## 10-Year Economic Lookback
### 2007 – The Height of the Last Cycle

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.4 Million</td>
<td>Increase in Population Since 2007</td>
</tr>
<tr>
<td>10.4 Million</td>
<td>More Households Than 2007</td>
</tr>
<tr>
<td>11.1 Million</td>
<td>More Jobs Than 2007</td>
</tr>
<tr>
<td>130 bps</td>
<td>Decline of Unemployment Rate to 3.7%</td>
</tr>
<tr>
<td>2.8 Million</td>
<td>More Job Openings Than 2007 (6.9 Million)</td>
</tr>
<tr>
<td>$5.7 Trillion</td>
<td>GDP Growth Since 2007 (Japan’s Total)</td>
</tr>
<tr>
<td>120 bps</td>
<td>Decline in Inflation Rate (PCE) to 2.2%</td>
</tr>
<tr>
<td>90 bps</td>
<td>Decrease in 10-Yr. Treasury Yield to 3.2%</td>
</tr>
<tr>
<td>10,000</td>
<td>Baby Boomers Turn 65 Every Day</td>
</tr>
<tr>
<td>12,000</td>
<td>Millennials Turn 21 Every Day</td>
</tr>
</tbody>
</table>

Sources: Marcus & Millichap Research Services, BLS, U.S. Census Bureau, BEA, Federal Reserve Board
Employment Growth Durable and Remarkably Stable

Quarterly Job Growth (Millions)

2017 Total: 2,188,000
2018 Forecast: 2,300,000
96 Months of Continuous Gains*
Monthly Average: 199,000 Jobs

* Through 3Q
Sources: Marcus & Millichap Research Services, BLS
<table>
<thead>
<tr>
<th>Top 10 Metros</th>
<th>Absolute Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dallas-Fort Worth</td>
<td>116,300</td>
<td>3.2%</td>
</tr>
<tr>
<td>Houston</td>
<td>113,200</td>
<td>3.7%</td>
</tr>
<tr>
<td>Phoenix</td>
<td>75,500</td>
<td>3.7%</td>
</tr>
<tr>
<td>Seattle-Tacoma</td>
<td>73,500</td>
<td>3.7%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>64,400</td>
<td>1.4%</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>64,100</td>
<td>2.0%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>53,700</td>
<td>2.0%</td>
</tr>
<tr>
<td>New York</td>
<td>53,000</td>
<td>1.2%</td>
</tr>
<tr>
<td>Orlando</td>
<td>52,100</td>
<td>4.2%</td>
</tr>
<tr>
<td>Inland Empire</td>
<td>51,100</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>U.S. Total</strong></td>
<td><strong>2,417,000</strong></td>
<td><strong>1.6%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bottom 10 Metros</th>
<th>Absolute Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Palm Beach</td>
<td>3,600</td>
<td>0.6%</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>6,800</td>
<td>0.8%</td>
</tr>
<tr>
<td>Columbus</td>
<td>9,000</td>
<td>0.8%</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>9,100</td>
<td>0.8%</td>
</tr>
<tr>
<td>Fort Lauderdale</td>
<td>11,200</td>
<td>1.3%</td>
</tr>
<tr>
<td>Northern NJ</td>
<td>11,600</td>
<td>0.5%</td>
</tr>
<tr>
<td>St. Louis</td>
<td>12,900</td>
<td>0.9%</td>
</tr>
<tr>
<td>Orange County</td>
<td>13,100</td>
<td>0.8%</td>
</tr>
<tr>
<td>San Antonio</td>
<td>13,200</td>
<td>1.3%</td>
</tr>
<tr>
<td>Nashville</td>
<td>13,300</td>
<td>1.4%</td>
</tr>
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<td><strong>U.S. Total</strong></td>
<td><strong>2,417,000</strong></td>
<td><strong>1.6%</strong></td>
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Sources: Marcus & Millichap Research Services, BLS
Impact of Tax Reform

- Significant reduction of corporate and personal tax rate should spur investment and expansion = **More Inflation Pressure**
- Key tax provisions critical to commercial real estate retained
  - 1031 Exchange, Mortgage Interest Deduction, Depreciation
- Pass-through entity 20% deduction increases after tax yield, could boost market liquidity
- Reduced corporate taxes and accelerated depreciation could boost commercial real estate space demand
- Unfavorable for residential housing and high-tax states
THERE ARE RISKS - DESPITE FAVORABLE ECONOMIC BACKDROP
U.S. Has More Job Openings Than People Seeking Work – Challenge of Skills Mismatch

* Unemployed through September; job openings through July

Sources: Marcus & Millichap Research Services, BLS
Interest Rates: Key Driver of Future Economic Performance

* Through October 03
Sources: Marcus & Millichap Research Services, Federal Reserve Board
Long-Term Yield Spread – An Indication of Recession?

* Through October 03
Sources: Marcus & Millichap Research Services, Federal Reserve
Exports: Major Force in the U.S. Economy
As Measured by Contribution to GDP

Long-Term Average: 7.0%

* Through 2Q 2018
Sources: Marcus & Millichap Research Services, BEA
OFFSETTING STRENGTHS ARE HARD TO IGNORE
Length of Current Cycle Over-Shadowed by Pace of Growth

**Expansion Cycle Duration**

<table>
<thead>
<tr>
<th>Expansion Cycle Periods</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991 to 2001</td>
<td>117</td>
</tr>
<tr>
<td>1961 to 1970</td>
<td>109</td>
</tr>
<tr>
<td>2010 to 2018*</td>
<td>103</td>
</tr>
<tr>
<td>1983 to 1990</td>
<td>90</td>
</tr>
<tr>
<td>1975 to 1980</td>
<td>59</td>
</tr>
<tr>
<td>2003 to 2008</td>
<td>53</td>
</tr>
<tr>
<td>1970 to 1974</td>
<td>44</td>
</tr>
<tr>
<td>1950 to 1953</td>
<td>43</td>
</tr>
<tr>
<td>1954 to 1957</td>
<td>32</td>
</tr>
<tr>
<td>1958 to 1960</td>
<td>22</td>
</tr>
<tr>
<td>1980 to 1981</td>
<td>12</td>
</tr>
</tbody>
</table>

**Percent Job Growth**

<table>
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<tbody>
<tr>
<td>1961 to 1970</td>
<td>33%</td>
</tr>
<tr>
<td>1983 to 1990</td>
<td>24%</td>
</tr>
<tr>
<td>1991 to 2001</td>
<td>23%</td>
</tr>
<tr>
<td>1975 to 1980</td>
<td>19%</td>
</tr>
<tr>
<td>1950 to 1953</td>
<td>16%</td>
</tr>
<tr>
<td>2010 to 2018*</td>
<td>15%</td>
</tr>
<tr>
<td>1970 to 1974</td>
<td>12%</td>
</tr>
<tr>
<td>1954 to 1957</td>
<td>9%</td>
</tr>
<tr>
<td>1958 to 1960</td>
<td>8%</td>
</tr>
<tr>
<td>2003 to 2008</td>
<td>6%</td>
</tr>
<tr>
<td>1980 to 1981</td>
<td>2%</td>
</tr>
</tbody>
</table>

* Through September

Sources: Marcus & Millichap Research Services, BLS
Record Profits and Rising Corporate Investment Support Economic Cycle Extension

Corporate Profits**

Fixed Investment in Equipment

Corporate Profits ($Bil.)

-30%
-15%
0%
15%
30%

Y-O-Y Change in Investment

+8.1%

* Through 2Q
** Trailing 12-month average
Sources: Marcus & Millichap Research Services, BEA
U.S. Core Retail Sales Building Steady Momentum - Growth Supporting Economy

* Through August

Trailing 12-month average; adjusted for inflation using core PCE

Core retail sales excludes auto and gasoline sales

Sources: Marcus & Millichap Research Services, U.S. Census Bureau, BEA

* +16%
Long-Term 10-Year Treasury Trends

* Through October 9

Sources: Marcus & Millichap Research Services, Federal Reserve
Housing Market Provides Solid Economic Support Due to Drop in New Construction

- **Single-Family Completions**
- **Multifamily Completions**
- **Household Growth**

2000-2007 Oversupply: 2.6M

2008-2019* Undersupply: 2.0M

* Forecast

Trailing 24-month average for household growth

Sources: Marcus & Millichap Research Services, U.S. Census Bureau, RealPage, Inc.
U.S. Commercial Real Estate: Healthy Supply/Demand Balance Despite 8th Year of Recovery

**Vacancy Rate**
- Apartment: 5.2%
- Retail: 4.8%
- Office: 13.6%
- Industrial: 4.8%
- Self-Storage: 10.0%

**Occupancy Rate**
- Seniors Housing: 87.3%
- Hotel: 66.6%

*Forecast
Sources: Marcus & Millichap Research Services, RealPage, Inc., CoStar Group, Inc., STR, Inc., Union Realtime LLC, NICMap
U.S. Average Price Trends

* Through 2Q
Includes sales $1 million and greater; $2.5 million and greater for hotels; ST=Single Tenant; MT=Multi-Tenant
Sources: Marcus & Millichap Research Services, CoStar Group, Inc., Real Capital Analytics

- **Apartment**: Avg. Price per Unit (000s)
  - 2006: $0, 2018: $160
  - +44%

- **Hotel**: Avg. Price per Unit (000s)
  - 2006: $0, 2018: $80
  - +10%

- **Self-Storage**: Avg. Price per Sq. Ft.
  - 2006: $0, 2018: $125
  - +28%

- **Seniors Housing**: Avg. Price per Sq. Ft.
  - 2006: $0, 2018: $75
  - +56%

- **ST-Retail**: Avg. Price (000s)
  - 2006: $0, 2018: $300
  - +20%

- **Industrial**: Avg. Price per Sq. Ft.
  - 2006: $0, 2018: $225
  - +10%

- **MT-Retail**: Avg. Price per Sq. Ft.
  - 2006: $0, 2018: $150
  - +19%

- **Office**: Avg. Price per Sq. Ft.
  - 2006: $0, 2018: $120
  - +7%
U.S. Commercial Real Estate: Competitive Yields

As of October 3, 2018

Treasury rates for 10-year treasuries

Commercial real estate yield (cap rate) includes apartment, retail, office, and industrial sales $1 million and greater

Sources: Marcus & Millichap Research Services, CoStar Group, Inc., Real Capital Analytics, Standard & Poor’s, Federal Reserve
Commercial Real Estate Avg. Yield vs. 10-Yr. Treasury – Spread Tightening

Average Cap Rate vs. 10-Year Treasury

* Through October 03
Includes apartment, retail, office, and industrial sales $1 million and greater
Sources: Marcus & Millichap Research Services, CoStar Group, Inc., Real Capital Analytics, Federal Reserve

Average Rate

0% 3% 6% 9% 12%

90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18*
Real Estate Has Become Mainstream Investment Vehicle for Institutions, But Still Under-Allocated

Institutional Target Allocations to Real Estate

- 2013: 8.9%
- 2014: 9.3%
- 2015: 9.6%
- 2016: 9.9%
- 2017: 10.1%
- 2018: 10.3%

U.S. Pension Funds Asset Allocations**

- Real Estate: 3.3%
- Cash: 3.2%
- Equity: 41.2%
- Other: 7.9%
- Debt: 44.4%

*$ Forecast
** As of 2016; allocations for Fortune 1000 pension plans; other category includes hedge funds, derivatives, and interest rate swaps; cash category includes cash equivalents and money market instruments; debt category includes insurance instruments

Sources: Marcus & Millichap Research Services, Cornell/Hodes Weill Allocations Monitor, Willis Towers Watson
Real Estate Under-Allocated by Private Investors

Percent of Households Holding Assets

- **Primary Residence**: 64.3%
- **Stocks**: 20.0%
- **Other Real Estate**: 8.0%
- **Rental Property**: 7.5%

High-Probability Target Market

- **Rental Property**: 23.9%
- **Other Real Estate**: 25.5%

- **Net Worth $500K+ (21.5M Households)**
  - **Rental Property**: 10.7%
  - **Other Real Estate**: 11.4%

* Homeownership rate as of 2Q 2018; other data as of 2013
* Sources: Marcus & Millichap Research Services, U.S. Census Bureau
Commercial Real Estate Sales by Price Tranche
Move-Up Equity from Private Investors a Key Driver

Sales

$1M-$10M 83%
$10M-$20M 8%
$20M+ 9%

54,700 Deals

Dollar Volume

$20M+ 56%
$1M-$10M 30%
$10M-$20M 14%

$438 Billion

Trailing 12-months through 2Q 2018
Includes apartment, retail, office, and industrial sales $1 million and greater
Sources: Marcus & Millichap Research Services, CoStar Group, Inc., Real Capital Analytics
Demographic Trends Provide Triple-Wave of Opportunity

*Forecast

Sources: Marcus & Millichap Research Services, U.S. Census Bureau, Moody’s Analytics
Unprecedented Wealth Transfer, Quest For Yield = CRE Capital Flows

U.S. 2017 Population by Age

$30+ Trillion Wealth Transfer Over the Next 3 Decades

Sources: Marcus & Millichap Research Services, U.S. Census Bureau
There Should be Less and Less of This....
NAVIGATING BETWEEN THE ZONES: PAIN VS. OPPORTUNITY

A TIME OF PROFOUND CHANGE
Rise of eCommerce Replaces Department Store Dominance

Share of Core Retail Sales
- eCommerce
- Department Stores

* Through August; eCommerce sales through July
Excludes auto and gasoline sales
Sources: Marcus & Millichap Research Services, U.S. Census Bureau
Consumers Spend More on Dining Out Than on Groceries

Total Sales (Billions)

* Through August

Successful Retailers in the Internet Age

- T.J. Maxx: Off-Price Department Store
- Dollar General: Discount Stores
- LA Fitness: Fitness
- Costco: Warehouse Club
- Five Guys: Quick-Serve Restaurant
- Warby Parker: Healthcare/Vision
- Ulta: Health and Beauty
- Sprouts: Grocery
- Untuckit: Fast Fashion
- The Home Depot: Home Improvement
Digital Companies Growing Physical Footprint

- Microsoft: 100+ stores
- Apple: 270+ stores
- Amazon: 570+ stores (Acquired Whole Foods in June 2017)

As of August 2018
Sources: Marcus & Millichap Research Services, Company disclosures
Aging Baby Boomers Seeking Yield Boost CRE Investment - Single-Tenant Investments a Good Proxy

55+ Year Olds

10-Year Forecast
+16.2 Million

Transaction Activity (000s)

* As of 2Q; trailing 12 months through 2Q for transactions
Includes sales $1 million and greater
Sources: Marcus & Millichap Research Services, U.S. Census Bureau, CoStar Group, Inc., Real Capital Analytics
Commercial Real Estate Cap Rate Trends by Market Type

* Through 2Q
Includes apartment, retail, office, and industrial sales $1 million and greater
Sources: Marcus & Millichap Research Services, CoStar Group, Inc., Real Capital Analytics
Top 5 Trends Impacting Real Estate Services Industry

1. Technology, Automation, Analytics
   - Internal workflow - Client interaction – Business intelligence
   - Societal waves (driverless cars, social media, ……)
   - Tech/data overload: Being clients’ guide for strategy/execution

2. Specialization taken to an extreme - Client sophistication, expectations soar

3. Integration of specialized units into a seamless client delivery system
   - Skill sets, expertise forced to keep up more than ever

4. Increased capital inflows into CRE – Moving beyond “acceptance” into a “preferred” asset class (investor education takes center stage)

5. Competing for talent: Diversity, Inclusion, Training, Connectivity, Retention

Sources: Marcus & Millichap Research Services, BLS, U.S. Census Bureau, BEA, Federal Reserve Board
COMMERCIAL REAL ESTATE MARKET AND INDUSTRY OUTLOOK

THE BIG PICTURE – 2019 AND BEYOND