



Newmark Grubb
Knight Frank

BENCH^{MARKS} NEW YORK CITY

SEPTEMBER 7, 2016

1. Commercial real estate moves in cycles; we are approaching the mature phase of the cycle, but capital continues to flow into CRE
2. The sharing economy both disrupts and benefits our marketplace
3. NYC outperforms, but headwinds challenge us

Source: NGKF Research; September 2016



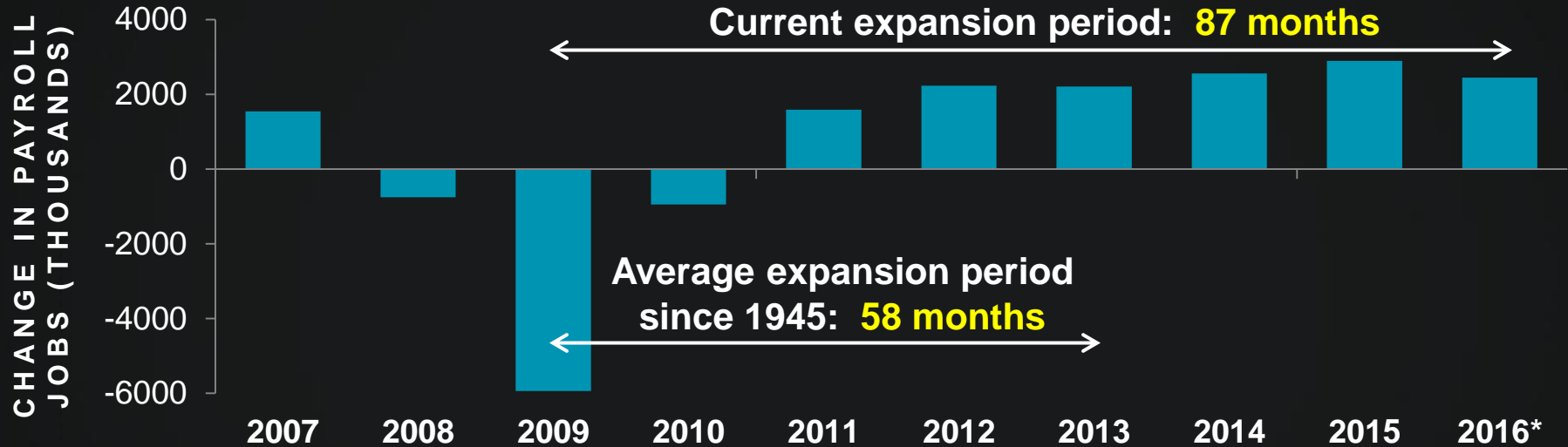
MEGATREND #1: APPROACHING THE MATURE PHASE OF THE COMMERCIAL REAL ESTATE CYCLE



BENCH
MARKS

MEGATREND #1: MATURE PHASE

Payroll Job Change | United States

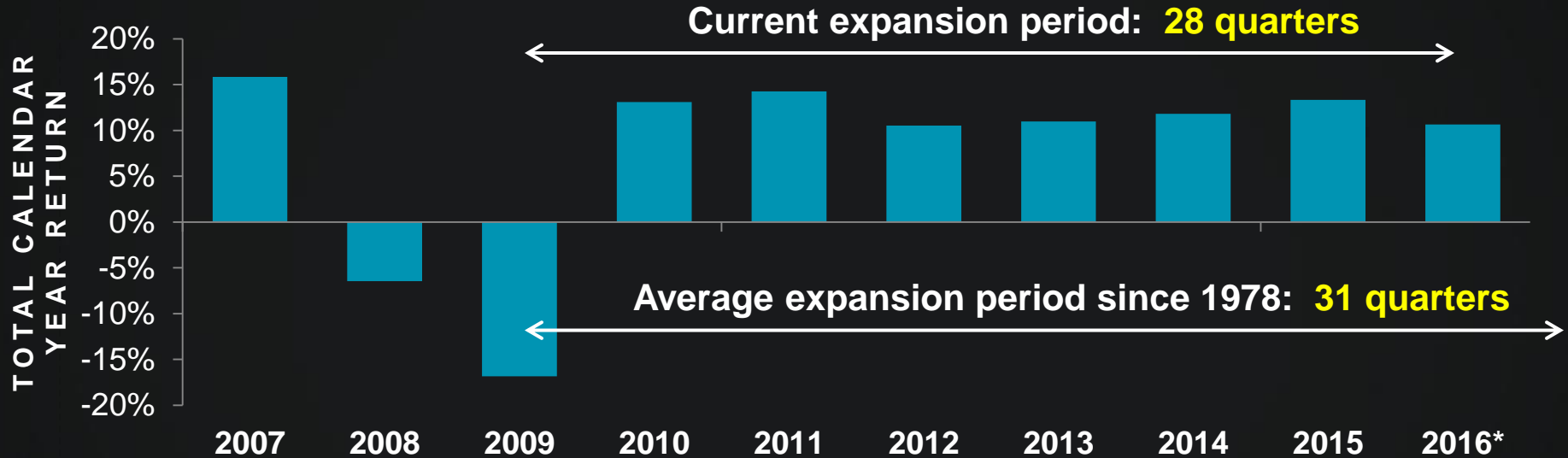


*12 months ending in July 2016

Source: U.S. Bureau of Labor Statistics, National Bureau of Economic Research, NGKF Research; September 2016

MEGATREND #1: MATURE PHASE

NCREIF Property Index | United States

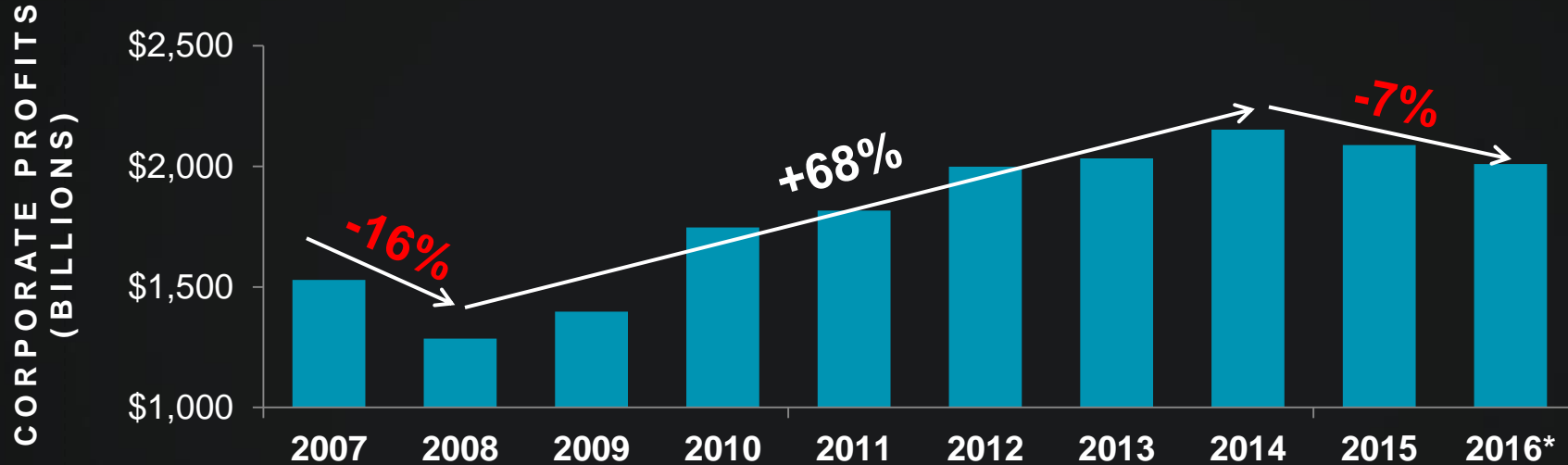


*Four quarters ending in Q2 2016 Note: Includes all asset classes

Source: NCREIF, NGKF Research; September 2016

MEGATREND #1: MATURE PHASE

Corporate Profits | United States

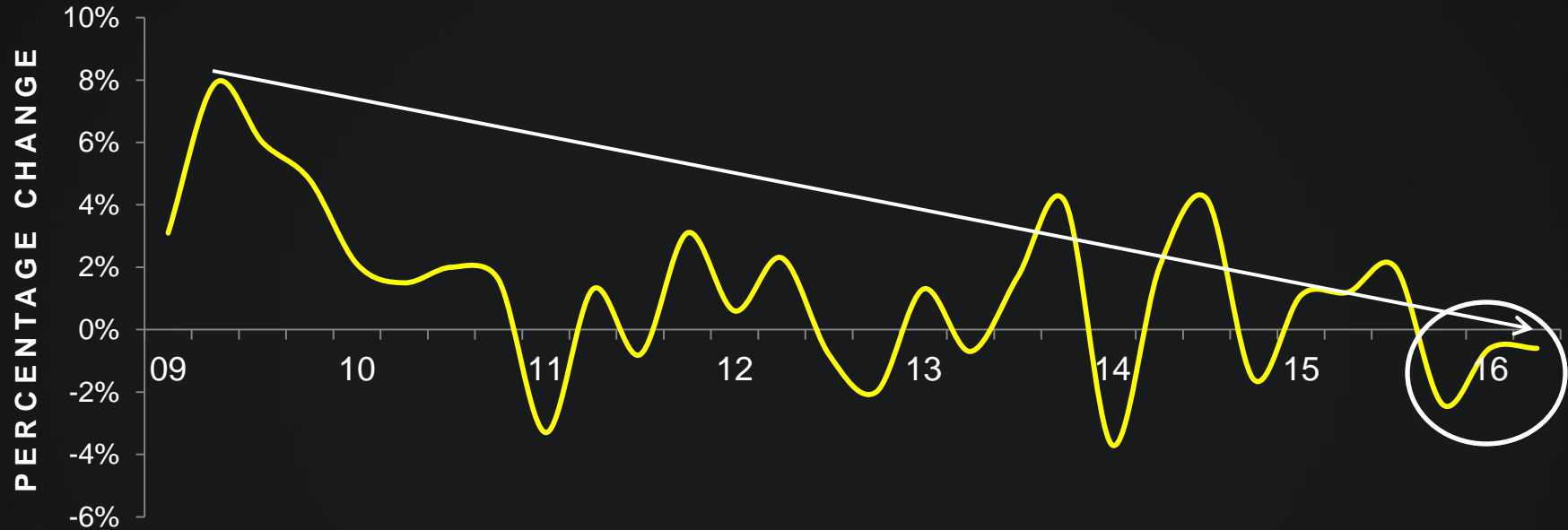


**Through Q2 2016; seasonally-adjusted at annual rate*

Source: U.S. Department of Commerce, NGKF Research; September 2016

MEGATREND #1: MATURE PHASE

Non-Farm Business Worker Productivity | United States

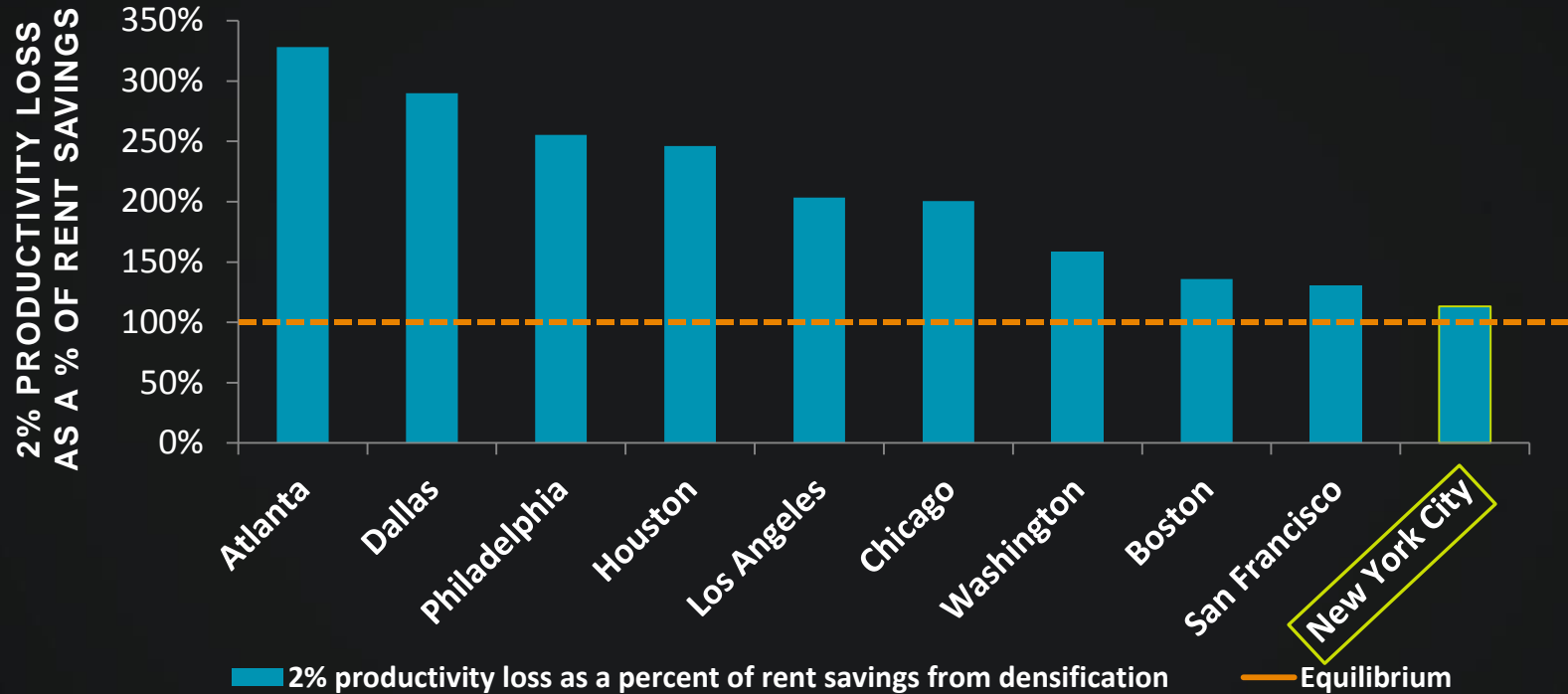


Note: Percentage change from previous quarter at annual rate

Source: U.S. Bureau of Labor Statistics, NGKF Research; September 2016

MEGATREND #1: MATURE PHASE

2% Productivity Loss Offsets Cost Savings From Densification

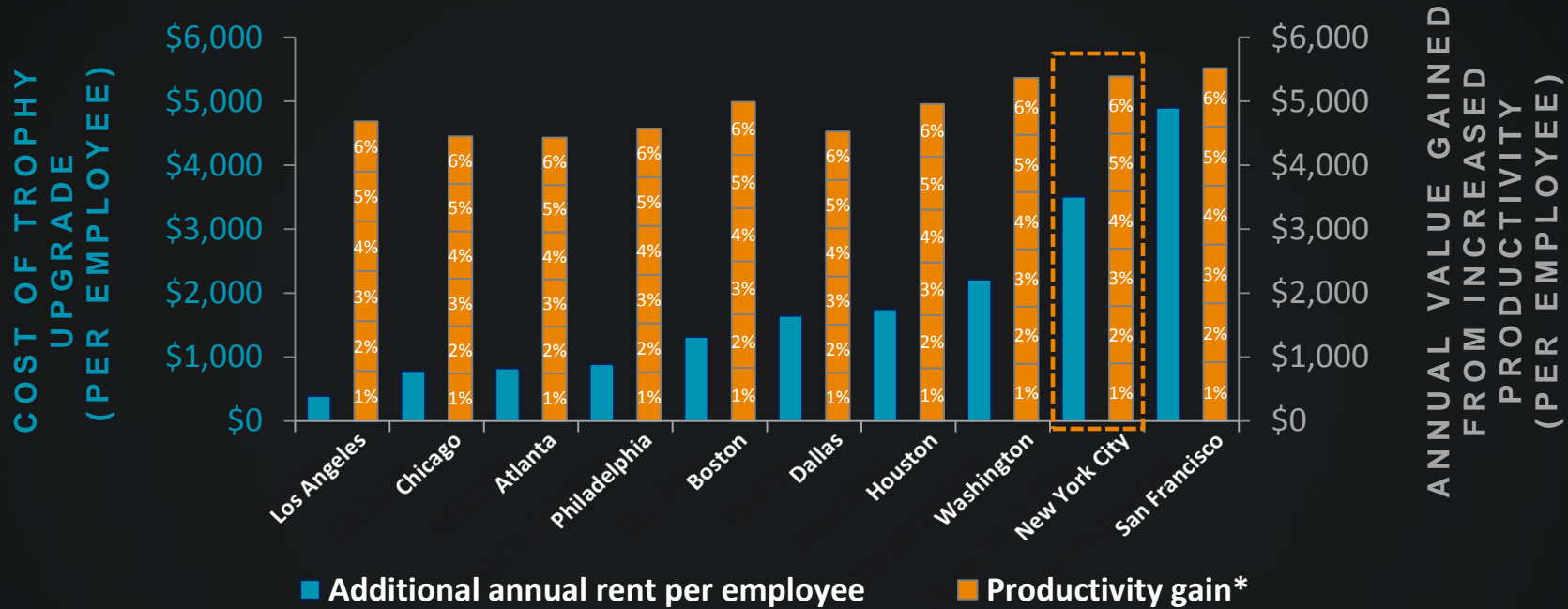


Note: Ten largest metropolitan areas by employment base in 2015; assumes 10% reduction of rentable space

Source: U.S. Bureau of Labor Statistics, NGKF Research; September 2016

MEGATREND #1: MATURE PHASE

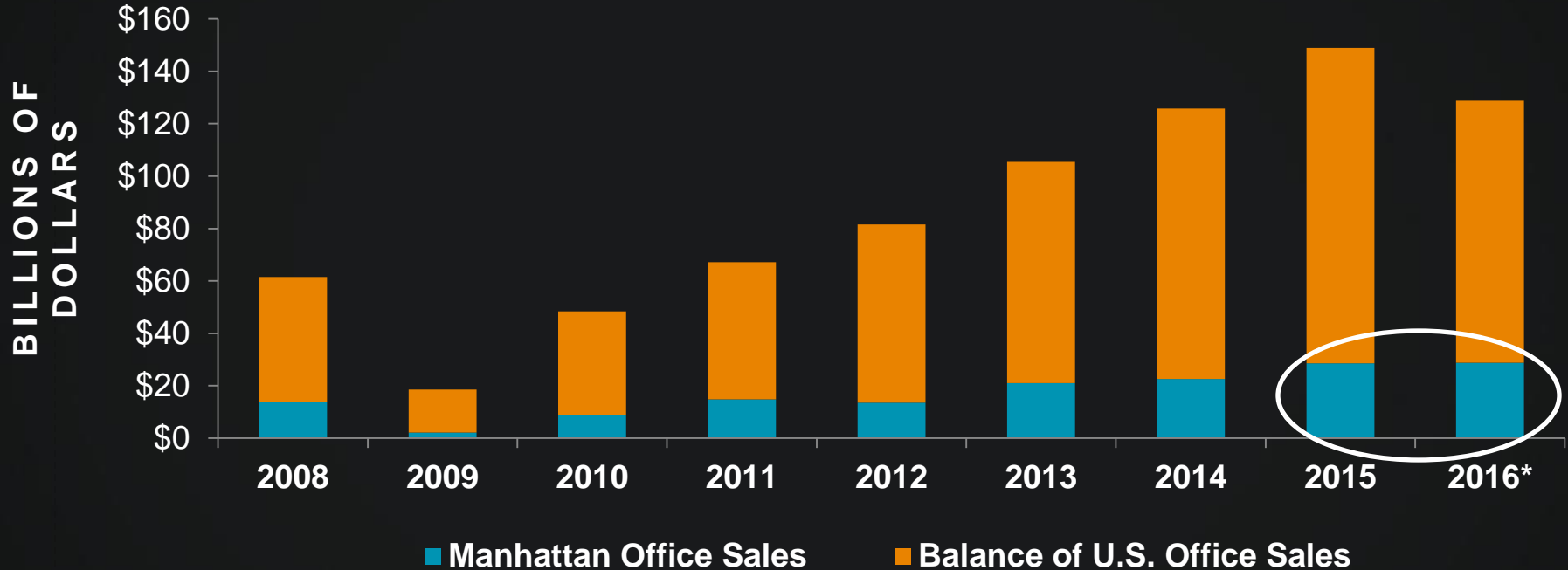
Gains In Productivity Can Offset Cost of Trophy Upgrade



*Expressed as a percentage of annual wage
Note: Ten largest metropolitan areas by employment base in 2015; assumes 5% reduction of rentable space
Source: U.S. Bureau of Labor Statistics, NGKF Research; September 2016

MEGATREND #1: MATURE PHASE

U.S. and Manhattan Office Investment Sales Volume Remain Strong Even as Cycle Matures



**2016 is YTD through June, annualized*

Source: Real Capital Analytics, NGKF Research; September 2016

MEGATREND #1: MATURE PHASE

What's Next? | Discipline is Critical in the Next 12-24 Months



- Disconnect between economic/leasing performance and capital flows likely will continue into 2017
- The disciplined investor is exercising more caution
- Owners marketing trophy space do best when emphasizing the value of productivity enhancement to tenants
- Now is an important time to own and manage best-in-class office assets

Source: NGKF Research; September 2016



MEGATREND #2: THE SHARING ECONOMY BOTH DISRUPTS AND BENEFITS OUR MARKETPLACE



BENCH
MARKS

MEGATREND #2: SHARING ECONOMY

Equity Funding For Space-Sharing Start-Ups



Hotels:

Airbnb

Founded 2008

Total Equity Funding: \$2.4B
in 8 rounds from 33 investors

Industrial:

Flexe

Founded 2013

Total Equity Funding:
\$20.8 million in 5
rounds from 6
investors



Retail:

Storefront

Founded 2012

Total Equity Funding:
\$8.9 million in 2 rounds
from 16 investors



Office:

WeWork

Founded 2010

Total Equity Funding:
\$1.4B in 7 rounds from 11
investors

Multihousing:

Common

Founded 2015

Total Equity Funding: \$23.4 million
in 2 rounds from 14 investors

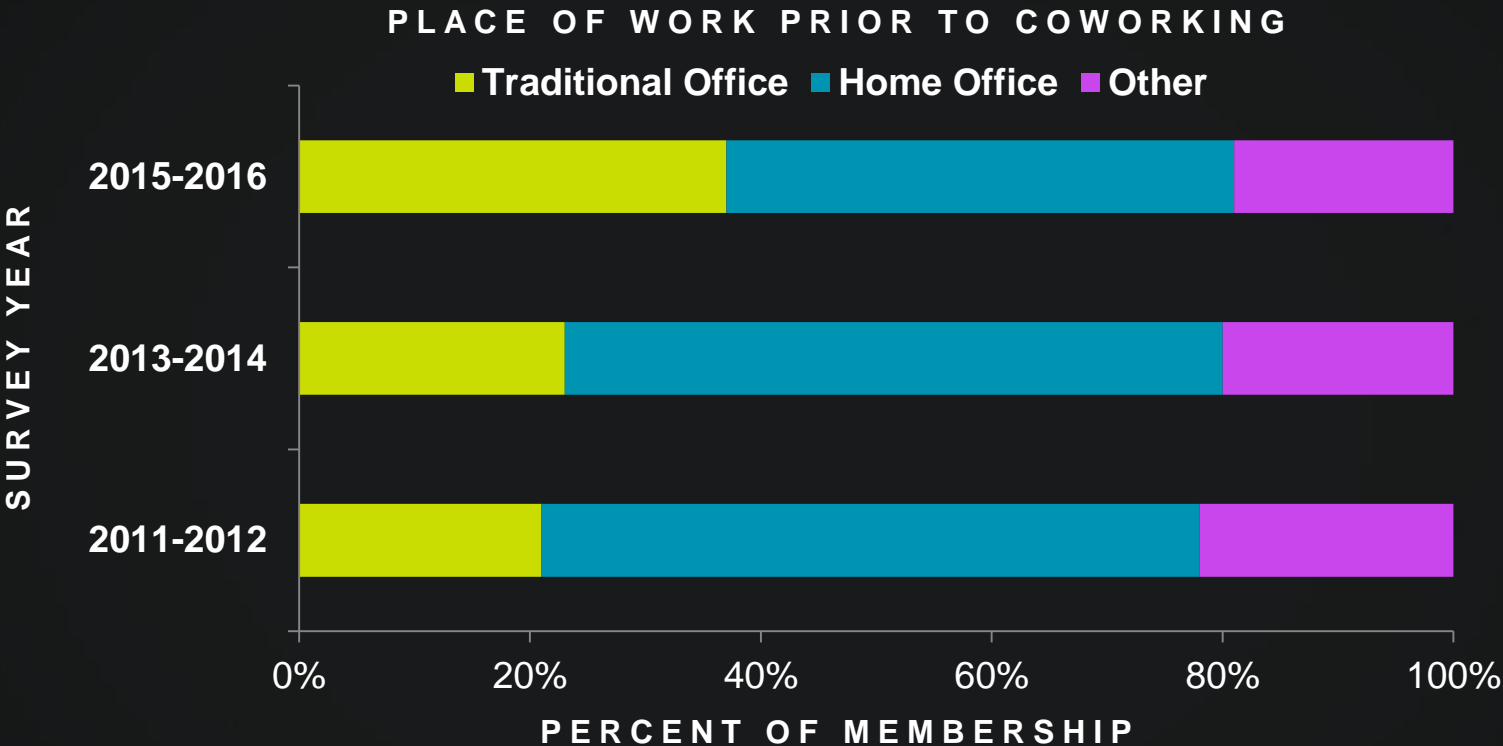


Note: Size of each bubble represents approximate scale of funding amount

Source: CrunchBase, NGKF Research; September 2016

MEGATREND #2: SHARING ECONOMY

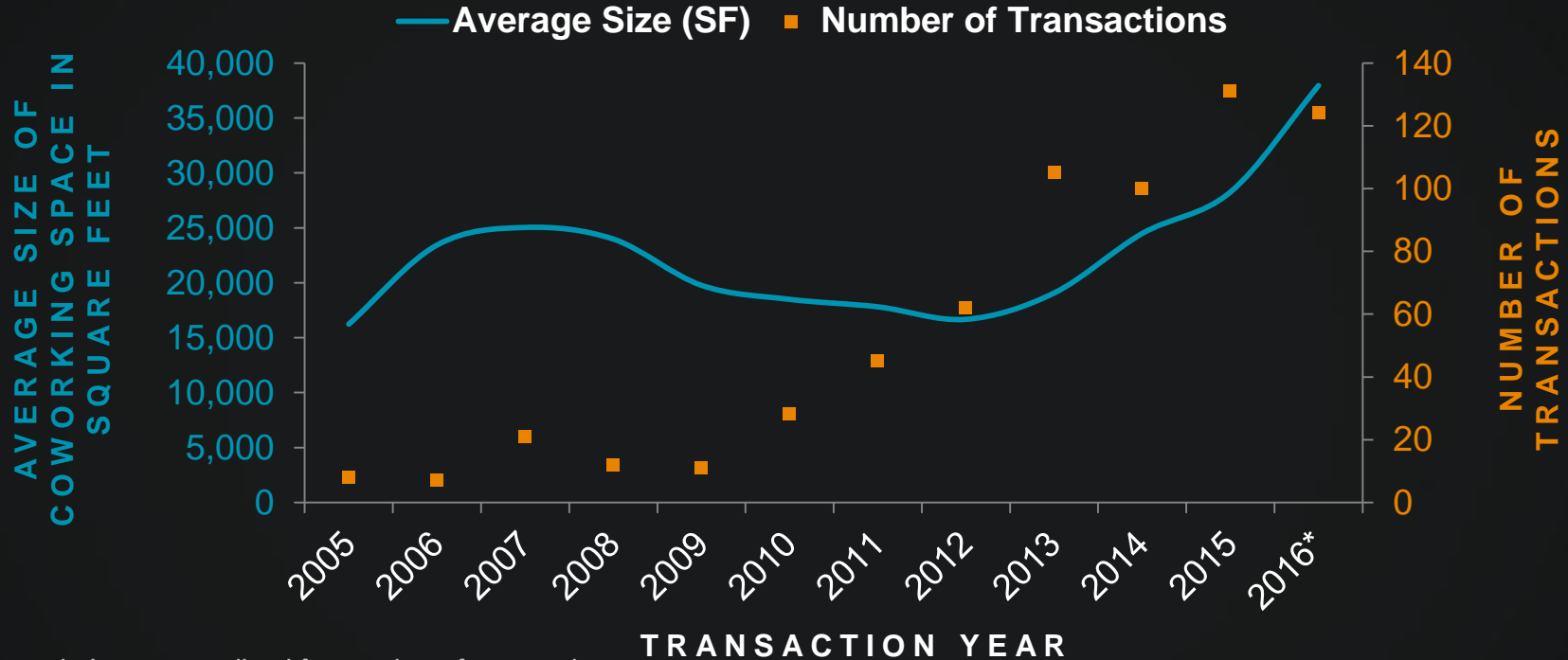
U.S. Office Co-Workers Increasingly Coming From Traditional Office Space



Source: NGKF Research; September 2016

MEGATREND #2: SHARING ECONOMY

More U.S. Office Co-Working Leases Are Being Signed and Locations Are Getting Larger



*2016 through June, annualized for number of transactions.

Note: Based on sample set of U.S. co-working transactions; not an exhaustive list.

Source: CoStar, NGKF Research; September 2016

MEGATREND #2: SHARING ECONOMY

Co-Working Space In New York City's Office Market Is Expanding Rapidly



767%



Growth in square footage occupied since 2009



Coworking as a percentage of Manhattan's total inventory

180



Locations in New York City, up 86% since 2009

90,560 Square Feet

Average size of WeWork's new locations in 2016, up 186% since 2010-2011

6,258%

Increase in WeWork's New York City portfolio since opening their first location



44

New NYC providers since 2009 for a total of 53 today

Source: NGKF Research; September 2016

MEGATREND #2: SHARING ECONOMY

What's Next? | Disrupt Yourself or Be Disrupted



- Co-working firms will keep drawing workers from traditional office space
- As co-working locations get larger, traditional office owners have an opportunity to capture larger tenants
- Traditional office owners can collaborate with co-working firms to ensure building amenities match the needs of co-working tenants

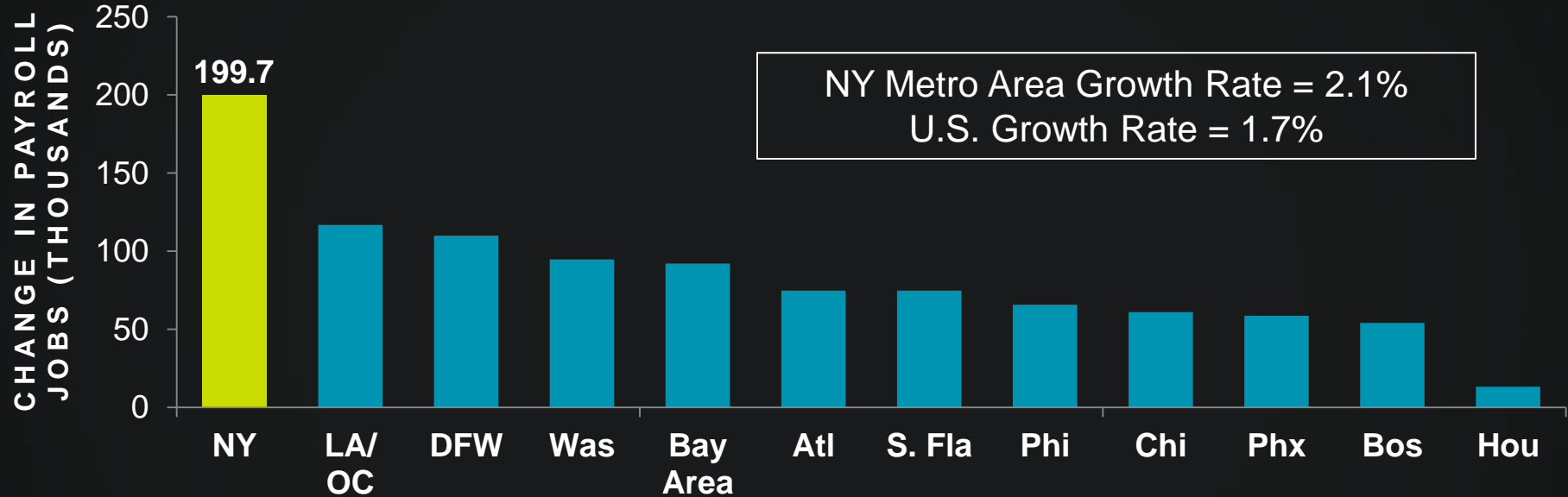
Source: NGKF Research; September 2016

MEGATREND #3: NYC OUTPERFORMS, BUT HEADWINDS CHALLENGE US



MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

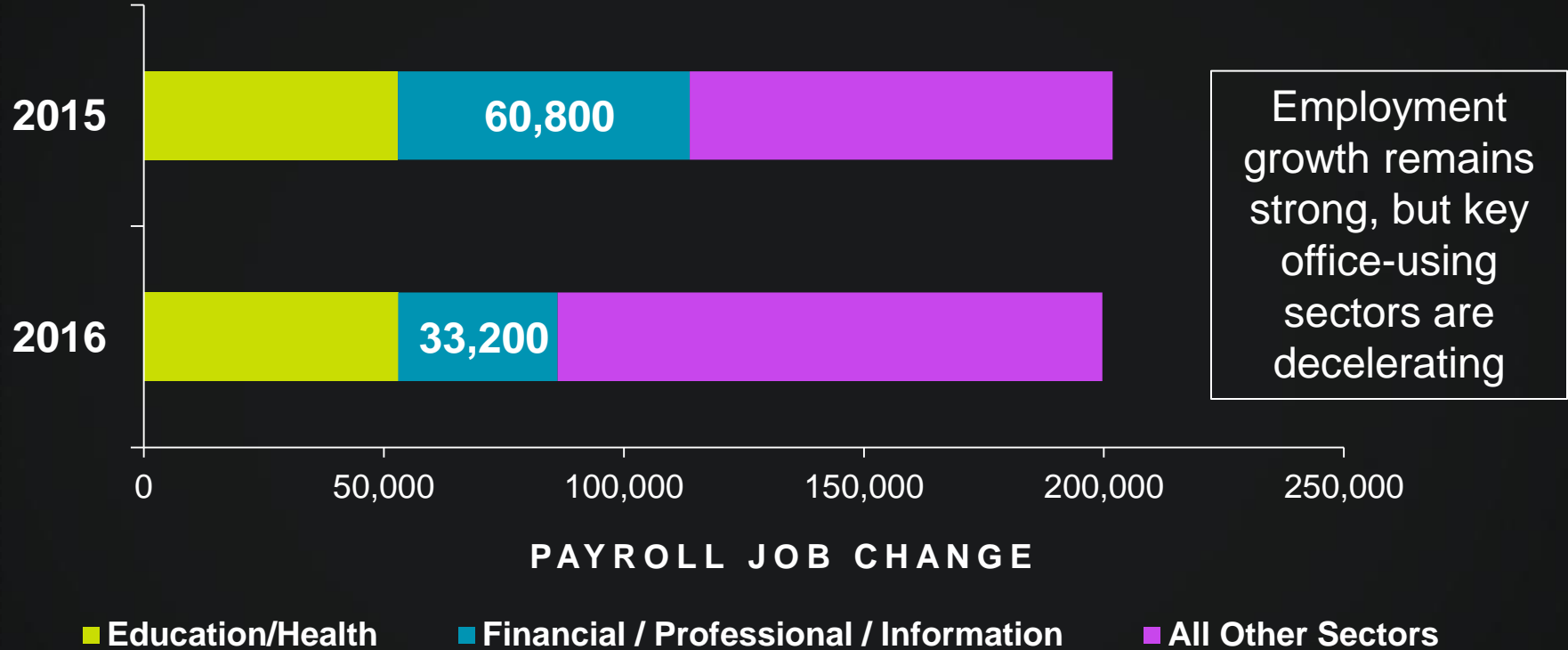
U.S. Payroll Job Change | 12 Months Ending July 2016



Source: U.S. Bureau of Labor Statistics, NGKF Research; September 2016

MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

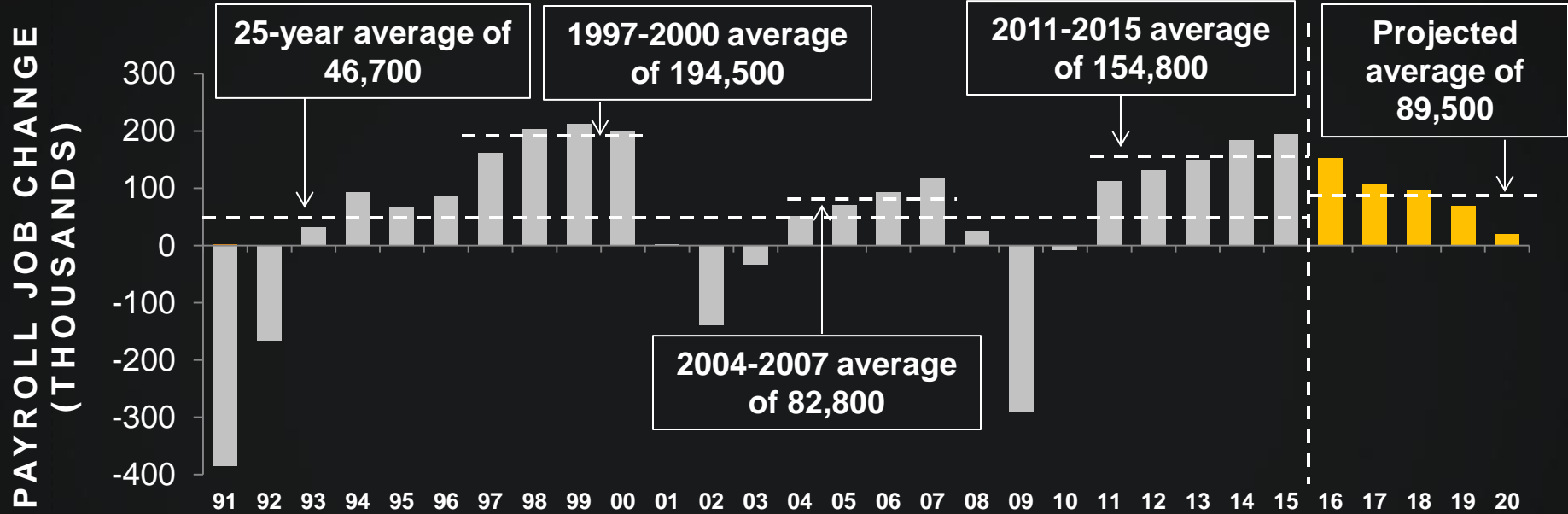
New York Metro Area Payroll Job Change by Type of Job | 12 Months Ending July 2015 vs. July 2016



Source: U.S. Bureau of Labor Statistics, NGKF Research; September 2016

MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

New York Metro Area Job Growth to Continue But Decelerate



Source: Moody's, U.S. Bureau of Labor Statistics, NGKF Research; September 2016

MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

Infrastructure Requires Investment to Keep Up with Demand for Public Services



- Hudson Yards is a game-changing development. . .which means more public transit options would be helpful to accommodate anticipated demand
- Investment in a rebuilt PATH station and in the Fulton Center helped bring about the successful redevelopment of the World Trade Center complex
- Public and private investment in the High Line has spurred redevelopment along the route

Source: NGKF Research; September 2016

MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

Sample of Tech Firms Leasing Large Blocks of Office Space in New York | 2015 - 2016



BuzzFeed

facebook

Google

UBER

Source: Datafox, TechCrunch, NGKF Research; September 2016

MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

Sample of Financial Firms Reducing Headcount in New York | 2015 - 2016



Morgan Stanley

JPMORGAN

P I M C O

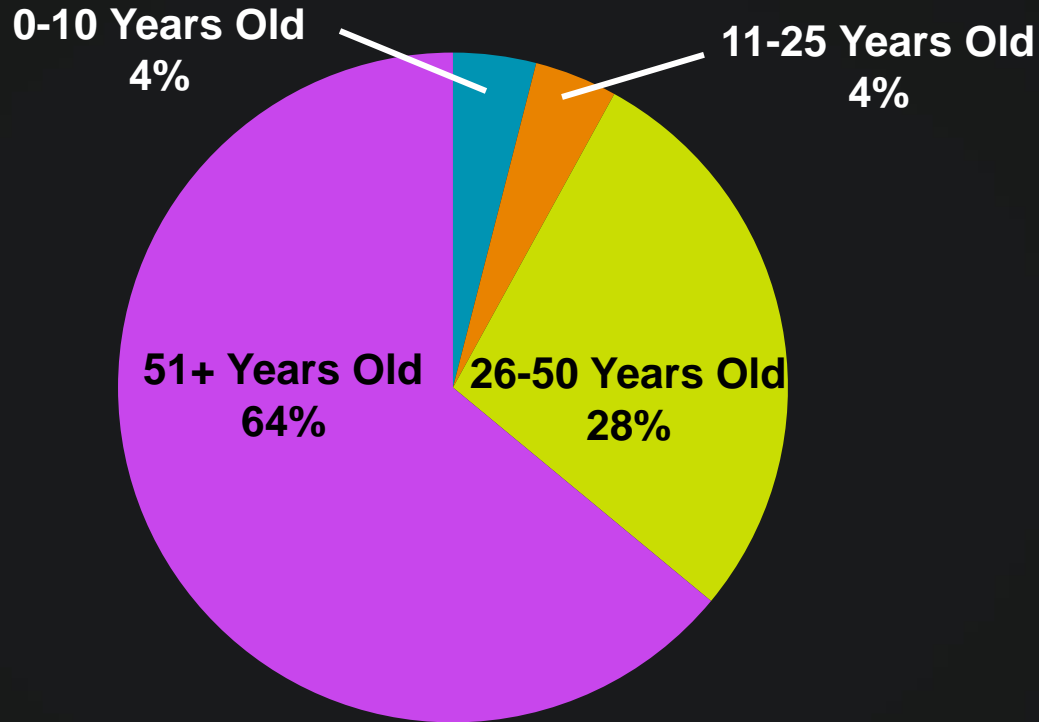
citigroup

CREDIT SUISSE

Source: NGKF Research; September 2016

MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

Obsolescence is a Headwind | Age of Manhattan's Office Stock



Source: CoStar, NGKF Research; September 2016

MEGATREND #3: OUTPERFORMANCE VS. HEADWINDS

What's Next? | Capitalizing on New York's Diverse Assets



1. Can obsolete office stock be improved sufficiently to become attractive to today's tenants?
2. Will the few Midtown East redevelopments underway now lead to a more concentrated rezoning effort?
3. Will a large Manhattan tenant finally move its headquarters to Brooklyn, Long Island City, or other formerly edge submarkets?

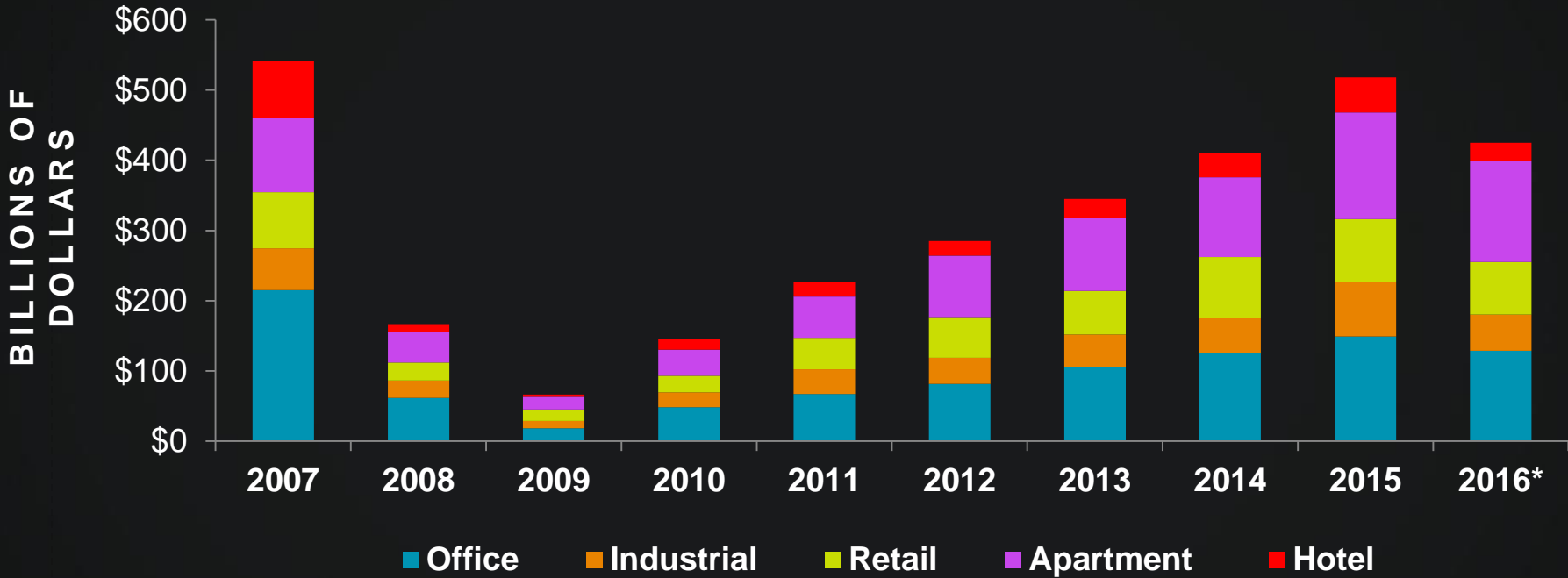
Source: NGKF Research; September 2016

INVESTMENT SALES AND CAPITAL MARKETS



INVESTMENT SALES AND CAPITAL MARKETS

U.S. Investment Sales Volume May Have Peaked But Remains Robust



**1st half 2016 annualized*
Source: Real Capital Analytics, NGKF Research; September 2016

INVESTMENT SALES AND CAPITAL MARKETS

Origins of International Capital | Top Five Countries by Year



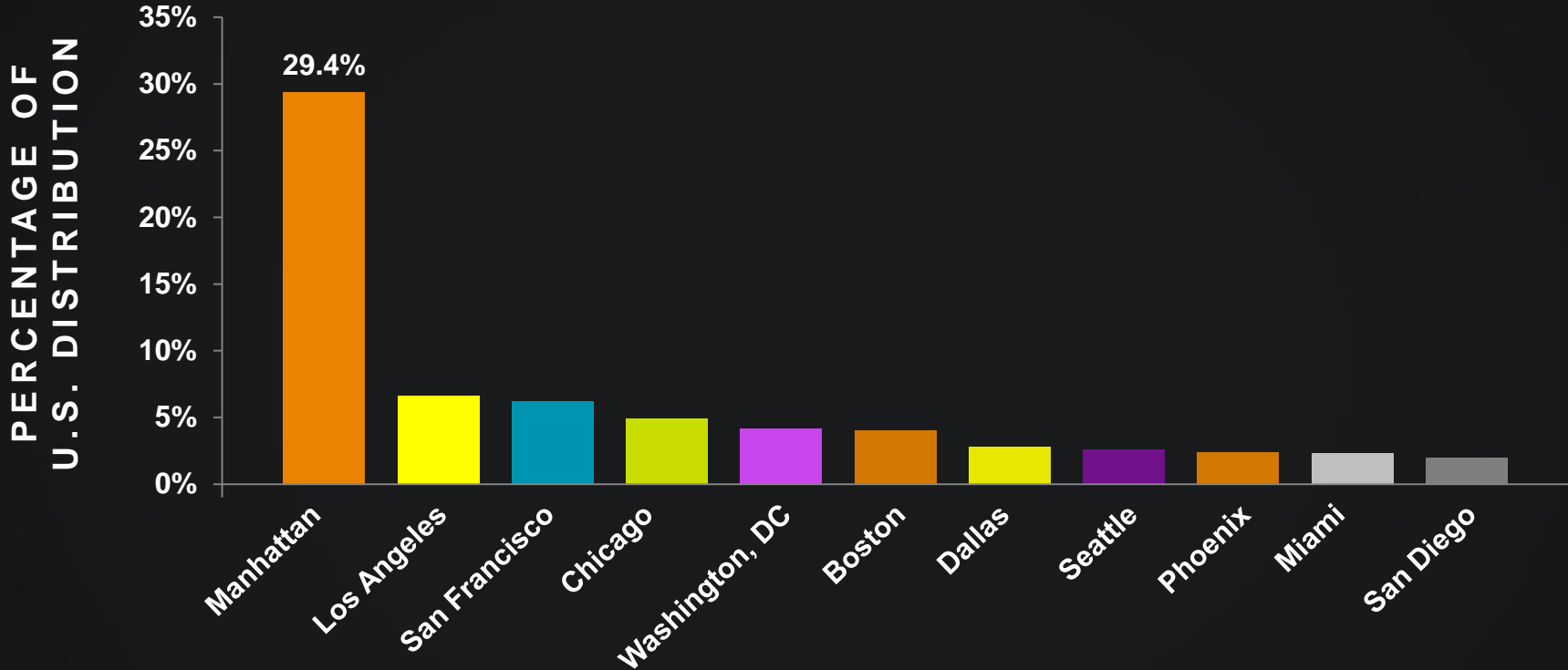
RANK	2014 TOTAL = \$47.4 BILLION	2015 TOTAL = \$81.5 BILLION	2016 YTD TOTAL = \$50.6 BILLION
1	Canada	Canada	China
2	China	Singapore	Canada
3	Norway	China	Germany
4	Japan	Norway	South Korea
5	Germany	UAE	Saudi Arabia

Note: YTD through August 2016

Source: Real Capital Analytics, NGKF Research; September 2016

INVESTMENT SALES AND CAPITAL MARKETS

Destinations for International Capital | Percentage of U.S. Distribution in Past 12 Months



Note: YTD through June 2016
Source: Real Capital Analytics, NGKF Research; September 2016

INVESTMENT SALES AND CAPITAL MARKETS

Office Pricing Heat Map | Price Per Square Foot

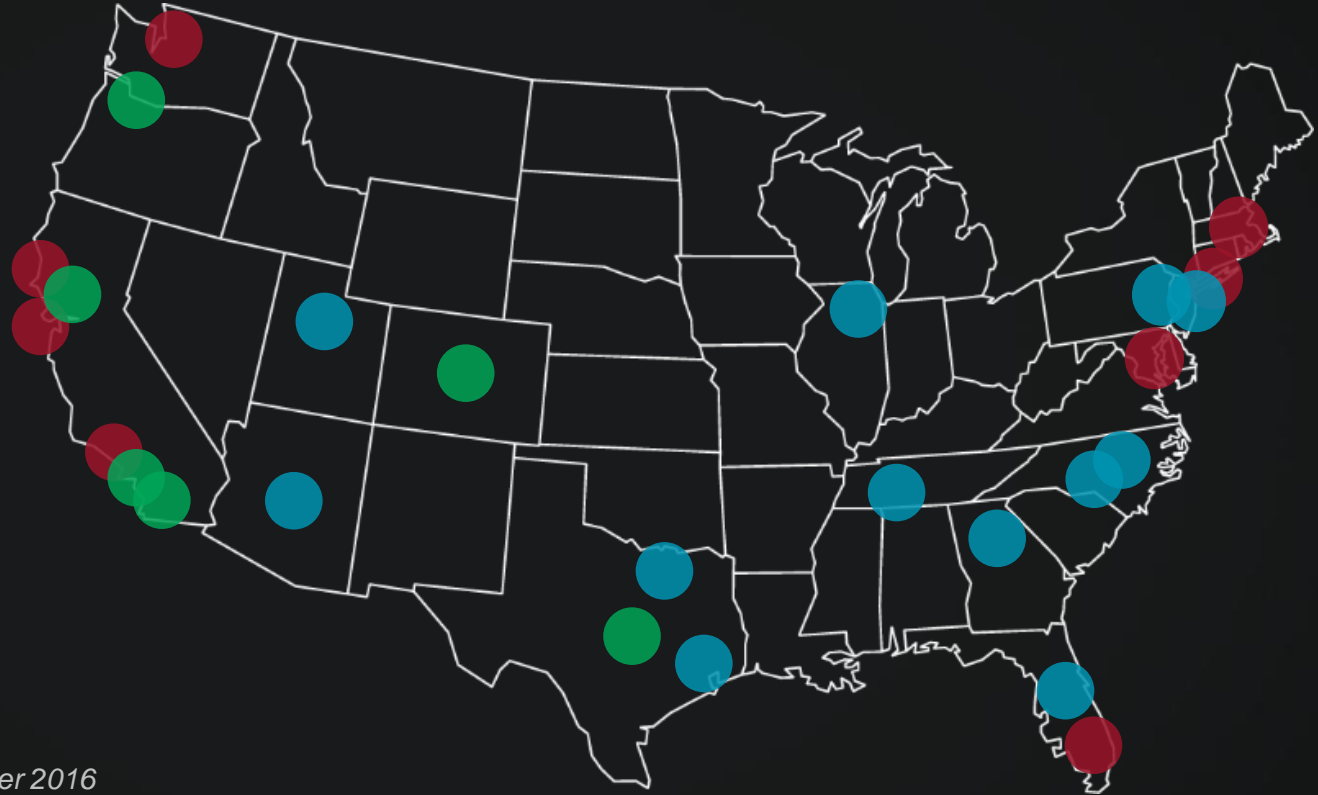


● Greater than \$400

● \$301-\$400

● \$201-\$300

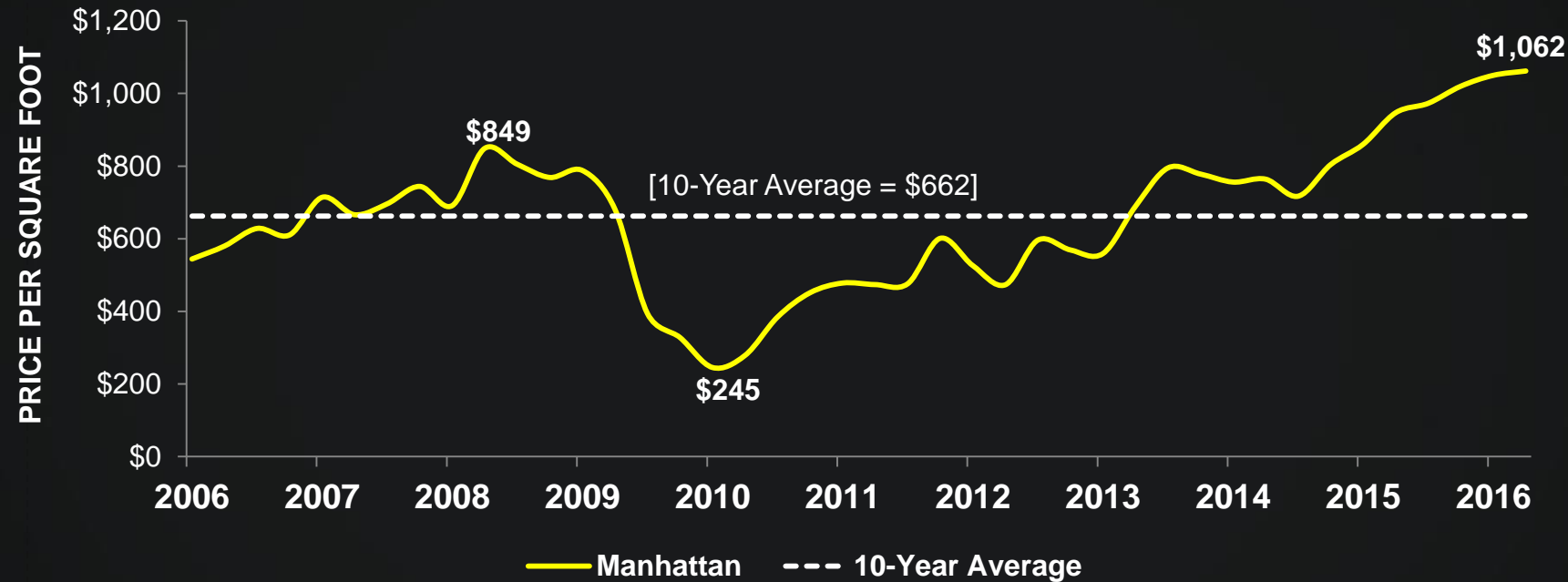
All other markets are
\$200 psf and below



Source: NGKF Research; September 2016

INVESTMENT SALES AND CAPITAL MARKETS

Manhattan Institutional Quality Product | Average Price Per Square Foot



Source: Real Capital Analytics, NGKF Research; September 2016

INVESTMENT SALES AND CAPITAL MARKETS

What's Next? | U.S. and NYC Office Sales in Next 12-24 Months



- Sales volume: Stable for balance of 2016, yet below 2015 levels
- International capital: Will continue to fuel investment market
- Office cap rates: Edging up in some markets, transitioning from compression to expansion
- Sales prices: Will remain relatively strong in major markets

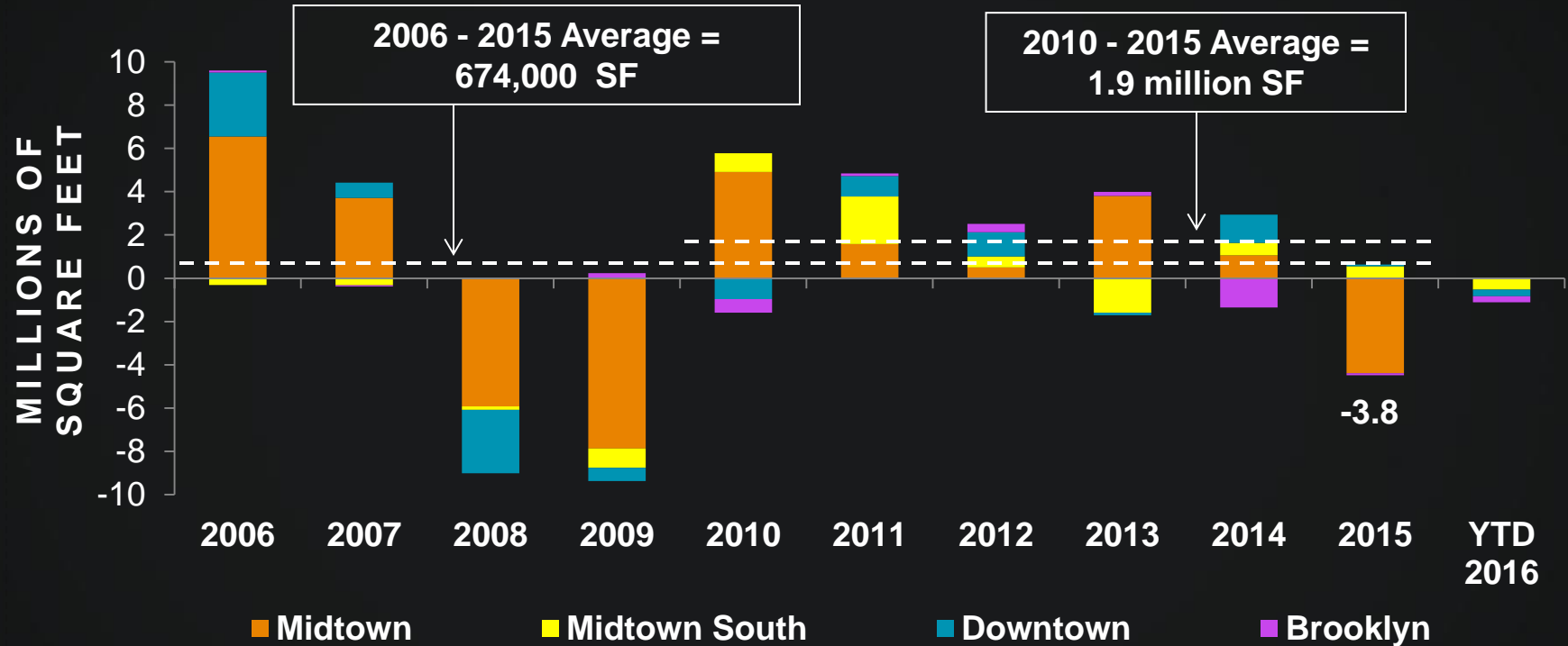
Source: NGKF Research; September 2016

NYC OFFICE MARKET CONDITIONS AND FORECAST



THE NEW YORK CITY OFFICE MARKET

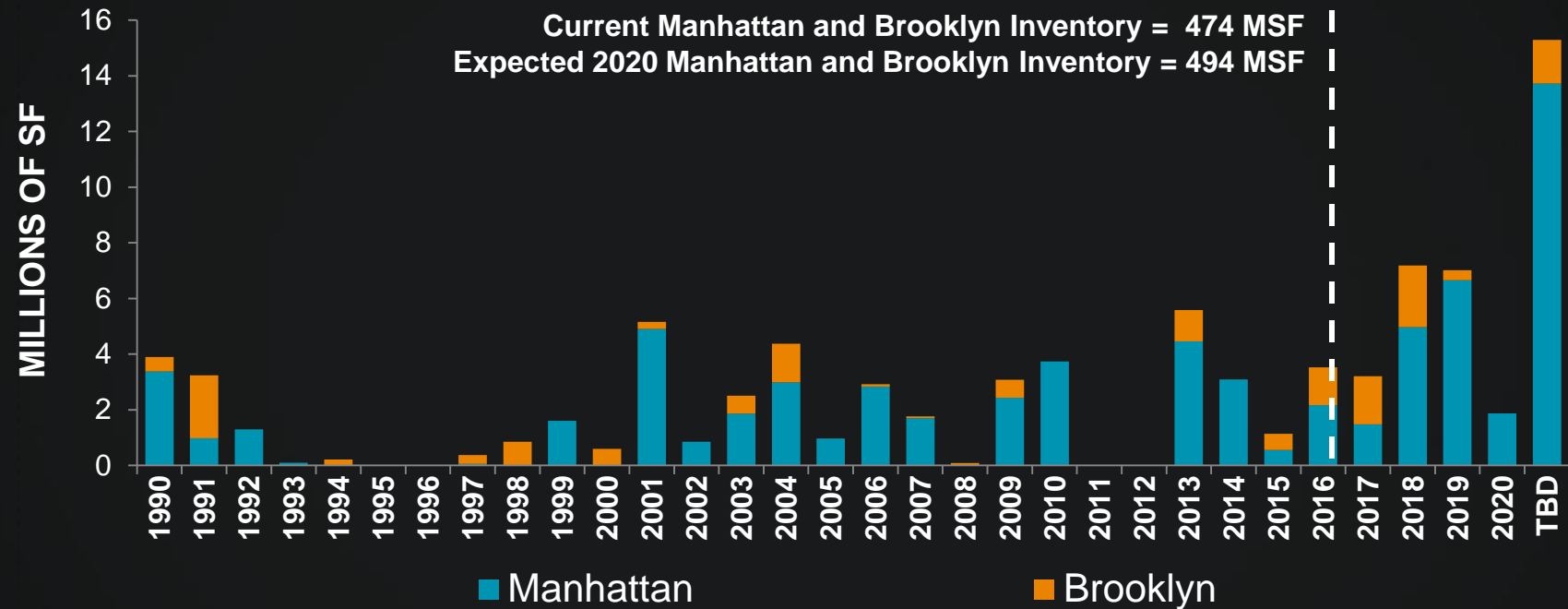
Net Absorption



Source: NGKF Research; September 2016

THE NEW YORK CITY OFFICE MARKET

Projected Deliveries | Major New York City Markets



Source: NGKF Research; September 2016

THE NEW YORK CITY OFFICE MARKET

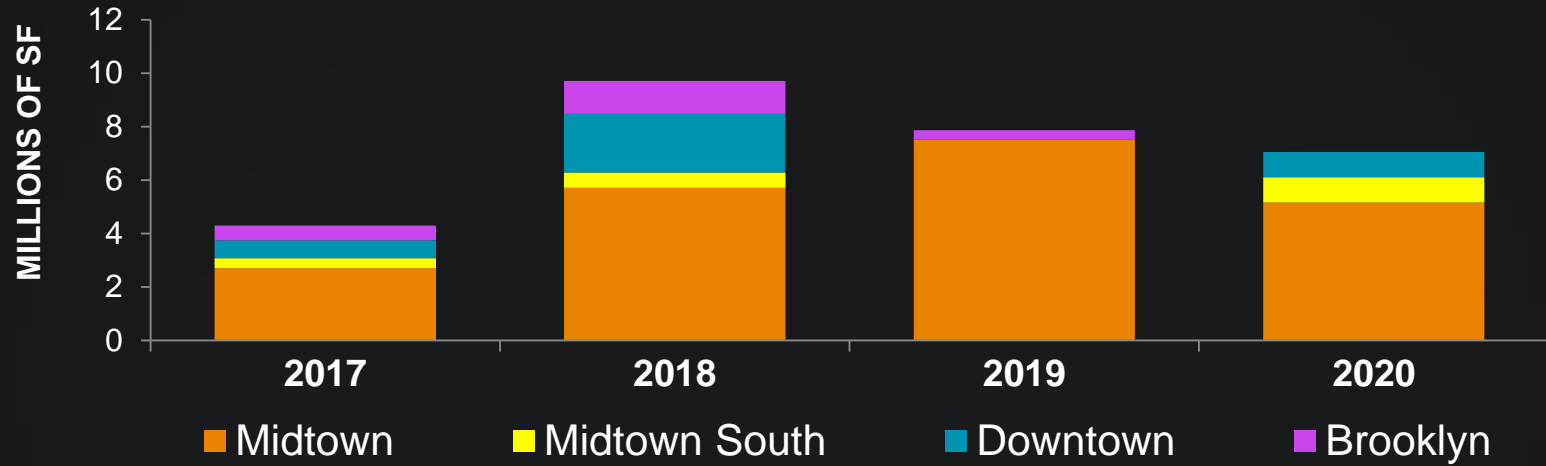
Projected Deliveries | Manhattan



Source: NGKF Research; September 2016

THE NEW YORK CITY OFFICE MARKET

Projected Increase in Availability | Major New York City Markets

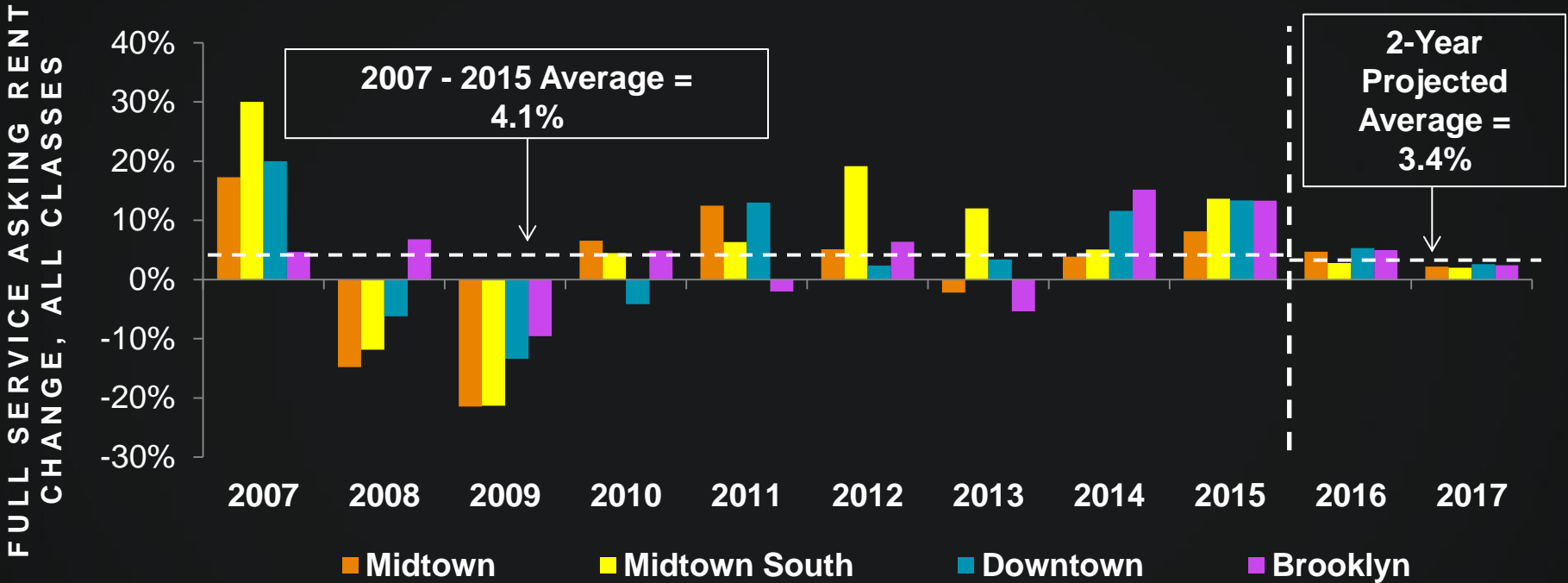


AVAILABILITY RATE	YTD 2016				
	2017	2018	2019	2020	
MANHATTAN	11.1%	11.7%	12.7%	13.5%	13.8%
BROOKLYN	14.5%	15.1%	16.4%	16.8%	17.0%

Source: NGKF Research; September 2016

THE NEW YORK CITY OFFICE MARKET

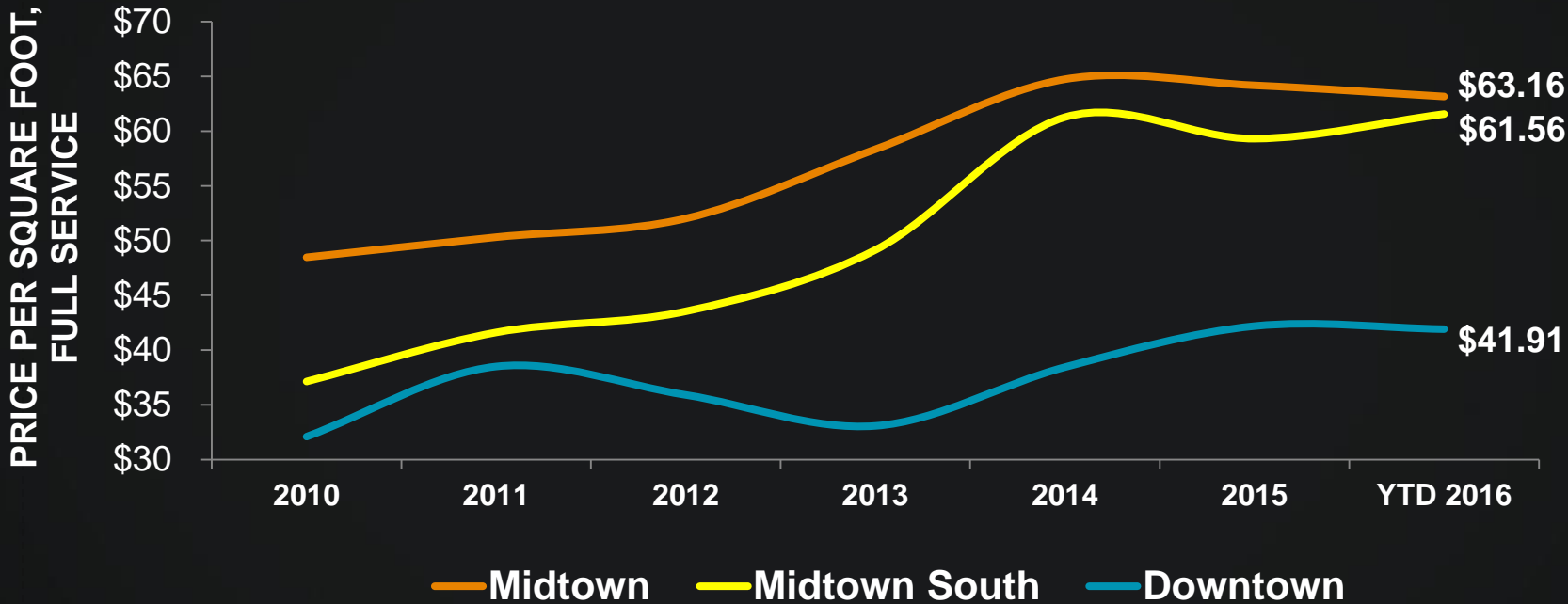
Projected Asking Rent Change | Major Jurisdictions



Source: NGKF Research; September 2016

THE NEW YORK CITY OFFICE MARKET

Net Effective Rental Rates | Major Manhattan Jurisdictions



Source: NGKF Research; September 2016

THE NEW YORK CITY OFFICE MARKET

What's Next? | NYC Office Leasing Market in Next 12-24 Months



- Development: Office inventory set to expand
- Availability: Edging higher, particularly in Midtown
- Rents: While taking rates remain healthy, concession packages are on the rise

Source: NGKF Research; September 2016