

- Industrial vacancies have fallen to around 8% as a spate of new supply from 2014-2016 was kept in check by strengthening demand.
- Rents have risen for five straight years. Growth of 1.3% per annum is forecast through 2018 as vacancies descend another 20 bps.
- Our 2019-20 recession scenario sees demand reversing, driving vacancies back to the mid-9% range and putting the brakes on rent growth.
- Annual NOI growth is projected at 1.1% per annum through 2021, constrained by stalled rents and elevated vacancies.





# × MAKE YOUR MARKET

## × TEN-X RESEARCH

Ten-X Research, led by Chief Economist and industry veteran, Peter Muoio, Ph.D. is based in New York. The group focuses primarily on custom analysis and business development support services, as well as industry-leading data science and predictive modeling initiatives.

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