"Today's Real Estate Shifts Are Creating Future Challenges & Opportunities"

Burnham-Moores Center For Real Estate BMC Lecture Series University Of San Diego September 15, 2016

> **Presented by** Christopher Lee CEL & Associates, Inc.

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TODAY'S PRESENTATION

- 50 Future Headlines
- **So A Perfect Storm Of Emerging Trends**
- Real Estate Cycles
 - Where Are We...What Is Ahead?
- Real Estate Industry's Megashifts
 Changes That Are Impacting Every Real Estate Firm
- Generations Driving Different Kinds Of Real Estate
 Office Retail Industrial Multifamily
- n San Diego Outlook
- ∞ Predictions...What Is Ahead For 2025?

FUTURE HEADLINES

THE WALL STREET JOURNAL.

Monday, February 18, 2020

Daily \$3.50

Today's Highlights

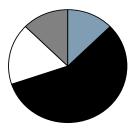
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Apple Announces New iOffice Technology

"Our Goal is to create the first virtual office Building," states Apple CEO.

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Tuesday, June 17, 2025

Daily \$5.75

Robots Construct First Mid-Rise Office Building

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NYC Apartments

CEL & Associates, Inc.

Today's Highlights

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The New York Eimes

Monday, February 18, 2018

Daily \$4.75

Today's Highlights

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Google Becomes The #1 Source For Selling Real Estate

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The San Diego Union-Tribune

Daily \$3.75

Tuesday, October 1, 2025

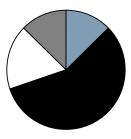
Today's Highlights

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Amazon Becomes World's Largest Retailer

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THE WALL STREET JOURNAL.

Monday, February 18, 2021

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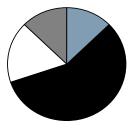
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Congress Passes National Building Code Standards Making It Unlawful To Sell A Building That Is Non-Compliant!

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A PERFECT STORM OF EMERGING TRENDS

THE PERFECT STORM IS HAPPENING SIMULTANEOUSLY

- Abundance of Capital
- Accelerating Technological Advancements
- Changing Global Economy
- Declining Workforce Participation Rate
- Demographic Shifts
- Disappearing Middle Class
- Flattening Global Marketplace
- Geo-Centric Market Shifts
- Housing Affordability
- Increasing Government Regulations
- Increasing Role Of Big Data
- Industry Consolidation
- Information Transparency

- Legacy Exits
- Multi-Purpose Real Estate
- Product & Service Innovation
- Retrenchment Of Debt Markets
- Rise Of Experiential Retail
- Rising Operational Costs
- Robotics & Artificial Intelligence
- Sharing & Collaborative Economy
- Shifting Consumption Patterns
- Stagnant Household Income
- The Internet Of Everything
- Unprecedented Federal Debt
- Urbanization

REAL ESTATE CYCLES





PRIMARY DRIVERS OF REAL ESTATE CYCLES

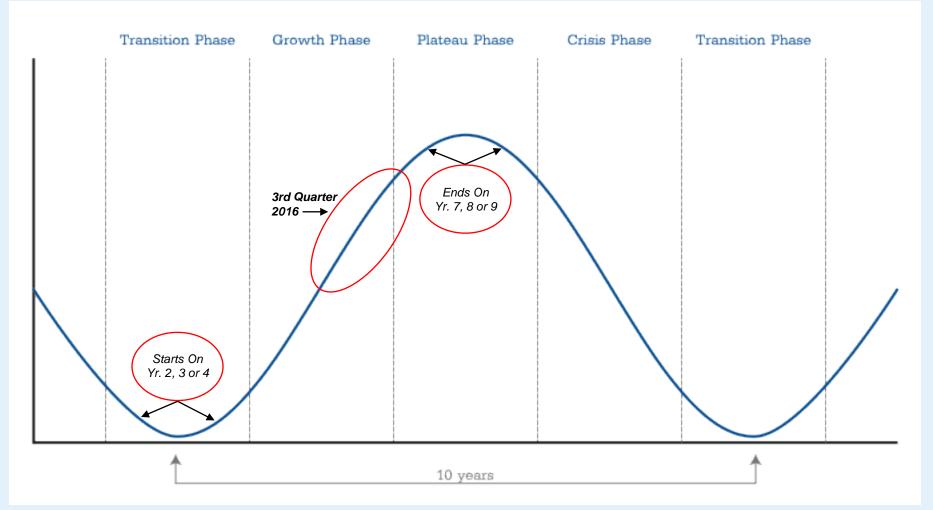
- Access To Credit
- Acts Of Terrorism
- Capital Markets
- Commodity Pricing
- Competition/Industry Factors
- Consumer Confidence
- Demographic Shifts
- Disruptive Technologies
- Economic Growth
- Global Uncertainty
- Government Policies
- Household Formation
- Household Income

- Inflation
- Interest Rate/Fed Policy
- Job Growth
- Lifestyle Choices
- Market Deregulation
- Monetary Policy
- Natural Disasters
- Regulations State/Local
- Resource Scarcity
- Supply/Demand Factors
- Tax Policy
- Technology
- Trade Agreements

REAL ESTATE CYCLES HAVE NAMES

Time Period	Cycle			
1983 - 1988	Age of Awakening Boomers & Entrepreneurism			
1993 - 1998	Age of Technology & Start-Ups			
2003 - 2008	Age of Exuberance & Debt			
→ 2013 - 2018	Age of Capital, Asset & Entity Rebalancing			
2023 - 2028	Age of Globalization & Knowledge			
2033 - 2038	Age of Technology & Non-Land-Based Environments			

REAL ESTATE CYCLE PHASES



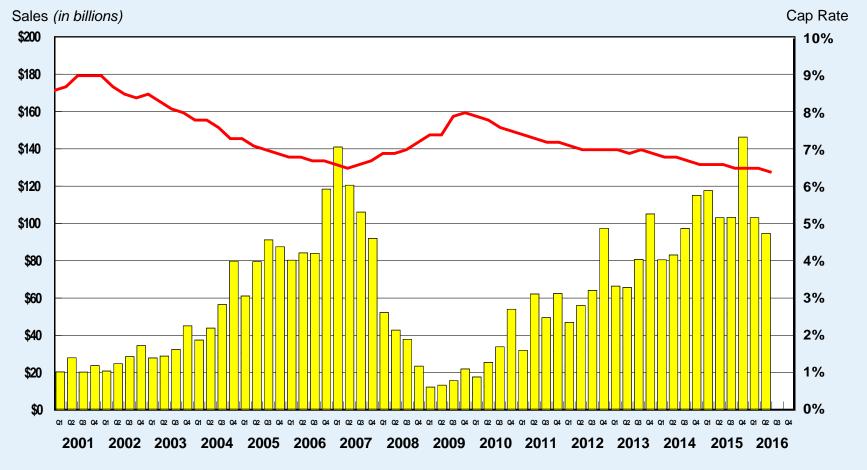
REAL ESTATE CYCLE TRENDS TO WATCH OVER THE NEXT 18 – 24 MONTHS

2016 - 2018					
Rising Occupancy Levels	Generous TIs				
Hard-To-Find Deals	Rent Concessions				
High Investment Sales Activity	Protracted Negotiations & Entitlements				
Peaking Asset Values	Slowly Rising Cap Rates				
Abundance Of Capital	Limited Access To Credit				
Global Uncertainty / Unrest	Struggling Competitors				
Emerging Economic Slowdown	Reduced Target Returns				
Niche Consolidation	Focus On Recurring Income				

Source: CEL & Associates, Inc.

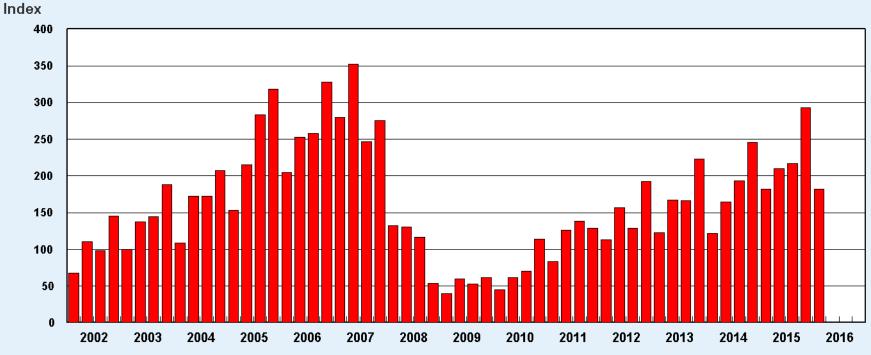
PROOF POINTS

SALES VOLUME & CAP RATES – COMBINED



Source: ©2016 Real Capital Analytics, Inc. All rights reserved.

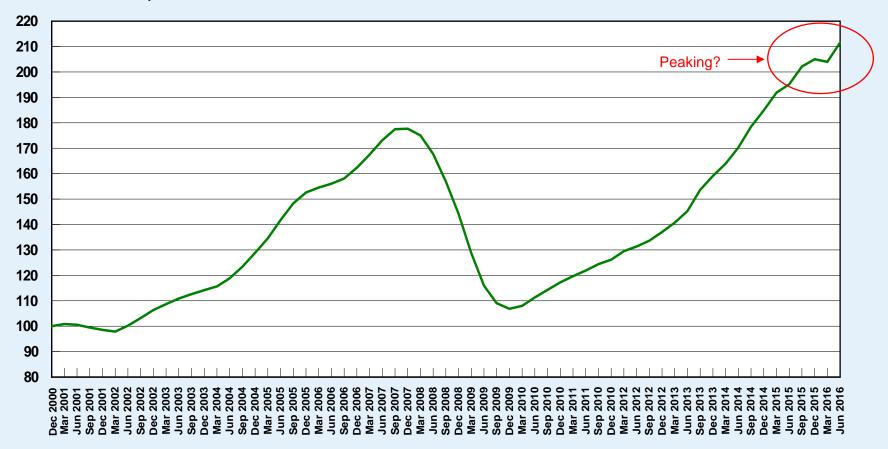
COMMERCIAL/MULTIFAMILY LOAN ORIGINATIONS INDEX



Source: Mortgage Bankers Association thru 1Q 2016. Origination Volume Index.

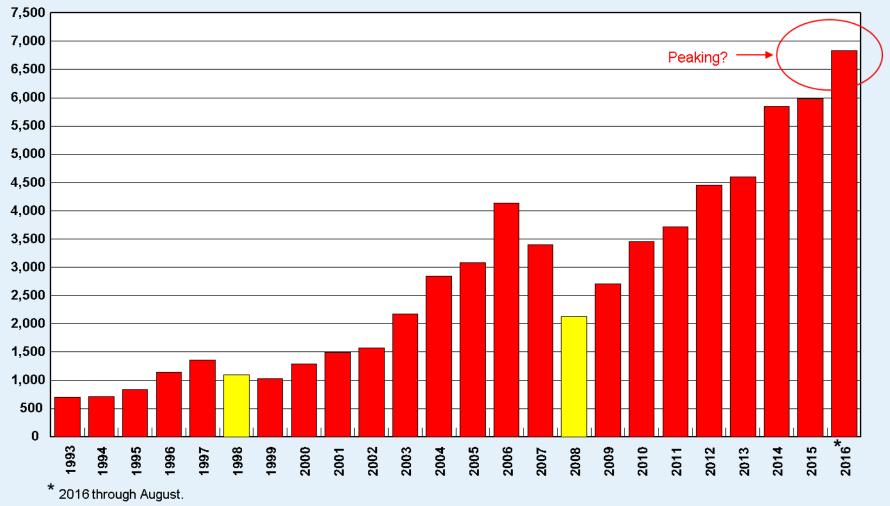
MOODYS/RCA ALL PROPERTIES NATIONAL INDEX

— National - All Properties



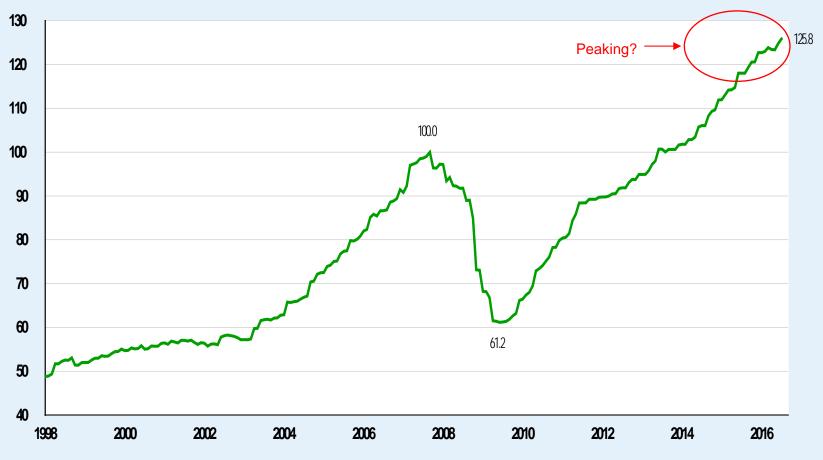
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NAREIT TOTAL RETURN INDEX



Source: NAREIT.

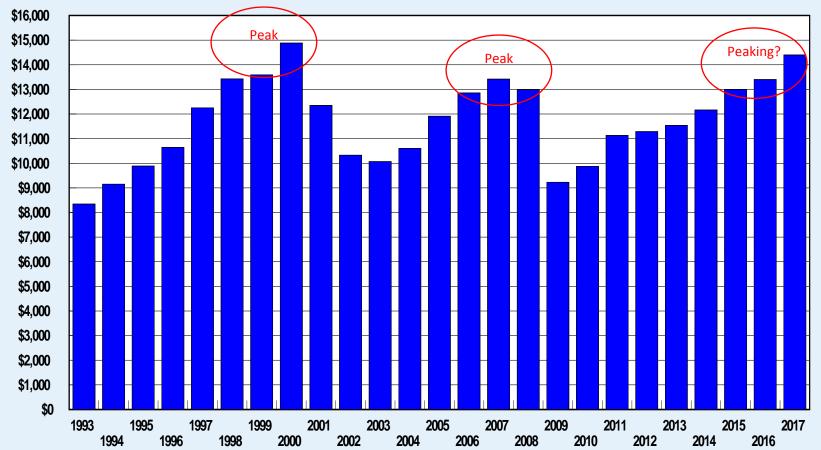
COMMERCIAL PROPERTY PRICE INDEX



Source: Green Street Advisors.

VALUE OF U.S. OFFICE FURNITURE MARKET

Sales (in millions)



WHAT HAPPENS WHEN A REAL ESTATE CYCLE IS PEAKING?

CONSOLIDATION OCCURS

- □ CBRE acquires Global Workplace Solutions (\$1.5 billion) from Johnson Controls.
- DTZ/Cassidy Turley merger (\$500 million \$600 million).
- DTZ/Cushman & Wakefield merger (\$2.0 billion).
- □ Newmark acquires ARA (\$100+ million).
- □ Landmark Apartment Trust acquired by Starwood Capital/Milestone (\$1.9b).
- □ CBRE acquires Forum Analytics and Tax Credit Group.
- □ Cushman & Wakefield acquires Multi Housing Advisors.
- □ MAA (Mid-America Apt. Communities) acquires Colonial Properties Trust (\$8.6b).
- □ Essex Property Trust acquires BRE Properties (\$4.3b).
- □ Multiple regional and niche mergers/acquisitions pending.

"Real estate company mergers and acquisitions are approaching the 2007 peak." Ernst & Young

M & A ACTIVITY INCREASES

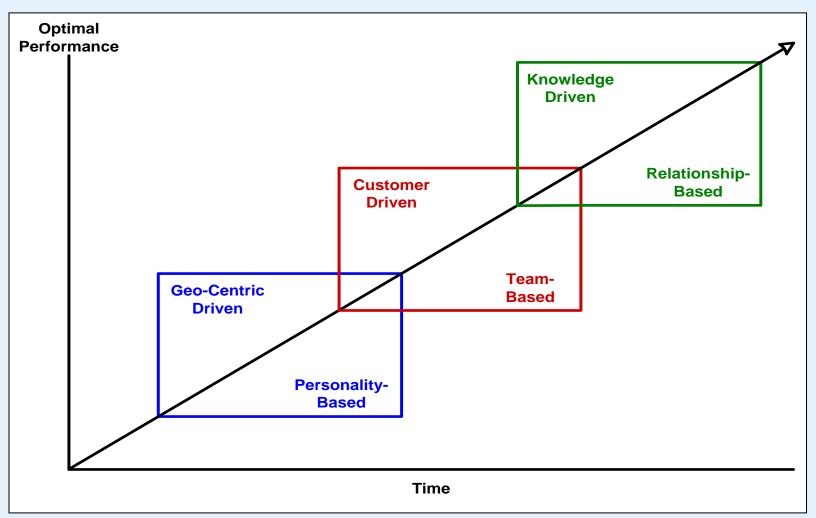
Blackstone takeover of Biomed Realty Trust	\$ 8.0 billion			
Blackstone takeover of Excel Realty Trust	\$ 2.0 billion			
Blackstone takeover of Strategic Hotels & Resorts	\$ 6.0 billion			
Colony America Homes merged into Starwood Waypoint Residential	\$ 7.7 billion			
Global Logistics Properties acquired Industrial Income Trust	\$ 4.5 billion			
American Healthcare Investors and Griffin-America Healthcare merger	\$ 4.0 billion			
Gramercy Property Trust merged with Chambers Street Properties	\$ 5.7 billion			
Marriott takeover of Starwood Hotels & Resorts	\$14.4 billion			
Weyerhauser Co. and Plum Creek Timber merged	\$23.0 billion			
Ventas acquires American Realty Capital Healthcare Trust	\$ 2.6 billion			
There were 34 or \$79.3 billion of M&A transactions in 2015				
Second highest to the peak in 2007 of \$113.6 billion.				

REAL ESTATE INDUSTRY'S MEGASHIFTS ARE NOW UNDERWAY

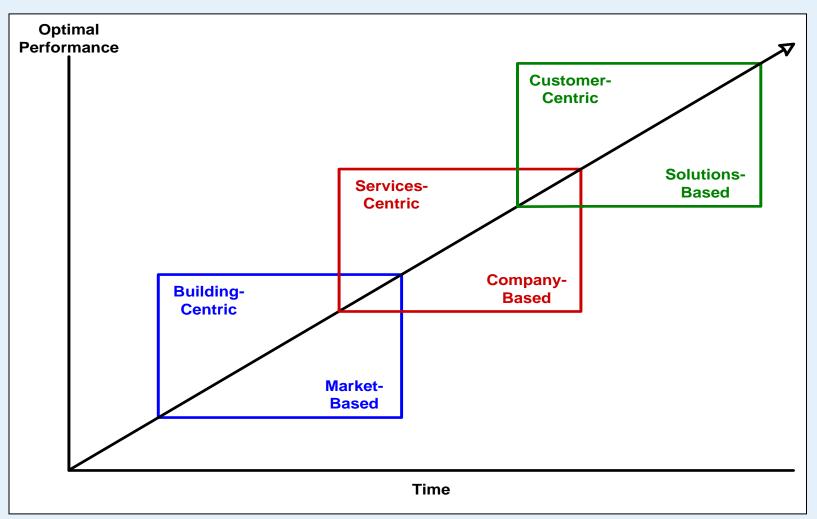
REAL ESTATE INDUSTRY'S MEGASHIFTS

Category	Yesterday	Today	Tomorrow	Overmorrow
Business Focus	Local / Regional	Regional / National	National / Global	Cyber
Operational Focus	Collecting Assets	Collecting Fees	Collecting Relationships	Collecting Predictive Data
Market Focus	Seeking Sites	Seeking Market Share	Seeking Customer Share	Seeking Connective Share
Service Platform	Focus On Service	Focus On Solutions	Focus On Connectivity	Focus On Customization
Business Driver	Market-Driven	Capital-Driven	Knowledge-Driven	Al Driven
Brokerage	A Representative	A Broker	A Consultant	An Advisor
Property Management	Facility Manager	Property Manager	Business Leader	Enterprise Leader
Training	Manuals	Trainers	Online	Personalized
Leadership	Founder(s)	Executives	Transformational	Visionary
Organization	Organization	Flatarchies	Holacracy	Virtual

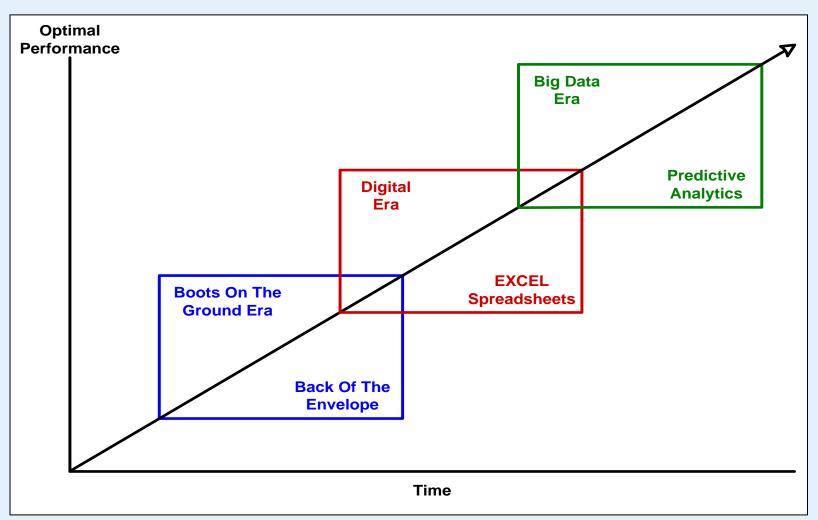
SHIFT FROM GEOGRAPHY TO KNOWLEDGE



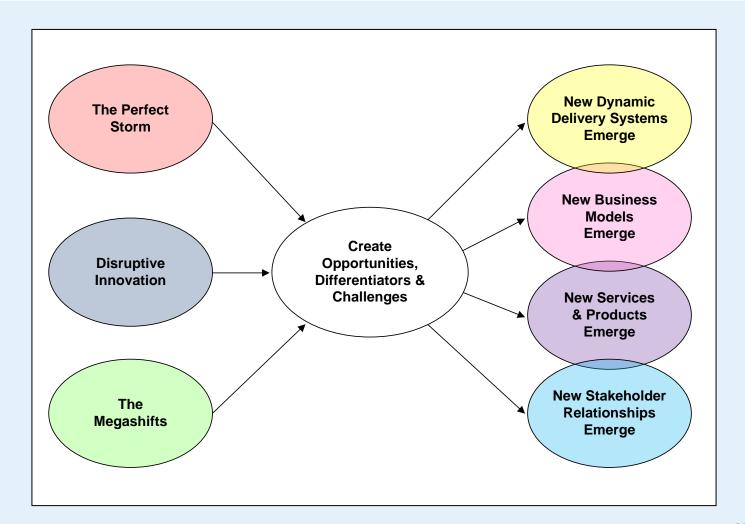
SHIFT FROM BUILDINGS TO CUSTOMERS



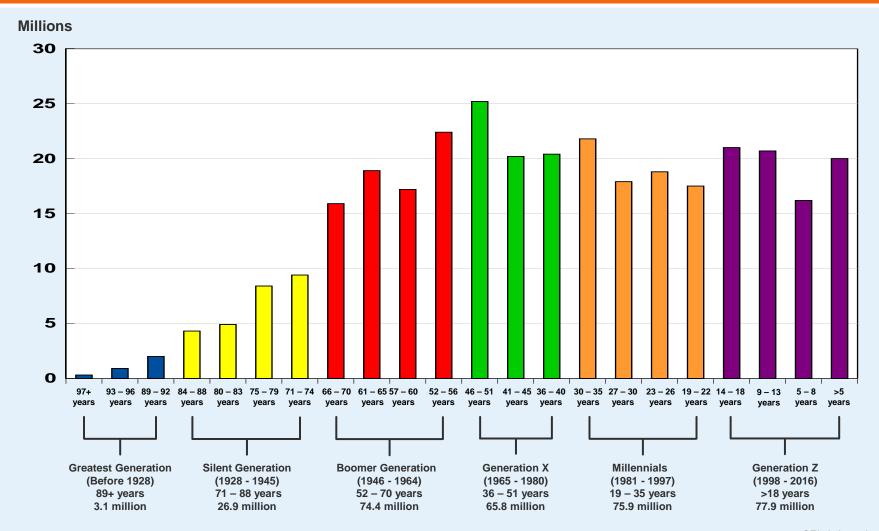
SHIFT FROM INTUTION TO ANALYTICS



THE CONFLUENCE RESULT



GENERATIONAL SHIFTS ARE DRIVING CHANGE



GENERATIONS DRIVING DIFFERENT KINDS OF REAL ESTATE

□ Office □ Industrial □ Retail □ Multifamily

OFFICE

OFFICE SPACE TRENDS

By 2020, 46% of the U.S. workforce will be Millennials.

By 2016, 43% of the U.S. workforce will telecommute.

Only 10 of the top 50 occupations with the most job openings require office space.

- Between 2013 2018, the average white-collar worker will spend only 30% of their time working out of an office.
- □ The average individual workspace is occupied only 55% of the time in a normal work week.
- The average U.S. tenant has 33% of its space as excess shadow space based on the new square footage per employee.

Coworking/Shared workspace now comprises 27 million square feet.

OFFICE PORTFOLIO SALES ARE GROWING

	Transaction Summary (\$ Billions)				
Year	Individual	Portfolio	Entity	Total	
2010	\$38.5	\$7.6	\$0.6	\$46.8	
2011	\$57.2	\$9.1	\$0.5	\$66.9	
2012	\$67.4	\$11.6	\$2.6	\$81.6	
2013	\$79.9	\$19.9	\$5.6	\$105.4	
2014	\$96.1	\$27.4	\$2.4	\$125.8	
2015	\$105.2	\$36.2	\$4.4	\$145.8	

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INDUSTRIAL

INDUSTRIAL TRANSFORMATION

	Workers are now	producing 47%	more than 20 years ago.
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□ Manufacturing workers now number 12.3 million [14.5 million in 2006].

□ Amazon has 15,000 robots that work alongside 50,000 humans.

By 2017, there will be 1.9 million industrial robots.

□ The cost savings through technological advancements and robotics is now 25% - 33%.

Globalization has kept wages low.

INDUSTRIAL PORTFOLIO SALES ARE GROWING

	Transaction Summary (\$ Billions)				
Year	Individual	Portfolio	Entity	Total	
2010	\$13.0	\$7.8	\$0.0	\$20.8	
2011	\$20.1	\$8.4	\$7.8	\$36.3	
2012	\$25.8	\$11.3	\$0.2	\$37.4	
2013	\$29.2	\$10.7	\$6.4	\$46.3	
2014	\$35.7	\$11.1	\$3.1	\$49.9	
2015	\$38.3	\$18.1	\$20.1	\$76.5	

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RETAIL

GENERATIONAL SHIFTS IN RETAIL SHOPPING

View Of	Baby Boomers	Xers	Millennials
Retailers	Trust the brand.	Trust the connectivity.	Trust the experience.
Groceries	Food as a necessity.	Food as a connector.	Food as a nutrient.
Frequency Of Shopping	Structured and consistent.	Based on time availability.	As needed24/7.
Retail Motivation	Advertisements.	Ratings.	Word-of-mouth/Twitter.
Shopping	One stop.	Digital retailing.	Unlimited stops.
Physical Plant	Mega centers.	Smaller stores.	Omni-channel.
Restaurants	Place to eat.	Place to socialize.	Place to connect.
Stores	Place to see products.	Place to interact with products.	Place to experience products.
Display Space	Floor space.	Display space.	Mental space.

"Technology has changed the definition of retail real estate."

"When online sales reach 15% – 20%, the current retail model begins to fail."

RETAIL IS GOING DIGITAL

- The consumer has now taken hold of retail interactions.
- 81% of consumers go online before going to a store to make a major purchase.
- On average, consumers visit three online and two brick-and-mortar stores before making a major purchase.
- 66% of mobile shoppers comparative shop online while in a retail store.
- □ 66% of major-purchase shoppers do product research at home.
- □ 52% of online shoppers have purchased products directly from the manufacturers.
- Only 41% of Millennials shop at traditional grocery stores.
- Mobile commerce sales will reach \$108 billion by 2017.

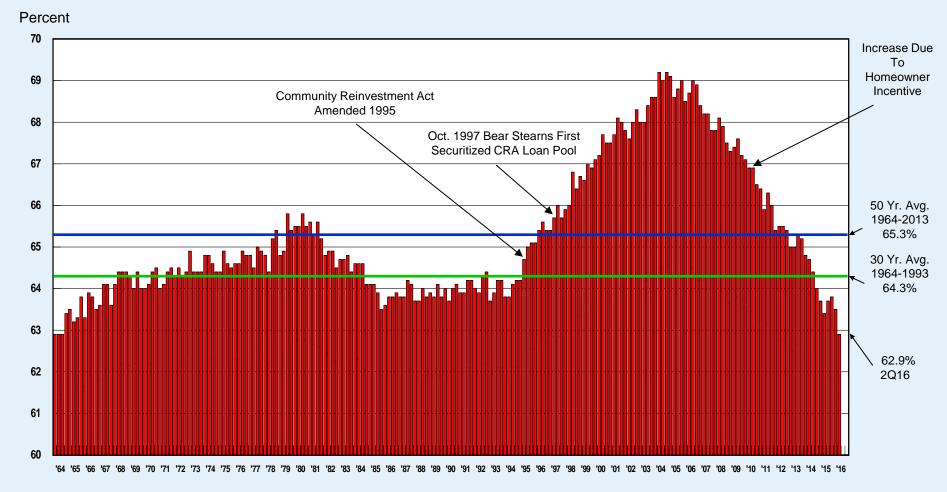
RETAIL PORTFOLIO SALES ARE GROWING

	Transaction Summary (\$ Billions)				
Year	Individual	Portfolio	Entity	Total	
2010	\$16.9	\$6.2	\$0.0	\$23.1	
2011	\$26.0	\$9.1	\$9.4	\$44.6	
2012	\$41.5	\$12.4	\$3.7	\$57.7	
2013	\$40.4	\$15.8	\$6.1	\$62.2	
2014	\$54.5	\$19.5	\$12.7	\$86.7	
2015	\$59.2	\$20.9	\$7.5	\$87.6	

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MULTIFAMILY OUTLOOK

GENERATIONAL SHIFTS IN HOMEOWNERSHIP



Source: Current Population Survey/Housing Vacancy Survey, Series H-111 Reports, U.S. Bureau of the Census. 2Q 2016.

MULTIFAMILY PORTFOLIO SALES ARE GROWING

	Transaction Summary (\$ Billions)				
Year	Individual	Portfolio	Entity	Total	
2010	\$30.8	\$6.5	\$0.0	\$37.3	
2011	\$46.9	\$11.3	\$0.3	\$58.6	
2012	\$63.6	\$14.2	\$9.8	\$87.7	
2013	\$64.4	\$38.1	\$1.1	\$103.6	
2014	\$85.5	\$22.9	\$4.9	\$113.2	
2015	\$109.2	\$27.4	\$13.4	\$150.0	

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SAN DIEGO OUTLOOK

KEY MARKET STATISTICS

Category	2015	2016	2017	2018	2019	Growth 15-19
Population (000)	3,305	3,347	3,382	3,420	3,458	+ 4.6%
Total Employment (000)	1,404	1,428	1,439	1,453	1,476	+ 5.1%
Unemployment (%)	5.0%	4.8%	6.0%	6.1%	5.4%	+ 0.4 % Pts.
Household Income (\$000)	\$159.5	\$167.0	\$173.8	\$182.7	\$190.8	+19.6%
Total Households (000)	1,115.9	1,129.7	1,141.9	1,155.1	1,168.7	+ 4.7%
% Households Able To Afford Median-Priced Home	49%	44%	44%	40%	38%	- 11.0 % Pts.

Source: RCG and Bureau of Labor Statistics. Numbers have been rounded.

SAN DIEGO - OFFICE MARKET OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	57,620	57,820	57,920	58,270	58,570
New Construction*	741	200	100	350	300
Net Absorption*	850	825	80	250	425
Occupied Stock*	50,324	51,149	51,229	51,479	51,904
Vacancy Rate	12.7%	11.5%	11.6%	11.7%	11.4%
Rent (\$/SF)	\$31.13	\$32.48	\$33.41	\$34.48	\$35.75
Rent Growth	6.9%	4.3%	2.9%	3.2%	3.7%

* SF,000 Source: RCG.

SAN DIEGO - INDUSTRIAL MARKET OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	239,969	242,369	243,969	245,619	248,119
New Construction*	2,100	2,400	1,600	1,650	2,500
Net Absorption*	4,000	2,200	1,400	1,800	2,400
Occupied Stock*	231,674	233,874	235,274	237,074	239,474
Vacancy Rate	3.5%	3.5%	3.6%	3.5%	3.5%
Rent (\$/SF)	\$7.43	\$7.68	\$7.86	\$8.11	\$8.39
Rent Growth	4.2%	3.4%	2.4%	3.2%	3.4%
	11270	0.170	2.170	0.270	0.170

* SF,000 Source: RCG.

SAN DIEGO - RETAIL MARKET OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	82,312	83,512	84,512	85,712	87,112
New Construction*	955	1,200	1,000	1,200	1,400
Net Absorption*	725	1,000	800	1,300	1,500
Occupied Stock*	76,685	77,685	78,485	79,785	81,285
Vacancy Rate	6.8%	7.0%	7.1%	6.9%	6.7%

* SF,000 Source: RCG.

SAN DIEGO - MULTIFAMILY OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	358.4	365.2	370.4	375.2	380.3
Building Permits*	7.3	5.3	4.8	5.0	5.2
Units Delivered*	7.3	6.8	5.2	4.9	5.1
Net Absorption*	5.5	6.2	3.1	5.0	5.2
Occupied Units*	345.9	352.1	355.2	360.2	365.5
Rental Vacancy Rate	3.5%	3.6%	4.1%	4.0%	3.9%
CPI Rental Component	269.4	275.3	281.1	288.2	296.5
% Change	5.0%	2.2%	2.1%	2.5%	2.9%
* Unite 000					

* Units,000 Source: RCG.

PREDICTIONS... WHAT IS AHEAD FOR 2025?

Number	Prediction
1.	The U.S. will move ever closer to becoming a cashless societythe impact on retail real estate will be significant
4.	Between 25% - 30% of real estate firms in existence in 2015 will be gone by 2025.
6.	Between 60% - 70% of training for real estate professionals will be online or led remotely. Training will be more "on-demand."
8.	Online retail sales could be 19% of all retail sales (currently around 7%), rendering many retail centers irrelevant or in need of drastic transformation
11.	Watch for the emergence of the "Certified Underwriter." Within a decade, 50% of today's real estate Brokers will be gone.
14.	By 2025, 10 million or more jobs will be lost to robotics. Do not be surprised to see many office buildings less than 250,000 sf in size being managed remotely.

Number	Prediction
16.	Homeownership will drop to the high 50%s (currently around 63%) as America shifts to a renter-based society.
18.	Growing food in commercial buildings will be commonplace and many of the 700,000 unused shipping containers will become urban farms.
21.	Watch for the rapid adoption of taxes and fines for all commercial and residential buildings unable to meet energy efficiency standards. The "Green" escrow could be commonplace.
33.	Do not be surprised if Amazon controls 15% - 20% of grocery sales.
35.	There will be multiple cyber attacks on real estate firms over the next decade.
40.	Women could compose nearly 40% of the C-Suite positions within real estate firms.

Number	Prediction
41.	Human Resources Directors increasingly will make or have significant impact on lease negotiations and space design.
44.	The real estate industry will be faced with a potential shortage of 15,000 – 25,000 "qualified" workers <u>per year</u> through 2025.
49.	Watch for legislation requiring <u>ALL</u> Property and Community Managers to be "licensed and certified."
50.	Do not be surprised to see the government require monies to be set aside when a building is sold to bring that building into compliance with a minimal, government "Green" standard.

Number	Prediction
41.	Human Resources Directors increasingly will make or have significant impact on lease negotiations and space design.
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49.	Watch for legislation requiring <u>ALL</u> Property and Community Managers to be "licensed and certified."
50.	Do not be surprised to see the government require monies to be set aside when a building is sold to bring that building into compliance with a minimal, government "Green" standard.
100.	Cell phones will be replaced by

"Today's Real Estate Shifts Are Creating Future Challenges & Opportunities"

Burnham-Moores Center For Real Estate BMC Lecture Series University Of San Diego September 15, 2016

> **Presented by** Christopher Lee CEL & Associates, Inc.