

# Unknowns Create Hesitancy in the Marketplace

## PwC Real Estate Investor Survey™

First Quarter 2017



**30<sup>th</sup> Anniversary**



Dear Reader:

*Cheers to 30 years!*

What an honor to write this letter celebrating the 30th anniversary year of the *PwC Real Estate Investor Survey*<sup>™</sup>, formerly known in the industry as the Korpacz Real Estate Investor Survey. It is such an incredible milestone on so many fronts. Just the simple longevity of this quarterly publication is awe-inspiring. Since its debut as an eight-page publication in the first quarter of 1988, it has grown to over 105 pages and has been released consistently for the past 117 quarters.

I have proudly been part of the Survey for over 20 years, starting out contributing to the lodging market pages in 1997, becoming the associate editor in 1999, and then moving to editor-in-chief in 2007. The publication team is a close-knit group of hard-working, dedicated individuals who are committed to making each Survey issue the best it can be!

Of course, the Survey's content would not be possible if it wasn't for our long list of investor participants. Our promise of confidentiality prevents me from naming them, but they know who they are – so thank you for your commitment and participation. Some of you have been participants for over 20 years, which is incredible.

Lastly, we wouldn't be celebrating our 30th year if it wasn't for the patronage of our loyal readers. I thank you for subscribing to our quarterly publication and please help us celebrate by joining the conversation @AmyOlsonAtl using #PwCRESurvey30.

Here's to another 30 years!

Sincerely,

A handwritten signature in cursive script that reads "Susan M. Smith".

Susan M. Smith  
Editor-in-Chief



Dear Reader:

*Cheers to 30 years!*

For more than one-third of its 30-year life, or 11 years and 44 issues, I have proudly been part of the production team for the *PwC Real Estate Investor Survey*<sup>™</sup>. While my journey with PwC began long before I became part of the Survey team, researching and writing about commercial real estate (CRE) was my passion, so accepting an opportunity to contribute to such a long-standing, respected CRE publication was an easy decision for me.

I thrive on the analyses, research, and writing that goes into each issue, and I greatly enjoy the relationships that I have built with both Survey participants and subscribers, as well as the other members of the Survey team. Whether my time is spent interviewing participants to get a ground-level perspective, addressing technical questions from subscribers, or cohosting a webcast, I truly appreciate the camaraderie we have developed over the years.

The Survey team works hard to make sure that each issue is relevant and thought-provoking, addressing investors' concerns and highlighting their positive views. At the same time, we listen to the feedback of our loyal subscribers. So please continue to let us know how we can stay relevant; what topics we should cover; and what information you would like to see added.

30 years – it's such a cause for celebration, so we want to hear from you! Please help us celebrate this milestone by joining the conversation @AmyOlsonAtl using #PwCRESurvey30.

Here's to another 30 years!

Sincerely,

A handwritten signature in black ink that reads 'Amy Olson'. The signature is written in a cursive, flowing style.

Amy Olson  
Senior Editor

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# PwC Real Estate Investor Survey

## National Highlights

### UNKNOWNNS CREATE HESITANCY IN THE MARKETPLACE

The start of a new year can often spur a slowdown in commercial real estate (CRE) sales activity as many investors use the time to assess the prior year's performances and formulate new investment strategies based on year-end figures and current and projected trends for the industry, as well as the economy and capital markets. But the hesitancy detected on the part of investors at the start of this year seems different – a bit more deliberate in the adoption of a “wait-and-see attitude” due to a host of unknowns stemming from the presidential election and the new administration's yet-revealed policy changes relating to trade, health care reform, and taxes. In addition, the recent increase in interest rates has amplified investors' reasons to pause and temporarily move to the sidelines. “We are holding off on buying until we determine how interest rate increases will impact overall cap rates and pricing,” reveals an investor.

While the Federal Reserve (Fed) increased its key interest rate a quarter percentage point (0.25) in December 2016, it hinted that it could raise rates at a faster pace in 2017 with most Fed officials projecting three or more rate hikes in 2017. When considering that the increase in December was just the second time in a decade that the Fed had raised rates, it's no surprise that news of a series of increases over the next nine months concerns some investors. After all, a low-interest-rate environment has been a boon for the CRE industry since the end of the Great Recession, benefitting both buyers and sellers.

Although the recent interest rate increase reflects the Fed's confidence in the strengthening of the U.S. economy, some CRE investors are already noticing it hindering deal flow. “It's getting harder to obtain debt at loan-to-value levels we achieved over recent years,” remarks an investor. “The rising cost of debt is now an obstacle for us when trying to acquire office assets,” shares another. In addition, the rise in interest rates, combined with the unknowns relating to monetary and government policy, has led to a widening “bid-ask” gap between buyers and sellers. “This market has begun to experience a bid-ask spread on larger deals,” comments an investor in Boston. “Accurate pricing is a concern for buyers in Atlanta,” laments a participant. “In Chicago, sellers' pricing expectations are too high for Class-A properties,” adds another.

As the bid-ask spread widens, fewer sales are typically completed. In addition, fewer properties are offered for sale because sellers sense they are less likely to achieve their asking prices. In fact, our surveyed investors have noticed for-sale properties becoming scarce in several office markets across the country. “In Charlotte, the biggest obstacle we have as buyers is a limited number of offerings,” affirms a participant. “A lack of product on the for-sale market is an issue for buyers in Manhattan,” says another. In the national apartment sector, “few quality offerings” is also a concern for eager buyers while “out-of-control pricing” is a deterrent for some warehouse buyers.

A drop in the for-sale inventory and a widening bid-ask pricing gap are common at times when CRE investors feel uncertain about how external forces, like a new U.S. President's policy changes and the recent increase in interest rates, will impact underlying fundamentals, property values, and returns. Unfortunately, these trends have become exasperated as investors simultaneously recognize that the industry's elongated expansion is coming to a close. It certainly makes one wonder if the hesitancy now being displayed will be short lived or here for a longer haul. ♦

# Overall Cap Rate Analysis

In the first quarter of 2017, the average overall capitalization (cap) rate decreases in 12 Survey markets, increases in 15, and holds steady in eight compared to the fourth quarter of 2016. As a whole, a greater number of Survey markets are now reporting higher average overall cap rates than

they were just three months ago.

## LOOKING FORWARD

Although surveyed investors hold a positive outlook for the commercial real estate industry for the near term, they are mindful of the potential for more interest rate increases and mar-

ket corrections. Similar to last quarter, most surveyed investors expect over-all cap rates to hold steady over the next six months (80.0%). One exception is for the Houston office market, where 86.0% of surveyed investors anticipate overall cap rates rising over the next six months.

Exhibit 1

### OVERALL CAPITALIZATION RATES

First Quarter 2017

National Markets	Average	Quarterly Change*
Apartment	5.33%	7
Warehouse	5.37%	10
CBD Office	5.55%	- 2
Regional Mall	6.13%	3
Strip Shopping Center	6.32%	14
Power Center	6.39%	2
Suburban Office	6.61%	- 2
Net Lease	6.75%	0
MOB**	6.76%	0
Flex/R&D	7.05%	0
Secondary Office	7.35%	- 1
<b>Regional Warehouse</b>		
Pacific Region	5.00%	- 10
ENC*** Region	5.45%	0
<b>Apartment Markets</b>		
Pacific Region	4.49%	- 5
Mid-Atlantic Region	5.01%	- 19
Southeast Region	5.10%	0
<b>Office Markets</b>		
Manhattan	4.98%	- 2
Washington, DC	5.29%	0
San Francisco	5.46%	7
Seattle	5.83%	4
Los Angeles	5.84%	10
Pacific Northwest	6.03%	3
Boston	6.27%	1
Dallas	6.50%	- 34
Denver	6.51%	- 1
San Diego	6.53%	- 20
Northern Virginia	6.68%	- 2
Phoenix	6.79%	5
Charlotte	6.90%	- 1
Atlanta	7.18%	2
Southeast Florida	7.26%	22
Chicago	7.26%	0
Houston	7.31%	4
Suburban Maryland	7.48%	20
Philadelphia	7.53%	0

\* Basis points; \*\* Medical office buildings; \*\*\* East North Central

Source: PwC Real Estate Investor Survey

Exhibit 2

### OVERALL CAPITALIZATION RATE FORECASTS

First Quarter 2017

MARKET	OVERALL CAP RATE	SIX-MONTH EXPECTATIONS		
	1Q 2017	INCREASE	DECREASE	HOLD STEADY
<b>National</b>				
Regional Mall	6.13%	20%	0%	80%
Power Center	6.39%	0%	17%	83%
Strip Shopping Center	6.32%	33%	0%	67%
CBD Office	5.55%	14%	14%	71%
Suburban Office	6.61%	13%	0%	88%
Net Lease	6.75%	60%	0%	40%
Medical Office Buildings	6.76%	33%	0%	67%
Secondary Office	7.35%	60%	10%	30%
<b>Industrial</b>				
National Flex/R&D	7.05%	0%	20%	80%
National Warehouse	5.37%	0%	0%	100%
ENC Region Warehouse	5.45%	0%	0%	100%
Pacific Region Warehouse	5.00%	0%	0%	100%
<b>Apartment</b>				
National	5.33%	50%	0%	50%
Mid-Atlantic Region	5.01%	20%	0%	80%
Pacific Region	4.49%	20%	0%	80%
Southeast Region	5.10%	0%	0%	100%
<b>Office</b>				
Atlanta	7.18%	33%	0%	67%
Boston	6.27%	17%	17%	67%
Charlotte	6.90%	20%	0%	80%
Chicago	7.26%	0%	0%	100%
Dallas	6.50%	17%	17%	67%
Denver	6.51%	33%	0%	67%
Houston	7.31%	86%	0%	14%
Los Angeles	5.84%	17%	17%	67%
Manhattan	4.98%	0%	0%	100%
Northern Virginia	6.68%	0%	0%	100%
Pacific Northwest	6.03%	9%	9%	82%
Philadelphia	7.53%	60%	0%	40%
Phoenix	6.79%	20%	20%	60%
San Diego	6.53%	40%	0%	60%
San Francisco	5.46%	20%	0%	80%
Seattle	5.83%	0%	17%	83%
Southeast Florida	7.26%	20%	0%	80%
Suburban Maryland	7.48%	0%	0%	100%
Washington, DC	5.29%	0%	0%	100%

Source: PwC Real Estate Investor Survey

## BREAKOUT OF KEY INDICATORS

Overall cap rates, discount rates, and residual cap rates for the CBD and suburban submarkets of each individual office market are presented in Exhibit 3.

As shown, average overall cap rates remain lower for most CBD submarkets than for their suburban counterparts since higher barriers to entry and a lack of land for new development tend to keep supply and demand a bit more balanced in a market's CBD. As a result, CBD assets typ-

ically maintain higher rental rates and occupancy levels.

In addition, downtown cores tend to provide better forms of mass transportation and embody 18- or 24-hour, live-work lifestyles that appeal to many individuals and firms. As a result, CBD assets are generally perceived as providing less investment risk to the owner – less risk, lower overall cap rate.

This quarter, a 106-basis-point spread exists between the composite average of the overall cap rates for the

CBDs included in our table and the composite average for the suburbs.

For the Survey's individual office markets that have both a CBD and suburban component, the Chicago office market reports the largest gap between its CBD and suburban average overall cap rates this quarter – a difference of 255 basis points. The next highest is Boston with a gap of 171 basis points followed closely by Southeast Florida and Philadelphia with spreads of 128 and 125 basis points, respectively. ♦

Exhibit 3 BREAKOUT OF KEY INDICATORS First Quarter 2017						
CBD OF:	DISCOUNT RATE		OVERALL CAPITALIZATION RATE		RESIDUAL CAPITALIZATION RATE	
	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE
Atlanta	6.00% – 9.25%	8.03%	5.25% – 8.50%	6.75%	6.00% – 8.50%	7.03%
Boston	5.75% – 8.00%	6.75%	4.00% – 8.50%	5.42%	5.00% – 8.50%	6.10%
Charlotte	6.50% – 9.00%	8.00%	5.00% – 7.25%	6.50%	5.50% – 7.75%	6.78%
Chicago	5.75% – 10.00%	7.59%	4.50% – 8.00%	5.98%	5.50% – 9.00%	6.54%
Dallas	6.00% – 11.00%	7.73%	5.00% – 8.50%	6.25%	6.00% – 8.00%	6.98%
Denver	7.00% – 10.00%	7.80%	5.00% – 7.00%	5.90%	5.75% – 8.50%	6.88%
Houston	6.50% – 10.00%	8.27%	5.75% – 8.00%	6.80%	6.50% – 9.50%	7.23%
Los Angeles	5.50% – 8.50%	6.96%	4.25% – 7.00%	5.58%	5.00% – 8.00%	6.33%
Manhattan	5.75% – 9.00%	6.88%	3.50% – 8.50%	4.98%	3.50% – 8.50%	5.67%
Pacific Northwest	5.25% – 9.00%	6.94%	4.25% – 8.00%	5.61%	5.00% – 9.00%	6.22%
Philadelphia	7.00% – 10.00%	7.98%	6.00% – 8.00%	6.90%	6.00% – 8.50%	7.33%
Phoenix	7.00% – 10.00%	8.38%	5.00% – 8.00%	6.63%	5.50% – 8.00%	6.97%
San Diego	6.50% – 10.50%	8.00%	5.50% – 8.50%	6.50%	5.50% – 8.75%	6.81%
San Francisco	5.00% – 8.00%	6.45%	3.50% – 7.00%	4.98%	5.00% – 8.00%	5.78%
Seattle	5.25% – 9.00%	6.88%	4.25% – 8.00%	5.48%	5.00% – 9.00%	6.13%
Southeast Florida	6.00% – 10.00%	7.88%	5.00% – 9.50%	6.63%	5.00% – 10.50%	6.88%
Washington, DC	5.00% – 8.00%	6.50%	4.25% – 6.50%	5.29%	5.00% – 6.50%	5.73%
Secondary Office	6.00% – 11.00%	8.51%	4.50% – 9.50%	7.05%	6.00% – 9.00%	7.36%
SUBURBS OF:	DISCOUNT RATE		OVERALL CAPITALIZATION RATE		RESIDUAL CAPITALIZATION RATE	
	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE
Atlanta	7.00% – 10.25%	8.63%	6.00% – 9.00%	7.60%	6.50% – 9.00%	7.75%
Boston	6.75% – 10.00%	8.08%	5.25% – 10.00%	7.13%	6.50% – 10.50%	7.50%
Charlotte	7.00% – 10.00%	8.73%	6.00% – 8.75%	7.30%	6.50% – 8.50%	7.63%
Chicago	8.00% – 12.00%	9.77%	7.00% – 10.00%	8.54%	7.50% – 11.00%	8.93%
Dallas	6.75% – 9.00%	8.15%	5.50% – 8.50%	6.75%	5.50% – 9.00%	7.38%
Denver	7.00% – 11.00%	8.38%	6.00% – 9.00%	7.13%	6.50% – 9.50%	7.83%
Houston	7.50% – 13.00%	9.38%	6.50% – 10.00%	7.81%	6.75% – 10.00%	7.90%
Los Angeles	5.00% – 9.00%	7.13%	4.25% – 8.00%	6.10%	5.00% – 8.00%	6.71%
Northern Virginia	6.00% – 9.50%	7.60%	5.00% – 8.50%	6.68%	5.75% – 9.00%	6.95%
Pacific Northwest	5.50% – 10.50%	7.82%	5.00% – 7.75%	6.44%	5.00% – 8.00%	6.69%
Philadelphia	8.00% – 11.00%	9.30%	7.00% – 9.50%	8.15%	7.50% – 10.00%	8.73%
Phoenix	7.00% – 10.00%	8.58%	6.00% – 8.00%	6.95%	6.50% – 8.25%	7.30%
San Diego	6.25% – 10.50%	7.72%	5.00% – 8.50%	6.55%	5.75% – 8.75%	6.90%
San Francisco	6.00% – 9.50%	7.28%	5.00% – 8.00%	5.94%	5.00% – 9.00%	6.73%
Seattle	5.50% – 10.00%	7.60%	5.00% – 7.00%	6.19%	5.00% – 7.50%	6.41%
Southeast Florida	7.00% – 10.50%	8.75%	6.50% – 10.00%	7.90%	6.50% – 10.50%	8.10%
Suburban Maryland	7.00% – 10.00%	8.65%	5.50% – 9.00%	7.48%	6.50% – 9.50%	7.73%
Secondary Office	6.25% – 13.00%	9.30%	4.50% – 9.50%	7.65%	6.50% – 10.00%	8.08%

Source: PwC Real Estate Investor Survey

# Valuation Issues

## REPLACEMENT RESERVES

Incorporating an appropriate reserve for the replacement of building components during a holding period plays an important role in accurately forecasting the real cash return potential of an acquisition. The ranges and averages of current and year-ago assumptions for replacement reserves are shown in Exhibit 4. These figures do not include estimates for larger capital costs for items that are replaced only a few times during the life of a property and that are usually accounted for separately as capital improvements.

The Investor Survey Responses in the back of this issue show a sampling of specific replacement reserve assumptions for each market.

## MARKET RENT CHANGE RATES

Following the trend started in the first quarter of 2016, another slight year-over-year decline is recognized this quarter for the aggregate average ini-

Table VI-1

### INITIAL-YEAR MARKET RENT CHANGE RATES

City-Specific Office Markets Only

Quarter	Average	Change (Basis Points)
1Q17	2.58%	- 19
1Q16	2.77%	- 13
1Q15	2.90%	+ 10
1Q14	2.80%	+ 58
1Q13	2.22%	+ 51
1Q12	1.71%	+ 130
1Q11	0.41%	+ 163
1Q10	(1.22%)	- 314
1Q09	1.92%	- 200
1Q08	3.92%	+ 45
1Q07	3.47%	+ 104
1Q06	2.43%	-

Source: PwC Real Estate Investor Survey

tial-year market rent change rate for the city-specific office markets surveyed during each time period (see Table VI-1). At 2.58%, the current average is 19 basis points below last year's average and still well below the averages posted during the peak of the prior cycle. Since a cautious outlook

exists among many office sector investors, it is unlikely that this key indicator will move up in the near term.

Over the past three years, the Houston office market has posted the largest decline in this key assumption, decreasing 478 basis points. Investors believe that the instability of oil prices

Exhibit 4  
REPLACEMENT RESERVES PER SQUARE FOOT  
First Quarter 2017

MARKET	CURRENT QUARTER		YEAR AGO	
	RANGE	AVERAGE	RANGE	AVERAGE
<b>National</b>				
Regional Mall	\$0.15 - \$0.50	\$0.33	\$0.10 - \$0.50	\$0.28
Power Center	\$0.10 - \$0.35	\$0.22	\$0.10 - \$0.35	\$0.22
Strip Shopping Center	\$0.10 - \$0.75	\$0.27	\$0.10 - \$0.50	\$0.26
Net Lease	\$0.05 - \$0.25	\$0.15	\$0.05 - \$0.25	\$0.15
Medical Office Buildings	\$0.10 - \$0.60	\$0.29	\$0.10 - \$0.60	\$0.31
Secondary Office	\$0.10 - \$0.30	\$0.19	\$0.10 - \$0.30	\$0.19
<b>Industrial</b>				
National Flex/R&D	\$0.10 - \$0.50	\$0.27	\$0.10 - \$0.50	\$0.27
National Warehouse	\$0.05 - \$0.35	\$0.15	\$0.05 - \$0.35	\$0.14
ENC Region Warehouse	\$0.40 - \$1.05	\$0.21	\$0.40 - \$1.05	\$0.21
Pacific Region Warehouse	\$0.05 - \$0.35	\$0.15	\$0.05 - \$0.35	\$0.15
<b>Apartment (per unit)</b>				
National	\$100 - \$2,000	\$423	\$100 - \$2,000	\$425
Mid-Atlantic Region	\$100 - \$400	\$265	\$100 - \$1,500	\$468
Pacific Region	\$200 - \$375	\$272	\$200 - \$350	\$269
Southeast Region	\$200 - \$350	\$292	\$200 - \$1,500	\$490
<b>Office</b>				
National CBD	\$0.10 - \$0.75	\$0.32	\$0.10 - \$0.50	\$0.26
National Suburban	\$0.10 - \$0.55	\$0.30	\$0.10 - \$0.50	\$0.30
Atlanta	\$0.10 - \$0.35	\$0.23	\$0.10 - \$0.40	\$0.24
Boston	\$0.15 - \$0.50	\$0.27	\$0.15 - \$0.75	\$0.31
Charlotte	\$0.10 - \$0.50	\$0.26	\$0.10 - \$0.50	\$0.29
Chicago	\$0.15 - \$0.75	\$0.34	\$0.15 - \$1.00	\$0.34
Dallas	\$0.10 - \$0.50	\$0.29	\$0.10 - \$0.50	\$0.28
Denver	\$0.10 - \$0.30	\$0.20	\$0.10 - \$0.30	\$0.20
Houston	\$0.15 - \$0.50	\$0.25	\$0.15 - \$0.50	\$0.25
Los Angeles	\$0.10 - \$0.25	\$0.19	\$0.10 - \$0.25	\$0.19
Manhattan	\$0.10 - \$0.50	\$0.31	\$0.10 - \$0.50	\$0.26
Northern Virginia	\$0.15 - \$0.70	\$0.30	\$0.15 - \$0.75	\$0.33
Pacific Northwest	\$0.10 - \$2.00	\$0.34	\$0.05 - \$2.00	\$0.34
Philadelphia	\$0.15 - \$0.50	\$0.28	\$0.15 - \$0.50	\$0.28
Phoenix	\$0.10 - \$0.25	\$0.20	\$0.10 - \$0.35	\$0.22
San Diego	\$0.10 - \$0.35	\$0.22	\$0.00 - \$0.35	\$0.20
San Francisco	\$0.10 - \$0.30	\$0.22	\$0.10 - \$0.30	\$0.22
Seattle	\$0.15 - \$2.00	\$0.45	\$0.05 - \$2.00	\$0.43
Southeast Florida	\$0.10 - \$1.00	\$0.38	\$0.10 - \$1.00	\$0.34
Suburban Maryland	\$0.25 - \$0.75	\$0.38	\$0.25 - \$0.75	\$0.38
Washington, DC	\$0.15 - \$0.50	\$0.25	\$0.15 - \$0.75	\$0.28

Source: PwC Real Estate Investor Survey



**Exhibit 5**

**MANAGEMENT FEES AND LEASING COMMISSIONS**

First Quarter 2017

MARKET	MANAGEMENT FEES (AS A % OF EFFECTIVE GROSS REVENUE)			LEASING COMMISSIONS NEW LEASE			RENEWEL LEASES		
	LOW	HIGH	AVERAGE	LOW	HIGH	AVERAGE	LOW	HIGH	AVERAGE
<b>National</b>									
Regional Mall	1.00%	5.00%	2.97%	(a)	(a)	(a)	(a)	(a)	(a)
Power Center	0.03%	6.00%	2.76%	3.00%	6.00%	5.20%	2.50%	3.00%	2.94%
Strip Shopping Center	1.50%	6.00%	3.31%	2.00%	8.00%	5.36%	0.00%	5.00%	2.75%
CBD Office	1.00%	6.00%	2.75%	3.00%	8.50%	5.71%	2.00%	7.00%	3.79%
Suburban Office	1.00%	6.00%	3.13%	3.00%	15.00%	6.17%	1.50%	9.60%	3.73%
Net Lease	1.00%	3.00%	1.75%	3.00%	6.00%	4.17%	2.00%	6.00%	3.33%
Medical Office Buildings	1.30%	5.00%	3.61%	3.00%	7.00%	5.58%	1.50%	6.00%	3.75%
Secondary Office	1.50%	5.00%	3.09%	4.00%	10.00%	5.58%	2.00%	7.00%	3.16%
<b>Industrial</b>									
National Flex/R&D	1.25%	4.00%	2.69%	4.00%	8.50%	6.66%	2.00%	6.00%	4.50%
National Warehouse	0.00%	3.50%	2.55%	3.00%	8.30%	5.79%	1.50%	8.00%	3.84%
ENC Region Warehouse	1.50%	3.00%	2.44%	3.00%	8.00%	5.38%	1.50%	4.00%	2.81%
Pacific Region Warehouse	1.50%	5.00%	2.85%	3.00%	8.00%	5.65%	2.50%	8.00%	3.55%
<b>Apartment</b>									
National	2.00%	6.00%	2.96%	(a)	(a)	(a)	(a)	(a)	(a)
Mid-Atlantic Region	1.75%	3.25%	2.68%	(a)	(a)	(a)	(a)	(a)	(a)
Pacific Region	1.75%	4.00%	2.65%	(a)	(a)	(a)	(a)	(a)	(a)
Southeast Region	2.00%	3.50%	2.91%	(a)	(a)	(a)	(a)	(a)	(a)
<b>Office</b>									
Atlanta	1.25%	4.00%	2.69%	4.00%	8.50%	6.66%	2.00%	6.00%	4.50%
Boston	1.00%	4.00%	2.75%	1.50%	7.50%	5.05%	1.50%	6.00%	3.19%
Charlotte	1.50%	5.00%	2.75%	6.00%	6.00%	6.00%	2.00%	6.00%	4.00%
Chicago	1.25%	3.50%	2.27%	4.00%	8.00%	6.00%	4.00%	8.00%	5.50%
Dallas	1.75%	4.00%	2.81%	3.00%	7.00%	6.10%	2.00%	6.75%	5.48%
Denver	1.50%	4.00%	2.90%	5.00%	8.00%	6.05%	2.50%	7.00%	4.10%
Houston	1.00%	5.00%	2.80%	2.00%	6.00%	5.00%	1.50%	6.00%	3.79%
Los Angeles	1.50%	3.00%	2.63%	4.00%	7.50%	5.80%	1.50%	6.00%	3.25%
Manhattan	1.00%	4.00%	2.29%	3.00%	7.50%	5.25%	1.50%	5.00%	3.20%
Northern Virginia	2.00%	4.00%	2.80%	3.00%	6.00%	5.10%	2.00%	4.75%	3.60%
Pacific Northwest	1.00%	4.00%	2.41%	4.30%	7.50%	6.83%	0.00%	7.50%	4.58%
Philadelphia	1.50%	5.00%	3.45%	4.00%	6.00%	5.15%	2.00%	4.00%	2.80%
Phoenix	2.00%	5.00%	3.40%	5.00%	8.00%	6.60%	3.00%	7.50%	4.50%
San Diego	2.00%	4.00%	2.83%	3.00%	7.00%	5.33%	2.00%	5.00%	3.33%
San Francisco	1.00%	3.00%	2.20%	3.00%	8.00%	5.33%	2.00%	6.00%	3.08%
Seattle	1.00%	3.50%	2.42%	4.30%	7.50%	6.16%	0.00%	7.50%	3.90%
Southeast Florida	2.50%	5.00%	3.25%	4.00%	7.00%	5.90%	2.00%	6.00%	3.75%
Suburban Maryland	1.00%	3.00%	2.50%	3.50%	7.50%	5.25%	1.00%	3.00%	2.67%
Washington, DC	0.50%	3.00%	2.42%	3.00%	6.00%	4.83%	1.50%	4.50%	3.10%

(a) Most investors include leasing commissions in their management fee assumption.

Source: PwC Real Estate Investor Survey

has led to weakened fundamentals in the Houston office market.

**MANAGEMENT FEES**

Management fees used in cash flow projections typically constitute either an in-house related duty expensed to an affiliated company or a third-party cost paid to an outside management firm. Regardless of how they are con-

tracted, management fees are generally included as an “above-the-line” operating expense and are deducted from revenue in order to derive net operating income (NOI).

Management fee assumptions, expressed as a percentage of effective gross revenue (EGR), are detailed in Exhibit 5. The average for the 35 Survey markets is 2.76%.

**LEASING COMMISSIONS**

Although leasing commissions may be placed either above or below the NOI line, most investors consider them a “below-the-line” item. Like management fees, leasing commissions are usually expressed as a percentage of EGR. Current leasing commission assumptions for both new leases and renewals are detailed in Exhibit 5.

## CONCESSIONS

While tenant concessions remain quite common throughout the industry, they vary greatly between individual markets and properties and typically include months of free rent and/or an excessive tenant improvement (TI) allowance – an additional amount above the standard TI in a given mar-

ket. Other inducements, such as the reimbursement of either moving costs or lease buyouts, are offered on a select basis.

As shown in Exhibit 6, roughly 86.0% of our Survey participants indicate the use of free rent during lease negotiations – similar to a year ago. Four years ago it was 88.0%. While

free rent is offered to some degree in each Survey market, its use has grown a lot in the national apartment, national MOB, and San Francisco office markets.

In the Survey office markets, the use of fee rent is unanimous except in Boston and Dallas – both slightly down from last year. ♦

Exhibit 6 CONCESSIONS First Quarter 2017							
MARKET	% OF PARTICIPANTS USING FREE RENT		MONTHS OF FREE RENT (1)			EXCESSIVE TENANT IMPROVEMENT ALLOWANCES (2)	
	CURRENT	YEAR AGO	LOW	HIGH	AVERAGE	HIGH END OF THE RANGE	AVERAGE
<b>National</b>							
Regional Mall	20.0%	40.0%	(3)				
Power Center	50.0%	50.0%	0	12	5		
Strip Shopping Center	55.0%	63.0%	0	6	2	\$30.00	\$11.50
CBD Office	86.0%	100.0%	0	15	6	\$15.00	\$7.00
Suburban Office	88.0%	88.0%	0	18	5	\$25.00	\$8.13
Net Lease	40.0%	40.0%	(3)			\$10.00	\$1.00
Medical Office Buildings	85.0%	67.0%	1	6	3	\$25.00	\$8.83
Secondary Office	100.0%	100.0%	1	10	5	\$20.00	\$4.83
<b>Industrial</b>							
National Flex/R&D	100.0%	100.0%	1	9	4		
National Warehouse	80.0%	90.0%	0	7	3		
ENC Region Warehouse	100.0%	100.0%	0	5	3		
Pacific Region Warehouse	100.0%	100.0%	1	6	2		
<b>Apartment</b>							
National	70.0%	60.0%	0	2	1	not applicable to this property type	
Mid-Atlantic Region	60.0%	40.0%	0	2	1	not applicable to this property type	
Pacific Region	60.0%	60.0%	0	1.5	1	not applicable to this property type	
Southeast Region	60.0%	60.0%	0	1.5	1	not applicable to this property type	
<b>Office</b>							
Atlanta	100.0%	100.0%	1	10	6	\$10.00	\$2.50
Boston	83.0%	100.0%	1	10	6	\$25.00	\$9.50
Charlotte	100.0%	100.0%	1	10	6	\$10.00	\$5.30
Chicago	100.0%	100.0%	6	15	10	\$25.00	\$15.58
Dallas	67.0%	75.0%	0	10	5		
Denver	100.0%	100.0%	0	10	4	\$10.00	\$5.50
Houston	100.0%	100.0%	1	24	9	\$20.00	\$7.50
Los Angeles	100.0%	100.0%	0	10	5	\$20.00	\$7.50
Manhattan	100.0%	100.0%	0	15	8	\$40.00	\$14.38
Northern Virginia	100.0%	100.0%	2	12	7	\$65.00	\$20.00
Pacific Northwest	100.0%	100.0%	0	12	6	\$50.00	\$18.13
Philadelphia	100.0%	100.0%	3	9	5	\$10.00	\$4.88
Phoenix	100.0%	100.0%	2	10	7		
San Diego	100.0%	100.0%	1	10	4		
San Francisco	100.0%	80.0%	0	10	5		
Seattle	100.0%	100.0%	1	12	6		
Southeast Florida	100.0%	100.0%	1	12	6	\$15.00	\$6.75
Suburban Maryland	100.0%	100.0%	5	12	9		
Washington, DC	100.0%	100.0%	0	12	8	\$50.00	
(1) On a ten-year lease; for apartments, lease term is 12 months.							
(2) No entry suggests excessive TIs are not common in this market, based on our Survey.							
(3) Too few participants are using free rent for us to report a range and/or average.							
Source: PwC Real Estate Investor Survey							

# PwC Real Estate Barometer

Real estate cycles vary across markets and geographic areas, as well as within markets and geographic locations based on property type – office, retail, industrial, and multifamily. This observation means that national cycles differ for the same property type across individual markets. It also means that within a specific location, the cycle for each property type can be in a different phase at any given time.

Real estate markets are dynamic over time and influenced by a host of factors. An in-depth analysis of historical and forecast stock data provided by CBRE Economic Advisors and Reis allows us to gauge each sector's likely shifts over the near term. The results of our PwC real estate barometer research are shown in Charts REB-1 through Chart REB-4.

These charts represent the cumulative number of U.S. metro areas analyzed for each property type and the aggregate positions in our barometer analysis. Individual barometer readings for U.S. regions, as well as various metro areas, are shown for each sector in Forecast-1 through Forecast-4.

## OFFICE

By the end of 2017, the U.S. office sector will have nearly the same number of markets in the expansion phase of the real estate cycle as in the contraction phase (see Chart REB-1). Although demand for office space is projected to remain positive, albeit slower this year, rising new supply will adversely impact both vacancy rates and rental rate growth. In 2018, our analysis reveals a significant increase in the number of office market metros moving into contraction.

## RETAIL

More conservative growth projections for the U.S. retail

sector have led to double the number of metros in the recession phase of the real estate cycle in 2017 compared to a year ago. As online sales continue to trend upward, the costs of maintaining brick-and-mortar locations are also rising – a trend expected to carry into 2018. As a result, many retailers are planning store closings and focusing on fewer and smaller physical locations, softening this sector's outlook. In contrast to these trends, there are five cities that have retail sectors projected to remain in expansion through 2017: Atlanta, Austin, Buffalo, Palm Beach County, and San Francisco (see Forecast-2).

## INDUSTRIAL

While growth in e-commerce is challenging the retail sector, it is propelling tenant demand and growth in the industrial sector. As this sector matures, however, a growing number of cities will likely see their industrial segments move into contraction by year-end 2017 (see Forecast-3). As shown in Chart REB-3, most of the U.S. industrial sector is forecast to remain in contraction through 2020 due to copious new deliveries.

## MULTIFAMILY

Our analysis reveals that more than half of the cities included in our analysis will be in the contraction phase of the cycle by year-end 2017 as new supply is absorbed. However, rising single-family home prices and demographic-driven demand for rental housing are estimated to reduce the severity of this contraction. In fact, a number of apartment metros will likely move back into expansion by year-end 2018. The South is forecast to have the most cities following this trend, including Austin, Charlotte, Greenville, Knoxville, and Louisville (see Forecast-4). ♦

### DEFINITIONS

**Contraction:** The phase following the market peak, characterized by softening market conditions and a shift in the supply/demand balance leading to increasing vacancy rates, slowing rent growth, and rising overall cap rates.

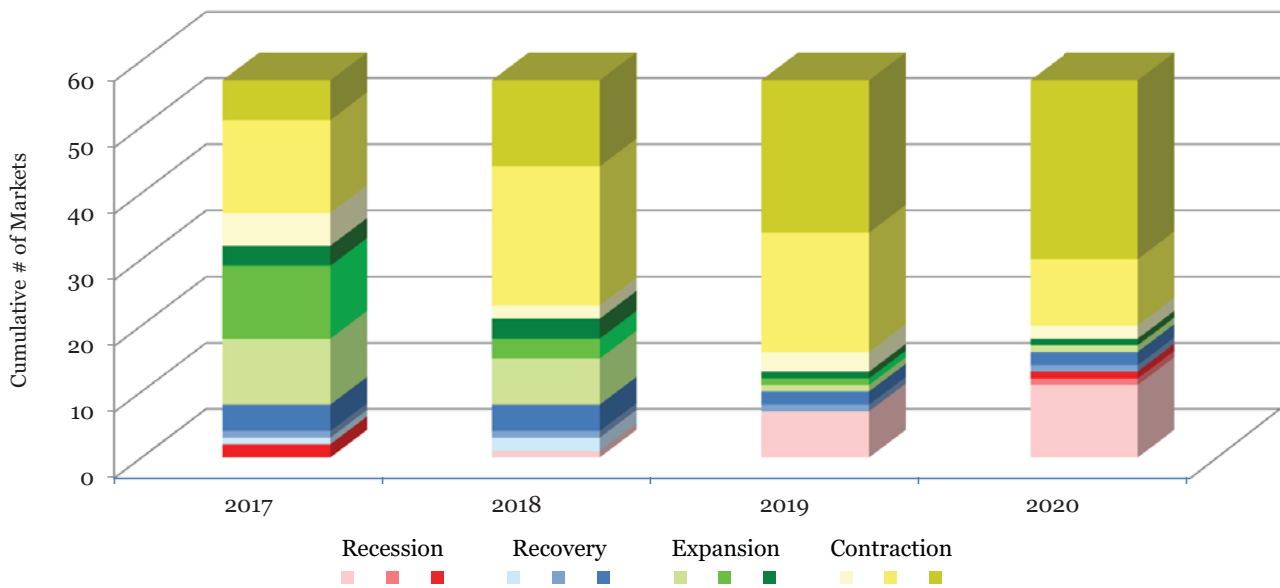
**Expansion:** The phase following recovery, characterized by strong demand and increasingly tight market conditions leading to low vacancy rates, robust rent growth, and decreasing overall cap rates.

**Recession:** The phase following contraction, characterized by very low demand and high levels of supply that were added during the previous two phases. Typically involves high vacancies, negative rent growth, and high overall cap rates.

**Recovery:** The phase following the market bottom, characterized by tightening market conditions and a shift in supply/demand balance leading to reduced vacancy rates, more balanced rent growth, and a stabilization of overall cap rates.

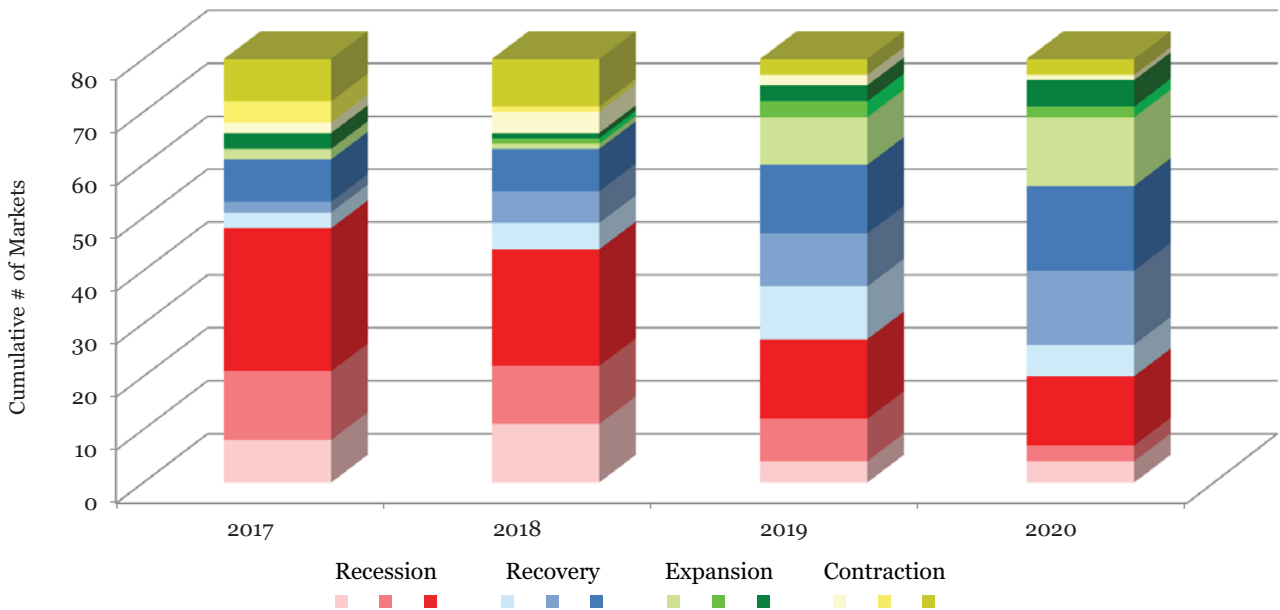
**Stock:** The total inventory of space, in square feet or units, in a given market.

**Chart REB-1**  
**PwC REAL ESTATE BAROMETER**  
 U.S. Office Markets – 2017 to 2020



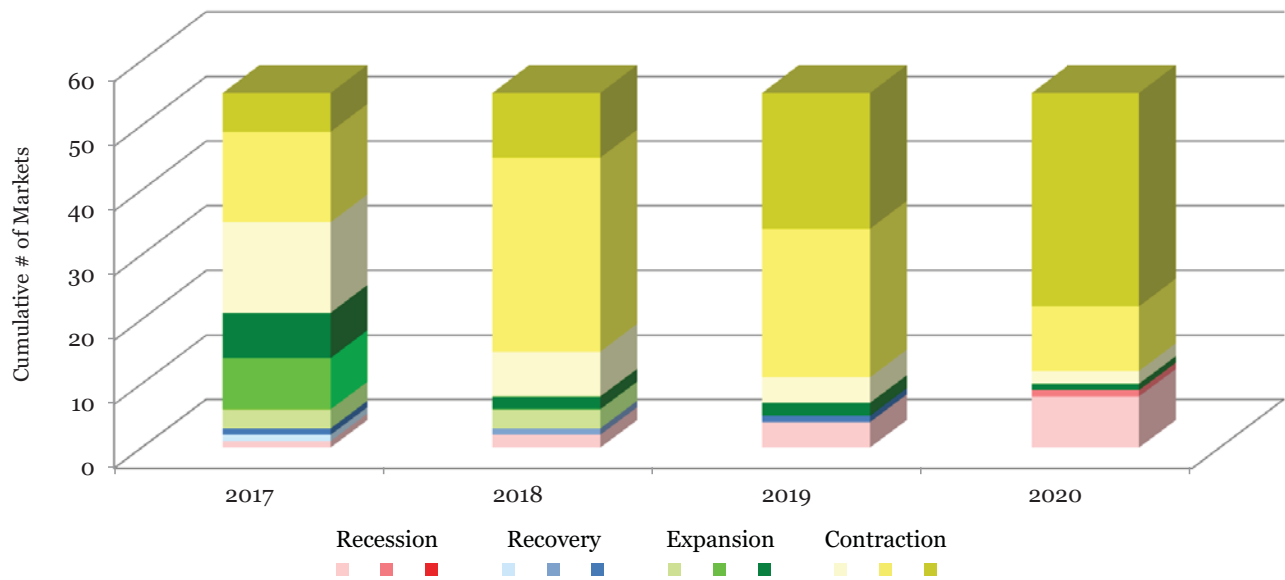
Source: Data provided by CBRE; compiled and analyzed by PwC

**Chart REB-2**  
**PwC REAL ESTATE BAROMETER**  
 U.S. Retail Markets – 2017 to 2020



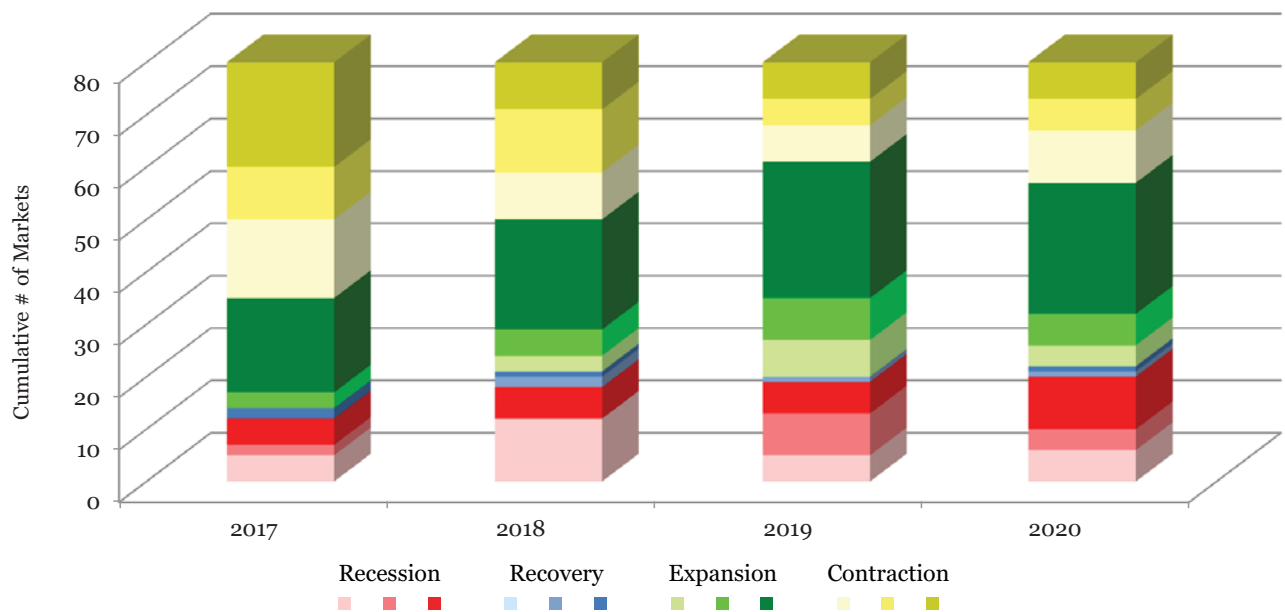
Source: Data provided by Reis; compiled and analyzed by PwC

**Chart REB-3**  
**PwC REAL ESTATE BAROMETER**  
 U.S. Industrial Markets – 2017 to 2020



Source: Data provided by CBRE; compiled and analyzed by PwC

**Chart REB-4**  
**PwC REAL ESTATE BAROMETER**  
 U.S. Multifamily Markets – 2017 to 2020



Source: Data provided by Reis; compiled and analyzed by PwC

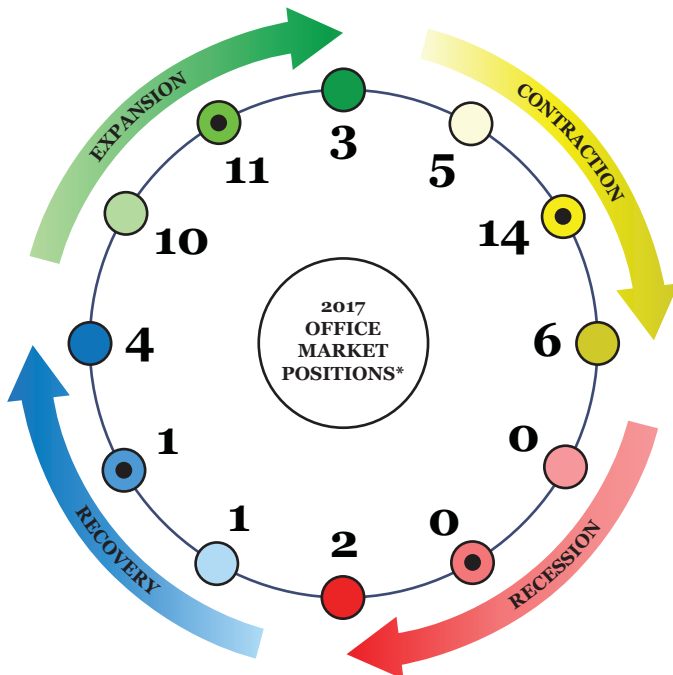
	2017	2018	2019	2020
United States	●	●	●	●

NORTHEAST REGION				
MSA Name	2017	2018	2019	2020
Boston	●	●	●	●
Hartford	●	●	●	●
Long Island	○	○	●	●
New York	●	●	●	●
Newark	●	●	●	●
Philadelphia	○	●	●	●
Pittsburgh	●	●	●	●
Stamford	●	●	●	●
Trenton	●	●	●	●

MIDWEST REGION				
MSA Name	2017	2018	2019	2020
Chicago	●	●	●	●
Cincinnati	●	●	●	●
Cleveland	●	●	●	●
Columbus	●	●	●	●
Detroit	●	●	●	●
Indianapolis	○	●	●	●
Kansas City	●	●	●	●
Minneapolis	●	●	●	●
St. Louis	○	○	○	●
Toledo	●	●	●	●

WEST REGION				
MSA Name	2017	2018	2019	2020
Albuquerque	●	○	●	●
Denver	●	●	●	●
Honolulu	●	●	●	●
Las Vegas	●	●	●	●
Los Angeles	●	●	●	●
Oakland	●	●	●	●
Orange County	●	●	●	●
Phoenix	●	●	●	●
Portland	●	●	●	●
Riverside	●	●	●	●
Sacramento	●	●	●	●
Salt Lake City	●	●	●	●
San Diego	●	●	●	●
San Francisco	●	●	●	●
San Jose	●	●	●	●
Seattle	●	●	●	●
Tucson	●	●	●	●
Ventura	●	●	●	●

SOUTH REGION				
MSA Name	2017	2018	2019	2020
Atlanta	●	●	●	●
Austin	○	●	●	●
Baltimore	●	●	●	●
Charlotte	●	●	●	●
Dallas	●	●	●	●
Fort Lauderdale	●	●	●	●
Fort Worth	●	●	●	●
Houston	●	●	●	●
Jacksonville	●	●	●	●
Memphis	●	●	●	●
Miami	●	●	●	●
Nashville	●	●	●	●
Orlando	●	●	●	●
Raleigh	●	●	○	○
Richmond	●	●	●	●
San Antonio	●	●	●	●
Tampa	●	●	○	○
Washington, DC	●	●	●	●
West Palm Beach	●	●	●	●
Wilmington	●	●	●	●



\*=Number of MSAs in position in 2017

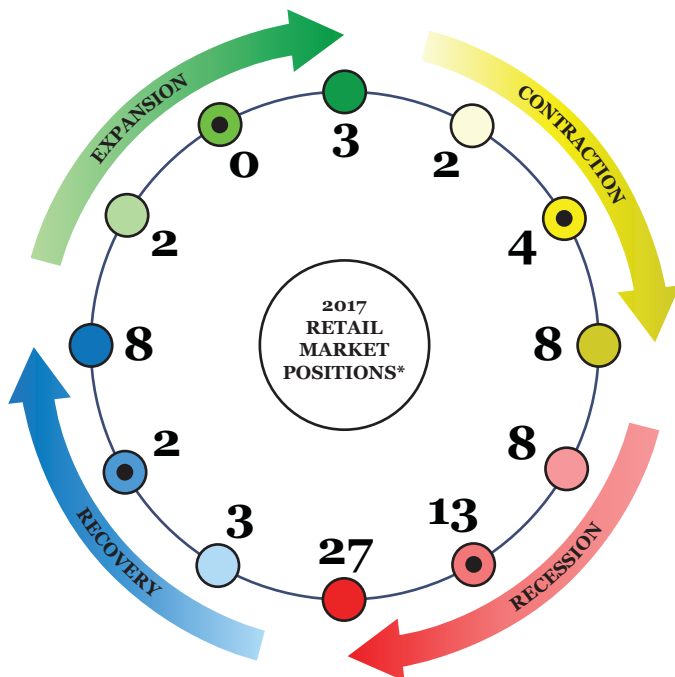
	2017	2018	2019	2020
United States	●	●	●	●

NORTHEAST REGION				
MSA Name	2017	2018	2019	2020
Boston	●	●	●	●
Buffalo	●	●	●	●
Central New Jersey	●	●	●	●
Fairfield County	●	●	●	●
Hartford	●	●	●	●
Long Island	●	●	●	●
New Haven	●	●	●	●
Northern New Jersey	●	●	●	●
Philadelphia	●	●	●	●
Pittsburgh	●	●	●	●
Rochester	●	●	●	●
Syracuse	●	●	●	●
Westchester	●	●	●	●

MIDWEST REGION				
MSA Name	2017	2018	2019	2020
Chicago	●	●	●	●
Cincinnati	●	●	●	●
Cleveland	●	●	●	●
Columbus	●	●	●	●
Dayton	●	●	●	●
Detroit	●	●	●	●
Indianapolis	●	●	●	●
Kansas City	●	●	●	●
Milwaukee	●	●	●	●
Minneapolis	●	●	●	●
Omaha	●	●	●	●
St. Louis	●	●	●	●
Wichita	●	●	●	●

WEST REGION				
MSA Name	2017	2018	2019	2020
Albuquerque	●	●	●	●
Colorado Springs	●	●	●	●
Denver	●	●	●	●
Las Vegas	●	●	●	●
Los Angeles	●	●	●	●
Oakland-East Bay	●	●	●	●
Orange County	●	●	●	●
Phoenix	●	●	●	●
Portland	●	●	●	●
Sacramento	●	●	●	●
Salt Lake City	●	●	●	●
San Bernardino	●	●	●	●
San Diego	●	●	●	●
San Francisco	●	●	●	●
San Jose	●	●	●	●
Seattle	●	●	●	●
Tacoma	●	●	●	●
Tucson	●	●	●	●
Ventura	●	●	●	●

SOUTH REGION				
MSA Name	2017	2018	2019	2020
Atlanta	●	●	●	●
Austin	●	●	●	●
Baltimore	●	●	●	●
Birmingham	●	●	●	●
Charleston	●	●	●	●
Charlotte	●	●	●	●
Chattanooga	●	●	●	●
Columbia	●	●	●	●
Dallas	●	●	●	●
Fort Lauderdale	●	●	●	●
Fort Worth	●	●	●	●
Greensboro/Winston-Salem	●	●	●	●
Greenville	●	●	●	●
Houston	●	●	●	●
Jacksonville	●	●	●	●
Knoxville	●	●	●	●
Lexington	●	●	●	●
Little Rock	●	●	●	●
Louisville	●	●	●	●
Memphis	●	●	●	●
Miami	●	●	●	●
Nashville	●	●	●	●
New Orleans	●	●	●	●
Norfolk	●	●	●	●
Oklahoma City	●	●	●	●
Orlando	●	●	●	●
Palm Beach County	●	●	●	●
Providence	●	●	●	●
Raleigh	●	●	●	●
Richmond	●	●	●	●
San Antonio	●	●	●	●
Suburban Maryland	●	●	●	●
Suburban Virginia	●	●	●	●
Tampa	●	●	●	●
Tulsa	●	●	●	●



\*=Number of MSAs in position in 2017

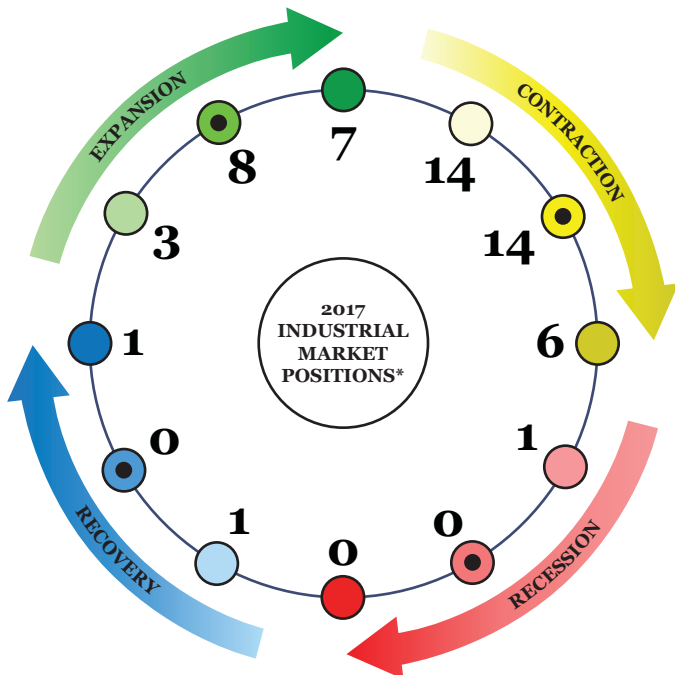
	2017	2018	2019	2020
United States	○	●	●	●

NORTHEAST REGION				
MSA Name	2017	2018	2019	2020
Allentown	●	●	●	●
Boston	●	●	●	●
Hartford	○	●	●	●
Long Island	○	○	●	●
New York	○	●	●	●
Newark	●	●	●	●
Philadelphia	●	●	●	●
Pittsburgh	●	●	●	●
Stamford	○	○	●	●
Trenton	●	●	●	●

MIDWEST REGION				
MSA Name	2017	2018	2019	2020
Chicago	●	●	●	●
Cincinnati	●	○	●	●
Cleveland	●	●	●	●
Columbus	●	●	●	●
Detroit	●	○	○	○
Indianapolis	●	●	●	●
Kansas City	○	●	●	○
Minneapolis	●	●	●	●
St. Louis	●	●	●	●

WEST REGION				
MSA Name	2017	2018	2019	2020
Albuquerque	●	●	●	●
Denver	●	●	●	●
Las Vegas	●	●	●	●
Los Angeles	●	○	○	●
Oakland	○	●	●	●
Orange County	●	○	○	●
Phoenix	●	●	●	●
Portland	○	●	●	●
Riverside	●	●	●	●
Sacramento	○	○	●	●
Salt Lake City	●	●	●	●
San Diego	○	●	●	●
San Francisco	●	●	●	●
San Jose	●	●	●	●
Seattle	●	○	○	●
Tucson	●	○	●	●
Vallejo	○	●	●	●
Ventura	○	●	●	●

SOUTH REGION				
MSA Name	2017	2018	2019	2020
Atlanta	○	●	●	●
Austin	●	●	●	●
Baltimore	○	●	●	●
Charlotte	○	●	●	●
Dallas	○	●	●	●
Fort Lauderdale	●	●	●	●
Fort Worth	○	●	●	●
Houston	○	●	●	●
Jacksonville	●	●	●	●
Memphis	○	○	●	●
Miami	●	●	●	●
Nashville	●	●	●	●
Orlando	●	●	●	●
Raleigh	●	●	●	●
Tampa	●	●	●	●
Washington, DC	●	●	●	●
West Palm Beach	○	●	●	●
Wilmington	○	●	●	●



\*=Number of MSAs in position in 2017



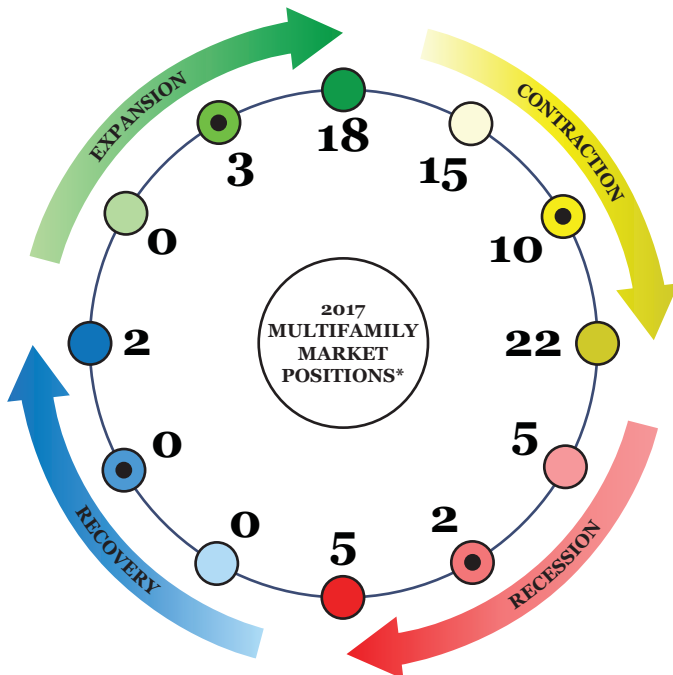
	2017	2018	2019	2020
United States	○	●	●	●

NORTHEAST REGION				
MSA Name	2017	2018	2019	2020
Boston	●	●	●	●
Buffalo	○	●	●	●
Central New Jersey	●	●	●	●
Fairfield County	●	●	●	●
Hartford	●	●	●	●
Long Island	●	●	●	●
New Haven	●	●	●	●
New York	●	●	●	●
Northern New Jersey	●	●	●	●
Philadelphia	●	●	●	●
Pittsburgh	●	●	●	●
Providence	●	○	○	●
Rochester	●	●	●	●
Syracuse	●	●	●	●
Westchester	●	●	●	●

MIDWEST REGION				
MSA Name	2017	2018	2019	2020
Chicago	●	●	●	●
Cincinnati	○	●	●	○
Cleveland	●	○	●	○
Columbus	●	●	●	●
Dayton	○	●	●	●
Detroit	○	●	●	○
Indianapolis	●	●	●	●
Kansas City	●	●	●	●
Milwaukee	●	●	●	●
Minneapolis	●	●	●	●
Omaha	●	●	●	●
St. Louis	○	○	●	○
Wichita	○	●	○	○

WEST REGION				
MSA Name	2017	2018	2019	2020
Albuquerque	●	●	●	●
Colorado Springs	●	○	○	●
Denver	●	●	●	●
Las Vegas	●	●	●	●
Los Angeles	●	●	●	●
Oakland-East Bay	●	●	●	●
Orange County	●	●	●	●
Phoenix	○	○	○	○
Portland	●	●	●	●
Sacramento	●	●	○	○
Salt Lake City	●	●	●	●
San Bernardino	●	●	●	●
San Diego	●	●	●	●
San Francisco	●	●	●	●
San Jose	●	●	●	●
Seattle	●	●	●	●
Tacoma	●	●	●	●
Tucson	●	●	●	●
Ventura County	●	●	●	●

SOUTH REGION				
MSA Name	2017	2018	2019	2020
Atlanta	●	○	○	○
Austin	●	●	●	●
Baltimore	●	●	●	●
Birmingham	●	●	●	●
Charleston	●	●	●	●
Charlotte	●	●	●	●
Chattanooga	●	●	●	●
Columbia	●	●	●	●
Dallas	○	○	●	●
District of Columbia	●	●	●	●
Fort Lauderdale	●	○	○	○
Fort Worth	●	●	●	●
Greensboro/Winston-Salem	○	○	●	●
Greenville	●	●	●	○
Houston	●	○	○	●
Jacksonville	●	●	●	●
Knoxville	●	●	●	●
Lexington	○	○	○	○
Little Rock	●	●	●	●
Louisville	●	●	●	●
Memphis	●	●	●	●
Miami	●	●	●	●
Nashville	●	●	●	●
New Orleans	○	●	●	●
Norfolk	●	●	●	●
Oklahoma City	●	●	●	●
Orlando	○	●	●	●
Palm Beach County	○	●	●	●
Raleigh	○	●	●	●
Richmond	●	●	●	●
San Antonio	●	●	●	●
Suburban Maryland	●	●	●	●
Suburban Virginia	●	●	●	●
Tampa	○	○	●	○
Tulsa	●	●	○	●



\*=Number of MSAs in position in 2017

# U.S. CRE Stock Acquisition Trends

*This quarterly feature investigates CRE acquisition trends for the four major property sectors of the commercial real estate (CRE) industry – office, retail, industrial, and apartments. This analysis is unique in that trends are analyzed based on stock transaction volume as a percent of total stock, not dollar volume.*

*To analyze each sector peer to peer, the metro data is first divided into quartiles, defined as "one of the three points that divide a range of data or population into four equal parts."*

*Charts CAT-1 through CAT-4 display the stock acquisition trends for the four main property types divided into their appropriate quartiles. Our analysis covers the rolling 12-month period ending with the fourth quarter of 2016.*

Analyzing CRE acquisitions is a common practice among industry professionals as it reflects the health of the industry, each property type, and geographic areas. During cyclical downturns and times of uncertainty, CRE transaction volume usually slows as investors are more indecisive about the future and pricing can be more difficult to determine. The opposite typically occurs during cyclical recoveries as investors look to "buy low" and capitalize on a recovering industry.

Most CRE reports focus on dollar volumes, giving accolades to U.S. metros that report the highest levels of capital sales. Not surprisingly, high-priced U.S. metros, like Manhattan and San Francisco, generally rise to the "top" of these sales volume reports not only because they tend to be more preferred by investors, but because they are pricier compared to most other markets on a dollar-per-square-foot basis. On the other hand, U.S. cities like Dallas and Charlotte tend to be viewed as "less preferred" because their dollar volumes and price-per-square-foot achievements are generally lower.

Many factors drive pricing, such as local economic performances, tenancy, building amenities, and supply-demand dynamics. These variables are often reflected in a property's price per square foot, lending support to why most assets in "top" markets, like Manhattan and San Francisco, garner the prices they do. But sales volume can sometimes tell only one side of the CRE capital story.

## STOCK ACQUISITION ANALYSIS

Our analysis reveals the following trends.

- ◆ Of the four property types in our analysis, the office sector has the highest average stock acquisition percentage of 13.2% for the 12-month period ending with the fourth quarter of 2016 (see Chart CAT-1).
- ◆ The stock acquisition percentages for each property sector have declined over the past year with the retail sector registering the greatest decrease, falling 280 basis points to an average of 12.9% (see Chart CAT-2).
- ◆ The smallest year-over-year decline in a stock acquisition percentage was reported for the apartment sector, with a decrease of 40 basis points to 10.1% (see Chart CAT-4).
- ◆ The retail sector has the highest number of cities with stock acquisition percentages above this sector's average at 46.0% (22 out of 48 cities).
- ◆ The office sector has the lowest number of cities with stock acquisition percentages above this sector's average at 43.0% (19 out of 44 cities).
- ◆ Dallas, Nashville, Phoenix, and Seattle post above-average stock acquisition percentages in each property sector for the fourth consecutive quarter. In addition, Austin joins this list for the second consecutive quarter and Charlotte reveals an above-average stock acquisition percentage in all sectors for the first time since the fourth quarter of 2015.

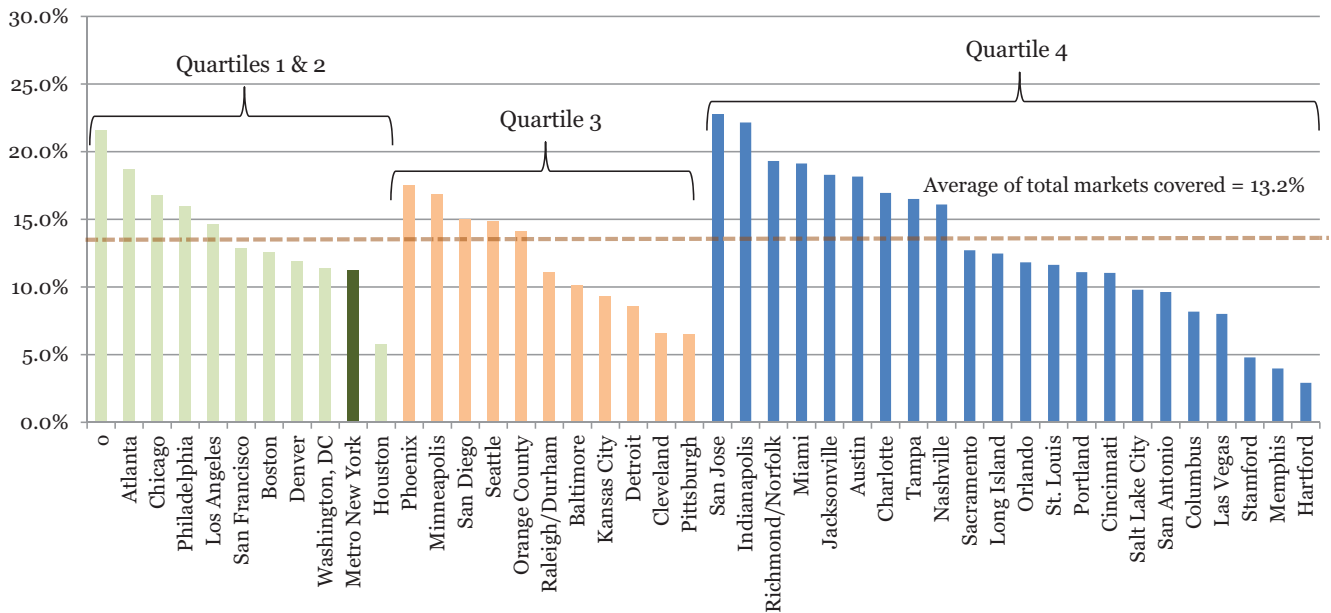
## LOCATIONAL DIFFERENCES

While economic and demographic trends within a specific metro may pique investor interest for a certain property type, those same trends may not have the same impact on the other property types within that market. In our analysis, many top-performing markets were diverse in each property type with the exception of the six markets previously noted. Such diversity opens up broad investment options for investors not just in terms of geography, but with regard to property type as well. ◆

Chart CAT-1

**OFFICE CRE TRANSACTIONS TO TOTAL STOCK**

4-Quarter Rolling Percentages through 4Q 2016

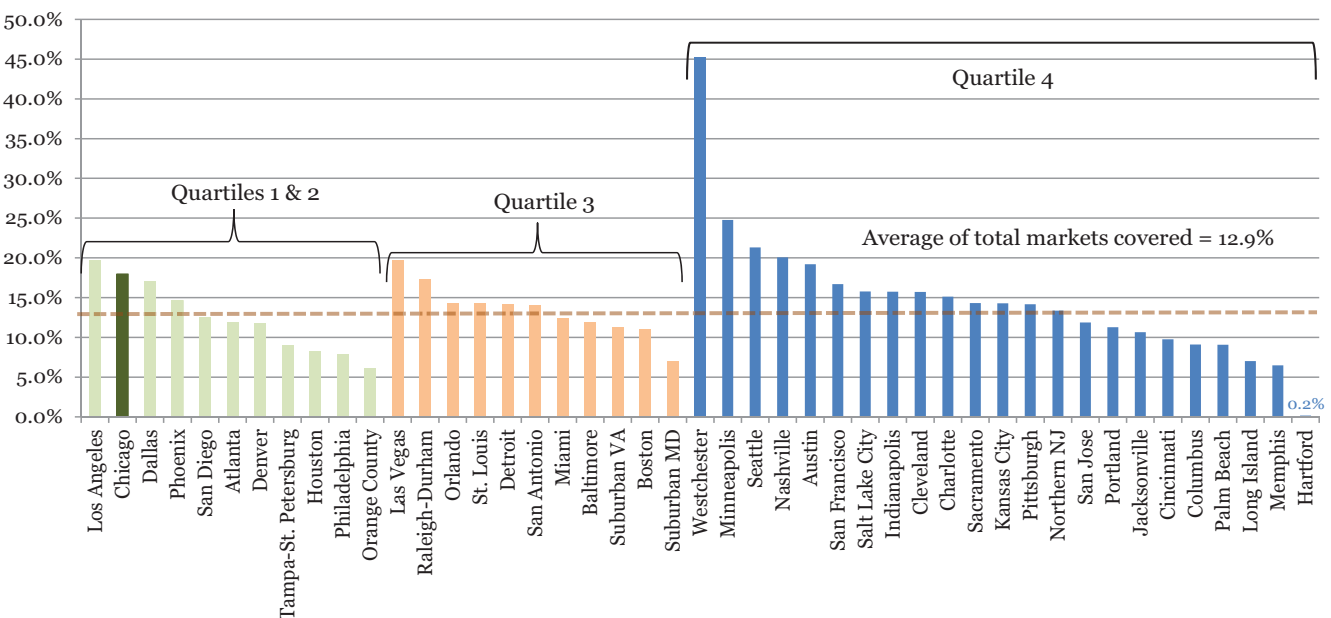


Source: Data provided by Real Capital Analytics and CBRE; compiled and analyzed by PwC Note: Quartiles are based on markets' total CRE stock

Chart CAT-2

**RETAIL CRE TRANSACTIONS TO TOTAL STOCK**

4-Quarter Rolling Percentages through 4Q 2016

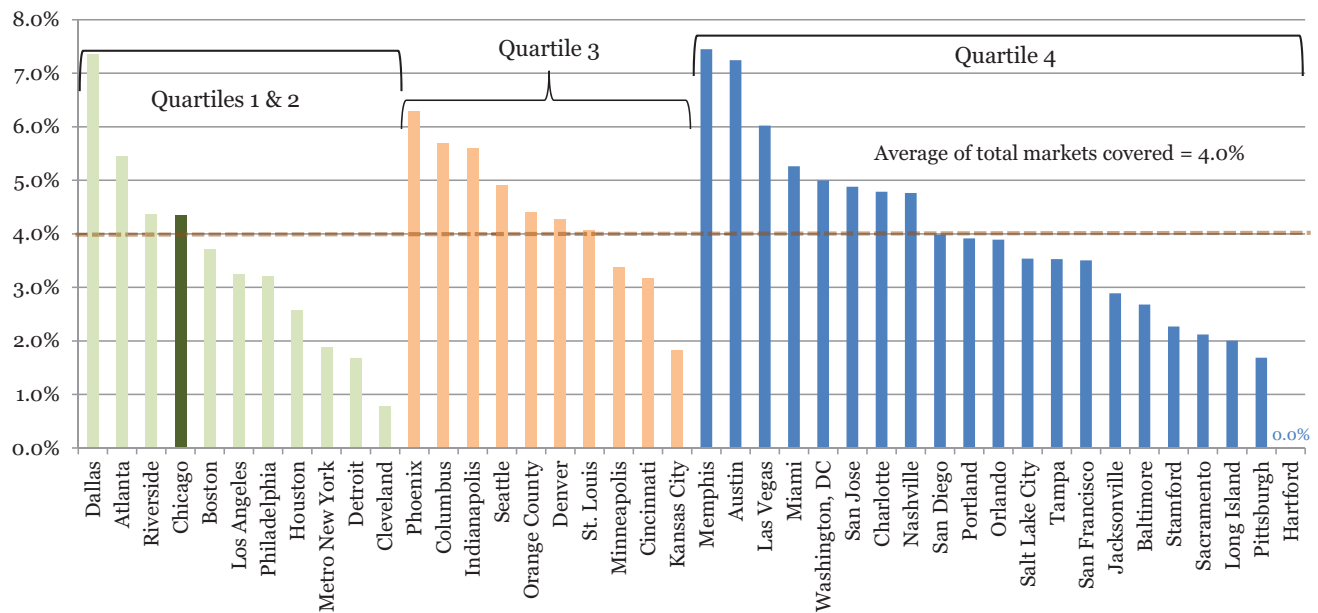


Source: Data provided by Real Capital Analytics and Reis; compiled and analyzed by PwC Note: Quartiles are based on markets' total CRE stock

Chart CAT-3

**INDUSTRIAL CRE TRANSACTIONS TO TOTAL STOCK**

4-Quarter Rolling Percentages through 4Q 2016

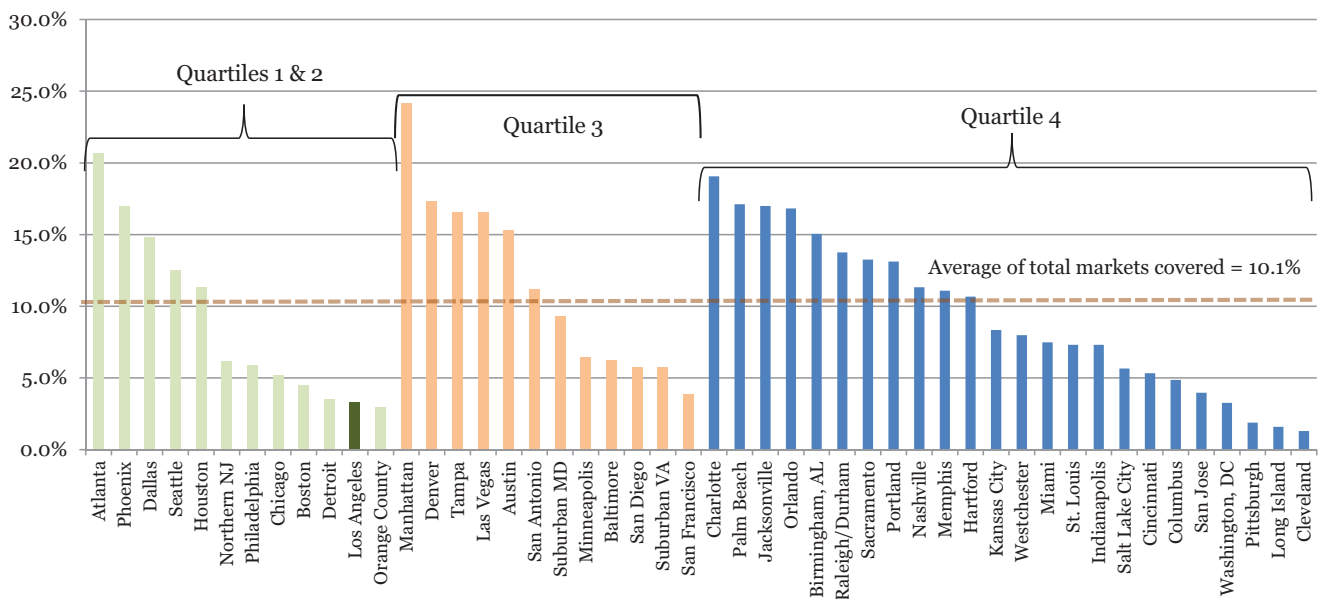


Source: Data provided by Real Capital Analytics and CBRE; compiled and analyzed by PwC Note: Quartiles are based on markets' total CRE stock

Chart CAT-4

**APARTMENT CRE TRANSACTIONS TO TOTAL STOCK**

4-Quarter Rolling Percentages through 4Q 2016



Source: Data provided by Real Capital Analytics and Reis; compiled and analyzed by PwC Note: Quartiles are based on markets' total CRE stock

# National Secondary Office Market

Even though the U.S office sector is moving closer to the contraction phase of the real estate cycle following a lengthy expansion, investors still see benefits to buying assets in the national secondary office market. “We continue to see strong population and job growth in Tampa, which spurs demand for office space,” notes an investor. Another remarks, “A lack of new supply and rising rents are Orlando’s strengths.” Similarly, investors are attracted to “strong market fundamentals” in Austin and San Antonio.

Many investors believe secondary office markets still provide opportunities to achieve greater yields than

most of their primary counterparts due in part to less aggressive underwriting practices. “Properties are being acquired using modest underwriting compared to the aggressive underwriting seen in primary markets,” explains an investor focused on the Midwest.

Regardless of the ownership opportunities that exist in this market, Survey results reveal a diminished outlook for future rent growth. At 2.95%, this market’s average initial-year market rent change rate falls below 3.00% for the first time since late 2012. Still, it sits above the quarterly averages for the national CBD (+2.64%) and national suburban (+2.03%) office markets. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	72.0%	=
Range	60.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	5.0	=
Range	1 to 10	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	7.35%	▼
CBD	7.05%	▼
Suburbs	7.65%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table SEC-1**  
**NATIONAL SECONDARY OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 13.00%	6.00% – 13.00%	5.75% – 12.50%	6.50% – 14.00%	6.75% – 14.00%
Average	8.91%	8.88%	8.78%	9.39%	9.53%
Change (Basis Points)		+ 3	+ 13	- 48	- 62
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.50% – 9.50%	4.50% – 10.00%	4.50% – 10.00%	4.00% – 11.00%	5.00% – 11.00%
Average	7.35%	7.36%	7.39%	7.99%	8.06%
Change (Basis Points)		- 1	- 4	- 64	- 71
<b>RESIDUAL CAP RATE</b>					
Range	6.00% – 10.00%	6.00% – 10.00%	6.00% – 10.00%	5.50% – 10.00%	6.00% – 11.00%
Average	7.72%	7.69%	7.71%	8.13%	8.32%
Change (Basis Points)		+ 3	+ 1	- 41	- 60
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 7.00%	0.00% – 10.00%	0.00% – 10.00%	0.00% – 10.00%
Average	2.95%	3.35%	3.65%	3.24%	3.15%
Change (Basis Points)		- 40	- 70	- 29	- 20
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.50% – 3.00%	1.50% – 3.00%	1.50% – 3.00%	2.00% – 3.00%	2.00% – 3.00%
Average	2.48%	2.48%	2.45%	2.54%	2.50%
Change (Basis Points)		0	+ 3	- 6	- 2
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 9	3 – 9	2 – 9	2 – 9	3 – 12
Average	6.0	5.9	5.8	5.7	6.7
Change (▼, ▲, =)		▲	▲	▲	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

Table SOM-1

## NATIONAL SECONDARY OFFICE MARKET—SELECT SURVEY RESPONSES

### First Quarter 2017

	GEOGRAPHY	INITIAL-YEAR CHANGE RATES		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP VACANCY ASSUMPTIONS		REPLACEMENT MARKETING RESERVE		
		REGION/ CITY	MARKET RENT	EXPENSES	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT
<b>FULL-SERVICE ADVISORY FIRM ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; expects overall cap rates to hold steady over the next six months; does not use rent spikes.	West/ Sacramento	0.0%	2.5%	6.75% to 7.00% (CBD); 8.00% to 8.50% (suburbs)	2.5% to 5.0%	9.00% to 11.00% (CBD); 11.00% to 13.00% (suburbs)	6.25% to 7.00% (CBD); 7.50% to 8.25% (suburbs)	6	75.0%	5.0%	\$0.15 to \$0.20	6
												9
<b>REAL ESTATE FIRM ♦ Forecast Period: 1 to 3 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; expects overall cap rates to increase 25 to 50 basis points over the next six months; may use a rent spike of 6.0% in year 4.	Mountain/ Las Vegas	4.0% to 5.0%	2.0% to 2.5%	7.50% to 8.25% in both CBD & suburbs	2.0% to 3.0%	8.00% to 9.00% in both CBD & suburbs	7.00% to 7.75% in both CBD & suburbs	6 to 9	75.0%	10.0%	\$0.10 to \$0.15	3
												5
<b>REAL ESTATE ADVISOR ♦ Forecast Period: 3 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; expects overall cap rates to increase 10 to 25 basis points over the next six months; does not use rent spikes.	Southeast/ Tampa	3.0% to 5.0%	3.0%	7.25% to 8.00% (CBD); 8.00% to 9.00% (suburbs)	1.0% to 3.0%	7.75% to 8.50% (CBD); 8.25% to 9.50% (suburbs)	6.25% to 7.25% (CBD); 7.00% to 8.75% (suburbs)	6 to 10	70.0% to 75.0%	5.0% to 7.5%	\$0.15 to \$0.25	4
												6
<b>REAL ESTATE ADVISOR ♦ Forecast Period: 3 to 7 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions currently favor buyers; expects cap rates to increase 25 to 50 basis points over the next six months.	South/ Orlando	1.0% to 3.0%	2.0% to 3.0%	6.75% to 7.00% (CBD); 7.75% to 8.75% (suburbs)	2.0% to 3.0%	7.75% to 9.00% (CBD); 9.00% to 10.50% (suburbs)	6.00% to 7.25% (CBD); 7.25% to 8.75% (suburbs)	6 to 10	60.0% to 75.0%	2.0% to 8.0%	\$0.10 to \$0.25	6
												9
<b>REAL ESTATE FIRM ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions equally favor buyers and sellers; uses face rents and reflects concessions when they are scheduled to occur.	Southwest/ San Antonio	3.0% to 5.0%	2.0% to 3.0%	6.50% to 8.50% (CBD); 7.00% to 9.00% (suburbs)	1.0% to 5.0%	7.25% to 8.75% (CBD); 8.75% to 11.00% (suburbs)	6.00% to 8.00% (CBD); 7.00% to 9.00% (suburbs)	5 to 9	70.0% to 75.0%	5.0% to 7.0%	\$0.10 to \$0.25	5
												8

Source: Personal survey conducted by PwC during January 2017.

Table SOM-2

## NATIONAL SECONDARY OFFICE MARKET—SELECT SURVEY RESPONSES

### First Quarter 2017

	GEOGRAPHY		INITIAL-YEAR CHANGE RATES		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	REGION/ CITY	MARKET RENT	MARKET RENT EXPENSES	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS		
<b>REAL ESTATE COMPANY</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions currently favor sellers; no longer uses rent spikes.	West/ San Jose	2.0%	2.0% to 3.0%	6.50% to 7.00% in both CBD & suburbs	1.0% to 1.5%	6.50% to 7.00% (CBD); 4.50% to 7.00% (suburbs)	5.00% to 7.00% (CBD); 4.50% to 7.00% (suburbs)	60.0% to 70.0%	3.0% to 7.0%	6 to 9			Does not use	3 to 6		
<b>REAL ESTATE INVESTOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions favor buyers; uses face rents and reflects concessions when they are scheduled to occur; no longer uses rent spikes.	East North Central/ Indianapolis	3.0% to 5.0%	2.0% to 3.0%	8.00% to 9.00% (CBD); 8.50% to 10.00% (suburbs)	1.5% to 3.0%	9.00% to 10.00% (CBD); 8.00% to 12.00% (suburbs)	8.00% to 9.50% (CBD); 8.25% to 9.50% (suburbs)	70.0% to 75.0%	8.0% to 10.0%	6 to 9			\$0.20 to \$0.25	3 to 5		
<b>REAL ESTATE SERVICE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions currently favor sellers; expects overall cap rates to hold steady over the next six months; may use rent spikes.	Northeast/ Pittsburgh	2.0%	1.5% to 2.0%	6.50% to 7.25% (CBD); 7.25% to 7.75% (suburbs)	2.0% to 3.0%	8.25% to 8.50% (CBD); 8.75% to 9.00% (suburbs)	6.50% to 7.50% (CBD); 7.25% to 8.25% (suburbs)	70.0% to 80.0%	5.0% to 7.0%	6 to 10			\$0.15 to \$0.25	6 to 9		
<b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 3 to 15 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions currently favor sellers; expects cap rates to hold steady over the next six months; no longer uses rent spikes.	Southwest/ Austin	3.0% to 5.0%	2.0% to 3.0%	6.00% to 7.00% (CBD); 7.00% to 8.50% (suburbs)	0.5% to 6.0%	6.00% to 9.00% (CBD); 7.00% to 10.00% (suburbs)	4.50% to 7.75% (CBD); 5.50% to 8.50% (suburbs)	70.0% to 75.0%	5.0% to 7.0%	5 to 9			\$0.10 to \$0.20	5 to 8		
<b>INVESTMENT FIRM</b> ♦ <b>Forecast Period: 5 to 7 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions equally favor buyers and sellers; expects overall cap rates to decrease 20 to 25 basis points over the next six months.	Southeast/ Jacksonville	3.0%	2.5% to 3.0%	8.00% to 8.50% (CBD); 8.00% to 9.00% (suburbs)	2.0% to 3.5%	8.50% to 11.00% (CBD); 9.00% to 11.00% (suburbs)	7.50% to 9.00% (CBD); 8.50% to (suburbs)	70.0% to 75.0%	5.0% to 10.0%	6 to 10			\$0.20 to \$0.30	5 to 8		

Source: Personal survey conducted by PwC during January 2017.

# National Regional Mall Market

A steady occupancy rate posted for the national regional mall market in the fourth quarter of 2016 supports many owners' claim that "the regional mall market is not dead," regardless of some recent articles to the contrary. In fact, many property owners are seeing increased foot traffic, retail sales growth, and more demand for space on the part of retailers. Overall, the vacancy rate for U.S. regional malls held steady at 7.8% at year-end 2016, as per Reis.

Although the vacancy rate for the national regional mall market has not changed significantly in eight quarters, it is limiting the ability of some owners to raise rental rates.

This quarter, the average initial-year market rent change rate reported by Survey participants slips to 2.55% – 18 basis points below the average a year ago. "Rent is growing, but its growth has slowed," states a participant. At the same time, this market's average overall cap rate inches up this quarter to 6.13% (see Table 1).

The combination of slowing rent growth and rising overall cap rates foreshadows muted value appreciation for this market in the coming year. Specifically, our Survey results show investors expecting property value changes ranging from -12.0% to +6.0% with an average growth of 0.9%. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	73.0%	=
Range	50.0% to 85.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	(2)
Range	(2)
% of participants using	(2)

### Average Overall Cap Rates:

Class A+	4.70%	▲
Class A	5.30%	=
Class B+	6.33%	▼

\* ▼, ▲, = change from prior quarter

(1) on a ten-year lease

(2) 80% are not using free rent

**Table 1**  
**NATIONAL REGIONAL MALL MARKET<sup>(d)</sup>**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.50% – 11.50%	5.50% – 11.50%	5.00% – 12.00%	6.50% – 12.00%	5.25% – 14.00%
Average	7.70%	7.75%	7.63%	8.92%	9.29%
Change (Basis Points)		- 5	+ 7	- 122	- 159
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.00% – 10.00%	4.00% – 10.00%	4.00% – 9.00%	4.25% – 9.00%	4.75% – 10.50%
Average	6.13%	6.10%	6.00%	6.56%	7.23%
Change (Basis Points)		+ 3	+ 13	- 43	- 110
<b>RESIDUAL CAP RATE</b>					
Range	4.00% – 10.00%	4.00% – 10.00%	4.00% – 9.00%	4.50% – 11.00%	5.00% – 12.00%
Average	6.70%	6.65%	6.50%	7.02%	7.52%
Change (Basis Points)		+ 5	+ 20	- 32	- 82
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	1.00% – 4.00%	1.00% – 4.00%	0.00% – 5.00%	1.00% – 5.00%	(2.00%) – 3.00%
Average	2.55%	2.60%	2.73%	3.00%	1.58%
Change (Basis Points)		- 5	- 18	- 45	+ 97
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 5.00%	2.00% – 5.00%	2.00% – 5.00%	0.00% – 3.00%	0.00% – 4.00%
Average	3.00%	3.00%	3.00%	2.17%	2.25%
Change (Basis Points)		0	0	+ 83	+ 75
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 18	3 – 8	3 – 24	3 – 18	3 – 18
Average	8.7	8.4	9.0	8.8	8.4
Change (▼, ▲, =)		▲	▼	▼	▲

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

d. relates to Class A+, A, B+, and B malls



# National Power Center Market

As most power center tenants continue to face tough competition from online shopping, investors looking for assets to acquire in this market remain focused on tenancy, diversity, and location. “The strength of a property’s retail tenant credit ranks as a top priority as most retailers continue to make adjustments to compete against online merchants,” says a participant. In a recent sale, Gresham Station Shopping Center outside of Portland, Oregon reportedly sold for close to \$295.00 per square foot – well above the national average sale price of \$204 per square foot in the fourth quarter of 2016, as per Real Capital Analytics (RCA). This power center boasts both

national and regional tenants, some office space, and a dense trade area and confirms that buyer interest exists for quality power centers.

RCA’s sales data involving U.S. power centers indicates that while the number of properties sold was higher in the fourth quarter of 2016 compared to the same time a year ago, the average sale price has declined while the average overall cap rate has risen. Our Survey results this quarter reflect this trend. Specifically, this market’s average overall cap rate inches up to 6.39% this quarter while the low end of the range increases 25 basis points to 5.25% – the highest low end in nearly three years. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	69.0%	=
Range	55.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	5	=
Range	0 to 12	
% of participants using	50.0%	=

### Average Overall Cap Rates:

75.0% big-box space	6.29%	=
85.0% big-box space	6.48%	▲
100.0% big-box space	6.63%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 2**  
**NATIONAL POWER CENTER MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 10.00%	6.00% – 10.00%	6.00% – 10.00%	6.00% – 10.00%	6.00% – 11.00%
Average	7.69%	7.67%	7.75%	8.17%	8.33%
Change (Basis Points)		+ 2	- 6	- 48	- 64
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.25% – 8.00%	5.00% – 8.00%	5.00% – 8.00%	5.50% – 8.00%	6.25% – 9.00%
Average	6.39%	6.37%	6.33%	6.67%	7.32%
Change (Basis Points)		+ 2	+ 6	- 28	- 93
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 9.00%	5.50% – 9.00%	5.00% – 9.00%	6.00% – 9.00%	6.00% – 9.00%
Average	6.92%	6.94%	6.79%	7.17%	7.52%
Change (Basis Points)		- 2	+ 13	- 25	- 60
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 5.00%	0.00% – 5.00%	0.00% – 3.00%	0.00% – 3.00%
Average	1.96%	1.96%	2.00%	1.17%	1.00%
Change (Basis Points)		0	- 4	+ 79	+ 96
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	2.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%
Average	2.58%	2.58%	2.83%	2.46%	2.54%
Change (Basis Points)		0	- 25	+ 12	+ 4
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 18	2 – 18	2 – 18	2 – 18	3 – 18
Average	5.8	5.8	6.1	6.3	7.5
Change (▼, ▲, =)		=	▼	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# National Strip Shopping Center Market

Even though a stable national vacancy rate, additional store closure announcements, and slowing rent growth are raising caution among some investors in the national strip shopping center market, others remain undeterred and attracted by “the stability” being shown in this sector. “There is more stability in this asset class than I would have expected at this point, which is a reason to continue to acquire assets,” remarks an investor. Another says, “This property type remains a safe haven for capital.”

When looking at potential acquisitions, most buyers remain drawn to well-located assets as it is believed they will “hold value in the long term.”

Many buyers also prefer strip shopping centers anchored by top grocers with diverse inline service-oriented tenants. As a percentage of replacement cost, pricing for strip shopping centers ranges from 50.0% to 125.0% of cost and averages 96.9%, as per our Survey results.

While a positive outlook exists for this market among investors, it’s interesting to note that this market’s average overall cap rate rises 14 basis points this quarter, suggesting added caution among investors. In addition, a larger portion of investors (45.0%) now see this market as “neutral” – equally favoring buyers and sellers, up from 33.0% three months ago. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	72.0%	=
Range	50.0% to 100.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	2	=
Range	0 to 6	
% of participants using	55.0%	=

### Market Conditions Favor:

Buyers	11.0%	=
Sellers	44.0%	▼
Neither	45.0%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 3**  
**NATIONAL STRIP SHOPPING CENTER MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.00% – 10.50%	5.50% – 10.75%	6.00% – 10.75%	5.50% – 11.00%	6.50% – 12.50%
Average	7.39%	7.39%	7.66%	8.06%	8.41%
Change (Basis Points)		0	- 27	- 67	- 102
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.00% – 9.50%	4.00% – 9.50%	4.75% – 9.50%	5.00% – 10.00%	5.50% – 9.50%
Average	6.32%	6.18%	6.41%	6.97%	7.18%
Change (Basis Points)		+ 14	- 9	- 65	- 86
<b>RESIDUAL CAP RATE</b>					
Range	4.75% – 9.75%	4.75% – 9.75%	4.75% – 9.75%	5.25% – 10.00%	6.00% – 12.00%
Average	6.56%	6.47%	6.59%	7.33%	7.80%
Change (Basis Points)		+ 9	- 3	- 77	- 124
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 5.00%	0.00% – 5.00%
Average	1.83%	1.83%	1.94%	1.97%	1.64%
Change (Basis Points)		0	- 11	- 14	+ 19
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	2.50% – 3.00%	2.50% – 5.00%
Average	2.69%	2.69%	2.72%	2.94%	3.11%
Change (Basis Points)		0	- 3	- 25	- 42
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 12	2 – 12	2 – 12	2 – 12	2 – 18
Average	6.3	5.9	5.6	6.4	7.1
Change (▼, ▲, =)		▲	▲	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# National CBD Office Market

Despite a slight uptick in the overall vacancy rate for the national CBD office market at year-end 2016, investors continue to aggressively pursue deals. In fact, total volume for U.S. office building sales reached \$141.7 billion in 2016, the second highest since 2007, as per CBRE's Americas Office Trends report. Moreover, sale prices of office buildings were up an average of 10.0% on a year-over-year basis in 2016, according to the report. Still, near stability in this market's quarterly average overall cap rate suggests that investors, while "still in pursuit mode," are being more cautious in anticipation of a pricing correction or downturn.

When looking at potential acquisitions, one surveyed investor notes that CBDs with "less new construction and rents close to or below long-term averages" are best to handle a near-term downturn. Another says that "CBD's with strong barriers to entry and those benefiting from the influx of empty nesters and millennials are better insulated." These types of CBDs tend to have less construction, greater growth in rental rates, and more consistent tenant demand.

Specific CBD locations noted by our investors as performing well include Bellevue, Orlando, and Nashville, as well as the "international cities of San Francisco and New York." ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	69.0%	=
Range	50.0% to 85.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	=
Range	0 to 15	
% of participants using	86.0%	=

### Market Conditions Favor:

Buyers	14.0%	▲
Sellers	43.0%	=
Neither	43.0%	▼

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 4**  
**NATIONAL CBD OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.50% – 9.50%	5.50% – 10.00%	5.50% – 10.00%	6.00% – 11.00%	5.50% – 11.00%
Average	7.09%	7.16%	6.88%	8.04%	8.61%
Change (Basis Points)		- 7	+ 21	- 95	- 152
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	3.50% – 7.50%	3.50% – 7.50%	3.50% – 7.50%	3.75% – 8.00%	4.50% – 10.00%
Average	5.55%	5.57%	5.58%	6.27%	7.03%
Change (Basis Points)		- 2	- 3	- 72	- 148
<b>RESIDUAL CAP RATE</b>					
Range	4.75% – 7.50%	4.75% – 7.50%	4.75% – 7.50%	4.75% – 9.00%	5.50% – 11.00%
Average	6.11%	6.14%	6.02%	6.82%	7.41%
Change (Basis Points)		- 3	+ 9	- 71	- 130
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 6.00%	0.00% – 6.00%	0.00% – 7.00%	0.00% – 7.00%	(1.00%) – 9.00%
Average	2.64%	2.71%	2.92%	2.61%	2.19%
Change (Basis Points)		- 7	- 28	+ 3	+ 45
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 4.00%	0.00% – 4.00%	2.00% – 4.00%	1.00% – 3.00%	2.00% – 4.00%
Average	2.64%	2.64%	2.75%	2.61%	2.75%
Change (Basis Points)		0	- 11	+ 3	- 11
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 12	2 – 12	2 – 15	2 – 18	2 – 18
Average	6.4	6.4	6.7	7.4	8.1
Change (▼, ▲, =)		=	▼	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# National Suburban Office Market

Over the past three months, a growing number of Survey participants now believe that market conditions in the national suburban office market favor buyers over sellers. As shown in the Key 1Q17 Survey Stats table, a quarter of surveyed investors feel that buyers hold the upper hand during sale negotiations – up from 12.5% in the prior quarter. Most investors, however, maintain that conditions in this market are neutral, but that percentage has shrunk recently as this market’s performance has started to show signs of stabilizing.

In the fourth quarter of 2016, the vacancy rate for the national suburban office market stood at 13.6%, as

per Cushman & Wakefield. This figure is unchanged from the prior quarter and slightly below the average from a year ago. Of course, individual performances vary greatly between suburban areas. Our investors like “West Coast suburbs due to strong fundamentals” and also look to acquire assets in “suburbs with synergy that provide quality traffic infrastructure, meaning public transportation or superior access to main thoroughfares.”

Investors also like suburban areas with low levels of new construction, quality assets in walkable locations of transit lines, and those in close proximity to major cities. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	64.0%	=
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	=
Range	0 to 18	
% of participants using	88.0%	=

### Market Conditions Favor:

Buyers	25.0%	▲
Sellers	13.0%	▲
Neither	62.0%	▼

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 5**  
**NATIONAL SUBURBAN OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 10.50%	6.00% – 10.50%	5.75% – 10.00%	6.00% – 11.00%	6.00% – 12.50%
Average	7.88%	7.86%	7.52%	8.02%	8.68%
Change (Basis Points)		+ 2	+ 36	- 14	- 80
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 9.50%	5.00% – 9.50%	4.50% – 9.50%	5.00% – 9.00%	5.00% – 11.00%
Average	6.61%	6.63%	6.38%	6.78%	7.52%
Change (Basis Points)		- 2	+ 23	- 17	- 91
<b>RESIDUAL CAP RATE</b>					
Range	6.00% – 10.50%	6.00% – 10.50%	5.50% – 10.25%	6.00% – 11.00%	6.00% – 11.00%
Average	7.39%	7.59%	7.23%	7.64%	7.95%
Change (Basis Points)		- 20	+ 16	- 25	- 56
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 5.00%	0.00% – 5.00%	0.00% – 5.00%	(5.00%) – 4.00%
Average	2.03%	2.13%	2.75%	2.06%	1.54%
Change (Basis Points)		- 10	- 72	- 3	+ 49
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 4.00%	0.00% – 4.00%	2.00% – 4.00%	1.00% – 3.50%	2.00% – 4.00%
Average	2.75%	2.72%	2.91%	2.66%	2.79%
Change (Basis Points)		+ 3	- 16	+ 9	- 4
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 12	1 – 12	3 – 12	3 – 18	2 – 18
Average	6.0	6.0	6.3	8.3	8.5
Change (▼, ▲, =)		=	▼	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# Atlanta Office Market

Buyers' appetite for office properties in Atlanta has surged in the past few years as this market has strengthened. "Local fundamentals remain positive with new supply staying in check," states an investor. In fact, this market's overall vacancy rate fell from 16.2% to 15.8% between 2015 and 2016, as per Cushman & Wakefield. Moreover, this market's average asking rental rate increased 5.2% despite a decline in net absorption during the same time period.

Due to these positive trends, a limited supply of core product exists for sale as owners are opting to hold assets. "Approximately 50.0% of Atlanta's office stock traded in the

past four years and much of it to long-term holders," explains a participant. Another echoes, "The primary obstacle to acquiring properties in 2017 will be the lack of for-sale offerings." And when properties are placed up for sale, buyers face a very competitive environment.

Over the near term, our Survey reveals a bit of caution on the part of investors do to the delivery of nearly three million square feet of new space. First, this market's average initial-year market rent change rate dips 17 basis points this quarter to 3.04%. And second, its average overall cap rate holds relatively steady at 7.18% (see Table 6). ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	69.0%	▲
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	=
Range	1 to 10	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	7.18%	▲
CBD	6.75%	▲
Suburbs	7.60%	=

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 6**  
**ATLANTA OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 10.25%	6.00% – 10.00%	6.00% – 10.00%	6.00% – 10.50%	7.75% – 11.00%
Average	8.33%	8.28%	8.34%	8.59%	9.09%
Change (Basis Points)		+ 5	- 1	- 26	- 76
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.25% – 9.00%	5.25% – 9.00%	5.25% – 9.25%	6.50% – 9.50%	7.00% – 10.00%
Average	7.18%	7.16%	7.33%	7.96%	8.40%
Change (Basis Points)		+ 2	- 15	- 78	- 122
<b>RESIDUAL CAP RATE</b>					
Range	6.00% – 9.00%	6.00% – 9.00%	6.00% – 9.25%	6.50% – 9.50%	7.00% – 10.00%
Average	7.39%	7.33%	7.38%	7.89%	8.50%
Change (Basis Points)		+ 6	+ 1	- 50	- 111
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 5.00%	0.00% – 7.00%	0.00% – 3.00%	(3.00%) – 2.00%
Average	3.04%	3.21%	3.60%	1.42%	0.04%
Change (Basis Points)		- 17	- 56	+ 162	+ 300
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.50% – 5.00%	1.50% – 5.00%	0.00% – 3.50%	0.00% – 3.50%	0.00% – 3.00%
Average	2.90%	2.90%	2.28%	2.33%	2.21%
Change (Basis Points)		0	+ 62	+ 57	+ 69
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 12	1 – 12	2 – 12	1 – 12	2 – 15
Average	5.8	5.3	4.6	4.2	7.9
Change (▼, ▲, =)		▲	▲	▲	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Boston Office Market

Greater Boston's exposure to the thriving life-science and technology sectors continues to sustain its economic growth and, in turn, its office market's strength. With an overall vacancy rate of 7.5% in the fourth quarter of 2016, Boston's CBD office segment posted one of the lowest vacancy rates in the country – well below the national CBD's average of 12.4%, as per Cushman & Wakefield. In Boston's suburbs, overall vacancy was 11.2% at year-end 2016, also below the national suburban average of 13.6%.

Boston's positive fundamentals continue to lure investment capital. In fact, Boston ranked as the third most active buyers' market for office

building sales in 2016 with volume of \$7.9 billion, according to Real Capital Analytics. Nevertheless, this sales volume is 5.0% below 2015's level and is attributed to "limited offerings" and "and a growing bid-ask gap on larger deals." In addition, one Survey participant remarks, "Lenders have pulled back and are not financing at the same levels seen in the past, making it difficult to invest."

Other buying challenges noted by surveyed investors in this office market include overly aggressive underwriting among eager buyers, difficulty pricing near-term lease rollover, and the growing need for tenant concessions. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	67.0%	=
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	=
Range	1 to 10	
% of participants using	83.0%	=

### Average Overall Cap Rates:

Market (as a whole)	6.27%	▲
CBD	5.42%	▼
Suburbs	7.13%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 7**  
**BOSTON OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.75% – 10.00%	5.75% – 10.00%	6.00% – 10.00%	6.25% – 11.00%	6.75% – 15.00%
Average	7.42%	7.45%	7.76%	8.30%	9.29%
Change (Basis Points)		- 3	- 34	- 88	- 187
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.00% – 10.00%	4.00% – 9.50%	4.00% – 8.00%	4.75% – 9.50%	5.25% – 12.00%
Average	6.27%	6.26%	6.15%	6.90%	7.83%
Change (Basis Points)		+ 1	+ 12	- 63	- 156
<b>RESIDUAL CAP RATE</b>					
Range	5.00% – 10.50%	5.00% – 10.00%	5.00% – 8.25%	5.75% – 11.00%	6.00% – 12.00%
Average	6.80%	6.83%	6.76%	7.39%	7.96%
Change (Basis Points)		- 3	+ 4	- 59	- 116
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 6.00%	0.00% – 6.00%	0.00% – 7.00%	0.00% – 6.00%	0.00% – 5.00%
Average	3.67%	3.58%	3.83%	3.38%	1.64%
Change (Basis Points)		+ 9	- 16	+ 29	+ 203
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	2.50% – 4.00%	3.00% – 4.00%	0.00% – 4.50%
Average	2.71%	2.71%	3.04%	3.08%	2.89%
Change (Basis Points)		0	- 33	- 37	- 18
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 12	2 – 12	2 – 12	2 – 12	2 – 12
Average	6.2	6.2	6.2	5.8	6.7
Change (▼, ▲, =)		=	=	▲	▼
a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months					

# Charlotte Office Market

Steady employment growth, a favorable cost of doing business, and solid office fundamentals support investor confidence in the Charlotte office market. In fact, this quarter's results reveal investors' bullish outlook for property value growth here with the highest average expected value increase of all the markets surveyed. Specifically, investors unanimously anticipate positive value changes of as much as 15.0% with an average expected value increase of 4.7% in the coming year.

Ongoing demand for office space led to more than 6.3 million square feet of leasing activity in 2016, as per Cushman & Wakefield. In turn, net

absorption reached a ten-year high of 1.6 million square feet. From 2015 to 2016, the overall vacancy rate dipped from 9.0% to 8.5% and the average asking rental rates rose 3.3%.

Moreover, office sales surged in the last quarter of 2016, resulting in a 62.0% year-over-year increase in total volume. In spite of healthy market conditions and vigorous transaction activity, Survey participants allude to concerns for maintaining this fervent pace. "The challenge for buyers in this office market will be the availability of product," states an investor. Another warns, "This is a relatively small market, so opportunities to buy good assets are limited." ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	72.0%	▲
Range	65.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	▼
Range	1 to 10	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	6.90%	▼
CBD	6.50%	▼
Suburbs	7.30%	=

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 8**  
**CHARLOTTE OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.50% – 10.00%	6.50% – 11.00%	6.50% – 11.00%	7.00% – 12.00%	8.00% – 12.25%
Average	8.36%	8.45%	8.53%	8.98%	9.44%
Change (Basis Points)		- 9	- 17	- 62	- 108
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 8.75%	5.00% – 8.75%	5.50% – 9.00%	5.00% – 9.00%	6.00% – 9.50%
Average	6.90%	6.91%	7.14%	7.55%	8.07%
Change (Basis Points)		- 1	- 24	- 65	- 117
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 8.50%	5.50% – 8.50%	5.50% – 8.50%	5.75% – 9.00%	6.00% – 10.00%
Average	7.20%	7.20%	7.24%	7.41%	8.21%
Change (Basis Points)		0	- 4	- 21	- 101
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	2.00% – 4.50%	2.00% – 5.00%	0.00% – 6.00%	0.00% – 10.00%	0.00% – 5.00%
Average	3.15%	3.25%	3.30%	3.19%	0.83%
Change (Basis Points)		- 10	- 15	- 4	+ 232
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.50% – 4.00%	1.50% – 3.00%	1.80% – 3.00%	2.00% – 4.00%	2.00% – 4.00%
Average	2.45%	2.35%	2.59%	2.88%	2.79%
Change (Basis Points)		+ 10	- 14	- 43	- 34
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 9	1 – 9	1 – 12	1 – 12	2 – 12
Average	3.9	4.2	4.5	4.4	5.6
Change (▼, ▲, =)		▼	▼	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# Chicago Office Market

For the remainder of 2017, the Chicago office market is expected to stay in the expansion phase of the real estate cycle, characterized by strong tenant demand and increasingly tight market conditions, as per the PwC real estate barometer (see page 11). Following 2017, this market is expected to segue into contraction as market conditions shift more in favor of tenants. This phase is expected to persist through 2020 and result in slower rent growth and rising overall cap rates.

For now, this market's average overall cap rate and average initial-year market rent change rate assumptions hold steady at 7.26% and 2.14%, respectively, this quarter (see Table 9).

Over the next six months, surveyed investors unanimously foresee overall cap rates holding steady in this market. At the same time, they see pricing on the part of sellers staying aggressive at a time when "low growth expectations" are being sensed more and more among buyers. "Pricing is out of hand, and it's difficult to compete for offerings," says an investor.

With "no incentive to sell," most Survey participants expect few quality assets to come to market this year, especially in the CBD, which could result in another year-over-year decline in the CBD's annual sales total, which fell 37.4% in 2016, according to Cushman & Wakefield. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	70.0%	▲
Range	60.0% to 85.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	10	=
Range	6 to 15	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	7.26%	=
CBD	5.98%	=
Suburbs	8.54%	=

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 9**  
**CHICAGO OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.75% – 12.00%	5.75% – 12.00%	6.00% – 12.00%	6.50% – 13.00%	6.50% – 12.50%
Average	8.68%	8.63%	8.58%	9.07%	9.18%
Change (Basis Points)		+ 5	+ 10	- 39	- 50
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.50% – 10.00%	4.50% – 10.00%	5.00% – 10.00%	5.50% – 11.00%	5.75% – 11.00%
Average	7.26%	7.26%	7.34%	8.00%	8.17%
Change (Basis Points)		0	- 8	- 74	- 91
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 11.00%	5.50% – 11.00%	5.50% – 10.00%	6.00% – 11.00%	6.50% – 11.00%
Average	7.73%	7.79%	7.65%	8.13%	8.24%
Change (Basis Points)		- 6	+ 8	- 40	- 51
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 5.00%	0.00% – 4.50%	0.00% – 4.00%	(10.00%) – 3.00%
Average	2.14%	2.14%	2.00%	1.57%	0.13%
Change (Basis Points)		0	+ 14	+ 57	+ 201
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 6.00%	2.00% – 6.00%	2.00% – 5.00%	2.00% – 3.00%	2.00% – 3.00%
Average	3.29%	3.29%	3.14%	2.86%	2.94%
Change (Basis Points)		0	+ 15	+ 43	+ 35
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 9	2 – 9	2 – 8	2 – 8	2 – 12
Average	4.5	4.5	4.2	4.2	6.6
Change (▼, ▲, =)		=	▲	▲	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months



# Dallas Office Market

The Dallas office market sustains investor interest with its business-friendly environment, outstanding transportation systems, and strong in-migration trends. In 2016, total sales volume swelled 46.0% in this market, as per Real Capital Analytics. At the same time, the average sale price surged 48.0% to \$209.00 per square foot. As a result, there is some investor concern about overpaying. “This is a hot market now and a bunch of equity is chasing deals, so we need to watch pricing,” cautions an investor.

Fervent buyer interest and rising sale prices have contributed to a 34-basis-point decline in this market’s average overall cap rate this quarter

(see Table 10). At 6.50%, it is the lowest average reported for this market since its Survey debut in 1998. As shown in the Key 1Q17 Survey Stats table, the average overall cap rate for Dallas’ CBD remains below the rate for its suburbs. The spread between these two averages is 50 basis points this quarter, up from 34 basis points a year ago.

Even though this market’s vacancy rate crept up over the past year due to an abundance of new deliveries, this market’s overall outlook remains positive. “Tenant demand from substantial business relocations will help absorb much of the new supply,” believes a participant. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	68.0%	▼
Range	60.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	5	▼
Range	0 to 10	
% of participants using	67.0%	▼

### Average Overall Cap Rates:

Market (as a whole)	6.50%	▼
CBD	6.25%	▼
Suburbs	6.75%	▼

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 10**  
**DALLAS OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 11.00%	6.00% – 11.00%	6.00% – 11.00%	7.00% – 11.00%	7.50% – 12.00%
Average	7.94%	8.02%	8.18%	8.19%	9.11%
Change (Basis Points)		- 8	- 24	- 25	- 117
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 8.50%	5.00% – 9.00%	5.00% – 9.00%	5.25% – 9.00%	5.75% – 11.00%
Average	6.50%	6.84%	7.00%	7.17%	8.05%
Change (Basis Points)		- 34	- 50	- 67	- 155
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 9.00%	6.00% – 9.00%	5.75% – 9.00%	6.50% – 9.50%	7.00% – 10.00%
Average	7.18%	7.28%	7.28%	7.64%	8.27%
Change (Basis Points)		- 10	- 10	- 46	- 109
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	2.00% – 6.00%	1.00% – 6.00%	0.00% – 6.00%	1.00% – 6.00%	0.00% – 5.00%
Average	3.46%	3.46%	3.41%	3.88%	1.83%
Change (Basis Points)		0	+ 5	- 42	+ 163
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.50% – 4.00%	1.00% – 3.00%
Average	2.88%	2.89%	2.91%	3.13%	2.71%
Change (Basis Points)		- 1	- 3	- 25	+ 17
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 12	1 – 12	1 – 12	1 – 12	3 – 24
Average	5.3	5.0	4.6	3.7	7.6
Change (▼, ▲, =)		▲	▲	▲	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Denver Office Market

This quarter's Survey reveals that half of our surveyed investors believe conditions in the Denver office market favor sellers and half view the market as neutral – equally favoring buyers and sellers. Nevertheless, investors insist “strong competition” exists for assets with solid rent growth potential even though total sales volume declined 6.5% in 2016, according to Real Capital Analytics. While the slowdown in sales activity is due to a “disconnect between buyers and sellers,” certain investors believe that owners are more to blame for the decline in trades as “many existing owners are unwilling to sell their office holdings at this time.”

Despite fewer sales, the average asking rental rate increased 8.0% in the past 12 months, as per Cushman & Wakefield. However, our surveyed investors hold a diminished outlook for near-term rent growth in this market. As shown in Table 11, its average initial-year market rent change rate dives 34 basis points to the lowest level posted since the third quarter of 2013. Even though this key indicator, at 3.08%, is above the average of 2.58% for the 19 city-specific office markets in our Survey, many landlords will be challenged to increase rental rates in the next two years with nearly 4.3 million square feet of new office space slated for delivery. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	68.0%	=
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	4	=
Range	0 to 10	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	6.51%	▼
CBD	5.90%	▼
Suburbs	7.13%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 11**  
**DENVER OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	7.00% – 11.00%	6.50% – 11.00%	6.75% – 11.00%	6.50% – 10.00%	7.50% – 15.00%
Average	8.09%	7.98%	7.88%	8.03%	9.88%
Change (Basis Points)		+ 11	+ 21	+ 6	- 179
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 9.00%	5.00% – 9.00%	5.00% – 9.00%	5.50% – 9.00%	6.00% – 11.00%
Average	6.51%	6.52%	6.49%	6.98%	7.87%
Change (Basis Points)		- 1	+ 2	- 47	- 136
<b>RESIDUAL CAP RATE</b>					
Range	5.75% – 9.50%	5.75% – 9.50%	5.75% – 9.50%	6.25% – 9.00%	6.50% – 11.00%
Average	7.35%	7.40%	7.18%	7.31%	8.27%
Change (Basis Points)		- 5	+ 17	+ 4	- 92
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	2.00% – 5.00%	3.00% – 5.00%	2.00% – 4.00%	2.00% – 8.00%	(20.00%) – 5.00%
Average	3.08%	3.42%	3.20%	5.00%	(0.40%)
Change (Basis Points)		- 34	- 12	- 192	+ 348
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 5.00%	3.00% – 3.00%
Average	2.83%	2.83%	2.80%	3.20%	3.00%
Change (Basis Points)		0	+ 3	- 37	- 17
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 6	1 – 6	1 – 6	1 – 9	2 – 12
Average	3.8	3.9	4.0	4.8	5.6
Change (▼, ▲, =)		▼	▼	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Houston Office Market

Fundamentals in the Houston office market continue to falter due to a lack of office-space-using job growth, an abundance of new construction, and mounting sublease space. As of year-end 2016, sublease space reached 4.6 million square feet, up nearly 18.0% from the prior year, according to Cushman & Wakefield. During this same time period, high negative net absorption led to an increase in overall vacancy from 16.8% to 19.1%.

On top of a slowdown in leasing, the results of two key cash flow assumptions this quarter perpetuate a guarded opinion of this market. First, its average initial-year market rent change rate sits at -1.36% for the sec-

ond consecutive quarter, making Houston the only Survey market with a negative average in this category. Second, its average overall cap rate rises four basis points to 7.31%. Over the next six months, 86.0% of participants see overall cap rates rising an average of 36 basis points.

Most surveyed investors here believe that market conditions favor buyers, however, there are hurdles to making acquisitions. "Given the high vacancy, new supply, and the struggles within the oil sector, buyers want much higher returns than sellers will accept," explains a participant. Another laments, "Debt, debt, debt – Houston is a bit of a toxic location for lenders." ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	63.0%	=
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	9	=
Range	1 to 24	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	7.31%	▲
CBD	6.80%	▲
Suburbs	7.81%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 12**  
**HOUSTON OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.50% – 13.00%	6.50% – 13.00%	6.50% – 12.00%	7.00% – 14.00%	7.00% – 14.00%
Average	8.82%	8.80%	8.68%	9.26%	9.35%
Change (Basis Points)		+ 2	+ 14	- 44	- 53
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.75% – 10.00%	5.75% – 10.00%	5.50% – 10.00%	5.00% – 11.00%	5.50% – 12.00%
Average	7.31%	7.27%	7.13%	7.55%	7.94%
Change (Basis Points)		+ 4	+ 18	- 24	- 63
<b>RESIDUAL CAP RATE</b>					
Range	6.50% – 10.00%	6.25% – 10.00%	5.50% – 10.75%	5.00% – 11.00%	5.00% – 11.00%
Average	7.56%	7.54%	7.35%	7.83%	8.00%
Change (Basis Points)		+ 2	+ 21	- 27	- 44
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	(8.00%) – 3.00%	(8.00%) – 3.00%	(8.00%) – 5.00%	2.00% – 6.00%	0.00% – 8.00%
Average	(1.36%)	(1.36%)	(0.43%)	3.42%	2.67%
Change (Basis Points)		0	- 93	- 478	- 403
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%
Average	2.50%	2.50%	2.79%	2.67%	2.67%
Change (Basis Points)		0	- 29	- 17	- 17
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 12	3 – 12	1 – 13	3 – 12	3 – 12
Average	8.9	8.9	7.5	6.7	7.3
Change (▼, ▲, =)		=	▲	▲	▲

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# Los Angeles Office Market

A lack of quality properties for sale and increasing overall capitalization rates are two challenges noted by Survey participants this quarter for the Los Angeles office market. As shown in Table 13, the average overall cap rate moves up ten basis points to 5.84% this quarter – its highest average since year-end 2014. “Cap rates are going up and so is the cost of debt, which makes it more difficult to complete deals,” comments an investor.

Also challenging prospective owners is a highly competitive buying environment, especially for well-leased properties. “The large amount of capital chasing deals is creating

tons of competition,” confirms a participant. Nevertheless, many investors are finding ways to acquire assets. In fact, Los Angeles ranked as the second most active buyers’ market for office building sales in 2016 with volume of \$11.3 billion, according to Real Capital Analytics. Still, this sales volume is 63.0% below 2015’s transaction level.

Over the next 12 months, year-over-year sales activity could decline as our participants anticipate fewer offerings and a diminished outlook for value growth. Specifically, they foresee values decreasing as much as 5.0%, increasing as much as 10.0%, and averaging a change of +3.0%. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	68.0%	▼
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	5	=
Range	0 to 10	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	5.84%	▲
CBD	5.58%	▲
Suburbs	6.10%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 13**  
**LOS ANGELES OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.00% – 9.00%	5.00% – 8.50%	5.00% – 9.00%	5.75% – 10.00%	6.50% – 11.00%
Average	7.04%	6.93%	6.90%	7.66%	8.33%
Change (Basis Points)		+ 11	+ 14	- 62	- 129
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.25% – 8.00%	4.50% – 7.50%	4.50% – 7.25%	4.50% – 8.50%	4.50% – 8.50%
Average	5.84%	5.74%	5.69%	6.52%	6.85%
Change (Basis Points)		+ 10	+ 15	- 68	- 101
<b>RESIDUAL CAP RATE</b>					
Range	5.00% – 8.00%	5.00% – 8.00%	5.00% – 8.00%	5.25% – 9.00%	6.00% – 9.00%
Average	6.52%	6.56%	6.70%	6.86%	7.51%
Change (Basis Points)		- 4	- 18	- 34	- 99
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	3.00% – 6.00%	2.00% – 6.00%	0.00% – 7.00%	0.00% – 7.00%	0.00% – 6.00%
Average	3.83%	3.70%	3.90%	3.33%	2.38%
Change (Basis Points)		+ 13	- 7	+ 50	+ 145
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%
Average	2.67%	2.70%	2.80%	2.75%	2.75%
Change (Basis Points)		- 3	- 13	- 8	- 8
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 12	1 – 12	1 – 12	1 – 12	1 – 12
Average	4.9	4.4	4.7	5.3	5.7
Change (▼, ▲, =)		▲	▲	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Manhattan Office Market

For investors looking to acquire assets in the Manhattan office market, a lack of product for sale is a main obstacle for them to overcome. In addition, a participant says that “lenders have pulled back and are not offering the loan-to-value levels that were seen in the past few years, making it more difficult to invest.” According to Real Capital Analytics, sales volume was down 20.0% in this market in 2016 compared to 2015. Nevertheless, Manhattan was the most active office market in 2016 with total sales of \$22.7 billion.

The rising cost of tenant concessions is another challenge noted by potential buyers. Our Survey reveals

that tenant improvement (TI) allowances for shell space in this market ranges from \$40.00 to \$120.00 per square foot and averages \$70.00 per square foot – well above the average for the Survey’s 19 city-specific office markets (about \$55.00 per square foot). For lease renewals, local TIs range from \$10.00 to \$40.00 per square foot and average about \$26.00 per square foot – also above the average of \$19.00 per square foot for the Survey’s city-specific office markets.

Offering above average TIs is likely to continue as the pool of prospective tenants has become stagnant due to a recent slowdown in Manhattan’s employment growth. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average 69.0% ▲  
Range 50.0% to 80.0%

### Months of Free Rent<sup>(1)</sup>:

Average 8 ▼  
Range 0 to 15  
% of participants using 100.0% =

### Market Conditions Favor:

Buyers 0.0% =  
Sellers 67.0% =  
Neither 33.0% =

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 14**  
**MANHATTAN OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.75% – 9.00%	5.75% – 9.00%	5.50% – 9.00%	6.00% – 9.00%	6.50% – 10.00%
Average	6.88%	6.82%	6.85%	7.48%	7.58%
Change (Basis Points)		+ 6	+ 3	- 60	- 70
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	3.50% – 8.50%	3.50% – 8.50%	3.75% – 8.00%	4.00% – 8.00%	4.00% – 8.00%
Average	4.98%	5.00%	5.15%	5.38%	5.38%
Change (Basis Points)		- 2	- 17	- 40	- 40
<b>RESIDUAL CAP RATE</b>					
Range	3.50% – 8.50%	3.50% – 8.50%	5.00% – 8.00%	5.00% – 8.00%	5.00% – 7.50%
Average	5.67%	5.68%	5.98%	6.17%	6.08%
Change (Basis Points)		- 1	- 31	- 50	- 41
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	(3.00%) – 6.00%	0.00% – 7.00%	0.00% – 10.00%	3.00% – 10.00%
Average	3.13%	3.04%	3.92%	3.31%	5.21%
Change (Basis Points)		+ 9	- 79	- 18	- 208
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	0.00% – 4.00%	2.00% – 3.00%
Average	2.75%	2.64%	2.75%	2.75%	2.92%
Change (Basis Points)		+ 11	0	0	- 17
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 6	1 – 6	1 – 6	1 – 6	3 – 6
Average	4.3	4.3	4.3	4.0	4.1
Change (▼, ▲, =)		=	=	▲	▲

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Northern Virginia Office Market

The overall vacancy rate for the Northern Virginia office market remains well above its ten-year average despite steady leasing activity in 2016. According to Cushman & Wakefield, leasing activity totaled 5.4 million square feet, but resulted in only 63,000 square feet of net absorption and an overall vacancy rate of 21.3%. By comparison, this market's ten-year average overall vacancy rate is 17.0%. "High vacancy and low net absorption are the two main obstacles for owners in this market," confirms an investor.

Another challenge for some would-be buyers is "underwriting in an office market that lacks a catalyst

for spurring a recovery in its leasing market." For now, many buyers are using conservative underwriting assumptions, including low market rent growth rates and diminished tenant retention rates. As shown in Table 15, the average initial-year market rent change rate assumption for Northern Virginia's office market slips to 1.10% this quarter – the third lowest average of the 19 city-specific office markets in our Survey this quarter.

Slower rent growth combined with stabilizing cap rates is likely to subdue appreciation over the next 12 months. On average, our participants foresee property values in this office market declining 0.4%. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	64.0%	▼
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	7	=
Range	2 to 12	
% of participants using	100.0% =	

### Market Conditions Favor:

Buyers	40.0%	=
Sellers	20.0%	▲
Neither	40.0%	▼

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 15**  
**NORTHERN VIRGINIA OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 9.50%	6.00% – 9.50%	6.00% – 9.50%	7.00% – 10.00%	7.00% – 9.50%
Average	7.60%	7.63%	7.75%	8.25%	8.42%
Change (Basis Points)		- 3	- 15	- 65	- 82
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 8.50%	5.00% – 8.50%	5.00% – 8.50%	5.75% – 9.00%	6.00% – 9.00%
Average	6.68%	6.70%	6.88%	7.15%	7.39%
Change (Basis Points)		- 2	- 20	- 47	- 71
<b>RESIDUAL CAP RATE</b>					
Range	5.75% – 9.00%	5.75% – 9.00%	5.75% – 8.50%	6.00% – 9.00%	5.00% – 9.00%
Average	6.95%	7.20%	7.25%	7.55%	7.52%
Change (Basis Points)		- 25	- 30	- 60	- 57
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	(5.00%) – 3.00%	0.00% – 3.50%
Average	1.10%	1.30%	1.30%	1.00%	1.64%
Change (Basis Points)		- 20	- 20	+ 10	- 54
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	1.50% – 3.00%
Average	2.40%	2.40%	2.40%	2.54%	2.79%
Change (Basis Points)		0	0	- 14	- 39
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 8	3 – 9	3 – 9	3 – 9	1 – 9
Average	4.2	5.0	4.7	5.5	5.5
Change (▼, ▲, =)		▼	▼	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Pacific Northwest Office Market

Healthy fundamentals in the three main cities that comprise the Pacific Northwest office market – Bellevue, Portland, and Seattle – are drawing investment dollars despite some concern about market fundamentals softening over the near term. In Portland, for example, the average asking rental rate for Class-A space was up 10.7% year over year in 2016, according to Cushman & Wakefield. At the same time, overall vacancy increased in the CBD. Nevertheless, office properties totaling \$1.3 billion sold in Portland in 2016.

In Bellevue, the metro ended the year with an overall vacancy rate of 8.8% – a decrease of 140 basis

points. Plus, it recognized a 1.1% increase in its average asking rent on a year-over-year basis. In one recent Bellevue office building sale, One Twelfth @ Twelfth, a three-building, Class-A office complex, reportedly sold for \$452.00 per square foot and an overall cap rate of 5.9% – within the range and comparable to the average of the overall cap rates reported by our Survey participants this quarter (see Table 16).

Over the next six months, 82.0% of surveyed participants foresee overall cap rates holding steady in this market while the remainder is split between them either increasing or decreasing. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	69.0%	=
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	=
Range	0 to 12	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	6.03%	▲
CBD	5.61%	▲
Suburbs	6.44%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 16**  
**PACIFIC NORTHWEST OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.25% – 10.50%	5.25% – 10.50%	5.50% – 11.00%	6.50% – 11.00%	6.50% – 12.00%
Average	7.38%	7.36%	7.50%	7.92%	8.88%
Change (Basis Points)		+ 2	- 12	- 54	- 150
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.25% – 8.00%	4.50% – 8.00%	4.00% – 9.00%	4.20% – 9.00%	5.00% – 10.00%
Average	6.03%	6.00%	6.11%	6.47%	7.32%
Change (Basis Points)		+ 3	- 8	- 44	- 129
<b>RESIDUAL CAP RATE</b>					
Range	5.00% – 9.00%	5.00% – 9.00%	5.00% – 9.00%	5.00% – 9.00%	5.00% – 10.00%
Average	6.45%	6.44%	6.56%	6.85%	7.42%
Change (Basis Points)		+ 1	- 11	- 40	- 97
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	2.00% – 5.00%	2.00% – 5.00%	2.50% – 10.00%	0.00% – 8.00%	0.00% – 10.00%
Average	3.42%	3.52%	3.86%	3.94%	4.54%
Change (Basis Points)		- 10	- 44	- 52	- 112
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%
Average	2.86%	2.86%	2.91%	2.85%	2.75%
Change (Basis Points)		0	- 5	+ 1	+ 11
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 12	1 – 12	1 – 12	1 – 12	1 – 12
Average	4.9	4.9	4.7	5.1	5.0
Change (▼, ▲, =)		=	▲	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Philadelphia Office Market

Philadelphia's CBD and suburban office submarkets both ended the year with healthy leasing and net absorption levels. "Office fundamentals still remain strong as new product has been absorbed," confirms an investor. While the CBD reported an uptick in vacancy over the past 12 months as a result of new additions to supply, the suburbs saw a 290-basis-point decline in overall vacancy. Specifically, the year-end CBD and suburban vacancy rates of 10.6% and 11.8%, respectively, fall below the national averages of 12.4% and 13.6%, respectively, as per Cushman & Wakefield.

Steady sales and an increasing price per square foot reflect investors'

confidence in this market. According to Real Capital Analytics, the average sale price per square foot rose 22.5% last year. Recent CBD trades include Two Liberty Place, which sold for \$221.00 per square foot, and One Washington Square, which sold for \$133.00 per square foot. In the suburbs, two portfolios sold for \$161.00 and \$105.00 per square foot.

Although the investment arena remains active, this market's average overall cap rate holds steady this quarter. While most investors foresee overall cap rates rising in the coming months, they are monitoring interest rate increases and their potential impact on overall cap rates. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	66.0%	▲
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	5	=
Range	3 to 9	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	7.53%	=
CBD	6.90%	=
Suburbs	8.15%	=

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 17**  
**PHILADELPHIA OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	7.00% – 11.00%	7.00% – 11.00%	7.00% – 10.00%	7.00% – 12.00%	8.00% – 11.00%
Average	8.64%	8.60%	8.55%	9.28%	9.20%
Change (Basis Points)		+ 4	+ 9	- 64	- 56
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	6.00% – 9.50%	6.00% – 9.50%	6.00% – 9.00%	6.50% – 10.50%	7.50% – 10.00%
Average	7.53%	7.53%	7.53%	8.31%	8.55%
Change (Basis Points)		0	0	- 78	- 102
<b>RESIDUAL CAP RATE</b>					
Range	6.00% – 10.00%	6.00% – 10.00%	6.00% – 9.00%	6.50% – 10.00%	7.00% – 11.00%
Average	8.03%	8.03%	7.85%	8.20%	8.71%
Change (Basis Points)		0	+ 18	- 17	- 68
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%
Average	1.90%	1.85%	1.85%	1.50%	1.42%
Change (Basis Points)		+ 5	+ 5	+ 40	+ 48
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	2.75% – 3.00%
Average	2.30%	2.30%	2.30%	2.43%	2.96%
Change (Basis Points)		0	0	- 13	- 66
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 12	3 – 12	3 – 12	3 – 12	4 – 18
Average	6.0	5.6	5.4	6.4	7.6
Change (▼, ▲, =)		▲	▲	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months



# Phoenix Office Market

Robust demand, declining vacancy, and rising rental rates contribute to the Phoenix office market's position in the expansion phase of the real estate cycle for the next two years, according to our PwC real estate barometer (see page 11). In 2016, vigorous leasing led to its second highest annual net absorption since 2005 and a 110-basis-point drop in vacancy, as per Cushman & Wakefield. Also, its average asking rental rate rose 5.4% during that time period.

These characteristics have lured buyers here over the past two years; however, total annual sales for 2016 was down 30.0%. Surveyed investors allude to limited for-sale offerings

and the rising cost of debt as primary reasons for the recent slowdown in sale transactions. "There is increased competition for high-quality assets, which leads to compressed pricing on new loan originations," explains an investor. "The biggest challenge for buyers in this market will be the cost of financing," echoes another.

Overall, our surveyed investors hold an optimistic outlook for this market as most anticipate property value increases in the coming year. The average expected value increase is 3.0% – above the composite average of 1.4% for the 19 city-specific office markets in our Survey. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	69.0%	=
Range	60.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	7	=
Range	2 to 10	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	6.79%	▲
CBD	6.63%	▼
Suburbs	6.95%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 18**  
**PHOENIX OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	7.00% – 10.00%	6.00% – 10.50%	7.00% – 12.00%	7.00% – 14.50%	8.00% – 16.00%
Average	8.28%	8.33%	8.48%	9.22%	11.05%
Change (Basis Points)		- 5	- 20	- 94	- 277
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 8.00%	5.00% – 8.00%	5.00% – 8.50%	5.50% – 10.00%	8.00% – 11.00%
Average	6.79%	6.74%	6.84%	7.26%	9.40%
Change (Basis Points)		+ 5	- 5	- 47	- 261
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 8.25%	5.50% – 8.25%	5.50% – 9.00%	6.00% – 9.50%	7.50% – 10.00%
Average	7.13%	7.12%	7.12%	7.51%	8.80%
Change (Basis Points)		+ 1	+ 1	- 38	- 167
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	2.00% – 7.00%	2.00% – 7.00%	2.00% – 7.00%	0.00% – 5.00%	(1.00%) – 3.00%
Average	4.00%	4.00%	4.00%	1.75%	0.30%
Change (Basis Points)		0	0	+ 225	+ 370
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	2.50% – 3.00%
Average	2.50%	2.50%	2.70%	2.67%	2.85%
Change (Basis Points)		0	- 20	- 17	- 35
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 18	1 – 18	1 – 9	1 – 12	3 – 12
Average	7.5	6.8	4.7	5.8	5.5
Change (▼, ▲, =)		▲	▲	▲	▲
a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months					

# San Diego Office Market

Our quarterly stock acquisition analysis reveals that 15.0% of the inventory in the San Diego office market traded in 2016. Although this figure is above the overall average of 13.2% for the office metros included in the analysis, it is below this market's average stock acquisition percentage of 19.6% from a year ago (see page 16).

Total annual sales volume in San Diego dipped 1.9% from year-end 2015 to year-end 2016, as per Real Capital Analytics (RCA). "It is tricky to find a Class-A office asset for sale that has an excellent location with ease of access," remarks an investor. In addition to a limited supply of

offerings, finding properties with the right physical characteristics, such as ample parking and quality amenities, presents a challenge to willing buyers. "We want an asset with a modern configuration that appeals to today's tenants," says an investor.

Despite a decrease in office building sales volume, strong competition for assets drove up this office market's average sale price 7.6% in 2016 to \$273.00 per square foot, as per RCA. In addition, it helps compress this market's average overall cap rate 20 basis points this quarter to 6.53% (see Table 19) – the lowest average for San Diego since the fourth quarter of 2008 when it was 6.43%. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	67.0%	▼
Range	60.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	4	=
Range	1 to 10	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	6.53%	▼
CBD	6.50%	▼
Suburbs	6.55%	▼

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 19**  
**SAN DIEGO OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.25% – 10.50%	6.25% – 10.50%	6.25% – 10.50%	6.75% – 11.50%	7.00% – 12.50%
Average	7.86%	7.83%	7.83%	8.22%	9.30%
Change (Basis Points)		+ 3	+ 3	- 36	- 144
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 8.50%	5.00% – 8.50%	5.25% – 8.50%	5.50% – 9.00%	6.00% – 10.00%
Average	6.53%	6.73%	6.81%	7.16%	7.89%
Change (Basis Points)		- 20	- 28	- 63	- 136
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 8.75%	5.75% – 8.75%	5.75% – 8.75%	6.00% – 8.00%	6.50% – 9.00%
Average	6.86%	7.11%	7.20%	7.11%	7.88%
Change (Basis Points)		- 25	- 34	- 25	- 102
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	2.00% – 6.00%	2.00% – 6.00%	2.00% – 6.00%	0.00% – 6.00%	(10.00%) – 3.00%
Average	3.80%	3.80%	3.80%	3.10%	0.10%
Change (Basis Points)		0	0	+ 70	+ 370
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%
Average	2.70%	2.80%	2.80%	2.80%	2.90%
Change (Basis Points)		- 10	- 10	- 10	- 20
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 12	1 – 6	1 – 6	1 – 8	1 – 9
Average	5.1	4.1	4.3	4.5	4.8
Change (▼, ▲, =)		▲	▲	▲	▲

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# San Francisco Office Market

When looking for acquisitions in the San Francisco office market, there are a few “must-have” property characteristics. “Being near transportation and having open floor plans are key,” says an investor. “We like properties with speculative suites that are ‘plug-and-play’ ready,” says another. From an operating perspective, our surveyed investors prefer properties with long-term, diversified leases and responsive management in place.

Based on 2016’s sales volume for this market, it appears that investors continue to find product that meets their criteria. In 2016, local office building sales totaled \$7.7 billion – a 15.0% increase from 2015, as per Real

Capital Analytics. Even though most buyers still contend that the investment side of this market remains highly competitive, that may soon change as there are signs that market conditions are softening, such as rising vacancy rates, slowing rent growth, and impending deliveries of new supply.

Another sign of softening market conditions is the slight uptick in this market’s average overall cap rate, which increases slightly this quarter to 5.46% (see Table 20). Still, it stands as the third lowest of the 19 city-specific office markets in our Survey. Only the office markets of Washington, DC and Manhattan post lower averages this quarter. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average 69.0% ▼  
Range 50.0% to 80.0%

### Months of Free Rent<sup>(1)</sup>:

Average 5 =  
Range 0 to 10  
% of participants using 100.0% =

### Average Overall Cap Rates:

Market (as a whole) 5.46% ▲  
CBD 4.98% ▲  
Suburbs 5.94% ▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 20**  
**SAN FRANCISCO OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.00% – 9.50%	5.00% – 9.50%	5.75% – 10.00%	6.00% – 11.00%	6.00% – 11.00%
Average	6.86%	6.80%	6.89%	7.68%	8.29%
Change (Basis Points)		+ 6	- 3	- 82	- 143
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	3.50% – 8.00%	3.50% – 8.00%	3.50% – 9.00%	4.00% – 9.00%	4.50% – 9.50%
Average	5.46%	5.39%	5.70%	6.25%	6.87%
Change (Basis Points)		+ 7	- 24	- 79	- 141
<b>RESIDUAL CAP RATE</b>					
Range	5.00% – 9.00%	5.00% – 9.00%	5.00% – 9.00%	5.00% – 9.00%	5.50% – 10.00%
Average	6.25%	6.25%	6.21%	6.81%	7.36%
Change (Basis Points)		0	+ 4	- 56	- 111
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 5.00%	2.00% – 6.00%	2.00% – 12.00%	0.00% – 15.00%
Average	3.10%	3.10%	4.10%	6.43%	5.86%
Change (Basis Points)		0	- 100	- 333	- 276
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 4.00%	0.00% – 3.00%
Average	2.60%	2.60%	2.60%	2.79%	2.67%
Change (Basis Points)		0	0	- 19	- 7
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 6	1 – 6	1 – 6	1 – 8	1 – 12
Average	3.9	3.9	3.9	4.1	5.4
Change (▼, ▲, =)		=	=	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Seattle Office Market

The Seattle office market has some of the best characteristics sought after by buyers, such as low unemployment, job growth in TAMI (technology, advertising, media, and information) sectors, and a good quality of life preferred by many in the workforce. At the end of 2016, the Seattle-Tacoma-Bellevue metropolitan statistical area (MSA) posted a 4.8% unemployment rate – its lowest figure in nine years, according to the Bureau of Labor Statistics. Such a healthy employment picture has benefitted the local office sector, where overall vacancy declined in 2016 to 6.0% in the CBD and 14.0% in the suburbs, as per Cushman & Wakefield.

When looking for specific office properties to acquire, one surveyed investor notes that they look for assets with “access to street-level amenities and transit.” Good access to transportation is a main consideration as “traffic is awful and getting worse,” says another investor. In addition, some investors like “creative” office buildings and those that have “common areas since millennials like to collaborate.”

Seattle’s investment arena has been quite active recently with buyers acquiring both Class-A and Class-B office assets. A recent notable Class-B deal involved Riverview Plaza in the Southend suburb of Tukwila. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	69.0%	▲
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	=
Range	1 to 12	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	5.83%	▲
CBD	5.48%	▲
Suburbs	6.19%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 21**  
**SEATTLE OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>				
Range	5.25% – 10.00%	5.25% – 10.00%	5.50% – 11.00%	6.50% – 11.00%
Average	7.24%	7.18%	7.47%	8.09%
Change (Basis Points)		+ 6	- 23	- 85
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>				
Range	4.25% – 8.00%	4.50% – 8.00%	4.00% – 9.00%	4.20% – 9.00%
Average	5.83%	5.79%	6.10%	6.48%
Change (Basis Points)		+ 4	- 27	- 65
<b>RESIDUAL CAP RATE</b>				
Range	5.00% – 9.00%	5.00% – 9.00%	5.00% – 9.00%	5.00% – 9.00%
Average	6.27%	6.24%	6.41%	6.69%
Change (Basis Points)		+ 3	- 14	- 42
<b>MARKET RENT CHANGE<sup>b</sup></b>				
Range	2.50% – 5.00%	2.50% – 5.00%	2.50% – 5.00%	2.50% – 8.00%
Average	3.60%	3.71%	3.75%	4.25%
Change (Basis Points)		- 11	- 15	- 65
<b>EXPENSE CHANGE<sup>b</sup></b>				
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	1.00% – 3.00%
Average	2.79%	2.79%	2.88%	2.75%
Change (Basis Points)		0	- 9	+ 4
<b>MARKETING TIME<sup>c</sup></b>				
Range	1 – 12	1 – 12	1 – 12	1 – 12
Average	4.8	4.8	5.0	5.3
Change (▼, ▲, =)		=	▼	▼
a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months				

# Southeast Florida Office Market

Our PwC real estate barometer places Fort Lauderdale and West Palm Beach in the expansion phase of the real estate cycle by the end of 2017 while it has Miami in the contraction phase at that time (see page 11). By year-end 2018, each location is forecast to be in the contraction phase, characterized by a shift in the supply/demand balance leading to increasing vacancy rates, slowing rental growth, and rising overall cap rates.

The rise in overall capitalization rates is already taking place in this market as the average for this key assumption moves up 22 basis points this quarter (see Table 22). At 7.26%, it's now the highest average for this

market since midyear 2015. The average overall cap rate has also increased for both the CBD and suburban segments of this market. While the CBD average cap rate increases 18 basis points to 6.63%, the average for the suburbs moves up 27 basis points to 7.90% (see Key 1Q17 Survey Stats).

Over the next six months, 80.0% of Survey participants foresee overall cap rates holding steady in this market while the balance expects them to increase. "We see cap rates rising between 25 and 50 basis points," ventures an investor. The overall view for the Survey's 19 city-specific office markets is that rates will hold steady (74.0%). ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	65.0%	=
Range	40.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	6	=
Range	1 to 12	
% of participants using	100.0%	=

### Average Overall Cap Rates:

Market (as a whole)	7.26%	▲
CBD	6.63%	▲
Suburbs	7.90%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 22**  
**SOUTHEAST FLORIDA OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 10.50%	6.00% – 10.50%	6.00% – 11.50%	7.00% – 12.00%	7.00% – 16.00%
Average	8.31%	8.23%	8.33%	8.97%	10.38%
Change (Basis Points)		+ 8	- 2	- 66	- 207
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.00% – 10.00%	5.00% – 10.00%	4.50% – 10.00%	5.00% – 10.50%	6.00% – 15.00%
Average	7.26%	7.04%	7.18%	7.72%	9.25%
Change (Basis Points)		+ 22	+ 8	- 46	- 199
<b>RESIDUAL CAP RATE</b>					
Range	5.00% – 10.50%	5.00% – 10.50%	4.50% – 10.50%	5.00% – 10.50%	7.00% – 12.00%
Average	7.49%	7.36%	7.34%	7.90%	9.14%
Change (Basis Points)		+ 13	+ 15	- 41	- 165
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 5.00%	0.00% – 6.00%	(10.00%) – 4.00%	(10.00%) – 3.00%
Average	2.20%	2.25%	2.50%	0.63%	(0.92%)
Change (Basis Points)		- 5	- 30	+ 157	+ 312
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%
Average	2.70%	2.75%	2.75%	2.58%	2.75%
Change (Basis Points)		- 5	- 5	+ 12	- 5
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 12	2 – 12	2 – 12	2 – 12	2 – 18
Average	5.5	5.1	5.2	5.7	6.7
Change (▼, ▲, =)		▲	▲	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Suburban Maryland Office Market

Shifts in the investment criteria used by surveyed investors in the Suburban Maryland office market suggest that they are still cautiously approaching deals even though this market reported positive net absorption and a decline in overall vacancy in 2016. One of the main challenges for both existing and prospective owners here is “a shallowness to the tenant pool.” So while positive leasing trends have been occurring, they have yet to pick up steam, leaving most investors content with being conservative in their underwriting.

This quarter, this office market’s average overall cap rate increases 20 basis points to 7.48% – its highest

average since the start of 2015. In addition, its average initial-year market rent change rate dips ten basis points to 0.35% – the second lowest average for this assumption among the 19 city-specific office markets in the Survey. On a positive note, the expectation that tenants will remain in their spaces upon lease expiration holds steady at 68.0%.

Looking ahead, most surveyed investors are hopeful that positive trends will take hold in this market due to a limited construction pipeline, persistent local job growth, and a new presidential administration’s potential to increase leasing demand for office space. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	68.0%	=
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	9	=
Range	5 to 12	
% of participants using	100.0%	=

### Market Conditions Favor:

Buyers	0.0%	=
Sellers	20.0%	=
Neither	80.0%	=

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 23**  
**SUBURBAN MARYLAND OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	7.00% – 10.00%	7.00% – 10.00%	7.25% – 10.00%	7.25% – 12.00%	7.25% – 9.50%
Average	8.65%	8.75%	8.88%	9.08%	8.41%
Change (Basis Points)		- 10	- 23	- 43	+ 24
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.50% – 9.00%	5.50% – 9.00%	5.50% – 9.00%	5.50% – 9.00%	5.00% – 9.00%
Average	7.48%	7.28%	7.28%	7.54%	7.29%
Change (Basis Points)		+ 20	+ 20	- 6	+ 19
<b>RESIDUAL CAP RATE</b>					
Range	6.50% – 9.50%	6.50% – 9.50%	6.50% – 9.75%	6.50% – 9.75%	5.00% – 9.75%
Average	7.73%	7.83%	7.88%	8.13%	7.73%
Change (Basis Points)		- 10	- 15	- 40	0
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 1.50%	0.00% – 1.50%	(2.00%) – 1.00%	(2.00%) – 3.00%	(2.00%) – 3.00%
Average	0.35%	0.45%	(0.10%)	0.50%	1.08%
Change (Basis Points)		- 10	+ 45	- 15	- 73
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	1.00% – 3.00%	0.00% – 3.00%
Average	2.00%	2.00%	2.00%	2.67%	2.58%
Change (Basis Points)		0	0	- 67	- 58
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 9	3 – 9	3 – 9	3 – 9	1 – 9
Average	6.1	6.1	5.7	5.9	4.9
Change (▼, ▲, =)		=	▲	▲	▲

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Washington, DC Office Market

Long-term stability and preservation of value are two reasons our Survey participants give for wanting to own assets in the Washington, DC office market. “Owning office assets in the District provides an investor with reliable liquidity,” remarks a participant. Another says, “Consistent investment demand maintains property values.” These positive comments come at a time when this office market is experiencing healthy job growth, particularly in office-space-using sectors, but posting very little positive net absorption. In fact, its overall vacancy rate closed the fourth quarter of 2016 at 12.1%, a 50-basis-point increase from the prior year.

Local investors are hopeful, however, that the new presidential administration’s proposals will boost leasing activity and net absorption. When combined with a strong job growth outlook, many investors are therefore optimistic about the near-term performance of the District. Our PwC real estate barometer places Washington, DC’s office market in the recovery phase of the real estate cycle through year-end 2018 (see page 11). In 2019 and 2020, however, a decrease in tenant demand combined with the delivery of new supply is expected to move this metro into recession – a phase that typically involves high vacancy levels and negative rent growth. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	68.0%	▼
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	8	▲
Range	0 to 12	
% of participants using	100.0%	=

### Market Conditions Favor:

Buyers	17.0%	=
Sellers	33.0%	▼
Neither	50.0%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 24**  
**WASHINGTON, DC OFFICE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.00% – 8.00%	5.00% – 8.00%	5.50% – 8.00%	6.00% – 8.00%	6.00% – 9.00%
Average	6.50%	6.65%	6.81%	6.95%	7.48%
Change (Basis Points)		-15	-31	-45	-98
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.25% – 6.50%	4.25% – 6.50%	4.25% – 6.50%	4.25% – 6.50%	4.50% – 8.00%
Average	5.29%	5.29%	5.40%	5.44%	5.96%
Change (Basis Points)		0	-11	-15	-67
<b>RESIDUAL CAP RATE</b>					
Range	5.00% – 6.50%	5.00% – 6.50%	5.00% – 6.50%	5.25% – 6.75%	5.25% – 8.25%
Average	5.73%	5.75%	5.85%	6.08%	6.46%
Change (Basis Points)		-2	-12	-35	-73
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 4.00%	0.00% – 4.00%	0.00% – 4.00%	0.00% – 4.00%	0.00% – 4.00%
Average	1.33%	1.50%	1.42%	1.67%	2.36%
Change (Basis Points)		-17	-9	-34	-103
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	1.50% – 3.00%
Average	2.33%	2.75%	2.75%	2.92%	2.82%
Change (Basis Points)		-42	-42	-59	-49
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 6	2 – 6	2 – 6	2 – 9	2 – 12
Average	3.6	4.0	4.0	4.8	5.3
Change (▼, ▲, =)		▼	▼	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# National Flex/R&D Market

The national flex/R&D market experienced another sharp decline in vacancy between 2015 and 2016, dropping from 11.8% to 11.1%, according to Reis. Much of this decline was driven by slower supply growth coupled with steady leasing activity even though net absorption slowed in 2016 compared to 2015. Specifically, net absorption totaled 14.8 million square feet in 2015 compared to 10.5 million square feet for 2016.

The abatement in leasing activity has made it more difficult for many property owners to raise rental rates. In fact, this quarter, the average initial-year market rent change rate assumption reported by our surveyed

investors holds steady for the third consecutive quarter at 2.50%. Nevertheless, this average is well above where it was three and five years ago (see Table 25).

In terms of investment sales, robust activity resulted in a 7.0% annual gain in volume in 2016, according to Real Capital Analytics. Interestingly, the number of properties sold was down 12.0% in 2016. “Finding good quality flex/R&D assets to invest in is difficult with fewer such properties on the market,” confirms an investor. U.S. cities where flex/R&D sales have recently occurred include Rockville, Maryland; Romeoville, Illinois; and Seattle, Washington. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	67.0%	=
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	3	=
Range	1 to 9	
% of participants using	100.0%	=

### Market Conditions Favor:

Buyers	0.0%	=
Sellers	0.0%	▼
Neither	100.0%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 25**  
**NATIONAL FLEX/R&D MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.75% – 10.00%	6.75% – 10.50%	7.00% – 11.00%	7.50% – 12.00%	8.00% – 13.00%
Average	8.08%	8.13%	8.33%	8.95%	9.58%
Change (Basis Points)		- 5	- 25	- 87	- 150
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.50% – 9.00%	5.50% – 9.00%	5.75% – 9.00%	6.25% – 10.00%	6.50% – 12.00%
Average	7.05%	7.05%	7.15%	7.83%	8.71%
Change (Basis Points)		0	- 10	- 78	- 166
<b>RESIDUAL CAP RATE</b>					
Range	6.00% – 9.00%	6.00% – 9.00%	6.00% – 9.00%	6.75% – 10.00%	7.00% – 10.50%
Average	7.33%	7.38%	7.40%	7.95%	8.56%
Change (Basis Points)		- 5	- 7	- 62	- 123
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 4.00%	0.00% – 4.00%	0.00% – 5.00%	0.00% – 3.00%	0.00% – 3.00%
Average	2.50%	2.50%	2.20%	2.00%	1.42%
Change (Basis Points)		0	+ 30	+ 50	+ 108
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%
Average	2.60%	2.70%	2.70%	2.90%	2.92%
Change (Basis Points)		- 10	- 10	- 30	- 32
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 12	2 – 12	2 – 12	2 – 15	2 – 18
Average	6.6	6.7	7.0	7.3	7.8
Change (▼, ▲, =)		▼	▼	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months



# National Warehouse Market

Robust growth in e-commerce continues to fuel strong tenant demand throughout the national warehouse market as evidenced by this sector's vacancy rate, which ended 2016 at 10.3% despite high levels of new supply. According to Reis, new supply of 69.7 million square feet was outpaced by 82.3 million square feet of net absorption for the year – a trend expected to carry over into 2017. “Strong market fundamentals and robust tenant demand rule this sector,” exclaims a participant.

The strength of this sector allowed many property owners to raise rents in 2016 as Reis reported a 2.2% increase in the average asking rental

rate for warehouse assets. While many of our Survey participants continue to be aggressive with rent growth expectations in their cash flow forecasts, the average for this key assumption did slip a bit this quarter to 2.50% (see Table 26). This average reflects a 55-basis-point drop from a year ago and could suggest that while very optimistic about this sector's current performance, a “cooling-off period” is anticipated.

In terms of acquisitions, most investors are looking for “quality assets” or “newer properties” that can deliver long-term stability and stable returns, as well as the possibility of value appreciation. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	68.0%	=
Range	50.0% to 80.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	2	=
Range	0 to 7	
% of participants using	80.0%	▼

### Market Conditions Favor:

Buyers	0.0%	=
Sellers	60.0%	=
Neither	40.0%	=

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 26**  
**NATIONAL WAREHOUSE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.50% – 9.00%	5.50% – 9.25%	5.50% – 9.25%	5.75% – 9.00%	6.50% – 12.00%
Average	6.74%	6.84%	6.94%	7.50%	8.41%
Change (Basis Points)		- 10	- 20	- 76	- 167
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.25% – 6.90%	3.00% – 7.00%	3.00% – 7.00%	5.00% – 7.50%	6.00% – 12.00%
Average	5.37%	5.27%	5.52%	6.16%	7.41%
Change (Basis Points)		+ 10	- 15	- 79	- 204
<b>RESIDUAL CAP RATE</b>					
Range	5.00% – 7.00%	5.00% – 8.50%	4.75% – 8.50%	5.50% – 8.50%	6.00% – 12.00%
Average	6.03%	6.05%	6.28%	6.65%	7.72%
Change (Basis Points)		- 2	- 25	- 62	- 169
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 6.00%	0.00% – 6.00%	0.00% – 7.00%	0.00% – 6.00%	(3.00%) – 4.00%
Average	2.50%	2.55%	3.05%	2.48%	1.46%
Change (Basis Points)		- 5	- 55	+ 2	+ 104
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	3.00% – 3.00%	2.50% – 3.00%	2.00% – 3.00%
Average	2.55%	2.40%	3.00%	2.95%	2.88%
Change (Basis Points)		+ 15	- 45	- 40	- 33
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 9	1 – 9	1 – 12	2 – 12	2 – 18
Average	3.8	3.8	4.5	5.8	7.1
Change (▼, ▲, =)		=	▼	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# ENC Region Warehouse Market

Certain shifts in the Survey results captured from investors this quarter in the East North Central (ENC) region warehouse market suggest that while still upbeat, they are exercising care. First, this market's average initial-year market rent change rate falls 27 basis points to 2.63% – its lowest average for this key indicator since 2014. Second, the percentage of Survey participants that view market conditions as favoring sellers has dropped from 100.0% to 75.0% over the past three months. And lastly, this market's average overall cap rate holds steady at 5.45% for the third consecutive quarter.

A more cautionary stance among investors is also seen in less sales

activity in key ENC warehouse cities, like Chicago, Columbus, and Indianapolis. Specifically, sales volume for industrial assets was down 14.0%, 34.0%, and 28.0%, respectively, for these cities in 2016, as per Real Capital Analytics. At the same time, however, annual sales volumes were up for Cleveland (+34.0%) and St. Louis (+15.0%) in 2016.

When looking at properties to acquire, investors still believe that this market's stability is a benefit for ownership in 2017. "Limited downside and stable metros that generally are not subject to major swings in industry pricing are pluses for ownership in this market," says an investor. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	65.0%	=
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	3	=
Range	0 to 5	
% of participants using	100.0%	=

### Market Conditions Favor:

Buyers	0.0%	=
Sellers	75.0%	▼
Neither	25.0%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 27**  
**EAST NORTH CENTRAL (ENC) REGION WAREHOUSE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>				
Range	5.75% – 7.00%	5.75% – 7.50%	5.75% – 7.50%	6.50% – 8.50%
Average	6.50%	6.68%	6.73%	7.53%
Change (Basis Points)		- 18	- 23	- 103
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>				
Range	4.50% – 6.00%	4.50% – 6.00%	4.50% – 6.25%	5.50% – 7.50%
Average	5.45%	5.45%	5.48%	6.50%
Change (Basis Points)		0	- 3	- 105
<b>RESIDUAL CAP RATE</b>				
Range	5.50% – 7.00%	5.50% – 7.00%	5.50% – 7.00%	5.75% – 8.25%
Average	6.23%	6.40%	6.45%	7.03%
Change (Basis Points)		- 17	- 22	- 80
<b>MARKET RENT CHANGE<sup>b</sup></b>				
Range	0.00% – 5.00%	0.00% – 5.00%	0.00% – 5.00%	0.00% – 5.00%
Average	2.63%	2.90%	2.90%	2.50%
Change (Basis Points)		- 27	- 27	+ 13
<b>EXPENSE CHANGE<sup>b</sup></b>				
Range	2.00% – 3.00%	2.00% – 4.00%	2.00% – 4.00%	2.50% – 5.00%
Average	2.90%	3.00%	3.00%	3.13%
Change (Basis Points)		- 10	- 10	- 23
<b>MARKETING TIME<sup>c</sup></b>				
Range	2 – 9	2 – 9	2 – 9	2 – 12
Average	5.0	5.0	5.0	5.7
Change (▼, ▲, =)		=	=	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Pacific Region Warehouse Market

Stellar underlying fundamentals continue to draw investors to the Pacific region warehouse market in search of opportunities for both existing, build-to-suit, and opportunistic deals. “Leasing demand is still outpacing additions to supply, particularly for spaces under 50,000 square feet, so returns should remain stable and keep buyers active,” shares a participant. Another investor likes this market’s “stability, less downside risk, and upside for appreciation.” Not all investors, however, are now pursuing deals. “We are holding off from buying to further determine whether the increase in treasuries will effect cap rates,” says an investor.

For buyers looking for assets in strong markets, the five metros with the lowest industrial availability rates in 2016 were located in the Pacific region and include the San Francisco Peninsula (3.2%), Orange County (3.4%), Walnut Creek (3.8%), Los Angeles and Oakland (3.9%), and Portland (4.6%), as per CBRE. West Coast cities also garnered the highest average asking rental rates for industrial properties in 2016, including San Diego (\$13.60 per square foot), San Jose (\$19.34 per square foot), and San Francisco Peninsula at \$30.36 per square foot. By comparison, the U.S. average was \$6.58 per square foot in 2016. ◆

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	62.0%	=
Range	50.0% to 75.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	3	=
Range	1 to 6	
% of participants using	100.0%	=

### Market Conditions Favor:

Buyers	0.0%	=
Sellers	80.0%	=
Neither	20.0%	=

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 28**  
**PACIFIC REGION WAREHOUSE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.50% – 8.50%	5.50% – 8.50%	5.50% – 9.00%	6.00% – 8.25%	6.50% – 8.50%
Average	6.53%	6.58%	6.80%	7.32%	7.65%
Change (Basis Points)		- 5	- 27	- 79	- 112
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	3.75% – 7.00%	3.75% – 7.00%	3.75% – 7.00%	4.50% – 7.50%	5.00% – 7.75%
Average	5.00%	5.10%	5.28%	5.95%	6.50%
Change (Basis Points)		- 10	- 28	- 95	- 150
<b>RESIDUAL CAP RATE</b>					
Range	4.50% – 8.00%	4.50% – 8.00%	4.75% – 7.50%	5.50% – 8.50%	6.00% – 8.75%
Average	5.70%	5.75%	5.90%	6.61%	7.05%
Change (Basis Points)		- 5	- 20	- 91	- 135
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 4.00%	0.00% – 4.00%	0.00% – 5.00%	0.00% – 5.00%	0.00% – 3.00%
Average	2.15%	2.15%	2.40%	2.86%	2.10%
Change (Basis Points)		0	- 25	- 71	+ 5
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%
Average	2.80%	2.80%	2.80%	2.82%	2.85%
Change (Basis Points)		0	0	- 2	- 5
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 6	1 – 6	1 – 6	1 – 12	1 – 18
Average	3.3	3.3	3.2	4.1	5.1
Change (▼, ▲, =)		=	▲	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# National Apartment Market

Investment criteria changes very little for the national apartment market this quarter as it sits in the contraction phase of the real estate cycle. As shown in Table 29, the outlook for average rent growth slips a bit to 2.80% while the average overall cap rate holds at 5.26%. Over the next six months, half of investors foresee overall cap rates rising as much as 50 basis points while the balance foresees them holding steady.

Despite a record year for apartment sales in 2016, an extended cycle in some metros and record new supply present challenges for eager buyers in the coming year. “We need to appropriately understand the im-

pact of new development,” says an investor. Certain investors observe that supply issues are leading to slower rent growth in some areas. According to Reis, average effective rent growth for 2016 was 3.6%, down from 5.8% in the prior year. In addition, it can be difficult to find quality assets available for sale.

Even though investors assess many metros as past their peak in the cycle, the overall outlook for average apartment property value growth is positive. In the coming year, investors anticipate value changes ranging from a decline of 5.0% to an increase of 10.0%. The average value change is an increase of 2.5%. ◆

## KEY 1Q17 SURVEY STATS\*

### Total Vacancy Assumption:

Average	6.0%	=
Range	2.0% to 10.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	1	=
Range	0 to 2	
% of participants using	70.0%	=

### Market Conditions Favor:

Buyers	0.0%	=
Sellers	40.0%	▼
Neither	60.0%	▲

\* ▼, ▲, = change from prior quarter  
(1) on a one-year lease

**Table 29**  
**NATIONAL APARTMENT MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.50% – 10.00%	5.50% – 10.00%	5.00% – 10.00%	6.00% – 14.00%	5.25% – 14.00%
Average	7.24%	7.30%	7.28%	8.17%	8.28%
Change (Basis Points)		- 6	- 4	- 93	- 104
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	3.50% – 8.00%	3.50% – 7.50%	3.50% – 8.00%	3.50% – 10.00%	3.75% – 10.00%
Average	5.33%	5.26%	5.35%	5.79%	5.83%
Change (Basis Points)		+ 7	- 2	- 46	- 50
<b>RESIDUAL CAP RATE</b>					
Range	4.25% – 8.00%	4.25% – 7.50%	4.25% – 8.50%	4.25% – 9.50%	4.50% – 9.75%
Average	5.75%	5.71%	5.86%	6.23%	6.25%
Change (Basis Points)		+ 4	- 11	- 48	- 50
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 5.00%	0.00% – 6.00%	0.00% – 8.00%	(2.00%) – 8.00%
Average	2.80%	2.85%	3.18%	2.73%	2.73%
Change (Basis Points)		- 5	- 38	+ 7	+ 7
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 4.00%	2.00% – 4.00%	2.00% – 4.00%	1.00% – 3.50%	1.00% – 4.00%
Average	2.73%	2.78%	2.91%	2.70%	2.62%
Change (Basis Points)		- 5	- 18	+ 3	+ 11
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 9	1 – 9	1 – 9	0 – 12	0 – 18
Average	3.9	3.8	3.8	5.0	5.3
Change (▼, ▲, =)		▲	▲	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# Regional Apartment Markets

On a national level, apartment sales reached a record high in 2016 and six of the top metros for total sales volume fall in the Mid-Atlantic, Pacific, and Southeast regional apartment markets. According to Reis, total sales volume reached \$158.4 billion, up 3.0% over the prior year. Metros with total sales in the top 15 for the year included Washington, DC and the Maryland Suburbs in the Mid-Atlantic region; Los Angeles, Seattle, and Portland in the Pacific region; and Atlanta and Tampa in the Southeast region.

Regardless of these stellar sales levels, the average overall cap rate holds steady in all three regions this quarter (see Tables 30 and 31). The

Pacific region maintains the lowest average overall cap rate of 4.54%, followed by the Mid-Atlantic at 5.01% and the Southeast at 5.10%. Over the next six months, most investors anticipate overall cap rates holding steady in these regions.

While key investment criteria generally remain unchanged in each region, there are differences in the perception of market conditions across the three regions. Our Survey reveals that 80.0% of investors in both the Mid-Atlantic and Pacific regions believe market conditions are neutral – equally favoring buyers and sellers. However, in the Southeast region, they unanimously believe market con-

ditions favor sellers.

In addition to market conditions impacting a buyer's ability to negotiate price, investors foresee other roadblocks for acquisitions in the coming year ranging from a lack of for-sale inventory to stricter lending policies. A participant in the Mid-Atlantic region explains, "Lenders seem to be requiring lower loan-to-value levels, making debt more difficult to obtain." In addition, "There is a shortage of quality apartment product to buy because many owners are unwilling to sell assets," remarks a participant. Another states, "Our challenge is finding value-added apartment properties available for sale." ♦

**Table 30**  
**SOUTHEAST REGION APARTMENT MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.75% – 10.00%	5.75% – 10.00%	6.00% – 10.00%	6.50% – 10.00%	6.50% – 11.00%
Average	7.50%	7.53%	7.58%	7.85%	8.40%
Change (Basis Points)		- 3	- 8	- 35	- 90
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	3.50% – 6.50%	3.50% – 6.50%	3.75% – 7.00%	4.50% – 7.25%	5.00% – 7.00%
Average	5.10%	5.10%	5.30%	5.65%	5.86%
Change (Basis Points)		0	- 20	- 55	- 76
<b>RESIDUAL CAP RATE</b>					
Range	4.50% – 7.00%	4.50% – 7.00%	4.50% – 7.00%	5.25% – 7.50%	5.50% – 9.75%
Average	5.75%	5.75%	5.78%	6.30%	6.64%
Change (Basis Points)		0	- 3	- 55	- 89
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	1.00% – 4.00%	1.00% – 4.00%	1.00% – 4.00%	2.00% – 4.00%	(10.00%) – 10.00%
Average	3.05%	3.05%	3.05%	3.05%	2.25%
Change (Basis Points)		0	0	0	+ 80
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	2.00% – 3.00%	2.00% – 3.00%	2.00% – 3.00%	2.00% – 4.00%	1.00% – 3.00%
Average	2.80%	2.80%	2.80%	3.00%	2.36%
Change (Basis Points)		0	0	- 20	+ 44
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 6	1 – 6	1 – 6	1 – 12	1 – 18
Average	3.1	3.1	3.1	4.0	6.0
Change (▼, ▲, =)		=	=	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

Table 31

## REGIONAL APARTMENT MARKETS

First Quarter 2017

	MID-ATLANTIC REGION				PACIFIC REGION					
	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>										
Range	5.25% - 10.00%	5.25% - 10.00%	5.50% - 10.00%	5.00% - 11.00%	5.50% - 14.00%	5.25% - 9.00%	5.50% - 9.00%	5.50% - 9.00%	5.00% - 12.00%	5.00% - 12.50%
Average	7.35%	7.58%	7.75%	8.02%	9.27%	6.65%	6.70%	6.83%	7.31%	8.58%
Change (Basis Points)	- 23	- 40	- 40	- 67	- 192	- 5	- 18	- 18	- 66	- 193
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>										
Range	3.00% - 6.75%	3.00% - 7.50%	4.00% - 7.50%	4.00% - 7.50%	4.00% - 7.50%	3.50% - 6.00%	3.50% - 6.00%	3.50% - 6.00%	3.50% - 6.25%	4.00% - 7.00%
Average	5.01%	5.20%	5.46%	5.48%	5.75%	4.49%	4.54%	4.50%	4.88%	5.21%
Change (Basis Points)	- 19	- 45	- 45	- 47	- 74	- 5	- 1	- 1	- 39	- 72
<b>RESIDUAL CAP RATE</b>										
Range	4.00% - 7.50%	4.25% - 7.00%	4.25% - 7.50%	4.50% - 9.75%	4.50% - 9.75%	4.25% - 6.50%	4.25% - 6.50%	3.75% - 6.00%	4.00% - 7.00%	4.00% - 7.50%
Average	5.53%	5.63%	5.69%	6.00%	6.44%	5.05%	5.10%	5.05%	5.52%	5.71%
Change (Basis Points)	- 10	- 16	- 16	- 47	- 91	- 5	0	0	- 47	- 66
<b>MARKET RENT CHANGE<sup>b</sup></b>										
Range	0.00% - 4.00%	0.00% - 4.00%	0.00% - 4.00%	(2.50%) - 5.00%	(5.00%) - 7.00%	0.00% - 5.00%	0.00% - 6.00%	2.00% - 6.00%	2.00% - 7.00%	0.00% - 6.00%
Average	1.85%	1.90%	2.83%	2.04%	2.92%	2.90%	2.95%	4.20%	4.04%	3.17%
Change (Basis Points)	- 5	- 98	- 98	- 19	- 107	- 5	- 5	- 130	- 114	- 27
<b>EXPENSE CHANGE<sup>b</sup></b>										
Range	0.00% - 4.00%	1.00% - 3.00%	1.00% - 3.00%	1.00% - 3.00%	1.00% - 3.00%	0.00% - 3.00%	0.00% - 3.00%	2.00% - 3.00%	2.00% - 4.00%	2.00% - 3.00%
Average	2.50%	2.70%	2.75%	2.75%	2.58%	2.23%	2.23%	2.83%	2.96%	2.79%
Change (Basis Points)	- 20	- 25	- 25	- 25	- 8	0	0	- 60	- 73	- 56
<b>MARKETING TIME<sup>c</sup></b>										
Range	1 - 9	2 - 9	2 - 9	2 - 6	1 - 18	1 - 9	1 - 9	1 - 9	1 - 12	1 - 12
Average	3-9	4.2	4.3	4.3	5.8	4.1	4.1	4.5	4.7	5.4
Change (▼, ▲, =)	▼	▼	▼	▼	▼	=	=	▼	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# National Net Lease Market

Transaction volume for 2016 in the national net lease market fell short of the prior year despite extreme competition for offerings. Specifically, net lease sales of \$5.0 billion or greater in the office, industrial, and retail sectors reached \$48.0 billion in 2016, down from \$57.5 billion one year prior. While each sector saw a decrease in sales, the office sector posted the smallest decline of 1.3%, followed by the industrial sector at 22.6%, and the retail sector at 28.7%.

Amid this slowdown in sales activity, interest rate increases and rising overall cap rates are at the forefront of investors' thoughts. "2017 will be a turning point as higher rates will thin

the herd of net lease players who will have to find alternative investments to achieve yields," predicts a participant. As shown in Table 32, this market's average overall cap rate holds steady this quarter. However, 60.0% of our participants foresee overall cap rates increasing over the next six months.

Although many investors predict "robust" investment demand for net lease assets this year, this market's average expected value change of -1.8% reflects a guarded viewpoint. Net lease is the only national market in our Survey with a negative average expected property value change over the next 12 months. ◆

## KEY 1Q17 SURVEY STATS\*

### Market Conditions Favor:

Neutral	20.0%	=
Sellers	80.0%	=

### Months of Free Rent:

Average	(1)
Range	(1)
% of participants using	(1)

### Portfolio Allocation:

Sale leasebacks	16.0%	▼
Net lease sales	39.0%	=
1031 exchanges	19.0%	=
Build to suit	26.0%	▲

\* ▼, ▲, = change from prior quarter  
(1) 60.0% of participants are not using free rent.

**Table 32**  
**NATIONAL NET LEASE MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.00% – 10.00%	6.00% – 10.00%	6.00% – 10.00%	7.00% – 9.00%	7.00% – 9.00%
Average	8.00%	8.00%	8.00%	7.94%	8.16%
Change (Basis Points)		0	0	+ 6	- 16
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	5.25% – 9.00%	5.25% – 9.00%	5.25% – 9.00%	6.00% – 8.50%	6.00% – 8.75%
Average	6.75%	6.75%	6.75%	7.03%	7.46%
Change (Basis Points)		0	0	- 28	- 71
<b>RESIDUAL CAP RATE</b>					
Range	6.00% – 9.00%	6.00% – 9.00%	6.00% – 9.00%	7.00% – 9.00%	6.50% – 9.00%
Average	7.63%	7.63%	7.63%	8.00%	8.25%
Change (Basis Points)		0	0	- 37	- 62
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	(3.00%) – 3.00%
Average	1.70%	1.70%	1.80%	1.85%	0.79%
Change (Basis Points)		0	- 10	- 15	+ 91
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%	0.00% – 3.00%
Average	1.40%	1.70%	1.70%	2.15%	1.88%
Change (Basis Points)		- 30	- 30	- 75	- 48
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 12	2 – 12	1 – 12	2 – 12	1 – 12
Average	4.9	4.9	4.4	4.2	4.9
Change (▼, ▲, =)		=	▲	▲	=

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# National Medical Office Buildings Market

Interest in the national medical office buildings (MOB) market remains keen with many surveyed investors expecting to be net buyers in the coming year. Unfortunately for them, steep competition for assets has increased the difficulty of acquiring MOB properties. “We expect continued intense bidding for high-quality MOB and fewer offerings of value-added MOB assets,” states another. “We still like this category, but offerings are hard to find,” comments a participant.

Regardless of these sentiments, transaction volume remains quite steady. Year-over-year total sales volume was down 11.4% in 2016, but still exceeded \$10.2 billion, as per

Real Capital Analytics. Through the first six weeks of this year, MOB sales totaled \$589.6 million and pending deals exceeded \$1.2 billion. “An attractive risk-adjusted return relative to other real estate categories is driving sales,” summarizes an investor.

Adding to the complexity of finding MOB product for sale is a diminished outlook for this market’s future rent growth and expected property value change. As shown in Table 33, the average initial-year market rent change rate dips four basis points this quarter to 2.42%. Moreover, this market’s expected value change over the next 12 months is 0.3% this quarter, compared to 1.3% a year ago. ♦

## KEY 1Q17 SURVEY STATS\*

### Tenant Retention Rate:

Average	81.0%	▲
Range	70.0% to 90.0%	

### Months of Free Rent<sup>(1)</sup>:

Average	3	=
Range	1 to 6	
% of participants using	85.0%	=

### Average Overall Cap Rates:

Market (as a whole)	6.76%	=
On campus	6.40%	▲
Off campus	7.13%	▼

\* ▼, ▲, = change from prior quarter  
(1) on a ten-year lease

**Table 33**  
**NATIONAL MEDICAL OFFICE BUILDINGS MARKET**  
First Quarter 2017

	CURRENT	LAST QUARTER	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	5.75% – 11.00%	5.50% – 11.00%	5.50% – 11.00%	6.00% – 12.00%	6.50% – 13.00%
Average	7.85%	7.99%	7.96%	8.45%	8.94%
Change (Basis Points)		- 14	- 11	- 60	- 109
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.75% – 10.00%	4.50% – 10.00%	4.75% – 10.00%	5.50% – 11.00%	5.75% – 11.00%
Average	6.76%	6.76%	6.83%	7.68%	7.92%
Change (Basis Points)		0	- 7	- 92	- 116
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 10.25%	5.25% – 10.25%	5.50% – 10.50%	6.00% – 11.00%	6.25% – 12.00%
Average	7.02%	7.08%	7.13%	7.83%	8.19%
Change (Basis Points)		- 6	- 11	- 81	- 117
<b>MARKET RENT CHANGE<sup>b</sup></b>					
Range	0.00% – 4.00%	0.00% – 4.00%	0.00% – 4.00%	(5.00%) – 3.00%	0.00% – 3.00%
Average	2.42%	2.46%	2.31%	1.53%	1.08%
Change (Basis Points)		- 4	+ 11	+ 89	+ 134
<b>EXPENSE CHANGE<sup>b</sup></b>					
Range	1.00% – 4.00%	1.00% – 4.00%	1.00% – 4.00%	0.00% – 4.00%	0.00% – 4.00%
Average	2.42%	2.43%	2.34%	2.33%	2.17%
Change (Basis Points)		- 1	+ 8	+ 9	+ 25
<b>MARKETING TIME<sup>c</sup></b>					
Range	1 – 12	1 – 12	1 – 12	1 – 12	1 – 12
Average	4.7	4.6	4.4	5.3	5.4
Change (▼, ▲, =)		▲	▲	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months



# National Lodging Highlights

The following is extracted from "Hospitality Directions US" updated January 30, 2017, published by PwC Hospitality & Leisure.

## POST-ELECTION SURGE IN CONSUMER AND BUSINESS SENTIMENT SUGGESTS MOMENTUM FOR 2017

Following initially lower expectations, the U.S. lodging industry's performance was encouraging in the fourth quarter of 2016. Stronger demand, driven primarily by a surge in post-election consumer and business sentiment, contributed to a better-than-expected RevPAR increase for the industry of 3.2% in 2016.

Independent hotels led the growth in RevPAR in 2016 with an annual increase of 4.6%. The economy chain-scale segment was second with an annual increase of 3.1%, followed by the midscale chain-scale segment at 2.5% and the upper-midscale chain-scale segment at 2.3%. At 1.3%, the luxury chain-scale segment posted the lowest RevPAR gain in 2016.

Looking ahead, earlier concerns related to economic and political uncertainty appear to have moderated since the end of the election cycle. Instead, the prospects of lower taxes, reduced regulations, and updated trade policies are forecast to contribute to improving U.S. economic conditions, surging capital markets, and increasing business and consumer confidence, which has already reached prerecession levels. These trends are expected to support growth in corporate transient demand, which was uneven in 2016.

Nevertheless, demand-side concerns continue to linger, including the strength of the U.S. dollar and its impact on inbound, international travel. In addition, an increase in long-term interest rates is anticipated to constrain domestic economic activity in the short- and medium-term, according to IHS Markit.

## SUPPLY

Supply growth for the U.S. lodging

industry is expected to accelerate to 1.9% in 2017 (up from 1.6% in 2016), approaching the long-term average of 2.0%, for the first time since 2009 when supply increased at a faster pace than the long-term average.

For 2017, the upscale chain-scale segment is forecast to see the greatest increase in supply, growing at 5.5% (comparable to its growth in 2016). On the other hand, the economy segment is expected to see a 0.2% decrease in supply in 2017.

## DEMAND

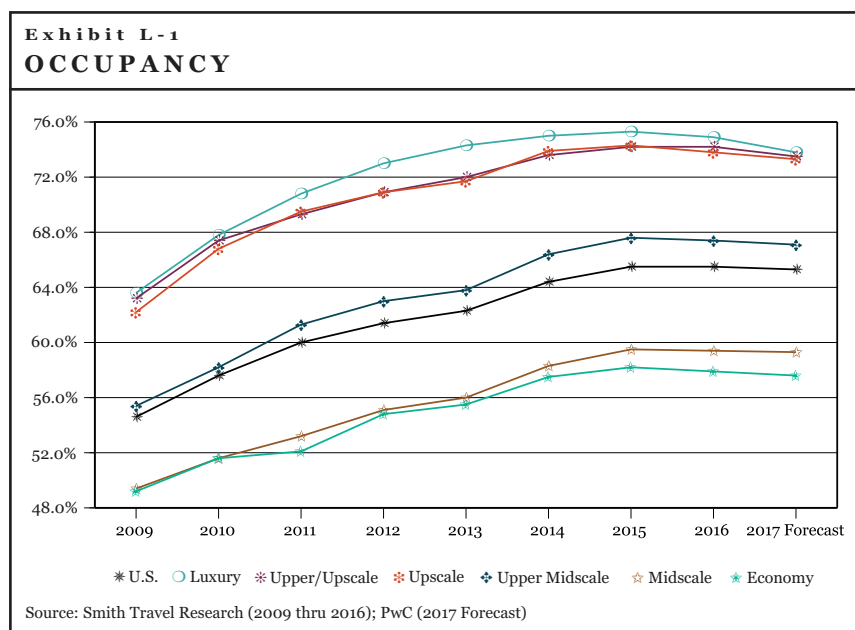
For 2017, PwC's lodging outlook anticipates moderating demand growth for the industry, as well as six of its seven chain-scale segments. As a whole, the industry's demand growth is forecast at 1.6% for 2017, just below 2016's level of 1.7%. In contrast, demand grew 2.7% in 2015 and 4.1% in 2014.

For the chain-scale segments, upscale lodging is forecast to lead demand growth in 2017 with an increase of 4.7%. Even though this is below its level in 2016 (+5.0%), it remains above the industry average of 1.6%. For 2017, the second highest demand growth forecast is for the upper-midscale segment at 3.9% – above its 2016 level of 1.9%.

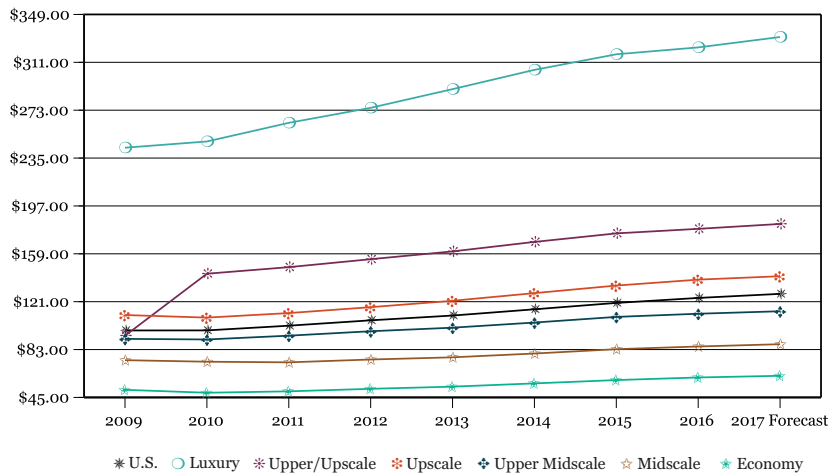
## OCCUPANCY

For 2017, acceleration of supply growth, paired with a continued deceleration in the rate of demand growth, is expected to result in a decline in the industry's occupancy for the first time in eight years. Specifically, PwC forecasts the industry's occupancy level to decrease to 65.3% in 2017.

As shown in Exhibit L-1, each of the five chain-scale segments includ-



**Exhibit L-2**  
**AVERAGE DAILY RATE (ADR)**



Source: Smith Travel Research (2009 thru 2016); PwC (2017 Forecast)

ed in our Survey is forecast to see declines in annual occupancy in 2017, led by the luxury segment with a decline of 1.5%.

**AVERAGE DAILY RATE (ADR)**

ADR for the U.S. lodging industry was \$122.94 for the first half of 2016, a 3.1% increase from the same period in 2015, as per STR. ADR grew in each chain-scale segment over this time period with only the economy segment surpassing the U.S. average.

For 2016, ADR for the U.S. lodging industry is forecast to grow 4.7%, which represents the largest annual gain since 2007. As shown in Exhibit L-2, ADR growth is forecast for each chain-scale segment in 2016.

**MANHATTAN**

In the second quarter of 2016, multiple disruptors continued to hamper the performance of Manhattan hotels as both occupancy and ADR declined in each month of the second quarter. Several factors, such as the continued strengthening of the U.S. dollar and weakness in corporate transient demand continue to weigh on U.S. hotels,

and a steady influx of supply in the Manhattan lodging market has placed increased downward pressure on both ADR and occupancy. Overall, the combination of a 3.7% decline in ADR and a 1.4% decrease in occupancy resulted in RevPAR declining 5.0% for the quarter.

Four of Manhattan’s five lodging submarkets continued to report RevPAR declines in the second quarter. The Upper Manhattan location outperformed the other submarkets with a RevPAR increase of 0.6%, while the remaining submarkets declines ranging from 3.8% to 9.7%.

**INVESTMENT ACTIVITY**

U.S. hotel sale transactions totaled \$35.8 billion in 2016, a 29.0% year-over-year decline, as per Real Capital Analytics. Volume fell for both single asset sales and portfolio and entity-level transactions – down 22.0% and 39.0% year over year, respectively.

The decline in sales activity in 2016 is more a story about the extremes of 2015. Single-asset deals in 2016, for instance, fell 22.0% but posted a volume of \$23.0 billion – still

considered a healthy year as the average annual pace of sales since 2005 is \$17.0 billion. Furthermore, if you exclude the “mega sales” from 2015, the annual decline in sales volume for 2016 would have been a more modest 7.0%.

When looking at specific metros, volume was up in only seven of the top-25 markets in 2016 compared to 2017. These seven markets, including Honolulu and Nashville, moved up significantly in rank given how quickly other metros slipped in terms of deal flow.

The top-five metros in terms of sales volume for 2016 are in Table NLH-1. Four had the distinction of being in the top five for 2015. Missing from 2015’s top-five list is Orlando. ♦

**Table NLH-1**  
**2016 HOTEL SALES VOLUME**  
Top U.S. Metros

Metro	Total Volume (\$M)	Rank 2015
1. Manhattan	\$5,233	1
2. San Francisco	\$2,560	2
3. Chicago	\$1,926	5
4. Miami/ Dade County	\$1,426	4
5. Miami	\$1,267	6

Source: Real Capital Analytics, Inc.

**Trends and forecasts have been extracted from *Hospitality Directions US*, published by PwC Hospitality & Leisure. Released January 2017, this report provides historical data and forecasts for the U.S. lodging industry and seven chain-scale segments with respect to ADR, supply, demand, occupancy, RevPAR, and revenue. For more information, email [contact.hospitality@us.pwc.com](mailto:contact.hospitality@us.pwc.com).**

# National Full-Service Lodging Segment

Shifts in the key cash flow assumptions used by our surveyed investors in the national full-service market suggest that they have grown a bit concerned about this lodging sector's near-term performance. First, the average overall cap rate increases 12 basis points to 7.90% (see Table 34). Second, the average ADR change rate assumption for the first year of a cash flow forecast decreases to 2.83%. This represents the first time that the average for this assumption has fallen below 3.00% since the first quarter of 2011.

Some of investors' concerns about

this lodging sector stem from a decrease in demand at the same time that new supply is occurring. As net supply rises, travelers will have more booking options while owners will likely experience dips in occupancy and the inability to raise ADRs as aggressively as in the past.

As shown in Table FSM-1, occupancy for both the upscale and upper-midscale segments that comprise this sector are forecast to decline in 2017. At the same time, ADR growth is expected to fall below 2016's levels this year. ♦

**Table FSM-1  
LODGING FORECASTS**

Segment	2017	Annual Change
<b>Upscale</b>		
Occupancy	73.3%	- 0.8%
ADR	\$141.22	+ 2.0%
RevPAR	\$103.44	+ 1.2%
<b>Upper Midscale</b>		
Occupancy	67.1%	- 0.5%
ADR	\$113.41	+ 1.8%
RevPAR	\$76.13	+ 1.3%

Source: *Hospitality Directions US, January 2017*; published by PwC

**Table 34  
NATIONAL FULL-SERVICE LODGING SEGMENT  
First Quarter 2017**

	CURRENT	THIRD QUARTER 2016	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	8.00% – 13.00%	8.00% – 12.75%	8.50% – 13.00%	9.00% – 12.00%	8.50% – 12.00%
Average	10.19%	10.40%	10.48%	10.71%	10.88%
Change (Basis Points)		- 21	- 29	- 52	- 69
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	6.00% – 10.00%	6.25% – 10.00%	6.00% – 10.00%	6.00% – 10.00%	6.00% – 10.00%
Average	7.90%	7.78%	7.75%	7.73%	8.04%
Change (Basis Points)		+ 12	+ 15	+ 17	- 14
<b>RESIDUAL CAP RATE</b>					
Range	7.00% – 10.00%	7.00% – 10.00%	7.00% – 10.00%	6.50% – 11.00%	6.00% – 12.00%
Average	8.40%	8.38%	8.38%	8.17%	8.68%
Change (Basis Points)		+ 2	+ 2	+ 23	- 28
<b>AVERAGE DAILY RATE<sup>b</sup></b>					
Range	(2.00%) – 7.00%	0.00% – 5.00%	0.00% – 5.00%	0.00% – 6.00%	(1.00%) – 10.00%
Average	2.83%	3.10%	3.50%	3.88%	3.79%
Change (Basis Points)		- 27	- 67	- 105	- 96
<b>OPERATING EXPENSE<sup>b</sup></b>					
Range	1.00% – 4.00%	1.00% – 4.00%	1.00% – 4.00%	1.00% – 5.00%	1.00% – 5.00%
Average	2.92%	2.80%	2.70%	2.96%	2.82%
Change (Basis Points)		+ 12	+ 22	- 4	+ 10
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 9	3 – 9	3 – 9	3 – 12	3 – 24
Average	6.3	7.0	6.9	7.3	10.7
Change (▼, ▲, =)		▼	▼	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# National Limited-Service Midscale & Economy Lodging Segment

The two chain-scale segments that comprise the limited-service midscale & economy lodging segment are expected to perform very differently in 2017. First, the midscale segment is expected to still see positive demand growth, albeit at a slower rate, while the economy segment is expected to see a decline in demand. Second, supply is expected to grow 1.1% in the midscale segment, but decline 0.2% in the economy segment. Both, however, are forecast to realize ADR growth of 2.1% and 2.2%, respectively, just below the

national average of 1.9%.

Surveyed investors do not feel that the growing popularity of Airbnb is impacting the performance of this lodging segment “too much.” However, one Survey participant notes that “there is some impact in U.S. gateway markets.” Another adds that “a softening is occurring in select areas.”

A challenging operating environment is reflected in this market’s expected value change over the next 12 months, which has steadily declined over the past year, reaching an average of -0.3% this quarter. ♦

**Table ELM-1  
LODGING FORECASTS**

Segment	2017	Annual Change
<b>Midscale</b>		
Occupancy	59.3%	- 0.1%
ADR	\$87.25	+ 2.1%
RevPAR	\$51.78	+ 2.1%
<b>Economy</b>		
Occupancy	57.6%	- 0.5%
ADR	\$62.18	+ 2.2%
RevPAR	\$35.80	+ 1.7%

Source: *Hospitality Directions US, January 2017*; published by PwC

**Table 35  
NATIONAL LIMITED-SERVICE MIDSACLE & ECONOMY LODGING SEGMENT**  
First Quarter 2017

	CURRENT	THIRD QUARTER 2016	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	8.50% – 13.00%	8.50% – 12.00%	8.50% – 12.00%	9.00% – 12.00%	9.50% – 13.00%
Average	11.00%	10.55%	10.70%	10.42%	11.13%
Change (Basis Points)		+ 45	+ 30	+ 58	- 13
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	7.50% – 11.00%	7.50% – 10.00%	7.50% – 10.25%	8.00% – 10.00%	8.00% – 12.00%
Average	9.06%	8.70%	8.88%	9.00%	9.75%
Change (Basis Points)		+ 36	+ 18	+ 6	- 69
<b>RESIDUAL CAP RATE</b>					
Range	7.75% – 11.00%	7.75% – 10.00%	7.75% – 10.50%	8.00% – 11.00%	8.50% – 12.00%
Average	9.66%	9.43%	9.48%	9.25%	9.95%
Change (Basis Points)		+ 23	+ 18	+ 41	- 29
<b>AVERAGE DAILY RATE<sup>b</sup></b>					
Range	(2.50%) – 8.00%	0.00% – 4.00%	2.00% – 4.00%	2.00% – 6.00%	0.00% – 7.00%
Average	2.95%	2.65%	3.15%	3.40%	3.70%
Change (Basis Points)		+ 30	- 20	- 45	- 75
<b>OPERATING EXPENSE<sup>b</sup></b>					
Range	2.50% – 3.00%	2.50% – 3.00%	2.50% – 3.00%	1.00% – 3.00%	1.00% – 3.00%
Average	2.95%	2.95%	2.95%	2.75%	2.75%
Change (Basis Points)		0	0	+ 20	+ 20
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 12	2 – 12	2 – 12	2 – 12	2 – 12
Average	6.5	6.8	6.9	7.0	8.3
Change (▼, ▲, =)		▼	▼	▼	▼

a. Rate on unleveraged, all-cash transactions

b. Initial rate of change

c. In months

# National Luxury/Upper-UpSCALE Lodging Segment

Due to the addition of new supply and weakened demand, our surveyed investors are being a bit more conservative with regard to their cash flow assumptions. This quarter, the average ADR change rate slips to 3.10% (see Table 36). In addition, this market's average overall cap rate moves up eight basis points to 7.00%, representing the highest average for this key assumption since the first quarter of 2015. Still, it remains the lowest average overall cap rate of the Survey's four hotel segments.

Surveyed investors feel that the growing popularity of Airbnb has either "not impacted this segment at all" or "has not affected it significantly." As one investor remarks, "In the luxury lodging environment, guests are looking for the amenities versus just a room to stay in." Another, however, believes some cities lodging segments are being affected. "When New York City is at 80.0%-plus occupancy, Airbnb significantly impacts the ability of the city to fill rooms and particularly impacts its room rates." ♦

**Table LUM-1  
LODGING FORECASTS**

Segment	2017	Annual Change
<b>Luxury</b>		
Occupancy	73.8%	- 1.5%
ADR	\$331.08	+ 2.5%
RevPAR	\$244.41	+ 1.1%
<b>Upper Upscale</b>		
Occupancy	73.5%	- 0.8%
ADR	\$182.70	+ 2.2%
RevPAR	\$134.34	+ 1.3%

Source: *Hospitality Directions US, January 2017*; published by PwC

**Table 36  
NATIONAL LUXURY/UPPER-UPSCALE LODGING SEGMENT  
First Quarter 2017**

	CURRENT	THIRD QUARTER 2016	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	6.50% – 12.00%	6.50% – 12.00%	6.50% – 12.00%	9.00% – 12.00%	8.50% – 13.00%
Average	9.53%	9.60%	9.60%	10.11%	10.60%
Change (Basis Points)		- 7	- 7	- 58	- 107
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	4.00% – 9.00%	4.00% – 9.00%	4.00% – 9.00%	4.00% – 9.50%	6.00% – 10.00%
Average	7.00%	6.92%	6.90%	7.24%	8.05%
Change (Basis Points)		+ 8	+ 10	- 24	- 105
<b>RESIDUAL CAP RATE</b>					
Range	5.50% – 9.50%	5.50% – 9.50%	5.50% – 10.00%	6.00% – 10.00%	6.00% – 12.00%
Average	7.18%	7.23%	7.27%	7.62%	8.66%
Change (Basis Points)		- 5	- 9	- 44	- 148
<b>AVERAGE DAILY RATE<sup>b</sup></b>					
Range	0.00% – 6.00%	0.00% – 9.00%	0.00% – 9.00%	0.00% – 10.00%	(2.00%) – 15.00%
Average	3.10%	4.00%	3.83%	4.07%	4.46%
Change (Basis Points)		- 90	- 73	- 97	- 136
<b>OPERATING EXPENSE<sup>b</sup></b>					
Range	0.00% – 4.00%	0.00% – 5.00%	0.00% – 5.00%	0.00% – 5.00%	0.00% – 6.00%
Average	2.60%	2.75%	2.83%	2.71%	3.02%
Change (Basis Points)		- 15	- 23	- 11	- 42
<b>MARKETING TIME<sup>c</sup></b>					
Range	3 – 12	3 – 12	3 – 12	3 – 20	2 – 20
Average	6.8	6.3	5.8	7.8	8.0
Change (▼, ▲, =)		▲	▲	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

# National Select-Service Lodging Segment

Following the trend started for the national select-service lodging market in 2015, an average property value decline is expected for this market over the next 12 months. Specifically, surveyed investors see property values either increasing as much as 10.0% or decreasing as much as 3.0%. The average expected change is a decline of 1.4%.

By comparison, surveyed investors in this lodging segment expected value growth of 11.7% in 2011; 5.2% in 2012; 4.7% in 2013; 6.4% in 2014; and 3.7% in 2015.

A declining outlook for this lodging segment is also reflected in the cash flow assumptions reported by our Survey participants this quarter. First, this sector's average overall capitalization rate moves up five basis points to 8.60% – the highest average ever reported for the select-service lodging segment since its debut in 2011. Second, its average ADR change rate slips 20 basis points to 3.00% – the fifth consecutive semiannual decline for this key assumption and its lowest average since debuting in our Survey in 2011. ♦

**Table SSL-1**  
**EXPECTED VALUE CHANGE\***

Survey Lodging Markets		
Segment	Range	Average
Full Service	(5.0%) to 3.0%	0.0%
Limited-Service Midscale & Economy	(5.0%) to 5.0%	- 0.3%
Luxury/Upper Upscale	(3.0%) to 10.0%	+ 2.9%
Select Service	(10.0%) to 3.0%	- 1.4%

\* Over the next 12 months  
Source: PwC Real Estate Investor Survey

**Table 37**  
**NATIONAL SELECT-SERVICE LODGING SEGMENT**  
First Quarter 2017

	CURRENT	THIRD QUARTER 2016	1 YEAR AGO	3 YEARS AGO	5 YEARS AGO
<b>DISCOUNT RATE (IRR)<sup>a</sup></b>					
Range	8.00% – 11.00%	8.00% – 11.00%	9.00% – 12.00%	9.00% – 13.00%	10.00% – 15.00%
Average	9.90%	9.80%	10.80%	10.95%	11.65%
Change (Basis Points)		+ 10	- 90	- 105	- 175
<b>OVERALL CAP RATE (OAR)<sup>a</sup></b>					
Range	6.50% – 10.00%	6.50% – 10.00%	6.50% – 10.75%	5.00% – 10.00%	5.00% – 12.00%
Average	8.60%	8.55%	8.43%	8.10%	8.50%
Change (Basis Points)		+ 5	+ 17	+ 50	+ 10
<b>RESIDUAL CAP RATE</b>					
Range	7.00% – 10.75%	7.00% – 10.75%	7.50% – 11.00%	5.00% – 10.00%	5.00% – 12.00%
Average	9.03%	9.03%	8.95%	8.34%	8.60%
Change (Basis Points)		0	+ 8	+ 69	+ 43
<b>AVERAGE DAILY RATE<sup>b</sup></b>					
Range	0.00% – 5.00%	0.00% – 6.00%	2.00% – 5.00%	1.00% – 8.00%	0.00% – 8.00%
Average	3.00%	3.20%	3.40%	4.70%	4.80%
Change (Basis Points)		- 20	- 40	- 170	- 180
<b>OPERATING EXPENSE<sup>b</sup></b>					
Range	2.00% – 4.00%	2.00% – 4.00%	2.00% – 4.00%	2.00% – 4.00%	1.00% – 4.00%
Average	2.70%	2.70%	2.75%	2.95%	2.65%
Change (Basis Points)		0	- 5	- 25	+ 5
<b>MARKETING TIME<sup>c</sup></b>					
Range	2 – 12	2 – 12	2 – 12	2 – 12	2 – 12
Average	6.0	5.9	6.0	6.8	7.1
Change (▼, ▲, =)		▲	=	▼	▼

a. Rate on unleveraged, all-cash transactions    b. Initial rate of change    c. In months

**NATIONAL REGIONAL MALL MARKET—SELECT SURVEY RESPONSES <sup>(1)</sup>**  
 First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME
<p><b>PUBLIC REAL ESTATE COMPANY</b> ♦ <b>Forecast Period: 3 to 8 years</b>                      Mainly uses DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; expects overall cap rates to hold steady over the next six months; does not use rent spikes.</p>	1.0% to 4.0% Year 1; 2.0% to 4.0% Year 2	2.0% to 5.0%	2.0% to 4.0%	4.00% to 10.00%	2.0% to 3.0%	6.00% to 11.50%	4.00% to 9.00%	9 to 18	60.0% to 80.0%	3.0% to 8.0%	\$0.25 to \$0.50	6 to 15			
<p><b>INVESTMENT BANKER</b> ♦ <b>Forecast Period: 1 to 10 years</b>                      Relies on DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; retail sales based on historical and market analysis; typical sales growth per market per year is at the inflation rate (CPI); expects overall cap rates to hold steady over the next six months.</p>	3.0% Years 1 to 3	3.0%	5.00% to 7.25%	0.8% to 1.0%	5.50% to 7.00%	4.25% to 6.00%	4 to 6	75.0% to 2.0%	1.0% to 2.0%	\$0.15 to \$0.30	6				
<p><b>REIT</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; no longer uses rent spikes; expects overall cap rates to increase up to 75 basis points over the next six months.</p>	1.0% to 2.0% Year 1; 2.0% to 3.0% Year 2	2.0% to 3.0%	3.0%	5.00% to 10.00%	0.5% to 1.0%	7.00% to 10.00%	5.00% to 10.00%	4 to 8	80.0% to 85.0%	3.0% to 8.0%	Does not use	6 to 18			
<p><b>PUBLIC C CORP</b> ♦ <b>Forecast Period: 7 to 10 years</b>                      Mainly uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; free rent is no longer awarded; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	3.0% Years 1 to 3	3.0%	4.25% to 9.00%	1.0% to 3.0%	6.00% to 11.00%	4.00% to 9.00%	6 to 9	70.0% to 80.0%	5.0% to 7.0%	\$0.25 to \$0.50	6 to 9				
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b>                      Uses mainly DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; sees overall cap rates holding steady over the next six months.</p>	2.0% to 3.5% Years 1 & 2	3.0%	1.5% to 3.0%	5.00% to 7.50%	0.5% to 2.5%	5.50% to 7.50%	4.00% to 6.00%	6 to 12	50.0% to 75.0%	4.0% to 7.0%	\$0.20 to \$0.50	3 to 12			

Source: Personal survey conducted by PwC during January 2017; (1) relates to Class A+, A, B+, and B malls



## NATIONAL POWER CENTER MARKET – SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS		
<p><b>REALTY ADVISOR</b> ♦ <b>Forecast Period: 3 to 7 years</b></p> <p>Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use rent spikes; expects overall cap rates to decrease 25 to 50 basis points over the next six months.</p>	0.0% Year 1; 0.0% to 1.0% Year 2; 1.0% to 1.5% Year 3	3.0%	3.0%	6.00% to 8.00%	1.5% to 2.5%	6.00% to 10.00%	5.50% to 7.50%	3 to 10	60.0% to 80.0%	5.0% to 10.0%	\$0.20 to \$0.35	3 to 9			
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 10 years</b></p> <p>Prefers DCF analysis; also uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.</p>	0.0% to 3.0% Year 1; 3.0% Year 2	3.0%	3.0%	5.75% to 7.00%	1.0% to 2.0%	6.25% to 7.00%	5.25% to 6.50%	6 to 9	65.0% to 75.0%	5.0% to 8.0%	Does not use	2 to 6			
<p><b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b></p> <p>Primarily interested in high-credit deals; uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; sees overall cap rates holding steady over the next six months; no longer uses rent spikes.</p>	3.0% Years 1 to 3	3.0%	3.0%	6.25% to 6.50%	1.0% to 1.5%	6.50% to 6.75%	5.50% to 6.25%	4 to 8	65.0% to 70.0%	5.0% to 7.0%	\$0.20 to \$0.30	2 to 4			
<p><b>INVESTMENT BANKER</b> ♦ <b>Forecast Period: 5 to 10 years</b></p> <p>Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; prefers urban areas with easy access and good anchor tenancy; credit is key; may use a rent spike of 10.0% in year 5.</p>	0.0% to 3.0% Years 1 & 2	2.0%	2.0%	7.00% to 9.00%	2.0% to 3.0%	8.00% to 10.00%	6.00% to 7.00%	4 to 8	60.0% to 75.0%	5.0% to 10.0%	\$0.20	3 to 5			
<p><b>PENSION FUND</b> ♦ <b>Forecast Period: 1 to 10 years</b></p> <p>Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.</p>	2.5% to 3.0%	3.0%	Did not disclose	6.50% to 7.50%	1.5% to 3.0%	6.50% to 7.75%	6.20% to 7.00%	1 to 3	70.0% to 5.0%	3.0% to 5.0%	\$0.10 to \$0.20	6			

Source: Personal survey conducted by PwC during January 2017.





## NATIONAL STRIP SHOPPING CENTER MARKET—SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS	MONTHS
<b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before deducting TIs, leasing commissions and capital replacement reserve; does not use rent spikes.	2.0% to 3.0%	3.0%	3.0%	6.00% to 7.00%	1.0% to 3.0%	6.75% to 7.50%	5.00% to 7.50%	6 to 12	65.0% to 80.0%	1.0% to 3.0%	\$0.20 to \$0.50	3 to 6			
<b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b> Invests primarily in 200,000- to 400,000-square-foot, well-anchored community centers and good credit quality anchored power centers; relies on DCF; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.	3.0%	3.0%	3.0%	6.00% to 6.50%	2.0% to 2.5%	7.00% to 7.25%	5.25% to 6.00%	5 to 7	65.0% to 70.0%	4.0% to 6.0%	\$0.15 to \$0.25	3 to 6			
<b>REIT</b> ♦ <b>Forecast Period: 1 to 3 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before deducting TIs, leasing commissions and capital replacement reserve; does not use rent spikes.	0.0% to 1.0%	3.0%	3.0%	6.00% to 9.75%	1.0% to 2.0%	8.00% to 10.50%	7.00% to 9.50%	9 to 15	70.0% to 75.0%	2.5% to 5.0%	\$0.15 to \$0.25	9 to 12			
<b>REIT</b> ♦ <b>Forecast Period: 10 years</b> Primarily uses direct capitalization in valuing assets; also uses yield capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to increase up to 25 basis points over the next six months.	2.0% to 3.0%	3.0%	4.0%	6.25% to 7.00%	4.0% to 5.0%	6.00% to 7.50%	5.00% to 8.50%	9 to 18	70.0% to 75.0%	3.0% to 7.0%	\$0.25 to \$0.75	3 to 6			
<b>DOMESTIC PENSION FUND</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.	3.0%	3.0%	3.0%	4.75% to 6.50%	1.0% to 3.0%	5.00% to 7.50%	4.00% to 6.50%	6 to 12	60.0% to 75.0%	1.0% to 5.0%	\$0.10 to \$0.25	6 to 12			
<b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Prefers DCF analysis; also uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.	0.0%	3.0%	3.0%	5.50% to 6.25%	1.0% to 3.0%	6.00% to 6.50%	4.75% to 5.75%	6 to 9	65.0% to 75.0%	4.0% to 7.0%	Does not use	2 to 3			

Source: Personal survey conducted by PwC during January 2017.



## NATIONAL CBD OFFICE MARKET – SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS			REPLACEMENT RESERVE		MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS	
<b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b> Uses mainly DCF analysis; in direct cap, capitalizes NOI before tenant improvements, leasing commissions, and capital replacement reserve; may use a rent spike of 6.0% in year 1 and 5.0% in years 2 and 3.	0.0% to 6.0%	2.0% to 4.0%	1.0% to 3.0%	5.00% to 6.50%	0.5% to 2.5%	5.75% to 7.00%	3.50% to 6.00%	6 to 18	50.0% to 75.0%	4.0% to 9.0%	\$0.20 to \$0.50	3 to 9			
<b>PENSION FUND</b> ♦ <b>Forecast Period: 8 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents and reflects concessions when they are scheduled to occur.	2.0% to 5.0%	0.0% to 3.0%	1.0% to 3.0%	5.50% to 7.00%	2.0% to 3.0%	7.00% to 9.00%	5.00% to 7.00%	6 to 12	60.0% to 75.0%	1.0% to 2.0%	\$0.10 to \$0.20	3 to 12			
<b>PUBLIC REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use a rent spike of 5.0% in years 1 and 2.	2.0% to 5.0% Years 1 & 2	2.0% to 3.0%	2.0% to 3.0%	6.25% to 7.25%	1.0% to 1.5%	6.50% to 7.50%	4.50% to 7.50%	6 to 12	60.0% to 70.0%	5.0% to 8.0%	Does not use	2 to 6			
<b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Prefers DCF analysis; also uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use a rent spike of 4.0% in year 3 and 5.0% in year 4.	0.0% to 3.0%	3.0%	3.0%	5.00% to 6.25%	1.0% to 4.0%	5.75% to 6.25%	4.50% to 6.00%	6 to 9	65.0% to 75.0%	3.0% to 7.0%	\$0.15 to \$0.30	3 to 6			
<b>REIT</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that overall cap rates will decline 50 to 100 basis points over the next six months.	0.0% to 4.0%	2.0% to 3.0%	2.0% to 3.0%	5.50% to 7.50%	1.0% to 2.0%	5.50% to 7.00%	5.50% to 7.00%	6 to 9	65.0% to 85.0%	1.0% to 5.0%	\$0.25 to \$0.50	3 to 9			
<b>PRIVATE REAL ESTATE</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.	1.0% to 3.0%	3.0%	2.0% to 3.0%	5.75% to 6.50%	1.0% to 3.0%	8.50% to 9.50%	5.75% to 6.50%	6 to 12	65.0% to 75.0%	2.0% to 5.0%	\$0.50 to \$0.75	6 to 9			

Source: Personal survey conducted by PwC during January 2017.



## NATIONAL SUBURBAN OFFICE MARKET—SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME	
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses DCF and face rents; prefers 24-hour cities across the country; may use a rent spike of 5.0% in year 2 and 3; uses effective rents in DCF analysis.</p>	0.0% Year 1; 3.0% to 5.0% Year 2	0.0% to 3.0%	2.0% to 3.0%	6.00% to 8.00%	1.0% to 3.0%	6.75% to 9.50%	5.25% to 8.50%	6 to 12	65.0% to 75.0%	1.0% to 11.0%	\$0.10 to \$0.40	1 to 3			
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes cash flow after TIs, leasing commissions, and capital replacement reserve; no longer uses rent spikes.</p>	0.0% to 2.5%	2.0% to 3.0%	1.5% to 2.5%	6.50% to 9.50%	1.0% to 2.0%	6.00% to 10.00%	5.00% to 8.50%	6 to 15	50.0% to 67.0%	7.0% to 15.0%	\$0.25 to \$0.50	3 to 6			
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use a rent spike of 6.0% in year 4.</p>	3.0% Years 1 to 3	3.0%	3.0%	6.00% to 7.00%	1.0% to 3.0%	6.50% to 7.50%	5.50% to 6.50%	6 to 12	50.0% to 65.0%	3.0% to 3.0%	\$0.25 to \$0.50	3 to 6			
<p><b>PUBLIC REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; prefers coastal markets.</p>	1.0% to 4.0%	2.0% to 3.0%	2.0% to 3.0%	6.50% to 8.00%	1.0%	6.50% to 7.50%	5.00% to 8.00%	9 to 12	55.0% to 70.0%	5.0% to 9.0%	Does not use	3 to 6			
<p><b>DOMESTIC PENSION FUND</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.</p>	3.0%	3.0%	3.0%	6.50% to 7.25%	1.0% to 3.0%	7.50% to 8.55%	5.50% to 7.00%	9 to 12	65.0% to 75.0%	0.0% to 3.0%	\$0.10 to \$0.25	6 to 12			
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b>                      Uses mainly DCF analysis; in direct cap, capitalizes NOI before tenant improvements, leasing commissions, and capital replacement reserve; may use a rent spike of 5.0% in years 1 to 3.</p>	0.0% to 5.0%	2.0% to 4.0%	1.5% to 3.0%	6.00% to 8.50%	1.0% to 2.5%	6.50% to 9.00%	5.00% to 7.50%	6 to 24	50.0% to 75.0%	5.0% to 10.0%	\$0.20 to \$0.50	6 to 9			

Source: Personal survey conducted by PwC during January 2017.



# ATLANTA OFFICE MARKET – SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)			VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS	PER SQUARE FOOT	MONTHS	
<p><b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes cash flow after TIs, leasing commissions, and capital replacement reserve; uses effective rent after all concessions are extracted; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 5.0%	2.8% to 3.5%	2.5% to 3.5%	6.00% to 7.00% (CBD); 7.00% to 8.00% (suburbs)	1.5% to 3.0%	6.00% to 8.00% (CBD); 7.00% to 8.50% (suburbs)	5.75% to 7.00% (CBD); 7.00% to 8.25% (suburbs)	7 to 9	50.0% to 75.0%	3.0% to 5.0%	\$0.15 to \$0.25	1 to 3				
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve.</p>	3.0% Year 1; 3.0% to 4.0% Year 2	3.0%	3.0%	6.75% to 8.00% (CBD); 7.50% to 9.00% (suburbs)	2.0% to 3.0%	7.50% to 8.75% (CBD); 8.00% to 9.50% (suburbs)	5.25% to 7.50% (CBD); 6.00% to 8.50% (suburbs)	6 to 10	60.0% to 65.0%	8.0% to 10.0%	\$0.20 to \$0.25	8 to 12				
<p><b>INVESTMENT BANKER</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Prefers DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use a rent spike of 6.0% in year 4; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 4.0%	1.5% to 2.5%	1.5% to 2.5%	6.50% to 7.50% (CBD); 6.75% to 7.75% (suburbs)	1.0% to 2.0%	7.00% to 9.00% (CBD); 7.50% to 9.50% (suburbs)	6.25% to 7.50% (CBD); 6.50% to 8.00% (suburbs)	6 to 9	70.0% to 80.0%	5.0% to 7.0%	\$0.10 to \$0.25	3 to 4				
<p><b>PRIVATE INVESTMENT FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.</p>	3.0% to 5.0%	3.0% to 5.0%	0.0% to 3.0%	7.50% to 8.50% (suburbs)	2.0% to 3.0%	8.00% to 10.00% (suburbs)	7.00% to 8.00% (suburbs)	6 to 9	70.0% to 80.0%	4.0% to 8.0%	\$0.20 to \$0.25	3 to 6				
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b>                      Uses DCF, direct capitalization, and sales comparison approach; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to increase 15 to 25 basis points over the next six months.</p>	0.0% to 3.0% Years 1 & 2	2.5% to 3.0%	3.0%	6.00% to 8.50% (CBD); 6.50% to 8.75% (suburbs)	0.7% to 1.5%	7.00% to 9.00% in both CBD & suburbs	5.75% to 8.50% (CBD); 6.50% to 9.00% (suburbs)	4 to 12	60.0% to 70.0%	6.0% to 10.0%	\$0.20 to \$0.35	3 to 6				

Source: Personal survey conducted by PwC during January 2017.



## BOSTON OFFICE MARKET – SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS	MONTHS
<p><b>LIFE INSURANCE COMPANY ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	3.0%	3.0%	3.0%	5.75% to 6.75% (CBD); 6.50% to 8.25% (suburbs)	2.0% to 3.0%	6.25% to 7.25% (CBD); 7.00% to 8.50% (suburbs)	4.25% to 6.50% (CBD); 5.25% to 7.25% (suburbs)	65.0% to 70.0%	6 to 8	4.0% to 6.0%	\$0.20 to \$0.25	6 to 12			
<p><b>PENSION FUND ADVISOR ♦ Forecast Period: 3 to 5 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	0.0% to 3.0%	0.0% to 3.0%	1.0% to 3.0%	6.50% to 8.50% (CBD); 7.50% to 10.50% (suburbs)	1.0% to 2.5%	6.00% to 8.00% (CBD); 8.00% to 10.00% (suburbs)	7.00% to 8.50% (CBD); 7.50% to 10.00% (suburbs)	50.0% to 75.0%	6 to 9	4.0% to 8.0%	\$0.15 to \$0.50	2 to 6			
<p><b>REAL ESTATE ADVISOR ♦ Forecast Period: 10 years</b>                      Uses DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use rent spikes of 6.0% in year 1 and 5.0% in year 2.</p>	3.0% to 6.0%	3.0%	3.0%	5.00% to 5.50% (CBD); 6.75% to 7.75% (suburbs)	1.0% to 3.0%	6.00% to 7.25% (CBD); 6.00% to 7.25% (suburbs)	4.00% to 4.75% (CBD); 6.00% to 6.25% (suburbs)	65.0% to 70.0%	6 to 9	1.5% to 4.0%	\$0.20 to \$0.30	6 to 12			
<p><b>PRIVATE EQUITY INVESTOR ♦ Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; no longer uses rent spikes.</p>	3.0% to 4.0%	2.5% to 3.0%	2.0% to 2.5%	5.75% to 6.25% (CBD); 6.50% to 8.00% (suburbs)	2.0% to 2.5%	7.00% to 7.50% (CBD); 7.50% to 8.50% (suburbs)	5.50% to 6.75% (CBD); 6.75% to 8.00% (suburbs)	65.0% to 70.0%	5 to 9	5.0%	\$0.15 to \$0.20	3 to 6			
<p><b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 10 years</b>                      Uses mainly direct capitalization; major focus is on the initial cash-on-cash return; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.</p>	5.0%	3.0%	3.0%	5.50% to 6.00% (CBD); 7.00% to 7.50% (suburbs)	1.3%	7.00% to 8.00% (CBD); 8.00% to 10.00% (suburbs)	4.25% to 4.75% (CBD); 6.25% to 7.25% (suburbs)	70.0% to 80.0%	7 to 8	4.0%	Does not use	4 to 6			
<p><b>LIFE INSURANCE COMPANY ♦ Forecast Period: 10 to 12 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	4.0% to 5.0%	3.0%	3.0%	5.50% to 6.25% (CBD); 6.75% to 8.00% (suburbs)	1.0% to 3.0%	5.75% to 6.25% (CBD); 6.75% to 7.75% (suburbs)	4.00% to 5.00% (CBD); 7.00% to 8.00% (suburbs)	65.0% to 70.0%	7 to 10	5.0% to 8.0%	\$0.25 to \$0.50	4 to 7			

Source: Personal survey conducted by PwC during January 2017.



## CHARLOTTE OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)	OVERALL CAP RATE (OAR)			VACANCY ASSUMPTIONS			REPLACEMENT RESERVE		MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE		FREE & CLEAR	FREE & CLEAR	TENANT RETENTION	MONTHS VACANT	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS		
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 8 to 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	2.0% to 4.0%	3.0% to 4.0%	1.0% to 3.0%	6.00% to 7.50% (CBD); 6.50% to 8.00% (suburbs)	0.5% to 1.0%	7.00% to 8.50% (CBD); 7.50% to 9.00% (suburbs)	5.00% to 7.00% (CBD); 6.00% to 8.00% (suburbs)	65.0% to 75.0%	5 to 10	5.0% to 10.0%	\$0.10 to \$0.25	1 to 9			
<p><b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Mainly uses DCF analysis and sales comparison approach; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; prefers the CBD; may use a rent spike of 6.0% in year 4; sees overall cap rates holding steady over the next six months.</p>	2.5% to 4.0%	1.5% to 2.5%	2.0% to 2.5%	6.50% to 7.50% (CBD); 7.00% to 8.00% (suburbs)	1.0% to 3.0%	7.50% to 9.00% (CBD); 7.75% to 9.50% (suburbs)	6.25% to 7.25% (CBD); 6.75% to 8.00% (suburbs)	70.0% to 75.0%	4.5 to 9	5.0% to 7.5%	\$0.10 to \$0.35	2 to 4			
<p><b>VALUE-ADDED INVESTOR</b> ♦ <b>Forecast Period: 3 to 5 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to increase up to 50 basis points over the next six months; may use a rent spike.</p>	2.0% to 3.0%	2.0% to 3.0%	2.5% to 3.0%	6.50% to 7.50% (CBD); 7.00% to 8.50% (suburbs)	1.0% to 2.0%	8.00% to 9.00% (CBD); 8.50% to 10.00% (suburbs)	6.50% to 7.25% (CBD); 7.00% to 8.00% (suburbs)	5 to 10	5.0% to 10.0%	\$0.10 to \$0.25	2 to 4				
<p><b>PRIVATE INVESTOR</b> ♦ <b>Forecast Period: 3 to 7 years</b> Mainly uses DCF analysis; in direct capitalization, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that market conditions favor sellers; expects overall cap rates to hold steady over the next six months; no longer uses a rent spike.</p>	3.0% to 4.0%	2.0% to 2.5%	2.0% to 2.5%	6.75% to 7.75% (CBD); 7.75% to 8.50% (suburbs)	1.5% to 2.5%	8.00% to 9.00% (CBD); 9.00% to 10.00% (suburbs)	6.50% to 7.25% (CBD); 7.50% to 8.75% (suburbs)	7 to 10	7.0% to 10.0%	\$0.25 to \$0.40	4 to 7				
<p><b>INVESTMENT MANAGER</b> ♦ <b>Forecast Period: 3 to 10 years</b> Uses all three approaches to value; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to hold steady over the next six months; no longer uses a rent spike.</p>	2.5% to 4.5%	2.0%	2.0% to 3.0%	5.50% to 6.50% (CBD); 6.50% to 8.50% (suburbs)	1.0% to 1.5%	6.50% to 7.50% (CBD); 7.00% to 9.00% (suburbs)	5.50% to 6.50% (CBD); 6.00% to 7.00% (suburbs)	4 to 9	3.0% to 6.0%	\$0.25 to \$0.50	2 to 4				

Source: Personal survey conducted by PwC during January 2017.



**CHICAGO OFFICE MARKET—SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME	
<b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 5 to 10 years</b> Relies mainly on DCF analysis; also uses direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents and reflects concessions when they are scheduled to occur; no longer uses rent spikes.	3.0% Years 1 & 2	3.0%	2.5% to 3.0%	6.00% to 8.00% (CBD); 7.50% to 10.00% (suburbs)	0.8% to 1.5%	7.50% to 8.50% (CBD); 8.00% to 9.00% (suburbs)	5.50% to 8.00% (CBD); 7.50% to 9.00% (suburbs)	6 to 9	65.0% to 75.0%	8.0% to 12.0%	\$0.25 to \$0.50	2 to 4			
<b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; no longer uses a rent spike.	0.0% Years 1 & 2	2.0% to 3.0%	2.0%	6.00% to 9.00% (CBD); 7.50% to 10.00% (suburbs)	1.0% to 2.3%	7.00% to 9.50% (CBD); 8.00% to 11.00% (suburbs)	5.50% to 8.00% (CBD); 7.00% to 10.00% (suburbs)	6 to 9	60.0% to 75.0%	10.0% to 15.0%	\$0.50 to \$0.75	4 to 6			
<b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 10 years</b> Uses mainly direct capitalization; major focus is on the initial cash-on-cash return; typically extends forecast period to capture impact of all lease expirations; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.	0.0% Year 1; 0.0% to 3.0% Year 2	3.0%	3.0%	6.00% to 6.50% (CBD); 8.00% to 9.00% (suburbs)	1.5%	7.00% to 7.50% (CBD); 10.00% to 11.00% (suburbs)	5.00% to 6.00% (CBD); 8.00% to 9.00% (suburbs)	10 to 12	70.0% to 85.0%	8.0% to 8.0%	Does not use	4 to 8			
<b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 3 to 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents; does not use rent spikes.	1.0% to 2.0%	3.0%	2.0% to 3.0%	5.50% to 7.50% (CBD); 8.50% to 10.00% (suburbs)	5.0%	9.00% to 10.00% (CBD); 11.00% to 12.00% (suburbs)	5.50% to 7.50% (CBD); 8.50% to 9.50% (suburbs)	6 to 9	60.0% to 70.0%	8.0% to 12.0%	\$0.15 to \$0.25	3 to 6			
<b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; sees overall cap rates holding steady over the next six months.	5.0%	3.0%	3.0%	5.75% to 6.50% (CBD); 8.00% to 10.00% (suburbs)	1.0%	5.75% to 6.50% (CBD); 8.00% to 10.00% (suburbs)	4.50% to 5.75% (CBD); 7.00% to 9.00% (suburbs)	9	65.0% to 75.0%	5.0% to 8.0%	\$0.25 to \$0.50	2 to 6			
<b>INVESTMENT ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Relies on DCF; uses face rents and reflects concessions as they are scheduled to occur; prefers the West Loop; does not use a rent spike; sees overall cap rates holding steady over the next six months.	1.0% to 3.0%	3.0% to 6.0%	2.0% to 3.0%	5.50% to 6.25% (CBD); 7.50% to 9.00% (suburbs)	1.0% to 1.5%	6.00% to 7.00% (CBD); 8.25% to 10.50% (suburbs)	4.75% to 6.75% (CBD); 7.00% to 9.00% (suburbs)	6 to 12	60.0% to 75.0%	3.0% to 5.0%	\$0.20 to \$0.30	3 to 9			

Source: Personal survey conducted by PwC during January 2017.



## DALLAS OFFICE MARKET – SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS		
<p><b>PRIVATE INVESTOR</b> ♦ <b>Forecast Period: 3 to 7 years</b> Relies on DCF; also uses direct capitalization and sales comparison approach; uses face rents; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; expects overall cap rates to hold steady over the next six months; may use a rent spike of 5.0% in year 2.</p>	2.0% to 5.0% Years 1 & 2	2.0% to 3.0%	2.0% to 3.0%	6.00% to 8.00% (CBD); 6.00% to 9.00% (suburbs)	1.0% to 3.0%	6.00% to 8.00% (CBD); 9.00% (suburbs)	5.00% to 8.00% (CBD); 6.00% to 8.50% (suburbs)	6 to 9	65.0% to 75.0%	2.0% to 5.0%	\$0.10 to \$0.25	3 to 6			
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that this market favors sellers; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	2.0% to 2.5% Years 1 & 2	3.0%	3.0%	6.50% to 7.25% (CBD); 7.00% to 8.00% (suburbs)	2.0% to 2.5%	6.00% to 7.25% (CBD); 8.50% (suburbs)	5.00% to 6.25% (CBD); 7.00% (suburbs)	6 to 9	70.0% to 75.0%	5.0% to 7.0%	\$0.25 to \$0.45	3 to 6			
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; uses face rents and reflects concessions when they are scheduled to occur; believes market conditions favor buyers.</p>	2.0% to 3.0% Years 1 & 2	3.0%	3.0%	6.50% to 7.75% (CBD); 8.50% (suburbs)	2.0% to 3.0%	7.50% to 8.50% (CBD); 9.00% (suburbs)	5.00% to 7.25% (CBD); 7.75% (suburbs)	6 to 10	65.0% to 70.0%	5.0% to 10.0%	\$0.20 to \$0.25	6 to 12			
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; no longer uses rent spikes.</p>	3.0% Years 1 to 3	3.0%	Did not disclose	6.25% to 7.25% (CBD)	0.5% to 1.0%	7.25% to 8.50% (CBD)	5.25% to 6.00% (CBD)	6 to 9	65.0% to 75.0%	1.0% to 5.0%	\$0.15 to \$0.25	4 to 6			
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to hold steady over the next six months.</p>	6.0% Year 1; 5.0% Year 2	3.0%	3.0%	6.50% to 7.00% in both CBD & suburbs	1.0%	6.75% to 7.50% in both CBD & suburbs	5.50% to 6.75% in both CBD & suburbs	9	65.0%	3.0%	\$0.50	1 to 6			

Source: Personal survey conducted by PwC during January 2017.



**DENVER OFFICE MARKET – SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)	OVERALL CAP RATE (OAR)	VACANCY ASSUMPTIONS			REPLACEMENT RESERVE	MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE			FREE & CLEAR	FREE & CLEAR	MONTHS VACANT		
<p><b>PRIVATE INVESTMENT FIRM</b> ♦ <b>Forecast Period: 2 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; no longer uses rent spikes.</p>	2.0% to 3.0% Years 1 & 2	3.0%	3.0%	6.50% to 7.50% (CBD); 7.00% to 8.50% (suburbs)	0.5% to 3.0%	7.00% to 8.00% (CBD); 8.00% to 9.00% (suburbs)	5.50% to 7.00% (CBD); 6.50% to 8.75% (suburbs)	5 to 9	50.0% to 75.0%	3.0% to 5.0%	\$0.10 to \$0.25	1 to 3
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 3 to 7 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; no longer uses rent spikes; expects overall cap rates to hold steady over the next six months.</p>	2.0% to 3.0% Years 1 to 3	2.0% to 3.0%	2.0% to 2.5%	5.75% to 8.00% (CBD); 8.00% to 9.50% (suburbs)	1.0% to 3.0%	7.00% to 8.00% (CBD); 8.00% to 9.00% (suburbs)	5.00% to 7.50% (CBD); 8.50% (suburbs)	6 to 7	70.0% to 75.0%	7.0% to 8.0%	\$0.15 to \$0.25	2 to 4
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents and reflects concessions when they are scheduled to occur; no longer uses rent spikes.</p>	3.0% Years 1 to 3	3.0%	3.0%	6.50% to 7.00% (suburbs)	2.0% to 3.0%	7.00% to 7.50% (suburbs)	6.00% to 6.50% (suburbs)	6 to 8	60.0% to 70.0%	1.0% to 2.0%	\$0.20 to \$0.30	3 to 6
<p><b>PENSION FUND INVESTOR</b> ♦ <b>Forecast Period: 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; believes that current market conditions equally favor buyers and sellers; does not use rent spikes.</p>	2.0% to 3.0% Years 1 to 3	2.0% to 3.0%	2.0% to 3.0%	6.00% to 7.50% (suburbs)	1.5% to 2.0%	7.00% to 8.00% (suburbs)	5.50% to 6.00% (CBD); 6.25% to 6.50% (suburbs)	5 to 6	60.0% to 70.0%	5.0%	Does not use	3 to 6
<p><b>PRIVATE INVESTMENT FIRM</b> ♦ <b>Forecast Period: 5 to 11 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; expects overall cap rates to increase 10 to 50 basis points over the next six months; does not use rent spikes.</p>	3.0% Years 1 to 3	3.0%	3.0%	7.50% to 8.50% (CBD); 8.50% to 9.50% (suburbs)	3.0% to 5.0%	8.00% to 11.00% (suburbs)	5.00% to 7.00% (CBD); 7.00% to 9.00% (suburbs)	6 to 9	70.0% to 75.0%	5.0% to 10.0%	\$0.10 to \$0.30	3 to 6

Source: Personal survey conducted by PwC during January 2017.



# HOUSTON OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)	OVERALL CAP RATE (OAR)	VACANCY ASSUMPTIONS			REPLACEMENT RESERVE	MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE			FREE & CLEAR	MONTHS VACANT	TENANT RETENTION		
<p><b>REAL ESTATE ADVISORS ♦ Forecast Period: 5 years</b> Relies on DCF; also uses direct capitalization and sales comparison approach; uses effective rents; in direct cap, capitalizes cash flow after TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to increase 25 to 50 basis points over the next six months.</p>	(8.0%) to (6.0%) Year 1	2.5%	1.5% to 1.8%	6.50% to 6.75% (CBD); 6.75% to 7.00% (suburbs)	1.5% to 2.5%	6.50% to 7.00% (CBD); 7.50% (CBD); 8.00% (suburbs)	6.50% to 6.75% (CBD); 6.75% to 7.25% (suburbs)	12 to 18	50.0% to 60.0%	5.0% to 10.0%	\$0.25	12
<p><b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 3 to 7 years</b> Uses both DCF and direct capitalization; also looks at discount to replacement cost; relies on DCF; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents and reflects concessions when they are scheduled to occur; may use a rent spike.</p>	0.0% Year 1; 0.0% to 3.0% Year 2	3.0%	3.0%	6.50% to 7.50% (CBD); 8.00% to (suburbs)	1.0% to 1.5%	8.00% to 9.00% (CBD); 9.00% to 11.00% (suburbs)	6.00% to 8.00% (CBD); 7.00% to 8.50% (suburbs)	5 to 10	Up to 80.0%	5.0% to 10.0%	\$0.15 to \$0.30	3 to 12
<p><b>LIFE INSURANCE COMPANY ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents and reflects concessions when they are scheduled to occur; believes market conditions favor buyers.</p>	0.0% Year 1; 0.0% to 1.0% Year 2	3.0%	3.0%	6.75% to 7.75% (CBD); 7.25% to 8.75% (suburbs)	2.0% to 3.0%	7.25% to 8.75% (CBD); 7.75% to 8.75% (suburbs)	5.75% to 7.25% (CBD); 6.75% to 8.00% (suburbs)	8 to 10	60.0% to 65.0%	8.0% to 10.0%	\$0.20 to \$0.25	10 to 12
<p><b>PENSION FUND ADVISOR ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	0.0% to 3.0%	3.0%		7.00% to 7.50% (CBD)	1.0% to 2.0%	7.75% to 9.00% (CBD)	6.00% to 6.50% (CBD)	9	65.0% to 70.0%	1.0% to 5.0%	\$0.15 to \$0.25	6 to 12
<p><b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 3 to 7 years</b> Uses both DCF analysis and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that current market conditions equally favor buyers and sellers; does not use rent spikes.</p>	0.0% to 3.0% Years 1 to 3	2.0% to 3.0%	2.0% to 3.0%	7.00% to 9.50% (CBD); 7.50% to 10.00% (suburbs)	1.0% to 3.0%	8.00% to 10.00% (CBD); 9.00% to 11.50% (suburbs)	6.50% to 8.00% (CBD); 7.00% to 10.00% (suburbs)	6 to 12	65.0% to 75.0%	7.0% to 15.0%	\$0.15 to \$0.30	4 to 9

Source: Personal survey conducted by PwC during January 2017.



## LOS ANGELES OFFICE MARKET – SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS	MONTHS	
<p><b>INVESTMENT ADVISOR</b> ♦ <b>Forecast Period: 7 to 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that market conditions favor sellers; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 5.0% Years 1 & 2	3.0%	3.0%	5.00% to 5.50% in both CBD & suburbs	0.5% to 1.0%	5.50% to 7.00% (CBD); 5.00% to 6.50% (suburbs)	4.50% to 5.50% (CBD); 5.00% to 6.00% (suburbs)	6 to 9	70.0% to 80.0%	5.0% to 7.0%	\$0.15 to \$0.25	1 to 3			
<p><b>REAL ESTATE COMPANY</b> ♦ <b>Forecast Period: 7 to 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use a rent spike of 6.0% in years 2 and 3; believes market conditions equally favor buyers and sellers.</p>	3.0% Years 1 & 2; 3.0% to 5.0% Year 3	2.0% to 3.0%	2.0% to 3.0%	6.50% to 7.50% (CBD); 6.00% to 7.50% (suburbs)	1.0% to 1.5%	6.50% to 7.50% (CBD); 6.00% to 7.50% (suburbs)	5.50% to 6.50% (CBD); 4.50% to 6.50% (suburbs)	9 to 12	60.0% to 70.0%	5.0% to 8.0%	Does not use	3 to 6			
<p><b>INVESTMENT BANKER</b> ♦ <b>Forecast Period: 5 to 10 years</b> Prefers DCF analysis; also uses direct cap; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use a rent spike of 10.0% in year 5; expects overall cap rates to decrease 25 to 50 basis points over the next six months.</p>	3.0% to 5.0% Years 1 & 2	2.0%	2.0%	6.75% to 8.00% in both CBD & suburbs	2.0%	6.00% to 8.50% in both CBD & suburbs	5.00% to 7.00% in both CBD & suburbs	4 to 6	65.0% to 75.0%	5.0% to 10.0%	\$0.15 to \$0.25	3 to 4			
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 3 to 15 years</b> Relies primarily on DCF; also uses direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; may use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 4.0% Year 1; 3.0% to 5.0% Year 2	3.0%	2.5% to 3.5%	5.25% to 7.00% (CBD); 6.00% to 8.00% (suburbs)	1.5% to 2.0%	6.00% to 8.00% (CBD); 7.00% to 8.50% (suburbs)	5.00% to 6.00% (CBD); 6.25% to 7.50% (suburbs)	8 to 10	50.0% to 65.0%	1.0%	\$0.15 to \$0.20	1 to 3			
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b> Uses DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	3.0%	3.0%	2.0% to 3.0%	6.00% to 7.50% (CBD); 6.00% to 7.75% (suburbs)	2.0% to 3.0%	6.50% to 8.00% in both CBD & suburbs	4.25% to 6.25% (CBD); 4.25% to 7.25% (suburbs)	6 to 8	65.0% to 70.0%	4.0% to 6.0%	\$0.20 to \$0.25	8 to 12			

Source: Personal survey conducted by PwC during January 2017.



# MANHATTAN OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME	
<p><b>INVESTMENT BANKER ♦ Forecast Period: 5 years</b> Strongest interest is in Midtown; uses both DCF and direct capitalization; does not use rent spikes; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve.</p>	2.0% to 3.0%	1.0% to 3.0%	1.0% to 3.0%	3.5% to 5.0%	4.0%	6.5% to 8.5%	3.5% to 5.0%	6 to 12	65.0% to 75.0%	5.0% to 10.0%	Does not use	2 to 6			
<p><b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 10 years</b> Uses mainly direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; no longer uses rent spikes.</p>	5.0%	3.0%	3.0%	5.0% to 5.5%	4.0%	6.0% to 7.0%	4.0% to 5.0%	8 to 10	70.0% to 75.0%	2.5% to 3.0%	\$0.35 to \$0.50	3			
<p><b>PENSION FUND ADVISOR ♦ Forecast Period: 10 to 12 years</b> Mainly uses DCF analysis when valuing assets; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use a rent spike.</p>	4.0% to 5.0%	3.0%	3.0%	4.75% to 5.5%	3.8% to 4.0%	6.0% to 6.5%	3.75% to 5.0%	6 to 12	60.0% to 70.0%	0.5% to 1.0%	\$0.10 to \$0.25	3 to 6			
<p><b>INVESTMENT ADVISOR ♦ Forecast Period: 3 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commission, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	0.0% to 1.5%	2.0% to 3.0%	1.0% to 3.0%	6.5% to 8.5%	2.0% to 3.0%	8.0% to 9.0%	6.5% to 8.5%	2 to 6	50.0% to 75.0%	2.5% to 7.5%	\$0.15 to \$0.50	1 to 6			
<p><b>LIFE INSURANCE COMPANY ♦ Forecast Period: 10 to 12 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses effective rents in DCF analysis; does not use rent spikes.</p>	3.0% to 4.0%	3.0%	3.0% to 4.0%	5.25% to 6.0%	1.0% to 3.0%	5.75% to 6.25%	4.0% to 5.0%	5 to 7	70.0% to 80.0%	5.0% to 7.0%	\$0.25 to \$0.50	5 to 6			
<p><b>REAL ESTATE ADVISOR ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; relies on DCF; uses face rents in DCF model, net effective rents in direct capitalization; prefers Midtown and Times Square; does not use rent spikes.</p>	2.0% to 3.0%	3.0%	3.0%	5.75% to 6.75%	1.5% to 2.0%	5.75% to 7.25%	4.0% to 5.5%	5 to 8	65.0% to 70.0%	3.0% to 6.0%	\$0.20 to \$0.25	4 to 6			

Source: Personal survey conducted by PwC during January 2017.



**NORTHERN VIRGINIA OFFICE MARKET – SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS	
<p><b>REIT ♦ Forecast Period: 3 to 7 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; expects overall cap rates to hold steady over the next six months; does not use rent spikes.</p>	0.0% to 2.0% Year 1; 1.0% to 2.5% Year 2	1.0% to 2.0%	2.0% to 2.5%	8.00% to 9.00%	1.5% to 2.0%	7.50% to 9.00%	7.00% to 8.50%	6 to 15	50.0% to 65.0%	5.0% to 7.0%	\$0.25 to \$0.50	4 to 8		
<p><b>LIFE INSURANCE COMPANY ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	0.0% Year 1; 2.0% Year 2	2.0% to 3.0%	2.0% to 2.5%	5.75% to 6.50%	0.5% to 2.0%	6.00% to 8.50%	5.00% to 7.00%	9 to 12	50.0% to 75.0%	5.0% to 9.0%	\$0.25 to \$0.70	1 to 3		
<p><b>INSTITUTIONAL INVESTOR ♦ Forecast Period: 10 years</b> Relies on DCF; also uses direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; expects overall cap rates to hold steady over the next six months; does not use rent spikes.</p>	3.0% Years 1 & 2	3.0%	3.0%	6.50% to 7.00%	2.0% to 3.0%	7.00% to 7.50%	6.00% to 6.50%	6 to 7	60.0% to 70.0%	3.0% to 5.0%	\$0.15 to \$0.25	3 to 5		
<p><b>PENSION FUND ADVISOR ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; does not use rent spikes; believes market conditions are neutral.</p>	0.0% to 3.0% Year 1; 1.5% to 3.0% Year 2	3.0%	3.0%	5.75% to 7.50%	1.0% to 2.0%	6.00% to 8.50%	5.25% to 8.00%	6 to 9	70.0%	5.0%	\$0.15 to \$0.25	3 to 6		
<p><b>REIT ♦ Forecast Period: 10 years</b> Looks at cash-on-cash return and the growth in the return over a ten-year period; does not price properties through DCF; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve.</p>	0.0% Years 1 & 2; 0.0% to 2.0% Year 3	2.0%	2.3%	6.00% to 7.50%	2.0% to 2.5%	6.50% to 9.50%	5.00% to 8.50%	8 to 12	65.0%	1.0% to 3.0%	\$0.25	3 to 6		

Source: Personal survey conducted by PwC during January 2017.



## PACIFIC NORTHWEST OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS		
<p><b>INVESTMENT ADVISOR</b> ♦ <b>Forecast Period: 7 to 10 years</b> Mainly uses DCF analysis; in direct cap. capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that market conditions equally favor buyers and sellers; does not use rent spikes.</p>	3.0% to 5.0%	3.0%	3.0%	5.00% to 5.50% (CBD); 5.00% to 6.00% (suburbs)	0.5% to 1.0%	5.25% to 6.50% (CBD); 5.50% to 7.00% (suburbs)	4.50% to 5.50% (CBD); 5.00% to 6.50% (suburbs)	6 to 9	70.0% to 80.0%	5.0%	\$0.15 to \$0.25	1 to 3			
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Mainly uses DCF analysis; in direct cap. capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects cap rates to hold steady over the next six months; does not use rent spikes.</p>	2.5% to 3.5% Years 1 & 2	3.0%	3.0%	5.75% to 6.25% (CBD); 6.25% to 7.25% (suburbs)	3.0% to 4.0%	6.50% to 7.50% (CBD); 7.00% to 8.50% (suburbs)	5.25% to 6.00% (CBD); 6.00% to 7.00% (suburbs)	6 to 9	70.0% to 75.0%	3.0% to 6.0%	\$0.15 to \$0.25	3 to 6			
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap. capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	2.0% to 3.0%	3.0%	3.0%	5.75% to 6.50% (CBD); 6.50% to 7.25% (suburbs)	3.0% to 4.0%	6.25% to 7.00% (CBD); 7.00% to 8.20% (suburbs)	5.50% to 6.00% (CBD); 6.00% to 7.00% (suburbs)	6 to 9	70.0% to 75.0%	3.0% to 5.0%	\$0.15 to \$0.25	3 to 6			
<p><b>PRIVATE INVESTOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap. capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	2.5% to 3.0%	2.5% to 3.0%	1.5% to 3.0%	5.00% to 9.00% (CBD)	2.0% to 4.0%	8.00% to 10.50% (suburbs)	5.00% to 8.00% (CBD)	6 to 12	50.0% to 75.0%	1.0% to 2.0%	\$1.00 to \$2.00	6 to 12			
<p><b>REAL ESTATE SERVICE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap. capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; no longer uses rent spikes; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 5.0% Years 1 & 2	2.5% to 3.0%	2.5% to 3.0%	5.50% to 7.00% (CBD); 7.00% to 8.00% (suburbs)	0.1% to 2.0%	6.00% to 10.00% (suburbs)	5.00% to 6.50% (CBD); 6.50% to 7.75% (suburbs)	6 to 9	70.0% to 75.0%	5.0%	\$0.10 to \$0.20	3 to 6			
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 7 to 10 years</b> Uses both DCF and direct capitalization; in direct cap. capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	3.0%	3.0%	3.0%	6.50% to 7.50% (CBD)	2.5% to 3.0%	7.00% to 8.25% (CBD)	6.00% to 7.00% (CBD)	6 to 12	65.0% to 70.0%	5.0% to 8.0%	\$0.20 to \$0.50	3 to 6			

Source: Personal survey conducted by PwC during January 2017.



# PHILADELPHIA OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME	
<p><b>PRIVATE INVESTOR ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses effective rents; expects overall cap rates to hold steady over the next six months; does not use rent spikes.</p>	2.0% to 2.5% Year 1; 2.5% to 3.0% Year 2	2.5% to 3.0%	2.5% to 3.0% (suburbs)	7.25% to 8.25% (CBD); 7.75% to 8.25% to 8.75% (suburbs)	3.0% to 4.0%	7.50% to 8.50% (CBD); 8.50% to 9.00% (suburbs)	6.50% to 7.00% (CBD); 7.75% to 8.25% (suburbs)	7 to 9	65.0% to 70.0%	7.0% to 9.0%	\$0.25		4 to 6		
<p><b>REIT ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; focuses on suburban markets; uses effective rents; expects overall cap rates to hold steady over the next six months; does not use rent spikes.</p>	1.0% to 2.0% Year 1; 2.0% to 3.0% Year 2	3.0%	2.5% to 3.0% (suburbs)	6.00% to 6.75% (CBD); 8.25% to 9.00% (suburbs)	2.0%	7.00% to 8.50% (CBD); 8.50% to 9.50% (suburbs)	6.00% to 7.25% (CBD); 7.25% to 8.25% (suburbs)	6 to 8	65.0%	5.0%	\$0.20		6 to 12		
<p><b>OPPORTUNITY FUND INVESTOR ♦ Forecast Period: 5 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; prefers suburbs; does not use rent spikes.</p>	3.0% to 3.0% Years 1 to 3	3.0%	3.0%	7.00% to 8.00% (CBD); 8.00% to 9.00% (suburbs)	3.0%	7.00% to 8.00% (CBD); 8.00% to 9.00% (suburbs)	6.00% to 8.00% (CBD); 8.00% to 9.00% (suburbs)	6 to 9	65.0% to 75.0%	5.0%	\$0.25		4 to 8		
<p><b>REIT ♦ Forecast Period: 5 to 7 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	1.0% to 3.0%	1.0% to 2.0%	2.0% to 3.0% (suburbs)	6.50% to 8.00% (CBD); 8.00% to 9.50% (suburbs)	2.0% to 2.5%	7.00% to 8.00% (CBD); 9.00% to 10.50% (suburbs)	6.00% to 7.50% (CBD); 7.50% to 9.00% (suburbs)	6 to 15	60.0% to 70.0%	5.0% to 7.0%	\$0.25 to \$0.50		4 to 8		
<p><b>PRIVATE EQUITY INVESTOR ♦ Forecast Period: 3 to 5 years</b>                      Uses mainly DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; uses face rents and reflects concessions when they are scheduled to occur.</p>	0.0% to 1.5% Year 1; 0.0% to 3.0% Year 2	0.0% to 3.0%	0.0% to 3.0% (suburbs)	7.50% to 9.00% (CBD); 9.00% to 10.00% (suburbs)	1.5% to 3.0%	9.00% to 10.00% (CBD); 10.00% to 11.00% (suburbs)	7.00% to 8.50% (CBD); 8.50% to 9.50% (suburbs)	9 to 12	50.0% to 75.0%	5.0% to 10.0%	\$0.15 to \$0.50		3 to 5		

Source: Personal survey conducted by PwC during January 2017.



**PHOENIX OFFICE MARKET – SELECT SURVEY RESPONSES**

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS			REPLACEMENT RESERVE		MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME	
<p><b>PRIVATE INVESTOR</b> ♦ <b>Forecast Period: 3 to 7 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	2.0% to 4.0% Years 1 & 2	1.0% to 3.0%	3.0%	7.00% to 8.00% in both CBD & suburbs	2.0%	8.00% to 10.00% in both CBD & suburbs	6.50% to 8.00% (CBD); 7.00% to 8.00% (suburbs)	6	65.0% to 75.0%	5.0% to 10.0%	\$0.20 to \$0.25	6 to 18			
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 to 12 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use a rent spike of 6.0% in years 1 and 2.</p>	4.0% to 6.0% Years 1 & 2	3.0%	3.0%	6.50% to 7.50% (CBD); 7.00% to 8.00% (suburbs)	1.0% to 2.0%	7.00% to 8.00% (CBD); 7.50% to 8.50% (suburbs)	6.00% to 7.25% (CBD); 6.50% to 7.25% (suburbs)	6 to 12	60.0% to 70.0%	0.0% to 2.0%	\$0.20 to \$0.25	4 to 8			
<p><b>PUBLIC REIT</b> ♦ <b>Forecast Period: 5 to 8 years</b> Uses all approaches to value; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that this market equally favors buyers and sellers; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 7.0% Year 1; 3.0% to 6.0% Year 2	1.0% to 3.0%	1.0% to 3.0%	5.50% to 7.75% (CBD); 6.75% to 8.25% (suburbs)	0.5% to 1.0%	7.00% to 9.00% (CBD); 7.00% to 10.00% (suburbs)	5.00% to 7.50% (CBD); 6.00% to 8.00% (suburbs)	6 to 9	60.0% to 75.0%	4.0% to 7.0%	\$0.10 to \$0.25	1 to 12			
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; believes that market conditions favor buyers; may use a rent spike of 4.0% in year 3.</p>	3.0% Years 1 to 3	3.0%	3.0%	6.75% to 7.00% (suburbs)	1.0% to 3.0%	7.50% to 7.75% (suburbs)	6.00% to 6.50% (suburbs)	6 to 8	65.0% to 70.0%	6.0% to 7.0%	\$0.20 to \$0.25	4 to 6			
<p><b>PRIVATE EQUITY FIRM</b> ♦ <b>Forecast Period: 3 to 5 years</b> Mainly uses DCF analysis; in direct capitalization, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that market conditions currently favor buyers.</p>	3.0% to 5.0% Years 1 & 2	2.0% to 3.0%		6.50% to 7.00% (CBD); 7.00% to 7.50% (suburbs)	1.5% to 2.0%	8.00% to 10.00% (CBD); 7.00% to 9.00% (suburbs)	6.25% to 6.50% (CBD); 7.00% to 7.25% (suburbs)	5 to 10	70.0% to 75.0%		\$0.10 to \$0.15	6 to 10			

Source: Personal survey conducted by PwC during January 2017.





## SAN DIEGO OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)	OVERALL CAP RATE (OAR)	VACANCY ASSUMPTIONS			REPLACEMENT RESERVE	MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE			FREE & CLEAR	FREE & CLEAR	MONTHS VACANT		
<p><b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 3 to 5 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to increase up to 50 basis points over the next six months; may use rent spikes.</p>	3.0% to 5.0% Year 1; 2.0% to 3.0% Year 2	2.0% to 3.0%	2.0% to 3.0%	5.50% to 6.50% (CBD); 6.00% to 7.50% (suburbs)	1.0% to 5.0%	Did not disclose	5.50% to 6.50% (CBD); 6.00% to 7.50% (suburbs)	5 to 10	65.0% to 75.0%	7.0% to 12.0%	\$0.10 to \$0.20	3 to 12
<p><b>PRIVATE INVESTOR ♦ Forecast Period: 1 to 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; may use rent spikes in certain submarkets.</p>	3.0% to 4.0% Year 1; 4.0% to 6.0% Year 2	3.0%	3.0%	7.25% to 8.75% (CBD); 6.75% to 8.75% (suburbs)	1.0% to 3.0%	8.50% to 10.50% in both CBD & suburbs	7.00% to 8.50% (CBD); 6.50% to 8.50% (suburbs)	9 to 12	60.0% to 70.0%	5.0% to 10.0%	\$0.25 to \$0.35	3 to 5
<p><b>PUBLIC REAL ESTATE COMPANY ♦ Forecast Period: 7 to 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use a rent spike of 6.0% in year 1, 7.0% in year 2, and 5.0% in year 3; believes market conditions equally favor buyers and sellers.</p>	4.0% to 6.0% Year 1; 4.0% to 7.0% Year 2	2.0% to 3.0%	2.0% to 3.0%	6.50% to 7.50% (CBD); 6.50% to 7.50% (suburbs)	1.0% to 1.5%	6.50% to 7.50% (CBD); 6.25% to 7.00% (suburbs)	5.50% to 7.00% in both CBD & suburbs	6 to 12	60.0% to 70.0%	4.0% to 8.0%	Does not use	3 to 6
<p><b>PENSION/CORE INVESTOR ♦ Forecast Period: 10 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; does not use rent spikes; expects overall cap rates to increase up to 25 basis points over the next six months.</p>	2.0% to 3.0% Year 1; 3.0% to 4.0% Year 2	2.0% to 3.0%	2.5% to 3.0%	6.00% to 6.50% (CBD); 6.50% to 7.50% (suburbs)	2.0%	7.25% to 7.75% (CBD); 7.50% to 8.00% (suburbs)	5.50% to 6.50% (CBD); 6.50% to 7.50% (suburbs)	9	60.0% to 70.0%	2.0% to 3.0%	Does not use	4 to 6
<p><b>PRIVATE INVESTMENT FIRM ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	3.0% to 4.0% Year 1	3.0%		5.75% to 6.25% (suburbs)	1.0% to 2.0%	6.50% to 7.00% (suburbs)	5.00% to 5.50% (suburbs)	6 to 8	65.0% to 75.0%	1.0%	\$0.15 to \$0.25	3 to 6

Source: Personal survey conducted by PwC during January 2017.

## SAN FRANCISCO OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)	OVERALL CAP RATE (OAR)	VACANCY ASSUMPTIONS			REPLACEMENT RESERVE	MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE			FREE & CLEAR	MONTHS VACANT	TENANT RETENTION		
<p><b>INVESTMENT ADVISOR ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.</p>	0.0% to 3.0% Year 1; 1.0% to 3.0% Year 2	2.0% to 3.0%	3.0%	5.25% to 6.00% (CBD); 6.25% to 7.50% (suburbs)	0.7% to 1.5%	5.50% to 6.50% (CBD); 6.50% to 7.75% (suburbs)	4.25% to 5.25% (CBD); 5.50% to 6.50% (suburbs)	6 to 9	50.0% to 70.0%	3.0% to 5.0%	\$0.20 to \$0.30	3 to 5
<p><b>REAL ESTATE ADVISOR ♦ Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	2.0% to 5.0% Year 1; 3.0% to 5.0% Year 2	3.0%	3.0%	5.00% to 6.00% (CBD); 6.00% to 9.00% (suburbs)	1.0% to 2.0%	5.00% to 8.00% (CBD); 7.00% to 9.50% (suburbs)	4.00% to 7.00% (CBD); 5.00% to 8.00% (suburbs)	2 to 7	65.0% to 70.0%	5.0% to 10.0%	\$0.10 to \$0.30	2 to 6
<p><b>PENSION FUND ADVISOR ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that market conditions favor sellers; does not use rent spikes.</p>	3.0% to 4.0%	0.0% to 3.0%	3.0%	5.00% to 5.50% (CBD); 6.50% to 7.00% (suburbs)	3.0% to 3.5%	6.50% to 7.00% (CBD); 7.00% to 8.00% (suburbs)	4.50% to 5.50% (CBD)	10	70.0% to 75.0%	3.0% to 4.5%	Does not use	4 to 6
<p><b>INVESTMENT ADVISOR ♦ Forecast Period: 7 to 10 years</b>                      Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that market conditions equally favor buyers and sellers; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 5.0% Years 1 to 3	3.0%	3.0%	5.00% to 5.50% (CBD); 5.00% to 6.00% (suburbs)	0.5% to 1.0%	5.50% to 6.00% (CBD); 6.00% to 7.00% (suburbs)	3.50% to 5.50% (CBD); 5.00% to 6.00% (suburbs)	6 to 9	75.0% to 80.0%	2.5% to 5.0%	\$0.15 to \$0.25	1 to 3
<p><b>REAL ESTATE COMPANY ♦ Forecast Period: 10 years</b>                      Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes.</p>	2.0% to 4.0%	2.0% to 3.0%	3.0%	6.00% to 6.50% (CBD); 6.50% to 7.50% (suburbs)	1.0% to 1.5%	6.50% to 7.50% (CBD); 7.50% to 8.50% (suburbs)	4.25% to 6.00% (CBD); 5.00% to 6.50% (suburbs)	7 to 10	60.0% to 70.0%	5.0% to 7.0%	Does not use	3 to 6

Source: Personal survey conducted by PwC during January 2017.



## SEATTLE OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME	
<p><b>INVESTMENT ADVISOR ♦ Forecast Period: 7 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 5.0%	3.0%	3.0%	5.00% to 5.50% (CBD); 5.00% to 6.00% (suburbs)	0.5% to 1.0%	5.25% to 5.50% (CBD); 5.00% to 7.00% (suburbs)	4.50% to 5.50% (CBD); 5.00% to 6.50% (suburbs)	6 to 9	70.0% to 80.0%	5.0%	\$0.15 to \$0.25	1 to 3			
<p><b>REAL ESTATE ADVISOR ♦ Forecast Period: 5 to 10 years</b>                      Mainly uses DCF; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; expects overall cap rates to hold steady over the next six months; does not use rent spikes.</p>	2.5% to 3.0%	2.5% to 3.0%	1.5% to 3.0%	5.00% to 9.00% (CBD)	2.0% to 4.0%	8.00% to 10.00% (suburbs)	5.00% to 8.00% (CBD)	6 to 12	50.0% to 75.0%	1.0% to 2.0%	\$1.00 to \$2.00	6 to 12			
<p><b>INVESTMENT BANKER ♦ Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; expects overall cap rates to decrease 10 to 50 basis points over the next six months; may use a rent spike of 10.0% in year 5.</p>	3.0% to 5.0% Years 1 & 2	2.0%	2.0% to 3.0%	6.50% to 7.50% in both CBD & suburbs	2.0%	6.25% to 8.50% in both CBD & suburbs	5.00% to 7.00% in both CBD & suburbs	4 to 6	65.0% to 75.0%	5.0% to 10.0%	\$0.15 to \$0.25	3 to 4			
<p><b>LIFE INSURANCE COMPANY ♦ Forecast Period: 7 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; expects overall cap rates to hold steady over the next six months; no longer uses rent spikes.</p>	3.0% to 4.0%	3.0%	3.0%	6.00% to 6.50% (CBD)	2.5% to 3.0%	6.00% to 7.50% (CBD)	4.50% to 6.00% (CBD)	5 to 8	65.0% to 70.0%	5.0% to 8.0%	\$0.20 to \$0.50	1 to 3			
<p><b>ASSET MANAGER ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions equally favor buyers and sellers; uses face rents and reflects concessions when they are scheduled to occur.</p>	3.0% to 5.0%	3.0%	3.0%	5.50% to 6.50% (CBD); 6.50% to 7.00% (suburbs)	2.5% to 2.8%	6.00% to 7.75% (suburbs)	4.25% to 5.50% (CBD); 6.50% to 7.00% (suburbs)	6 to 9	60.0% to 70.0%	4.0% to 5.0%	\$0.20 to \$0.25	6 to 9			
<p><b>REAL ESTATE ADVISOR ♦ Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions equally favor buyers and sellers; no longer uses rent spikes.</p>	2.8% to 4.0%	3.0%	3.0%	5.00% to 6.00% (CBD); 6.00% to 7.00% (suburbs)	3.0% to 4.0%	5.50% to 8.50% (suburbs)	4.75% to 5.75% (CBD); 6.75% to 7.75% (suburbs)	6 to 9	70.0% to 75.0%	3.0% to 5.0%	\$0.15 to \$0.25	3 to 6			

Source: Personal survey conducted by PwC during January 2017.



## SOUTHEAST FLORIDA OFFICE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)	OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE	MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE		FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION		
<p><b>PRIVATE INVESTMENT FIRM</b> ♦ <b>Forecast Period: 3 to 5 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; may use a rent spike of 5.0% in years 2 and 3; sees overall cap rates holding steady over the next six months.</p>	3.0% to 5.0% Years 1 to 3	2.5% to 3.0%	2.0% to 2.5%	6.00% to 7.50% (CBD); 7.50% to 10.00% (suburbs)	1.5% to 2.0%	8.00% to 9.00% (CBD); 9.00% to 10.00% (suburbs)	5.00% to 7.00% (CBD); 7.00% to 9.50% (suburbs)	9 to 12	60.0% to 75.0%	6.0% to 8.0%	\$0.50 to \$1.00	3 to 5
<p><b>REIT</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses DCF analysis only; uses face rents and reflects concessions when they are scheduled to occur; expects overall cap rates to increase 25 to 50 basis points over the next six months; does not use rent spikes.</p>	2.0% to 3.0% Years 1 & 2	2.5% to 3.0%	2.0% to 2.5%	5.00% to 6.00% (CBD); 6.50% to 7.50% (suburbs)	1.0% to 2.5%	6.00% to 7.00% (CBD); 7.00% to 8.00% (suburbs)	5.00% to 6.00% (CBD); 6.50% to 7.00% (suburbs)	6 to 12	50.0% to 80.0%	3.0% to 8.0%	\$0.25 to \$0.50	4 to 8
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes; sees overall cap rates holding steady over the next six months.</p>	1.0% to 5.0% Years 1 to 3	3.0%	3.0%	5.50% to 7.50% (CBD); 6.50% to 8.00% (suburbs)	1.0% to 3.0%	6.50% to 8.00% (CBD); 7.00% to 8.50% (suburbs)	5.50% to 7.00% (CBD); 6.50% to 7.50% (suburbs)	6 to 12	65.0% to 75.0%	7.0% to 11.0%	\$0.10 to \$0.30	3 to 5
<p><b>PRIVATE EQUITY INVESTOR</b> ♦ <b>Forecast Period: 3 to 6 years</b>                      Uses mainly DCF analysis; in direct cap, capitalizes cash flow after TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; uses face rents and reflects concessions when they are scheduled to occur; sees overall cap rates holding steady over the next six months.</p>	0.0% to 2.0% Years 1 & 2	1.0% to 3.0%	1.0% to 3.0%	7.00% to 10.50% (CBD); 8.50% to 10.50% (suburbs)	1.0% to 2.5%	8.50% to 10.00% (CBD); 10.00% to 10.50% (suburbs)	7.00% to 9.50% (CBD); 10.00% to 10.00% (suburbs)	6 to 12	40.0% to 70.0%	7.0% to 13.0%	\$0.20 to \$0.50	3 to 6
<p><b>REIT</b> ♦ <b>Forecast Period: 10 years</b>                      Valuation preference is DCF analysis; also uses direct cap; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; does not use rent spikes; prefers suburbs; sees overall cap rates holding steady over the next six months.</p>	0.0% to 1.0% Year 1; 2.0% to 2.5% Year 2	3.0%	2.0% to 3.0%	7.50% to 8.50% (suburbs)	2.0%	8.00% to 9.50% (suburbs)	7.75% to 8.75% (suburbs)	6 to 9	65.0%	5.0%	\$0.20	6 to 12

Source: Personal survey conducted by PwC during January 2017.



## SUBURBAN MARYLAND OFFICE MARKET—SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME
<p><b>PRIVATE INVESTOR ♦ Forecast Period: 1 to 5 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.</p>	0.0% Years 1 & 2	1.0%	1.0% to 2.0%	7.00% to 8.50%	4.0% to 5.0%	9.00% to 10.00%	7.00% to 8.50%	9.00% to 10.00%	7.00% to 8.50%	9 to 12	70.0% to 80.0%	0.0%	Does not use	3 to 9	
<p><b>LIFE INSURANCE COMPANY ♦ Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; no longer uses rent spikes.</p>	0.0% Years 1 & 2	2.0% to 3.0%	2.0% to 2.5%	6.75% to 9.50%	2.0% to 3.0%	7.00% to 9.00%	6.75% to 9.00%	7.00% to 9.00%	6.75% to 9.00%	12	60.0% to 75.0%	5.0% to 15.0%	\$0.50 to \$0.75	3 to 9	
<p><b>PRIVATE INVESTOR ♦ Forecast Period: 1 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; believes market conditions equally favor sellers and buyers.</p>	0.0% to 1.0%	1.0% to 2.0%	2.0% to 3.0%	6.50% to 7.50%	1.0% to 2.0%	7.50% to 10.00%	6.50% to 7.50%	7.50% to 10.00%	5.50% to 7.00%	4 to 6	50.0% to 75.0%	6.0% to 9.0%	\$0.25 to \$0.50	4 to 8	
<p><b>PRIVATE EQUITY FIRM ♦ Forecast Period: 5 to 8 years</b>                      Mainly uses DCF analysis; in direct capitalization, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes that market conditions equally favor buyers and sellers.</p>	0.0% Years 1 & 2	3.0%	3.0%	8.25% to 9.25%	2.5% to 3.0%	8.50% to 9.50%	8.25% to 9.25%	8.50% to 9.50%	8.00% to 9.00%	9 to 12	65.0% to 75.0%	7.0% to 10.0%	\$0.25 to \$0.30	6 to 9	
<p><b>PRIVATE INVESTOR ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; expects overall cap rates to hold steady over the next six months; believes market conditions favor buyers.</p>	0.0% to 1.5% Years 1 & 2	2.0%	2.0%	6.50% to 7.50%	3.0%	7.50% to 8.50%	6.50% to 7.50%	6.00% to 8.00%	6.00% to 8.00%	8	65.0% to 8.00%	1.0% to 3.0%	\$0.25	5	

Source: Personal survey conducted by PwC during January 2017.



**WASHINGTON, DC OFFICE MARKET – SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS			REPLACEMENT RESERVE		MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME	
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 10 years</b> Prefers DCF analysis; also uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use a rent spike of 4.0% in years 2 and 3.</p>	0.0% Year 1; 2.0% Year 2	3.0%	3.0%	5.25% to 6.00%	2.0%	5.75% to 6.25%	4.50% to 5.75%	3 to 9	65.0% to 75.0%	7.0% to 8.0%	\$0.15 to \$0.25		2 to 4		
<p><b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; believes market conditions favor sellers.</p>	0.0% Year 1; 0.0% to 2.0% Year 2	0.0%	2.0% to 2.5%	5.00% to 6.00%	1.0% to 3.0%	5.00% to 6.50%	4.25% to 5.75%	6 to 12	50.0% to 75.0%	0.0% to 5.0%	\$0.20 to \$0.50		1 to 3		
<p><b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b> Relies on DCF; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses present value analysis of effective rents; no longer uses rent spikes; believes market conditions equally favor sellers and buyers.</p>	3.0% to 4.0% Year 1; 3.0% Year 2	3.0%	2.5% to 3.0%	5.00% to 6.00%	2.0% to 2.5%	6.00% to 6.50%	4.50% to 5.50%	4 to 6	65.0% to 75.0%	1.0% to 2.0%	\$0.15 to \$0.25		2 to 5		
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	0.0% to 4.0%	3.0%	3.0%	5.00% to 6.50%	1.0% to 2.0%	5.50% to 7.00%	4.25% to 6.50%	6 to 9	70.0% to 75.0%	5.0%	\$0.25		3 to 6		
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months; believes market conditions favor buyers.</p>	2.0% to 3.0%	3.0%	3.0%	6.00%	2.5%	8.00%	6.00%	7 to 9	70.0% to 75.0%	3.0% to 5.0%	Does not use		3 to 6		

Source: Personal survey conducted by PwC during January 2017.



## NATIONAL FLEX/R&D MARKET-SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS			REPLACEMENT RESERVE		MARKETING TIME
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME
<p><b>PRIVATE EQUITY INVESTOR</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIS, leasing commissions, and capital replacement reserve; believes market conditions equally favor buyers and sellers; does not use rent spikes.</p>	3.0% Years 1 to 3	3.0%	3.0%	7.00% to 7.50%	1.5% to 3.0%	7.00% to 8.00%	6.25% to 7.00%	6.25% to 7.00%	6 to 12	65.0% to 70.0%	2.0% to 5.0%	\$0.15 to \$0.40	\$0.15 to \$0.40	2 to 5	
<p><b>PRIVATE EQUITY INVESTOR</b> ♦ <b>Forecast Period: 2 to 5 years</b>                      Uses mainly DCF analysis; in direct cap, capitalizes NOI before TIS, leasing commissions, and capital replacement reserve; does not use rent spikes; uses face rents and reflects concessions when they are scheduled to occur.</p>	0.0% to 3.0% Years 1 to 3	0.0% to 2.0%	1.0% to 2.0%	7.50% to 9.00%	1.0% to 2.0%	8.00% to 10.00%	7.50% to 9.00%	7.50% to 9.00%	9 to 12	50.0% to 75.0%	5.0% to 10.0%	\$0.15 to \$0.50	\$0.15 to \$0.50	3 to 5	
<p><b>REAL ESTATE SERVICES FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIS, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use rent spikes.</p>	3.0% to 4.0% Years 1 to 3	3.0%	3.0%	6.75% to 7.50%	2.0% to 3.0%	7.50% to 9.00%	6.50% to 7.50%	6.50% to 7.50%	6 to 12	65.0% to 75.0%	5.0% to 7.5%	\$0.20 to \$0.30	\$0.20 to \$0.30	6 to 9	
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIS, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; uses a rent spike of 4.0% in years 2 and 3 and 4.5% in year 4.</p>	2.0% Years 1 & 2	3.0%	3.0%	6.00% to 7.00%	1.0% to 4.0%	6.75% to 7.50%	5.50% to 6.25%	5.50% to 6.25%	9 to 15	50.0% to 65.0%	3.0% to 8.0%	\$0.15 to \$0.50	\$0.15 to \$0.50	6 to 12	
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIS, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use rent spikes.</p>	2.0% to 3.0%	3.0%	2.0%	7.00% to 8.00%	4.0% to 6.0%	8.50% to 10.00%	7.00% to 8.00%	7.00% to 8.00%	6 to 9	70.0% to 80.0%	5.0% to 7.0%	\$0.10 to \$0.20	\$0.10 to \$0.20	6 to 12	

Source: Personal survey conducted by PwC during January 2017.



## NATIONAL WAREHOUSE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME
<p><b>REAL ESTATE SERVICES FIRM</b> ♦ <b>Forecast Period: 5 to 15 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; may use a rent spike of 5.0% in years 1 to 3.</p>	3.0% to 6.0% Year 1; 3.0% to 5.0% Year 2	3.0%	3.0%	5.50% to 6.25%	1.0% to 2.0%	6.00% to 7.00%	4.25% to 5.50%	65.0% to 80.0%	0.0% to 5.0%	\$0.05 to \$0.15	4 to 6				
<p><b>DOMESTIC PENSION FUND</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; no longer uses rent spikes; data refers to the national warehouse sector; expects overall cap rates to hold steady over the next six months.</p>	3.0% Years 1 to 3	3.0%	3.0%	5.50% to 7.00%	1.0% to 3.0%	6.00% to 8.00%	4.50% to 6.50%	65.0% to 75.0%	0.5% to 2.0%	\$0.10 to \$0.25	6 to 9				
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Relies mainly on direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; data refers to the U.S. Southwest region.</p>	2.0% to 3.0%	3.0%	3.0%	6.00% to 7.00%	1.0% to 3.0%	6.50% to 7.00%	5.00% to 6.00%	50.0% to 65.0%	3.0% to 3.0%	\$0.10 to \$0.35	3 to 6				
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 10 years</b>                      Prefers DCF analysis; also uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; data refers to the national warehouse sector.</p>	0.0% Year 1; 3.0% to 4.0% Year 2	3.0%	3.0%	5.00% to 7.00%	1.0% to 3.0%	5.50% to 7.00%	4.25% to 6.75%	60.0% to 75.0%	5.0% to 7.0%	\$0.05 to \$0.15	3 to 6				
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Mainly uses DCF; in direct capitalization, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; data refers to the U.S. Southeast region; expects overall cap rates to hold steady over the next six months.</p>	0.0% Year 1; 3.0% Year 2	0.0% to 3.0%	2.5% to 3.0%	6.50% to 6.75%	1.5% to 2.0%	7.00% to 7.25%	5.50% to 6.90%	70.0% to 75.0%	1.0% to 7.0%	\$0.10 to \$0.20	1 to 3				
<p><b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b>                      Relies on DCF; also uses direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; data refers to the U.S. Southeast region.</p>	3.0%	3.0%	3.0%	5.75% to 6.00%	2.0% to 3.0%	6.25% to 6.75%	5.00% to 5.25%	65.0% to 70.0%	1.0% to 2.0%	\$0.10 to \$0.20	3 to 4				

Source: Personal survey conducted by PwC during January 2017.





# EAST NORTH CENTRAL (ENC) REGION WAREHOUSE MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	MONTHS	
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; expects overall cap rates to hold steady over the next six months; may use rent spikes.</p>	0.0% to 3.0%	3.0%	3.0%	5.50% to 6.25%	1.0% to 2.0%	5.75% to 6.75%	4.50% to 5.50%	6 to 8	60.0% to 75.0%	4.0% to 7.0%	\$0.05 to \$0.15	2 to 6		
<p><b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; expects overall cap rates to hold steady over the next six months; no longer uses rent spikes.</p>	2.0% to 3.0%	3.0%	2.5% to 3.0%	6.00% to 6.50%	2.0% to 3.0%	6.50% to 7.00%	5.50% to 6.00%	6 to 9	60.0% to 70.0%	2.0% to 4.0%	\$0.10 to \$0.20	3 to 6		
<p><b>REAL ESTATE SERVICES FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions currently favor sellers; expects overall cap rates to hold steady over the next six months; may use a rent spike of 5.0% in years 1 to 3.</p>	2.0% to 5.0%	2.0% to 3.0%	2.0% to 3.0%	6.00% to 7.00%	1.0% to 2.0%	6.00% to 7.00%	4.75% to 5.75%	2 to 6	65.0% to 75.0%	0.0% to 5.0%	\$0.05 to \$0.15	6 to 9		
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and replacement reserve; believes market conditions favor sellers; expects overall cap rates to hold steady over the next six months.</p>	3.0%	3.0%	3.0%	5.75% to 6.75%	1.0% to 4.0%	6.25% to 7.00%	5.00% to 5.50%	6 to 12	50.0% to 65.0%	3.0%	\$0.10 to \$0.35	3 to 6		
<p><b>PRIVATE EQUITY INVESTOR</b> ♦ <b>Forecast Period: 3 to 7 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; does not use rent spikes; expects overall cap rates to hold steady over the next six months.</p>	1.8% to 3.5%	3.0%		5.50% to 7.00%	1.0% to 4.0%	5.75% to 7.00%	6.00% to 7.00%	6 to 8	60.0% to 70.0%	3.0%	\$0.10 to \$0.20	3 to 6		

Source: Personal survey conducted by PwC during January 2017.



**PACIFIC REGION WAREHOUSE MARKET—SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		VACANCY ASSUMPTIONS		REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME
<b>PRIVATE ASSET MANAGER</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes market conditions equally favor buyers and sellers; may use a rent spike of 5.0% in years 1 and 2.	0.0% Year 1; 3.0% to 5.0% Year 2	3.0%	3.0%	4.75% to 5.50%	1.0% to 3.0%	5.50% to 6.00%	3.75% to 5.00%	6 to 12	60.0% to 75.0%	5.0%	\$0.05 to \$0.15	2 to 4			
<b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b> Mainly uses direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur; believes market conditions favor sellers; does not use rent spikes.	3.0% Years 1 to 3	3.0%	3.0%	6.00% to 6.50%	3.0% to 4.0%	6.00% to 7.00%	4.50% to 6.25%	6 to 9	60.0% to 70.0%	5.0% to 7.0%	Does not use	1 to 2			
<b>INSTITUTIONAL INVESTOR</b> ♦ <b>Forecast Period: 10 years</b> Relies on DCF; also uses direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; no longer uses rent spikes; believes market conditions favor sellers.	3.0% Years 1 to 3	3.0%	3.0%	5.00% to 5.25%	2.0% to 3.0%	6.00% to 6.25%	4.25% to 4.75%	4 to 6	65.0% to 75.0%	2.0% to 4.0%	\$0.10 to \$0.20	2 to 4			
<b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b> Relies mainly on direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; uses face rents and reflects concessions when they are scheduled to occur; does not use rent spikes.	4.0% Years 1 & 2	3.0%	3.0%	4.50% to 5.50%	0.7% to 3.0%	5.50% to 6.50%	3.75% to 4.75%	6 to 12	50.0% to 65.0%	3.0%	\$0.10 to \$0.35	3 to 6			
<b>REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; uses face rents and reflects concessions when they are scheduled to occur.	0.0% to 1.5% Year 1; 1.5% to 2.0% Year 2	2.0%	1.5% to 2.5%	6.00% to 8.00%	2.0% to 3.0%	8.00% to 8.50%	6.00% to 7.00%	4 to 8	50.0% to 5.0%	3.0% to 5.0%	\$0.10 to \$0.15	3 to 6			

Source: Personal survey conducted by PwC during January 2017.



**NATIONAL APARTMENT MARKET –SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES		VACANCY		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		FF&E REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	TOTAL VACANCY	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	PER UNIT	PER UNIT	MONTHS	MONTHS		
<b>INSURANCE COMPANY ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, FF&E reserve is not deducted from NOI before capitalization; does not use a separate structural replacement reserve.	2.0% to 4.0%	2.0% to 3.0%	3.0% to 7.0%	4.50% to 6.50%	0.8% to 2.5%	5.50% to 7.00%	3.50% to 6.00%	\$200 to \$500	3 to 6					
<b>PENSION FUND ADVISOR ♦ Forecast Period: 10 years</b> Prefers DCF analysis; also uses direct capitalization; FF&E reserve is not deducted from NOI before capitalization; does not use a separate structural replacement reserve.	0.0% to 3.0%	3.0%	4.0% to 10.0%	4.25% to 6.25%	1.5% to 4.0%	5.75% to 7.00%	4.00% to 6.25%	\$150 to \$350	2 to 3					
<b>DOMESTIC PENSION FUND ♦ Forecast Period: 1 to 10 years</b> Uses both DCF and direct capitalization; FF&E reserve is not deducted from NOI before capitalization; reflects concessions as they occur; does not use a separate structural replacement reserve.	3.0%	3.0%	3.0% to 10.0%	4.25% to 6.00%	0.5% to 3.0%	5.75% to 7.25%	3.75% to 5.00%	\$150 to \$500	3 to 9					
<b>INSTITUTIONAL INVESTOR ♦ Forecast Period: 10 years</b> Relies on DCF; FF&E reserve is not deducted from NOI before capitalization; does not use an additional structural reserve; believes current market conditions equally favor sellers and buyers.	3.0% to 4.0%	3.0%	4.0% to 6.0%	4.50% to 5.50%	2.0% to 3.0%	6.00% to 6.50%	4.00% to 5.00%	\$200 to \$250	2 to 3					
<b>PRIVATE INVESTMENT FIRM ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; FF&E reserve is not deducted from NOI before capitalization; sees overall cap rates holding steady; does not use a separate structural reserve.	0.0% to 5.0%	2.0% to 3.0%	4.0% to 6.0%	5.00% to 6.00%	0.8% to 1.5%	6.00% to 8.00%	4.00% to 6.00%	\$200 to \$300	3 to 6					
<b>PENSION FUND ADVISOR ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; FF&E reserve is deducted from NOI before capitalization; buys 150- to 400-unit apartment complexes in first- and second-tier markets nationwide; uses a separate structural reserve of \$100 per unit.	3.0%	2.0%	7.0%	6.50% to 7.00%	1.0% to 2.0%	8.25% to 9.00%	5.75% to 7.00%	\$250 to \$350	1 to 2					

Source: Personal survey conducted by PwC during January 2017.



## MID-ATLANTIC REGION APARTMENT MARKET –SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES		VACANCY		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		FF&E REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	TOTAL VACANCY	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	PER UNIT	PER UNIT	MONTHS			
<p><b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 2 to 4 years</b>                      Uses both DCF and direct capitalization; FF&amp;E reserve is deducted from NOI before capitalization; uses a separate structural replacement reserve of \$100 to \$400 per unit; believes market conditions currently favor sellers; expects overall cap rates to hold steady over the next six months.</p>	0.0% to 4.0%	1.0% to 4.0%	2.0% to 4.0%	5.50% to 7.50%	1.0% to 2.0%	6.00% to 9.00%	4.50% to 6.50%	\$100 to \$400			3 to 5			
<p><b>REAL ESTATE ADVISOR ♦ Forecast Period: 5 to 10 years</b>                      Prefers DCF analysis; also uses direct capitalization; FF&amp;E reserve is deducted from NOI before capitalization; uses a separate structural replacement reserve of \$200 to \$300 per unit.</p>	0.0% Year 1; 3.0% to 6.0% Year 2	0.0% to 3.0%	4.0% to 5.0%	4.00% to 5.00%	1.0% to 4.0%	5.25% to 7.00%	3.00% to 4.60%	\$200 to \$300			1 to 3			
<p><b>PENSION FUND INVESTOR ♦ Forecast Period: 4 to 7 years</b>                      Uses all three approaches to value; FF&amp;E reserve is not deducted from NOI before capitalization; uses a separate structural replacement reserve of \$1,000 to \$1,500 per unit; believes market conditions equally favor sellers and buyers.</p>	2.0% to 3.0% Year 1	3.0%	5.0% to 7.0%	5.00% to 6.75%	2.0% to 3.0%	8.00% to 10.00%	4.25% to 6.75%	\$250 to \$350			2 to 8			
<p><b>PRIVATE INVESTOR ♦ Forecast Period: 5 to 10 years</b>                      Mainly uses direct capitalization; FF&amp;E reserve is deducted from NOI before capitalization; also uses a separate structural replacement reserve of \$200 to \$350 per unit; expects overall cap rates to hold steady over the next six months.</p>	1.0% to 4.0% Years 1 & 2	2.0% to 3.0%	4.0% to 7.0%	4.75% to 5.75%	0.3% to 1.3%	5.25% to 7.00%	4.00% to 5.25%	\$200 to \$350			2 to 3			
<p><b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 5 to 8 years</b>                      Mainly uses direct capitalization analysis; FF&amp;E reserve is deducted from NOI before capitalization; believes that market conditions equally favor buyers and sellers; does not use a separate structural replacement reserve.</p>	1.0% to 3.5%	3.0%	5.0% to 7.0%	5.50% to 6.50%	1.0% to 3.0%	7.00% to 9.00%	5.00% to 6.25%	\$200 to \$300			3 to 9			

Source: Personal survey conducted by PwC during January 2017.



**PACIFIC REGION APARTMENT MARKET –SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES		VACANCY		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		FF&E REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	TOTAL VACANCY	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	PER UNIT	PER UNIT	MONTHS	MONTHS		
<b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 4 to 7 years</b> Uses both DCF and direct capitalization; FF&E reserve is deducted from NOI before capitalization; uses a separate structural replacement reserve of \$250 to \$350 per unit; expects overall cap rates to increase up to 35 basis points over the next six months.	2.5% to 5.0%	2.5% to 3.0%	3.5% to 5.0%	4.50% to 6.50%	0.5% to 1.5%	7.00% to 9.00%	4.00% to 6.00%	\$250 to \$350	3 to 6					
<b>REAL ESTATE ADVISOR ♦ Forecast Period: 5 to 10 years</b> Prefers DCF analysis; also uses direct capitalization; FF&E reserve is deducted from NOI before capitalization; uses a separate structural replacement reserve of \$200 to \$300 per unit; expects overall cap rates to hold steady over the next six months.	0.0% Year 1; 3.0% to 4.0% Years 2 & 3	0.0%	4.0% to 5.0%	4.25% to 5.00%	0.8% to 3.0%	5.75% to 6.25%	3.60% to 4.30%	\$200 to \$300	1 to 3					
<b>PRIVATE REAL ESTATE FIRM ♦ Forecast Period: 5 to 8 years</b> Mainly uses direct capitalization analysis; FF&E reserve is deducted from NOI before capitalization; believes market conditions equally favor buyers and sellers; does not use a separate structural reserve.	2.0% to 3.5%	3.0%	5.0% to 6.0%	5.00% to 6.00%	1.0% to 3.0%	6.00% to 9.00%	4.75% to 5.50%	\$200 to \$300	3 to 9					
<b>REAL ESTATE ADVISOR ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; does not use an FF&E reserve; uses a separate structural replacement reserve of \$200 to \$300 per unit.	5.0%	3.0%	3.0% to 5.0%	4.25% to 5.50%	1.0% to 3.0%	5.50% to 6.75%	3.50% to 4.75%	Does not use	3 to 9					
<b>PRIVATE INVESTMENT FIRM ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; FF&E reserve is deducted from NOI before capitalization; uses a separate structural replacement reserve of \$200 to \$350 per unit; believes market conditions equally favor buyers and sellers; expects overall cap rates to hold steady over the next six months.	2.0% to 4.0% Years 1 & 2	2.0% to 2.8%	3.0% to 5.0%	4.50% to 5.00%	0.3% to 1.5%	5.25% to 6.00%	3.75% to 4.75%	\$200 to \$375	1 to 3					

Source: Personal survey conducted by PwC during January 2017.



**SOUTHEAST REGION APARTMENT MARKET –SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES		VACANCY		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		FF&E REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	TOTAL VACANCY	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	PER UNIT	PER UNIT	MONTHS			
<p><b>PENSION FUND INVESTOR</b> ♦ <b>Forecast Period: 4 to 7 years</b> Uses all three approaches to value; FF&amp;E reserve is not deducted from NOI before capitalization; also uses a separate structural replacement reserve of \$1,200 to \$1,500 per unit.</p>	3.0% to 4.0% Years 1 & 2	3.0%	5.0% to 7.0%	5.75% to 7.00%	2.0% to 3.0%	8.00% to 10.00%	4.75% to 6.50%	\$250 to \$350	2 to 4					
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 3 to 4 years</b> Uses both DCF and direct capitalization; does not use an FF&amp;E reserve; uses a separate structural replacement reserve of \$300 to \$350 per unit; expects overall cap rates to hold steady over the next six months.</p>	2.0% to 3.5% Years 1 to 3	2.0% to 3.0%	4.0% to 7.0%	6.50% to 7.00%	1.3% to 1.5%	8.00% to 10.00%	5.50% to 6.00%	Does not use	3 to 5					
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; does not use an FF&amp;E reserve; uses a separate structural replacement reserve of \$200 to \$300 per unit; expects overall cap rates to hold steady over the next six months.</p>	4.0% Year 1; 3.0% Year 2	3.0%	5.0%	4.50% to 5.00%	1.0% to 4.0%	5.75% to 6.50%	3.50% to 4.75%	Does not use	3 to 6					
<p><b>PENSION FUND ADVISOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; FF&amp;E reserve is not deducted from NOI before capitalization; buys 150- to 400-unit apartment complexes; uses a separate structural reserve of \$250 to \$350 per unit.</p>	1.0% to 3.0% Years 1 & 2	2.0% to 3.0%	4.5% to 7.0%	5.50% to 6.25%	0.8% to 1.5%	6.50% to 7.25%	4.50% to 5.75%	\$200 to \$350	1 to 3					
<p><b>REAL ESTATE ADVISOR</b> ♦ <b>Forecast Period: 1 to 5 years</b> Prefers DCF analysis; also uses direct capitalization; FF&amp;E reserve is not deducted from NOI before capitalization; uses a separate structural replacement reserve of \$300 per unit.</p>	3.0% Years 1 to 3	3.0%	5.0%	4.75% to 5.25%	1.0% to 1.5%	6.00% to 7.00%	4.50% to 5.25%	\$300	2					

Source: Personal survey conducted by PwC during January 2017.



**NATIONAL NET LEASE MARKET – SELECT SURVEY RESPONSES**  
First Quarter 2017

	PREFERRED PROPERTY TYPE	CHANGE RATES	PREFERRED CREDIT RATING	RESIDUAL	DISCOUNT RATE (IRR)	OVERALL CAP RATE (OAR)	UNDERLYING VACANCY & CREDIT LOSS	REPLACEMENT RESERVE	MARKETING TIME
		MARKET RENT		CAP RATE	FREE & CLEAR	FREE & CLEAR		PER SQUARE FOOT	MONTH
		EXPENSES							
<b>INVESTOR/BROKERS</b> ♦ <b>Forecast Period: 3 to 10 years</b> Primary valuation method is direct capitalization; also uses sales comparison approach; underlying credit rating of tenant is more important than real estate value; capitalizes NOI before TIs, leasing commissions, and capital replacement reserve.	Commodity retail, office, medical	1.0% to 3.0% Years 1 to 3	BBB- to AAA	6.00% to 9.00%	8.00% to 10.00%	5.50% to 8.50%	Does not use	Does not use	3 to 6
<b>PRIVATE INVESTMENT FIRM</b> ♦ <b>Forecast Period: 1 to 5 years</b> Primary valuation method is direct capitalization; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; also uses DCF analysis; mainly focuses on net lease transactions; includes reimbursements paid by tenants as both revenues and expenses.	Office, health care, industrial, government	1.5% to 3.0% Years 1 to 3	B to A	7.00% to 9.00%	8.00% to 10.00%	6.50% to 9.00%	0.0%	\$0.10 to \$0.25	3 to 6
<b>PRIVATE INVESTMENT FIRM</b> ♦ <b>Forecast Period: 3 to 8 years</b> Primary valuation method is sales comparison approach; also uses DCF analysis; mainly completes net lease sales; in direct cap, capitalizes cash flow after TIs, leasing commissions, and capital replacement reserve; excludes reimbursements paid by tenants as both revenues and expenses.	Retail (restaurants)	1.0% to 2.0% Years 1 to 3	BBB to AA	7.50% to 7.75%	6.00% to 7.00%	5.25% to 6.50%	0.0% to 5.0%	Does not use	4 to 6
<b>INVESTMENT ADVISOR</b> ♦ <b>Forecast Period: 3 to 10 years</b> Primary valuation method is direct capitalization; also uses DCF analysis; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; mainly focuses on net lease sales; excludes reimbursements paid by tenants as both revenues and expenses.	General-purpose office	1.0% to 2.5% Years 2 to 3	BBB- to A	7.00% to 7.75%	7.00% to 8.00%	5.50% to 7.00%	3.0% to 5.0%	\$0.05 to \$0.20	3 to 4
<b>MANAGEMENT COMPANY</b> ♦ <b>Forecast Period: 10 to 20 years</b> Mainly focuses on sale-leaseback deals and net lease sales; in direct cap, capitalizes cash flow after TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to decrease 25 to 50 basis points over the next six months; excludes reimbursements paid by tenants as both revenues and expenses.	All varieties	0.0% to 2.0%	B to AAA	Not disclosed	Not disclosed	6.00% to 7.75%	Does not use	Does not use	2 to 12

Source: Personal survey conducted by PwC during January 2017.

**NATIONAL MEDICAL OFFICE BUILDINGS MARKET – SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES			RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)			VACANCY ASSUMPTIONS			REPLACEMENT RESERVE		MARKETING TIME	
	MARKET RENT	EXPENSES	CPI	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	MONTHS VACANT	TENANT RETENTION	UNDERLYING VACANCY & CREDIT LOSS	PER SQUARE FOOT	REPLACEMENT RESERVE	MARKETING TIME			
<p><b>REIT</b> ♦ <b>Forecast Period: 1 to 10 years</b> Uses both DCF analysis and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to increase 25 to 50 basis points over the next six months; does not use rent spikes.</p>	2.0% to 3.0% Years 1 to 3	2.0% to 3.0%	2.0%	5.50% to 6.50% (on campus); 6.50% to 7.50% (off campus)	1.0% to 2.0%	7.00% to 8.00% (on campus); 7.50% to 9.00% (off campus)	5.50% to 6.50% (on campus); 6.00% to 7.00% (off campus)	9 to 12	75.0% to 90.0%	5.0% to 10.0%	\$0.15 to \$0.60	4 to 6					
<p><b>REIT</b> ♦ <b>Forecast Period: 3 to 5 years</b> Mainly uses DCF analysis; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; believes market conditions favor sellers; expects overall cap rates to hold steady over the next six months.</p>	2.5%	2.5%	1.5% to 2.5%	5.50% to 6.50% (on campus); 7.00% (off campus)	1.0% to 2.0%	6.00% to 8.00% (on campus); 7.00% to 10.00% (off campus)	5.50% to 6.50% (on campus); 6.00% to 7.00% (off campus)	9 to 12	80.0% to 90.0%	0.0%	\$0.25 to \$0.45	3 to 6					
<p><b>REAL ESTATE SERVICE FIRM</b> ♦ <b>Forecast Period: 8 to 11 years</b> Uses all approaches to value; in direct cap, capitalizes NOI after capital replacement reserve but before TIs and leasing commissions; expects overall cap rates to hold steady over the next six months; does not use rent spikes.</p>	2.0% to 3.0% Years 1 & 2	2.0% to 3.0%	2.0% to 3.0%	5.50% to 7.75% for both on campus and off campus	1.0% to 2.0%	6.00% to 7.75% (on campus); 6.00% to 8.00% (off campus)	5.00% to 6.75% for both on campus and off campus	6 to 10	70.0% to 90.0%	2.0% to 5.0%	\$0.20 to \$0.25	2 to 3					
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 3 to 7 years</b> Uses all approaches to value; indirect cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve; expects overall cap rates to hold steady over the next six months.</p>	0.0% to 3.0% Years 1 to 3	2.0% to 3.0%	2.0% to 3.0%	7.00% to 8.50% (on campus); 8.00% to 10.25% (off campus)	1.0% to 3.0%	7.00% to 9.00% (on campus); 8.00% to 11.00% (off campus)	6.75% to 8.50% (on campus); 7.75% to 10.00% (off campus)	6 to 18	70.0% to 80.0%	5.0% to 10.0%	\$0.10 to \$0.30	4 to 6					
<p><b>PRIVATE REAL ESTATE FIRM</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF analysis and direct capitalization; in direct cap, capitalizes NOI before TIs, leasing commissions, and capital replacement reserve.</p>	1.0% to 3.0%	1.0% to 4.0%	2.0% to 5.0%	5.50% to 9.00% (on campus); 5.75% to 10.00% (off campus)	0.8% to 4.0%	5.75% to 9.50% (on campus); 6.00% to 10.50% (off campus)	4.75% to 8.00% (on campus); 5.00% to 10.00% (off campus)	6 to 12	75.0% to 90.0%	0.0% to 10.0%	\$0.15 to \$0.30	1 to 12					

Source: Personal survey conducted by PwC during January 2017.





## NATIONAL FULL-SERVICE LODGING SEGMENT – SELECT SURVEY RESPONSES

First Quarter 2017

	INITIAL-YEAR CHANGE RATES		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		IS FF&E DEDUCTED FROM NOI PRIOR TO CAPITALIZATION?		BASE MANAGEMENT FEE		RESERVE FOR REPLACEMENT OF FIXED ASSETS		MARKETING TIME	
	AVERAGE DAILY RATE	OPERATING EXPENSES	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	YES/NO	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	MONTHS	MONTHS
<p><b>OWNER/OPERATOR ♦ Forecast Period: 4 to 6 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes next 12 months of income; believes market conditions favor sellers; expects overall cap rates to hold steady over the next six months.</p>	3.0% to 4.0% Years 1 to 3	3.0% to 4.0%	7.00% to 9.00%	2.5% to 3.5%	10.00% to 12.75%	6.50% to 8.00%	Yes	1.0% to 1.5%	2.5% to 4.5%	6 to 9						
<p><b>OWNER/PRIVATE ♦ Forecast Period: 4 to 8 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes both prior 12 months of income and forecast 12 months of income; believes market conditions favor buyers; expects overall cap rates to hold steady over the next six months.</p>	(2.0%) to 3.0% Year 1	3.0%	7.00% to 8.50%	0.3% to 3.0%	8.00% to 10.50%	6.50% to 9.00%	Yes	2.0% to 3.0%	3.0% to 5.0%	4 to 8						
<p><b>PRIVATE COMPANY ♦ Forecast Period: 7 to 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes both prior 12 months of income and next 12 months of income; believes that market conditions equally favor buyers and sellers.</p>	5.0% to 7.0%	3.0%	7.50% to 10.00%	1.5% to 3.0%	11.00% to 13.00%	7.00% to 9.00%	Yes	3.0% to 3.5%	4.0% to 5.0%	3 to 5						
<p><b>REAL ESTATE ADVISER ♦ Forecast Period: 10 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes next 12 months income; expects overall cap rates to increase up to 50 basis points over the next six months; believes market conditions favor sellers.</p>	3.0% to 4.0%	3.0%	7.25% to 9.50%	2.0% to 3.0%	8.50% to 10.50%	6.25% to 8.50%	Yes	2.5% to 3.5%	4.0% to 5.0%	8						
<p><b>PRIVATE INVESTOR ♦ Forecast Period: 3 to 5 years</b>                      Uses both DCF and direct capitalization; in direct cap, capitalizes both prior 12 months and next 12 months income; believes that overall cap rates will increase up to 50 basis points over the next six months and that market conditions are neutral.</p>	0.0% to 4.0%	1.0% to 4.0%	8.00% to 10.00%	1.0% to 3.0%	9.00% to 11.00%	8.00% to 10.00%	Yes	2.0% to 4.0%	3.0% to 5.0%	3 to 6						

Source: Personal survey conducted by PwC during January 2017.



**NATIONAL LIMITED-SERVICE MIDSACLE & ECONOMY LODGING SEGMENT—SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		IS FF&E DEDUCTED FROM NOI PRIOR TO CAPITALIZATION?		BASE MANAGEMENT FEE		RESERVE FOR REPLACEMENT OF FIXED ASSETS		MARKETING TIME	
	AVERAGE DAILY RATE	OPERATING EXPENSES	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	YES	NO	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	MONTHS	MONTHS
<b>REAL ESTATE ADVISER ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes next 12 months of income; expects overall cap rates to increase up to 50 basis points over the next six months.	3.0%	3.0%	7.75% to 9.50%	3.0% to 4.0%	8.50% to 11.00%	7.50% to 9.50%	Yes	4.0% to 5.0%	4.0% to 5.0%	8 to 12						
<b>PRIVATE OWNER ♦ Forecast Period: 5 years</b> Focuses on direct capitalization; in direct cap, capitalizes prior 12 months of income; expects ADRs and occupancy to hold steady over the next six months; current breakeven occupancy rate is estimated at 55.0%; sees occupancy holding steady over the next six months.	2.0% to 3.0%	3.0%	9.75%	2.0%	11.00% to 11.50%	8.75%	Yes	3.5%	\$200 to \$600 per room	9						
<b>PRIVATE HOTEL COMPANY ♦ Forecast Period: 5 to 10 years</b> Prefers Northeast, Southeast, and Southwest; uses both DCF and direct capitalization; in direct cap, capitalizes prior 12 months of income; expects occupancy to decrease and ADRs to increase over the next six months; believes market conditions currently are neutral.	5.0% to 8.0%	3.0%	9.00% to 11.00%	2.5% to 3.5%	11.50% to 13.00%	9.00% to 11.00%	Yes	3.0% to 4.0%	4.0% to 5.0%	3 to 6						
<b>LIFE INSURANCE COMPANY ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes next 12 months of income; believes that market conditions favor sellers; expects occupancy and ADR to decrease over the next six months.	2.0% to 3.5%	2.5% to 3.0%	10.00% to 11.00%	2.0% to 3.0%	11.00% to 13.00%	8.50% to 9.00%	Yes	2.0% to 3.5%	4.0% to 5.0%	4 to 6						
<b>OWNER/OPERATOR ♦ Forecast Period: 3 to 7 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes prior 12 months of income; believes overall cap rates will hold steady over the next six months; believes market conditions equally favor buyers and sellers.	(2.5%) to 2.5%	3.0%	8.50% to 10.50%	0.5% to 3.0%	9.00% to 11.00%	8.00% to 10.00%	Yes	3.0% to 5.0%	2.0% to 4.0%	2 to 6						

Source: Personal survey conducted by PwC during January 2017.



**NATIONAL LUXURY/UPPER-UPSCALE LODGING SEGMENT –SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)		IS FF&E DEDUCTED FROM NOI PRIOR TO CAPITALIZATION?		BASE MANAGEMENT FEE		RESERVE FOR REPLACEMENT OF FIXED ASSETS		MARKETING TIME	
	AVERAGE DAILY RATE	OPERATING EXPENSES	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	YES/NO	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	MONTHS
<b>INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes next 12 months of income; expects overall cap rates to hold steady over the next six months.	0.0% to 5.0% Years 1 to 3	2.0% to 4.0%	5.50% to 8.00%	0.5% to 2.5%	6.50% to 9.00%	4.00% to 6.50%	4.00% to 6.50%	Yes	3.0% to 5.0%	4.0% to 5.0%	4.0% to 5.0%	4.0% to 5.0%	4.0% to 5.0%	6 to 12		
<b>LIFE INSURANCE COMPANY</b> ♦ <b>Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes next 12 months of income; believes that market conditions currently favor sellers; expects overall cap rates to increase up to 50 basis points over the next six months.	3.0%	3.0%	6.75% to 8.50%	2.0% to 3.0%	7.75% to 10.00%	5.50% to 8.00%	5.50% to 8.00%	Yes	2.5% to 5.0%	4.0% to 5.0%	4.0% to 5.0%	4.0% to 5.0%	4.0% to 5.0%	6 to 8		
<b>PRIVATE INVESTOR</b> ♦ <b>Forecast Period: 3 to 7 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes prior 12 months of income; believes that overall cap rates will increase over the next six months and that market conditions currently favor buyers.	2.0% to 6.0%	2.0% to 3.0%	6.00% to 8.00%	1.5% to 2.0%	10.00% to 12.00%	7.00% to 9.00%	7.00% to 9.00%	Yes	2.5% to 3.5%	4.0%	4.0%	2.5% to 3.5%	4.0%	3 to 6		
<b>PRIVATE INVESTOR</b> ♦ <b>Forecast Period: 5 to 8 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes both next 12 months of income and prior 12 months of income; believes overall cap rates will hold steady over the next six months.	0.0% to 4.0%	0.0% to 3.0%	6.50% to 9.50%	1.0% to 3.0%	8.00% to 10.00%	7.00% to 9.00%	7.00% to 9.00%	Yes	2.5% to 3.0%	4.0% to 6.0%	4.0% to 6.0%	2.5% to 3.0%	4.0% to 6.0%	3 to 6		
<b>OWNER/OPERATOR</b> ♦ <b>Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes both next 12 months of income and prior 12 months of income; market conditions equally favor sellers and buyers.	3.0% to 5.0%	3.0%	6.00% to 7.00%	2.0% to 4.0%	10.00% to 12.00%	6.00% to 8.00%	6.00% to 8.00%	Yes	3.0% to 5.0%	4.0%	4.0%	3.0% to 5.0%	4.0%	6 to 12		

Source: Personal survey conducted by PwC during January 2017.



**NATIONAL SELECT-SERVICE LODGING SEGMENT – SELECT SURVEY RESPONSES**  
First Quarter 2017

	INITIAL-YEAR CHANGE RATES		RESIDUAL		DISCOUNT RATE (IRR)		OVERALL CAP RATE (OAR)	IS FF&E DEDUCTED FROM NOI PRIOR TO CAPITALIZATION?	BASE MANAGEMENT FEE	RESERVE FOR REPLACEMENT OF FIXED ASSETS	MARKETING TIME
	AVERAGE DAILY RATE	OPERATING EXPENSES	CAP RATE	SELLING EXPENSE	FREE & CLEAR	FREE & CLEAR	FREE & CLEAR	YES/NO	PERCENT OF TOTAL REVENUE	PERCENT OF TOTAL REVENUE	MONTHS
<b>OWNER/MANAGER ♦ Forecast Period: 4 to 6 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes both prior 12 months of income and the next 12 months of income; expects overall cap rates to increase 10 to 50 basis points over the next six months; believes that market conditions currently favor buyers.	0.0% to 4.0%	3.0%	7.50% to 9.50%	0.3% to 2.5%	8.00% to 11.00%	6.50% to 9.50%	Yes	2.5% to 3.5%	2.0% to 4.0%	4 to 7	
<b>REAL ESTATE ADVISER ♦ Forecast Period: 5 to 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes prior 12 months of income; expects overall cap rates to hold steady over the next six months; believes market conditions equally favor buyers and sellers.	3.0%	2.0% to 3.0%	9.00% to 10.00%	1.0% to 2.0%	11.00%	8.50% to 9.50%	Yes	3.0%	2.0%	4 to 6	
<b>REIT ♦ Forecast Period: 5 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes prior 12 months of income; expects overall cap rates to increase 25 to 50 basis points over the next six months; believes that market conditions equally favor buyers and sellers.	3.0% to 5.0%	2.0% to 3.0%	7.00% to 9.00%	1.5% to 3.0%	8.00% to 10.00%	7.00% to 9.00%	Yes	3.0% to 4.0%	4.0% to 5.0%	2 to 6	
<b>OWNER/MANAGER ♦ Forecast Period: 1 to 4 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes prior 12 months of income; deducts both FF&E and structural reserve from NOI before capitalization; expects overall cap rates to hold steady over the next six months.	2.0% to 4.0%	2.0% to 4.0%	9.00% to 10.75%	5.0%	10.00% to 11.00%	8.00% to 10.00%	Yes	3.0% to 4.0%	3.0% to 5.0%	9 to 12	
<b>LIFE INSURANCE COMPANY ♦ Forecast Period: 10 years</b> Uses both DCF and direct capitalization; in direct cap, capitalizes the next 12 months of income; expects overall cap rates to hold steady over the next six months; believes that market conditions favor sellers.	2.0% to 4.0%	2.0% to 3.0%	8.50% to 10.00%	2.0% to 3.0%	9.00% to 10.00%	8.00% to 10.00%	Yes	2.5% to 3.5%	4.0% to 5.0%	4 to 6	

Source: Personal survey conducted by PwC during January 2017.



## INVESTMENT AND PROPERTY CHARACTERISTICS: OFFICE MARKETS

First Quarter 2017

MARKET	FORECAST VALUE CHANGE NEXT 12 MONTHS			PRICE AS % OF REPLACEMENT COST			STRUCTURAL VACANCY			YEARS TO REACH STRUCTURAL VACANCY			TENANT IMPROVEMENT ALLOWANCE (PSE) NEW DEALS (1)			RENEWAL LEASES		
	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	
National CBD	(5.0%) – 15.0%	2.6%	65.0% – 125.0%	101.0%	101.0%	2.0% – 15.0%	6.5%	1 – 3	1.9	\$10.00 – \$75.00	\$37.92	\$5.00 – \$35.00	\$16.67					
National Suburban	(10.0%) – 10.0%	1.6%	70.0% – 110.0%	89.5%	89.5%	4.0% – 15.0%	9.1%	0 – 5	1.7	\$0.00 – \$85.00	\$30.89	\$0.00 – \$25.00	\$13.39					
National Secondary	(10.0%) – 10.0%	0.3%	50.0% – 120.0%	84.2%	84.2%	3.0% – 12.0%	7.9%	1 – 7	2.5	\$2.00 – \$75.00	\$25.78	\$2.50 – \$20.00	\$8.60					
Atlanta	0.0% – 10.0%	2.9%	50.0% – 100.0%	78.3%	78.3%	4.0% – 10.0%	7.2%	0 – 3	1.5	\$5.00 – \$70.00	\$32.40	\$0.00 – \$20.00	\$12.25					
Boston	(5.0%) – 10.0%	3.2%	50.0% – 110.0%	89.3%	89.3%	5.0% – 12.0%	7.8%	0 – 5	1.1	\$10.00 – \$90.00	\$46.88	\$5.00 – \$30.00	\$17.92					
Charlotte	0.0% – 15.0%	4.7%	70.0% – 110.0%	90.8%	90.8%	2.0% – 12.0%	7.2%	0 – 3	1.7	\$10.00 – \$30.00	\$31.25	\$5.00 – \$10.00	\$13.00					
Chicago	(5.0%) – 10.0%	1.6%	50.0% – 120.0%	85.7%	85.7%	5.0% – 13.0%	9.5%	0 – 5	2.3	\$7.50 – \$125.00	\$52.41	\$5.00 – \$40.00	\$19.88					
Dallas	(2.0%) – 20.0%	3.2%	50.0% – 110.0%	95.7%	95.7%	5.0% – 10.0%	7.6%	0 – 3	1.5	\$5.00 – \$75.00	\$37.38	\$5.00 – \$35.00	\$14.67					
Denver	0.0% – 5.0%	2.2%	50.0% – 150.0%	100.8%	100.8%	5.0% – 15.0%	8.3%	0 – 2	1.1	\$12.00 – \$65.00	\$34.35	\$3.00 – \$20.00	\$10.55					
Houston	(20.0%) – 5.0%	(5.9%)	55.0% – 175.0%	94.7%	94.7%	5.0% – 15.0%	9.1%	1 – 5	3.3	\$8.00 – \$65.00	\$34.67	\$0.00 – \$40.00	\$16.50					
Los Angeles	(5.0%) – 10.0%	3.0%	70.0% – 140.0%	102.1%	102.1%	3.0% – 15.0%	9.0%	0 – 5	1.5	\$10.00 – \$125.00	\$41.67	\$0.00 – \$50.00	\$16.67					
Manhattan	(1.0%) – 12.0%	4.1%	50.0% – 120.0%	86.9%	86.9%	0.0% – 12.0%	6.2%	0 – 6	2.1	\$10.00 – \$120.00	\$54.38	\$10.00 – \$40.00	\$25.83					
Northern Virginia	(10.0%) – 5.0%	(0.4%)	80.0% – 100.0%	93.5%	93.5%	5.0% – 10.0%	7.2%	0 – 10	3.6	\$20.00 – \$125.00	\$51.50	\$10.00 – \$80.00	\$26.50					
Pacific Northwest	(5.0%) – 15.0%	2.0%	50.0% – 125.0%	99.8%	99.8%	3.0% – 15.0%	7.9%	0 – 5	1.4	\$10.00 – \$100.00	\$49.09	\$0.00 – \$50.00	\$19.09					
Philadelphia	(10.0%) – 2.0%	(1.8%)	55.0% – 100.0%	84.4%	84.4%	5.0% – 12.0%	7.2%	1 – 4	1.7	\$5.00 – \$60.00	\$29.50	\$5.00 – \$20.00	\$9.00					
Phoenix	(5.0%) – 10.0%	3.0%	75.0% – 110.0%	91.0%	91.0%	5.0% – 20.0%	10.0%	0 – 4	1.8	\$2.00 – \$65.00	\$55.00	\$0.00 – \$35.00	\$35.00					
San Diego	(5.0%) – 10.0%	2.3%	20.0% – 110.0%	89.4%	89.4%	3.0% – 12.0%	6.6%	0 – 5	2.0	\$10.00 – \$75.00	\$34.38	\$0.00 – \$20.00	\$9.38					
San Francisco	(10.0%) – 10.0%	1.3%	85.0% – 130.0%	98.1%	98.1%	3.0% – 10.0%	6.6%	0 – 3	1.0	\$10.00 – \$125.00	\$48.00	\$0.00 – \$35.00	\$15.00					
Seattle	(5.0%) – 15.0%	3.3%	50.0% – 125.0%	97.0%	97.0%	3.0% – 15.0%	7.9%	0.5 – 5	1.9	\$10.00 – \$100.00	\$48.96	\$0.00 – \$50.00	\$19.17					
Southeast Florida	(3.0%) – 15.0%	1.9%	50.0% – 100.0%	82.5%	82.5%	4.0% – 25.0%	8.7%	1 – 5	2.0	\$0.00 – \$75.00	\$29.30	\$5.00 – \$40.00	\$13.70					
Suburban Maryland	(10.0%) – 5.0%	(3.8%)	90.0% – 110.0%	103.8%	103.8%	5.0% – 12.0%	8.5%	0 – 5	1.8	\$25.00 – \$85.00	\$59.58	\$15.00 – \$75.00	\$34.17					
Washington, DC	(5.0%) – 5.0%	0.3%	90.0% – 140.0%	107.9%	107.9%	2.0% – 8.0%	5.5%	0 – 3	0.8	\$25.00 – \$150.00	\$67.50	\$10.00 – \$115.00	\$32.92					

(1) Includes both second-generation and new space; a breakout of TI allowances is included in each fourth quarter issue of the Survey.

Source: Personal survey conducted by PwC during January 2017.



# INVESTMENT AND PROPERTY CHARACTERISTICS: NATIONAL AND REGIONAL MARKETS

First Quarter 2017

MARKET	FORECAST VALUE CHANGE NEXT 12 MONTHS		PRICE AS % OF REPLACEMENT COST		CLASS-A+ and A MALLS IRRs		CLASS-B+ and B MALLS IRRs		OARs		STABILIZED OCCUPANCY			
	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE		
National Regional Mall	(12.0%) – 6.0%	0.9%	70.0% – 125.0%	106.7%	5.0% – 10.0%	6.99%	4.00% – 6.50%	5.00%	7.00% – 11.50%	9.04%	5.25% – 10.00%	7.37%	80.0% – 99.0%	92.8%
National Power Center	(5.0%) – 5.0%	0.3%	90.0% – 110.0%	99.3%									80.0% – 96.0%	91.6%
National Strip Shopping Center	(10.0%) – 5.0%	0.3%	50.0% – 125.0%	96.9%									85.0% – 97.0%	92.9%
MARKET	FORECAST VALUE CHANGE NEXT 12 MONTHS		PRICE AS % OF REPLACEMENT COST		FINISHED SPACE %		TENANT IMPROVEMENT ALLOWANCES (PSF) NEW DEALS (1)		RENEWAL LEASES					
	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE				
National Flex/R&D	Insufficient number of responses		Insufficient number of responses		Insufficient number of responses		\$0.00 – \$25.00	\$7.50	\$0.00 – \$10.00	\$3.25				
Warehouse (National)	(5.0%) – 6.0%	2.5%	95.0% – 130.0%	105.7%	0.0% – 20.0%	7.9%	\$0.00 – \$75.00	\$6.48	\$0.00 – \$2.50	\$0.81				
Warehouse (ENC Region)	0.0% – 10.0%	2.9%	85.0% – 125.0%	100.0%	0.0% – 15.0%	6.6%	\$0.00 – \$5.00	\$1.56	\$0.00 – \$2.50	\$0.69				
Warehouse (Pacific Region)	0.0% – 10.0%	2.7%	80.0% – 110.0%	100.1%	0.0% – 15.0%	6.7%	\$0.00 – \$5.00	\$1.25	\$0.00 – \$2.50	\$0.78				
Apartment (National)	(5.0%) – 10.0%	2.5%	90.0% – 125.0%	101.0%										
Apartment (Mid-Atlantic Region)	0.0% – 5.0%	1.4%	70.0% – 130.0%	100.0%										
Apartment (Pacific Region)	(10.0%) – 15.0%	1.7%	80.0% – 150.0%	107.3%										
Apartment (Southeast Region)	0.0% – 5.0%	1.7%	80.0% – 120.0%	102.5%										
National Net Lease	(20.0%) – 10.0%	(1.8%)	100.0% – 150.0%	115.0%										
National Medical Office Buildings	(10.0%) – 5.0%	0.3%	100.0% – 150.0%	116.3%										

(1) Includes both second-generation and new space; a breakout of TI allowances is included in each fourth quarter issue of the Survey.

Source: Personal survey conducted by PwC during January 2017.



## YIELD COMPARISONS

January 1, 2017

	2012 AVERAGE	2013 AVERAGE	2014 AVERAGE	2015 AVERAGE	2016 AVERAGE	2016 OCTOBER	2017 JANUARY
PwC Yield Indicator (PYI) <sup>a</sup>	8.77%	8.39%	8.11%	7.82%	7.70%	7.68%	7.66%
Long-Term Mortgages <sup>b</sup>	4.48%	4.16%	4.48%	4.31%	4.18%	3.93%	4.65%
10-Year Treasuries <sup>c</sup>	1.86%	2.22%	2.69%	2.34%	1.81%	1.63%	2.45%
Consumer Price Index Change <sup>d</sup>	2.16%	0.97%	1.66%	0.19%	1.63%	1.80%	1.84%
<b>SPREAD TO PYI (Basis Points)</b>							
Long-Term Mortgages	429	423	363	351	352	375	301
10-Year Treasuries	691	617	542	548	589	605	521
Consumer Price Index Change	661	742	645	763	607	588	582

a. A composite IRR average of all markets surveyed (excluding hotels, development land, and student housing).

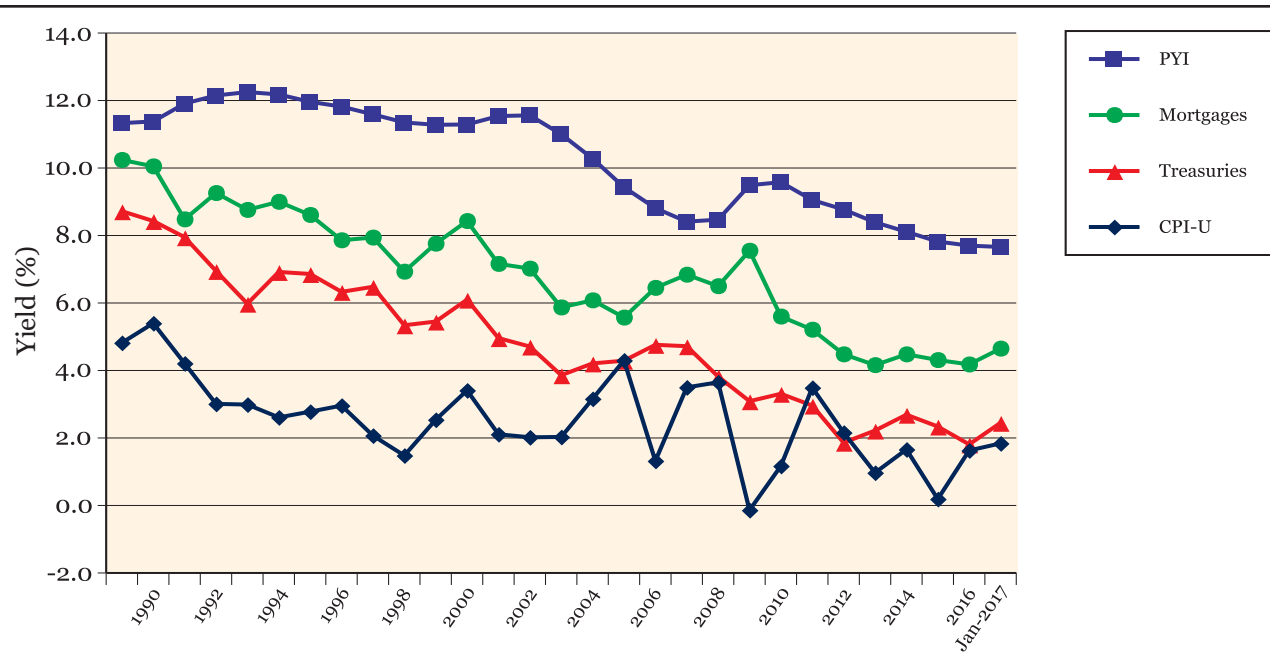
b. Source: CB Richard Ellis/L.J. Melody Capital Markets, Global Commercial Banc, Commercial Loan Direct; reflects conventional funding, 60% to 80% LTV commercial loans; fixed rates; 6- to 30-year terms.

c. Source: Federal Reserve; the annual average change is the mean of the four corresponding quarters.

d. Source: U.S. Department of Labor; quarterly changes are annualized based on the index change from the prior quarter; the annual average change is the mean of the four corresponding quarters.

## COMPARATIVE YIELDS

January 1, 2017



## DIVIDEND COMPARISONS

January 1, 2017

	2012 AVERAGE	2013 AVERAGE	2014 AVERAGE	2015 AVERAGE	2016 AVERAGE	2016 OCTOBER	2017 JANUARY
PwC Dividend Indicator (PDI) <sup>a</sup>	7.27%	6.92%	6.66%	6.38%	6.26%	6.23%	6.24%
Equity REITs <sup>b</sup>	3.59%	3.68%	3.80%	3.64%	3.88%	4.00%	4.00%
S&P 500 <sup>c</sup>	2.04%	2.09%	1.92%	2.03%	2.11%	2.08%	2.04%
<b>SPREAD TO PDI (Basis Points)</b>							
Equity REITs	368	324	286	274	238	223	224
S&P 500	523	483	474	435	415	415	420

a. A composite OAR (initial rate of return in an all-cash transaction) average of all markets surveyed (excluding hotels and student housing).

b. Source: National Association of Real Estate Investment Trusts; dividend yields are as of the last day of the prior quarter until April 2013; then, starting month of quarter.

c. Source: Standard & Poors; dividend yields are quarterly yields as of the last day of the prior quarter.

## INSTITUTIONAL-GRADE VS. NONINSTITUTIONAL-GRADE PROPERTY RATES: OFFICE MARKETS

First Quarter 2017

MARKET	INSTITUTIONAL IRRs			OARS			NONINSTITUTIONAL (BASIS-POINT SPREAD TO INSTITUTIONAL RATES) OARS			
	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	AVERAGE
National CBD Office	5.50% – 9.50%	7.09%	3.50% – 7.50%	5.55%	(a)	(a)	(a)	(a)	(a)	(a)
National Suburban Office	6.00% – 10.50%	7.88%	5.00% – 9.50%	6.61%	(a)	(a)	(a)	(a)	(a)	(a)
National Secondary Office	6.00% – 13.00%	8.91%	4.50% – 9.50%	7.35%	50 – 400	50 – 250	188	126	(a)	(a)
Atlanta Office	6.00% – 10.25%	8.33%	5.25% – 9.00%	7.18%	(a)	(a)	(a)	(a)	(a)	(a)
Boston Office	5.75% – 10.00%	7.42%	4.00% – 10.00%	6.27%	50 – 500	50 – 250	213	169	(a)	(a)
Charlotte Office	6.50% – 10.00%	8.36%	5.00% – 8.75%	6.90%	150 – 400	75 – 250	258	146	(a)	(a)
Chicago Office	5.75% – 12.00%	8.68%	4.50% – 10.00%	7.26%	100 – 600	50 – 350	295	163	(a)	(a)
Dallas Office	6.00% – 11.00%	7.94%	5.00% – 8.50%	6.50%	(a)	(a)	(a)	(a)	(a)	(a)
Denver Office	7.00% – 11.00%	8.09%	5.00% – 9.00%	6.51%	(a)	(a)	(a)	(a)	(a)	(a)
Houston Office	6.50% – 13.00%	8.82%	5.75% – 10.00%	7.31%	75 – 1,000	50 – 200	333	108	(a)	(a)
Los Angeles Office	5.00% – 9.00%	7.04%	4.25% – 8.00%	5.84%	50 – 300	50 – 150	142	92	(a)	(a)
Manhattan Office	5.75% – 9.00%	6.88%	3.50% – 8.50%	4.98%	50 – 150	50 – 200	96	113	(a)	(a)
Northern Virginia Office	6.00% – 9.50%	7.60%	5.00% – 8.50%	6.68%	(a)	(a)	(a)	(a)	(a)	(a)
Pacific Northwest Office	5.25% – 10.50%	7.38%	4.25% – 8.00%	6.03%	75 – 500	50 – 300	246	121	(a)	(a)
Philadelphia Office	7.00% – 11.00%	8.64%	6.00% – 9.50%	7.53%	50 – 200	50 – 150	125	88	(a)	(a)
Phoenix Office	7.00% – 10.00%	8.28%	5.00% – 8.00%	6.79%	(a)	(a)	(a)	(a)	(a)	(a)
San Diego Office	6.25% – 10.50%	7.86%	5.00% – 8.50%	6.53%	(a)	(a)	(a)	(a)	(a)	(a)
San Francisco Office	5.00% – 9.50%	6.86%	3.50% – 8.00%	5.46%	(a)	(a)	(a)	(a)	(a)	(a)
Seattle Office	5.25% – 10.00%	7.24%	4.25% – 8.00%	5.83%	(a)	(a)	(a)	(a)	(a)	(a)
Southeast Florida Office	6.00% – 10.50%	8.31%	5.00% – 10.00%	7.26%	(a)	(a)	(a)	(a)	(a)	(a)
Suburban Maryland Office	7.00% – 10.00%	8.65%	5.50% – 9.00%	7.48%	(a)	(a)	(a)	(a)	(a)	(a)
Washington, DC Office	5.00% – 8.00%	6.50%	4.25% – 6.50%	5.29%	75 – 200	50 – 200	108	125	(a)	(a)

(a) Participants are not currently pursuing noninstitutional investments in this market.  
Source: Personal survey conducted by PwC during January 2017.





**INSTITUTIONAL-GRADE VS. NONINSTITUTIONAL-GRADE PROPERTY RATES: NATIONAL AND REGIONAL MARKETS**  
 First Quarter 2017

MARKET	INSTITUTIONAL IRRs			NONINSTITUTIONAL (BASIS-POINT SPREAD TO INSTITUTIONAL RATES) OARs			NONINSTITUTIONAL IRRs			OARs		
	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE
National Regional Mall	5.50% – 11.50%	7.70%	4.00% – 10.00%	6.13%	6.13%	(a)	(a)	(a)	(a)	(a)	(a)	(a)
National Power Center	6.00% – 10.00%	7.69%	5.25% – 8.00%	6.39%	6.39%	50 – 300	50 – 200	150	50 – 300	109	50 – 200	109
National Strip Shopping Center	5.00% – 10.50%	7.39%	4.00% – 9.50%	6.32%	6.32%	50 – 800	25 – 500	200	50 – 800	134	25 – 500	134
National Flex/R&D	6.75% – 10.00%	8.08%	5.50% – 9.00%	7.05%	7.05%	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Warehouse (National)	5.50% – 9.00%	6.74%	4.25% – 6.90%	5.37%	5.37%	50 – 400	50 – 250	225	50 – 400	133	50 – 250	133
Warehouse (ENC Region)	5.75% – 7.00%	6.50%	4.50% – 6.00%	5.45%	5.45%	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Warehouse (Pacific Region)	5.50% – 8.50%	6.53%	3.75% – 7.00%	5.00%	5.00%	(a)	(a)	(a)	(a)	(a)	(a)	(a)
National Apartment	5.50% – 10.00%	7.24%	3.50% – 8.00%	5.33%	5.33%	25 – 400	25 – 400	175	25 – 400	134	25 – 400	134
Apartment (Mid-Atlantic Region)	5.25% – 10.00%	7.35%	3.00% – 6.75%	5.01%	5.01%	25 – 400	25 – 400	204	25 – 400	171	25 – 400	171
Apartment (Pacific Region)	5.25% – 9.00%	6.65%	3.50% – 6.00%	4.49%	4.49%	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Apartment (Southeast Region)	5.75% – 10.00%	7.50%	3.50% – 6.50%	5.10%	5.10%	(a)	(a)	(a)	(a)	(a)	(a)	(a)
National Medical Office Buildings	5.75% – 11.00%	7.85%	4.75% – 10.00%	6.76%	6.76%	100 – 300	50 – 300	188	100 – 300	144	50 – 300	144

(a) Participants are not currently pursuing noninstitutional investments in this market.  
 Source: Personal survey conducted by PwC during January 2017.



## INCOME CAPITALIZED IN DIRECT CAPITALIZATION

First Quarter 2017

PERCENTAGE OF SURVEY RESPONDENTS USING:						
MARKET	METHOD 1 (a)		METHOD 2 (a)		METHOD 3 (a)	
	CURRENT	YEAR AGO	CURRENT	YEAR AGO	CURRENT	YEAR AGO
<b>National Retail</b>						
Regional Mall	20.0%	40.0%	80.0%	60.0%	0.0%	0.0%
Power Center	33.0%	33.0%	67.0%	67.0%	0.0%	0.0%
Strip Shopping Center	11.0%	13.0%	89.0%	88.0%	0.0%	0.0%
<b>Office</b>						
National CBD	14.0%	17.0%	86.0%	83.0%	0.0%	0.0%
National Suburban	25.0%	25.0%	63.0%	63.0%	13.0%	13.0%
National Secondary	10.0%	10.0%	90.0%	90.0%	0.0%	0.0%
Atlanta	0.0%	0.0%	83.0%	80.0%	17.0%	20.0%
Boston	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%
Charlotte	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%
Chicago	29.0%	29.0%	71.0%	71.0%	0.0%	0.0%
Dallas	17.0%	13.0%	83.0%	88.0%	0.0%	0.0%
Denver	33.0%	40.0%	67.0%	60.0%	0.0%	0.0%
Houston	43.0%	29.0%	43.0%	57.0%	14.0%	14.0%
Los Angeles	17.0%	20.0%	83.0%	80.0%	0.0%	0.0%
Manhattan	17.0%	17.0%	83.0%	83.0%	0.0%	0.0%
Northern Virginia	40.0%	40.0%	60.0%	60.0%	0.0%	0.0%
Pacific Northwest	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%
Philadelphia	20.0%	20.0%	80.0%	80.0%	0.0%	0.0%
Phoenix	20.0%	40.0%	80.0%	60.0%	0.0%	0.0%
San Diego	60.0%	60.0%	40.0%	40.0%	0.0%	0.0%
San Francisco	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%
Seattle	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%
Southeast Florida	20.0%	33.0%	60.0%	50.0%	20.0%	17.0%
Suburban Maryland	40.0%	40.0%	60.0%	60.0%	0.0%	0.0%
Washington, DC	33.0%	33.0%	67.0%	67.0%	0.0%	0.0%
<b>Industrial</b>						
National Flex/R&D	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%
National Warehouse	20.0%	20.0%	80.0%	80.0%	0.0%	0.0%
ENC Region Warehouse	20.0%	20.0%	80.0%	80.0%	0.0%	0.0%
Pacific Region Warehouse	40.0%	40.0%	60.0%	60.0%	0.0%	0.0%
<b>Apartments<sup>b</sup></b>						
National	50.0%	90.0%	50.0%	10.0%		
Mid-Atlantic Region	80.0%	100.0%	20.0%	0.0%		
Pacific Region	100.0%	80.0%	0.0%	20.0%		
Southeast Region	0.0%	80.0%	100.0%	20.0%		
<b>National Net Lease</b>	60.0%	40.0%	20.0%	20.0%	20.0%	40.0%
<b>National Medical Office Buildings</b>	29.0%	25.0%	67.0%	75.0%	0.0%	0.0%
<b>Note:</b> Lines may not add to up to 100% due to rounding.						
a. <b>Method 1:</b> NOI after deducting capital replacement reserve but before deducting TIs (tenant improvements) and leasing commissions. <b>Method 2:</b> NOI before deducting capital replacement reserve, TIs, and leasing commissions. <b>Method 3:</b> Cash flow after deducting capital replacement reserve, TIs, and leasing commissions.						
b. <b>Method 1:</b> deducts FF&E reserve from NOI prior to direct capitalization. <b>Method 2:</b> does not deducts FF&E reserve from NOI prior to direct capitalization.						

## LODGING INCOME CAPITALIZED IN DIRECT CAPITALIZATION

First Quarter 2017

SEGMENT	PRIOR 12 MONTHS <sup>a</sup>		FORECAST 12 MONTHS <sup>b</sup>		BOTH <sup>c</sup>	
	CURRENT	YEAR AGO	CURRENT	YEAR AGO	CURRENT	YEAR AGO
Full Service	17.0%	0.0%	50.0%	40.0%	33.0%	60.0%
Limited-Service Midscale & Economy	25.0%	60.0%	75.0%	40.0%	0.0%	0.0%
Luxury/Upper Upscale	40.0%	0.0%	40.0%	33.0%	20.0%	67.0%
Select Service	60.0%	40.0%	20.0%	20.0%	20.0%	40.0%
<b>Note:</b> Lines may not add to up to 100% due to rounding.						
a. Percentage of our lodging participants who capitalize the prior 12 months of income in direct capitalization.						
b. Percentage of our lodging participants who capitalize the next 12 months of income in direct capitalization.						
c. Percentage of our lodging participants who analyze both the prior 12 months of income and the next 12 months of income in direct capitalization.						

## FORECAST PERIODS AND CHANGE RATES: OFFICE MARKETS

First Quarter 2017

MARKET	FORECAST PERIOD			MARKET RENT CHANGE RATES			FORECAST PERIOD AVERAGE			EXPENSE CHANGE RATES		
	RANGE	AVERAGE	INITIAL YEAR	RANGE	AVERAGE	INITIAL YEAR	RANGE	AVERAGE	INITIAL YEAR	RANGE	AVERAGE	INITIAL YEAR
National CBD Office	5 – 10	9	0.00% – 6.00%	2.64%	0.00% – 4.00%	2.80%	0.00% – 4.00%	2.64%	0.00% – 4.00%	2.64%	2.00% – 4.00%	2.79%
National Suburban Office	5 – 10	8	0.00% – 5.00%	2.03%	0.00% – 4.00%	2.54%	0.00% – 4.00%	2.75%	0.00% – 4.00%	2.75%	2.00% – 4.00%	2.93%
National Secondary Office	1 – 15	7	0.00% – 5.00%	2.95%	1.00% – 6.00%	3.38%	1.50% – 3.00%	2.48%	1.50% – 3.00%	2.48%	1.50% – 3.00%	2.49%
Atlanta Office	3 – 10	8	0.00% – 5.00%	3.04%	0.00% – 4.00%	2.77%	1.50% – 5.00%	2.90%	1.50% – 5.00%	2.90%	1.50% – 5.00%	3.02%
Boston Office	3 – 12	9	0.00% – 6.00%	3.67%	2.00% – 4.00%	3.13%	0.00% – 3.00%	2.71%	0.00% – 3.00%	2.71%	2.00% – 4.50%	3.00%
Charlotte Office	3 – 10	6	2.00% – 4.50%	3.15%	2.00% – 5.00%	2.85%	1.50% – 4.00%	2.45%	1.50% – 4.00%	2.45%	1.75% – 4.00%	2.63%
Chicago Office	3 – 10	8	0.00% – 5.00%	2.14%	2.00% – 4.00%	3.13%	2.00% – 6.00%	3.29%	2.00% – 6.00%	3.29%	2.00% – 8.00%	3.40%
Dallas Office	3 – 10	8	2.00% – 6.00%	3.46%	2.00% – 6.00%	3.52%	2.00% – 3.00%	2.88%	2.00% – 3.00%	2.88%	2.50% – 6.00%	3.46%
Denver Office	2 – 11	8	2.00% – 5.00%	3.08%	2.00% – 3.50%	2.90%	2.00% – 3.00%	2.83%	2.00% – 3.00%	2.83%	2.00% – 3.00%	2.80%
Houston Office	3 – 10	7	(8.00%) – 3.00%	(1.36%)	(3.00%) – 9.00%	1.66%	0.00% – 3.00%	2.50%	0.00% – 3.00%	2.50%	0.00% – 9.00%	3.32%
Los Angeles Office	0 – 15	8	3.00% – 6.00%	3.83%	2.00% – 5.00%	3.50%	2.00% – 3.00%	2.67%	2.00% – 3.00%	2.67%	2.00% – 3.00%	2.83%
Manhattan Office	3 – 12	9	0.00% – 5.00%	3.13%	0.00% – 5.00%	2.96%	1.00% – 3.00%	2.75%	1.00% – 3.00%	2.75%	1.00% – 5.00%	2.92%
Northern Virginia Office	3 – 10	8	0.00% – 3.00%	1.10%	1.00% – 3.00%	2.14%	1.00% – 3.00%	2.40%	1.00% – 3.00%	2.40%	1.00% – 3.00%	2.45%
Pacific Northwest Office	5 – 10	8	2.00% – 5.00%	3.42%	2.00% – 5.00%	3.17%	2.00% – 3.00%	2.86%	2.00% – 3.00%	2.86%	2.00% – 3.00%	2.86%
Philadelphia Office	3 – 10	7	0.00% – 3.00%	1.90%	2.00% – 3.50%	2.80%	0.00% – 3.00%	2.30%	0.00% – 3.00%	2.30%	0.00% – 3.00%	2.38%
Phoenix Office	3 – 12	7	2.00% – 7.00%	4.00%	2.00% – 8.00%	3.73%	1.00% – 3.00%	2.50%	1.00% – 3.00%	2.50%	1.00% – 3.00%	2.50%
San Diego Office	1 – 10	8	2.00% – 6.00%	3.80%	2.00% – 5.00%	3.19%	2.00% – 3.00%	2.70%	2.00% – 3.00%	2.70%	2.00% – 3.00%	2.63%
San Francisco Office	5 – 10	9	0.00% – 5.00%	3.10%	0.00% – 4.00%	2.70%	0.00% – 3.00%	2.60%	0.00% – 3.00%	2.60%	2.00% – 3.00%	2.90%
Seattle Office	5 – 10	8	2.50% – 5.00%	3.60%	3.00% – 5.00%	3.36%	2.00% – 3.00%	2.79%	2.00% – 3.00%	2.79%	2.00% – 3.00%	2.79%
Southeast Florida Office	3 – 10	7	0.00% – 5.00%	2.20%	0.00% – 5.00%	2.60%	1.00% – 3.00%	2.70%	1.00% – 3.00%	2.70%	1.00% – 3.00%	2.75%
Suburban Maryland Office	1 – 10	7	0.00% – 1.50%	0.35%	0.00% – 3.00%	1.33%	1.00% – 3.00%	2.00%	1.00% – 3.00%	2.00%	1.00% – 3.00%	1.83%
Washington, DC Office	5 – 10	9	0.00% – 4.00%	1.33%	2.00% – 4.00%	2.78%	0.00% – 3.00%	2.33%	0.00% – 3.00%	2.33%	2.00% – 3.00%	2.75%

Source: Personal survey conducted by PwC during January 2017.



## FORECAST PERIODS AND CHANGE RATES: NATIONAL AND REGIONAL MARKETS

First Quarter 2017

MARKET	FORECAST PERIOD			MARKET RENT CHANGE RATES			EXPENSE CHANGE RATES			
	RANGE	AVERAGE	INITIAL YEAR	RANGE	AVERAGE	INITIAL YEAR	RANGE	AVERAGE	INITIAL YEAR	
National Regional Mall	1 – 10	7	1.00% – 4.00%	2.55%	2.00% – 4.00%	2.94%	2.00% – 5.00%	3.00%	2.00% – 5.00%	3.19%
National Power Center	1 – 12	8	0.00% – 5.00%	1.96%	0.00% – 5.00%	2.50%	0.00% – 3.00%	2.58%	2.00% – 3.00%	2.80%
National Strip Shopping Center	1 – 10	8	0.00% – 3.00%	1.83%	0.00% – 5.00%	2.81%	0.00% – 3.00%	2.69%	1.00% – 4.00%	2.88%
National Flex/R&D	2 – 10	7	0.00% – 4.00%	2.50%	0.00% – 4.00%	2.70%	0.00% – 3.00%	2.60%	0.00% – 3.00%	2.60%
Warehouse (National)	3 – 15	9	0.00% – 6.00%	2.50%	3.00% – 5.00%	3.22%	0.00% – 3.00%	2.55%	0.00% – 3.00%	2.40%
Warehouse (East North Central Region)	3 – 10	8	0.00% – 5.00%	2.63%	2.00% – 4.00%	3.00%	2.00% – 3.00%	2.90%	0.00% – 4.00%	2.40%
Warehouse (Pacific Region)	5 – 10	9	0.00% – 4.00%	2.15%	2.00% – 4.00%	2.99%	2.00% – 3.00%	2.80%	0.00% – 3.00%	2.20%
Apartment (National)	1 – 10	7	0.00% – 5.00%	2.80%	0.00% – 5.00%	2.83%	2.00% – 4.00%	2.73%	2.00% – 4.00%	2.90%
Apartment (Mid-Atlantic Region)	2 – 10	6	0.00% – 4.00%	1.85%	1.00% – 4.00%	2.85%	0.00% – 4.00%	2.50%	1.00% – 4.00%	2.90%
Apartment (Pacific Region)	4 – 10	7	0.00% – 5.00%	2.90%	2.00% – 5.00%	3.27%	0.00% – 3.00%	2.23%	2.00% – 3.00%	2.85%
Apartment (Southeast Region)	1 – 10	5	1.00% – 4.00%	3.05%	1.00% – 4.00%	2.85%	2.00% – 3.00%	2.80%	2.00% – 3.00%	2.90%
National Net Lease	1 – 20	7	0.00% – 3.00%	1.70%	1.00% – 5.00%	2.63%	0.00% – 3.00%	1.40%	1.00% – 6.00%	2.25%
National Medical Office Buildings	1 – 11	6	0.00% – 4.00%	2.42%	0.00% – 4.00%	2.33%	1.00% – 4.00%	2.42%	2.00% – 5.00%	2.58%

Source: Personal survey conducted by PwC during January 2017.



# Definitions

## GENERAL

### BASIS POINT

1/100th of a percentage point (0.01%).

### CHANGE RATE

Annual compound rate of change.

### DISCOUNT RATE (IRR)

Internal rate of return in an all-cash transaction, based on annual year-end compounding. All-cash refers to either all cash or market financing; unleveraged return.

### EAST NORTH CENTRAL (ENC) REGION

As per NCREIF, includes Illinois, Indiana, Kentucky, Michigan, Ohio, and Wisconsin.

### EXCESSIVE TENANT IMPROVEMENT ALLOWANCE<sup>3</sup>

The amount by which an awarded tenant improvement allowance exceeds that which is typical for the market.

### INSTITUTIONAL-GRADE REAL ESTATE

Real property investments that are sought out by institutional buyers and have the capacity to meet generally prevalent institutional investment criteria.

### MARKETING TIME

The period of time between the initial offering of a property for sale and the closing date of the sale.

### MEDICAL OFFICE BUILDING (MOB)

A multitenant office building containing physicians' offices and exam rooms, and in some cases pharmacies and ancillary hospital-service space to conduct outpatient services, such as diagnostic testing, rehabilitation, and day-surgery operating procedures. MOBs are different from general office buildings since they typically require more plumbing and electrical and mechanical systems to accommodate equipment unique to medical practices.

### MID-ATLANTIC REGION

As per NCREIF, includes Delaware, Maryland, Virginia, North Carolina, and South Carolina, as well as Washington, DC.

### NET OPERATING INCOME (NOI)

Income remaining after deduction of all property expenses (including real estate taxes). In direct capitalization, investors capitalize one of the following:

1. NOI after capital replacement reserve deduction but before TIs and leasing commissions
2. NOI before capital replacement reserve

- deduction, TIs, and leasing commissions
3. Cash flow after capital replacement reserve deduction, TIs, and leasing commissions

### OVERALL CAPITALIZATION (CAP) RATE

Initial rate of return in an all-cash transaction; the overall cap rates reported in this Survey reflect investors' expectations of property performance and are applied to one of the three net operating income levels noted above. All-cash refers to either all cash or market financing; unleveraged return.

### PACIFIC REGION

As per NCREIF, includes Washington, Oregon, and California.

### PROJECTION PERIOD<sup>4</sup>

A presumed period of ownership; a period of time over which expected net operating income is projected for purposes of analysis and valuation; also referred to as "forecast" period by Survey participants

### PwC DIVIDEND INDICATOR (PDI)

A composite OAR average of the surveyed markets excluding lodging.

### PwC YIELD INDICATOR (PYI)

A composite IRR average of the surveyed markets excluding lodging and development land

### QUARTILE

One of the three points that divide a range of data or population into four equal parts. The first quartile (also called the lower quartile) is the number below which sits 25.0% of the bottom data. The second quartile (the median) divides the range in the middle and has 50.0% of the data below it. The third quartile (also called the upper quartile) has 75.0% of the data below it and the top 25.0% of the data above it.

### RENT SPIKE

An increase in market rent that is markedly higher than the general rate of inflation.

### REPLACEMENT COST<sup>1</sup>

The estimated cost to construct, at current prices as of the effective appraisal date, a substitute for the building being appraised, using modern materials and current standards, design, and layout.

### REPLACEMENT RESERVE

Amount allocated for periodic replacement of building components during a property's economic life

### RESIDUAL

Estimated total price at conclusion of forecast period:

#### Cap Rate

Overall capitalization rate used in calculation of residual price; typically applied to the NOI in the year following the forecast.

#### Selling Expense

Transaction expenses (legal, brokerage, marketing, etc.) paid by the seller.

### SHADOW SPACE<sup>3</sup>

Space within an occupied office suite that is not currently utilized by a tenant and is also not being marketed for subleasing

### SOUTHEAST REGION

As per NCREIF, includes Alabama, Arkansas, Florida, Georgia, Mississippi, and Tennessee.

### STRUCTURAL VACANCY<sup>3</sup>

Normal vacancy rate in a balanced market.

### VACANCY ASSUMPTIONS

#### Months Vacant

The number of months a space remains unleased at the expiration of a vacating tenant lease.

#### Tenant Retention

Percentage of leased rentable area that is expected to be released by the existing tenants at lease expiration.

#### Underlying Vacancy/Credit Loss

Percentage of total revenue uncollected due to unexpected vacancy or credit loss (in addition to any rent loss from vacancies at lease expirations).

## APARTMENT

### NET OPERATING INCOME (APARTMENT NOI)

Income remaining after deduction of all property expenses (which includes leasing commissions); in direct capitalization, investors capitalize one of the following:

1. NOI after capital replacement reserve
2. NOI before capital replacement reserve
3. Cash flow after capital replacement reserve

### GARDEN APARTMENT<sup>1</sup>

Development consisting of two- or three-story, walk-up structures built in a garden-like setting; customarily a suburban or rural-urban fringe development.

### HIGH-RISE APARTMENT<sup>5</sup>

Multifamily housing development consisting of at least four stories.

Various sources for these definitions include <sup>1</sup>The Dictionary of Real Estate Appraisal, Fifth Edition, published by the Appraisal Institute, <sup>2</sup>International Council of Shopping Centers, <sup>3</sup>investor interviews and PwC, <sup>4</sup>Smith Travel Research, and <sup>5</sup>National Multi Housing Council.

## DEVELOPMENT LAND

### DEVELOPMENT LAND

Land that has been purchased, readied for subdivision development (i.e. entitlements and infrastructure), and subsequently sold to builders

### DEVELOPER'S PROFIT<sup>1,3</sup>

A market-derived figure that reflects the amount a developer expects to receive for his or her contribution to a project and risk

## INDUSTRIAL

### FLEX/R&D<sup>3</sup>

An industrial property with 14- to 20-foot clear ceiling heights, up to 100.0% finished office space including lab and clean-room space (up to 60.0% finished office space excluding lab and clean-room space), and dock-high and/or grade-level loading used for minimal distribution, research and development, and specialized office space.

### WAREHOUSE<sup>3</sup>

An industrial property with 16- to 30-foot clear ceiling heights, up to 15.0% finished office space, and dock-high loading facilities used for the storage and distribution of goods.

## LODGING

### AVERAGE DAILY RATE (ADR)<sup>4</sup>

Room revenue divided by rooms sold.

### LIMITED-SERVICE MIDSCALE & ECONOMY<sup>3,4</sup>

Midscale lodging with "rooms only" and no food or beverage except possible continental breakfast; includes all economy lodging; lower-tier pricing; corresponds to STR's limited-service hotels in the midscale chain scale and all hotels in the economy chain scale; includes brands such as Howard Johnson, Sleep Inn, and Motel 6.

### FULL SERVICE<sup>3,4</sup>

Lodging with restaurant and lounge facilities, meeting space, and a minimum service and amenities level; moderate to lower upper-tier pricing; corresponds to STR's full-service hotels in the upscale, upper midscale, and midscale chain scales; includes brands such as Doubletree, Radisson, and Ramada.

### LUXURY/UPPER UPSCALE<sup>3,4</sup>

High-quality lodging offering personalized guest services, typically with extensive amenities, and upper-tier pricing; corresponds to STR's luxury and upper-upscale chain scales; includes brands such as Ritz Carlton, Four Seasons, and Hyatt.

### MANAGEMENT FEE

An expense item representing the sum paid for or the value of management serv-

ice, including incentives, expressed as a percentage of total revenues.

### NET OPERATING INCOME (LODGING NOI)

Income remaining after deduction of all property expenses: in direct capitalization, investors capitalize one of the following:

1. Prior 12 months
2. Forecast next 12 months
3. Both of the above

### OCCUPANCY<sup>4</sup>

Rooms sold divided by rooms available.

### OPERATING EXPENSES

The ongoing expenditures incurred during the ordinary course of business necessary to maintain and continue the production of gross revenues, not including reserves, debt service, and capital costs.

### PROPERTY EXPENSES

Includes all necessary operating expenses and a reserve for replacement of building components and FF&E.

### RESERVE FOR REPLACEMENT

An allowance that provides for the periodic replacement of building components, and furniture, fixtures, and equipment, which deteriorate and must be replaced during the building's economic life.

### REVPAR

Revenue per available room.

### SELECT SERVICE<sup>3,4</sup>

Upscale and upper-midscale lodging with "rooms only" and no or minimal food and beverage; moderate pricing; excludes economy properties; corresponds to STR's select-service hotels in the upscale chain scale and limited-service hotels in the upper-midscale chain scale; includes brands such as Hampton Inn, Residence Inn, and Comfort Inn.

## NET LEASE

### PROVISION 1031

A tax code that allows the seller of an investment property to defer capital gains taxes by exchanging the sale proceeds for an investment in a similar property or properties within 180 days of the original closing.

### SALE LEASEBACK

A transaction in which an owner sells a property that it fully occupies to a third party and then leases the space back from the new owner.

## SECONDARY OFFICE

### INCLUDED MARKETS

Austin, Baltimore, Cincinnati, Cleveland, Detroit, Indianapolis, Jacksonville,

Kansas City, Las Vegas, Minneapolis, Nashville, Orlando, Pittsburgh, Raleigh, Riverside, Sacramento, San Antonio, San Jose, St. Louis, and Tampa

## RETAIL

### FORTRESS MALL

The dominant performing Class-A+ malls in the country whose inline stores generate at least \$650 per square foot in retail sales; they contain inline and anchor stores that are both well established and unmatched in the trade area.

### LIFESTYLE CENTER<sup>2</sup>

Most often located near affluent residential neighborhoods, this center type caters to the retail needs and "lifestyle" pursuits of consumers in its trading area. It has an open-air configuration and typically includes at least 50,000 square feet of space occupied by upscale national chain specialty stores. Other elements, such as restaurants and entertainment, design ambience and amenities like fountains and street furniture, make the lifestyle center serve as a multi purpose leisure-time destination. One or more conventional or fashion specialty department stores often act as anchors.

### OUTLET CENTER<sup>2</sup>

Consist mostly of manufacturers' outlet stores selling their own brands at a discount. Usually located in rural or occasionally in tourist locations. A strip configuration is most common, although some are enclosed or arranged in a "village" format.

### POWER CENTER<sup>2,3</sup>

An open center dominated by at least 75.0% large big-box anchors, including discount stores, warehouse clubs, and value-oriented category stores, and a minimal amount of inline store space

### REGIONAL MALL<sup>2,3</sup>

An enclosed shopping center that contains at least two department stores and has climate-controlled walkways that are lined with smaller retail shops

### REGIONAL MALL CLASSIFICATIONS<sup>3</sup>

Class	Inline Retail Sales <sup>3</sup> (Per Sq. Ft.)
A+	\$650 and up
A	\$500 to \$649
B+	\$400 to \$499
B	\$300 to \$399
C+/C	Less than \$300

### STRIP SHOPPING CENTER<sup>2,3</sup>

An open row of stores either with or without anchor stores that offer convenience (neighborhood centers) and general merchandise (community centers).

Various sources include <sup>1</sup>The Dictionary of Real Estate Appraisal, Fifth Edition, published by the Appraisal Institute; <sup>2</sup>ICSC; <sup>3</sup>investor interviews and PwC, inline sales exclude anchor stores, movie theaters, and large drug stores; <sup>4</sup>Smith Travel Research; and <sup>5</sup>National Multi Housing Council.

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**Survey Process:** Survey participants represent a cross section of major institutional equity real estate investors who invest primarily in institutional-grade property. As such, the information presented is not generally applicable to noninstitutional-grade investments. In addition, the information represents investors' investment expectations and does not reflect actual property performances.

The information in this survey is gathered through on-line questionnaires and telephone interviews. As such, the findings and opinions expressed reflect those of our investor participants and do not necessarily reflect those of PwC. Although we do not represent that the survey is statistically accurate, its results provide important insight into the thinking of a significant portion of the equity real estate marketplace.

**Investor Survey Responses:** The individual investor responses contained in the large tables in the back of each issue are a representative sample. Due to space constraints, not all responses are included.

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\*16-page supplement following 9/11

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