



ZONDA™

metrostudy

Room to Grow: Housing for a New Economy

Change is Inevitable



Room to Grow: Housing for a New Economy

Change is Inevitable

"I welcome change,
as long as nothing
is altered or different."

Quotesaday.com

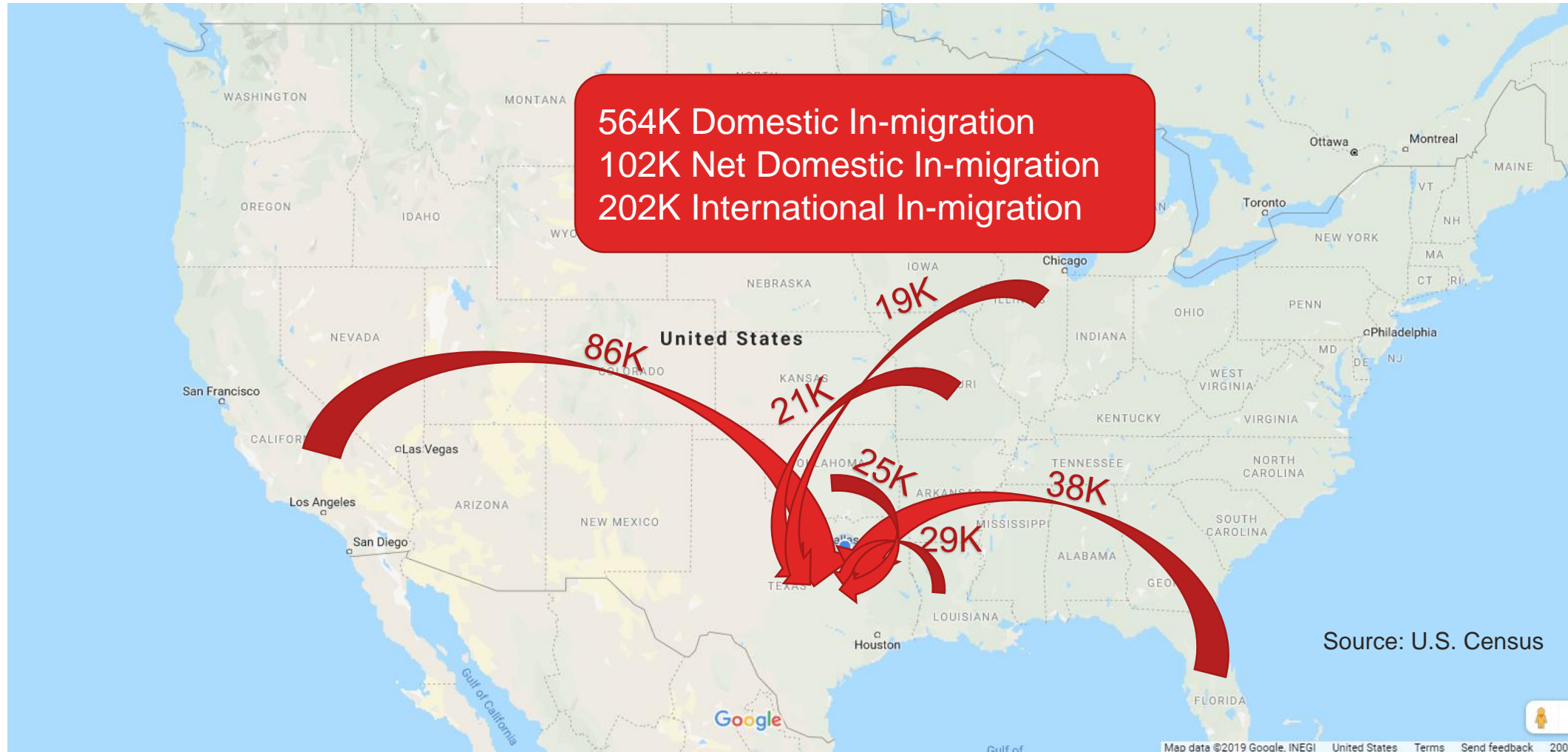
Job Growth by CBSA

Ranking based on Annual Job Growth – TTM December 2019

Rank	MSA	Total Employment	Annual Job Growth	Annual Job Growth %
1	Dallas-Fort Worth-Arlington, TX	3,886,800	127,600	3.4%
2	New York-Newark-Jersey City, NY-NJ-PA	10,083,000	97,300	1.0%
3	Los Angeles-Long Beach-Anaheim, CA	6,344,200	93,200	1.5%
4	Houston-The Woodlands-Sugar Land, TX	3,225,700	88,000	2.8%
5	Phoenix-Mesa-Scottsdale, AZ	2,238,300	68,800	3.2%
6	Atlanta-Sandy Springs-Roswell, GA	2,902,000	66,700	2.4%
7	Seattle-Tacoma-Bellevue, WA	2,142,100	65,400	3.1%
8	Washington-Arlington-Alexandria, DC-VA-MD-WV	3,377,200	52,600	1.6%
9	San Francisco-Oakland-Hayward, CA	2,541,600	51,300	2.1%
10	Miami-Fort Lauderdale-West Palm Beach, FL	2,785,600	44,900	1.6%
11	Orlando-Kissimmee-Sanford, FL	1,372,800	43,300	3.3%
12	Austin-Round Rock, TX	1,119,800	37,800	3.5%
13	Chicago-Naperville-Elgin, IL-IN-WI	4,839,200	36,000	0.7%
14	Denver-Aurora-Lakewood, CO	1,551,100	35,100	2.3%
15	San Diego-Carlsbad, CA	1,540,700	34,800	2.3%
16	San Antonio-New Braunfels, TX	1,104,600	34,200	3.2%
17	Charlotte-Concord-Gastonia, NC-SC	1,255,800	33,600	2.7%
18	San Jose-Sunnyvale-Santa Clara, CA	1,176,800	32,900	2.9%
19	Tampa-St. Petersburg-Clearwater, FL	1,406,800	31,000	2.3%
20	Riverside-San Bernardino-Ontario, CA	1,570,400	30,900	2.0%
21	Baltimore-Columbia-Towson, MD	1,461,800	27,800	1.9%
22	Las Vegas-Henderson-Paradise, NV	1,048,500	25,200	2.5%
23	Cincinnati, OH-KY-IN	1,146,600	24,000	2.1%
24	Portland-Vancouver-Hillsboro, OR-WA	1,236,900	23,200	1.9%
25	Raleigh, NC	658,600	23,200	3.7%

Source: Metrostudy-MetroUSA

Where are people moving from?



U-Haul One Way Rental Rates – 26' Truck



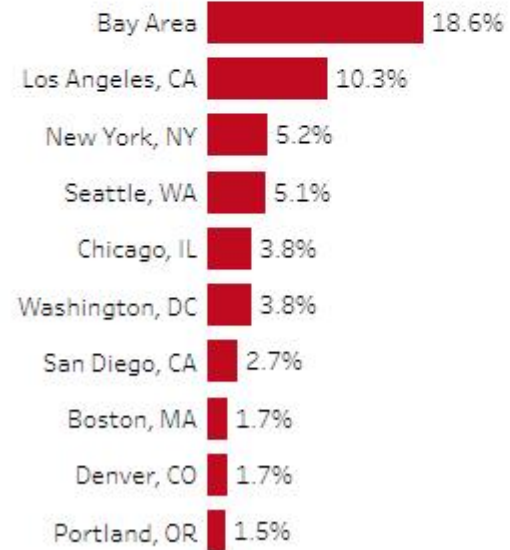
Map data ©2019 Google, INEGI United States Terms Send feedback 200

Redfin Austin Migration Map

Percentage of Austin, TX Redfin users searching from...

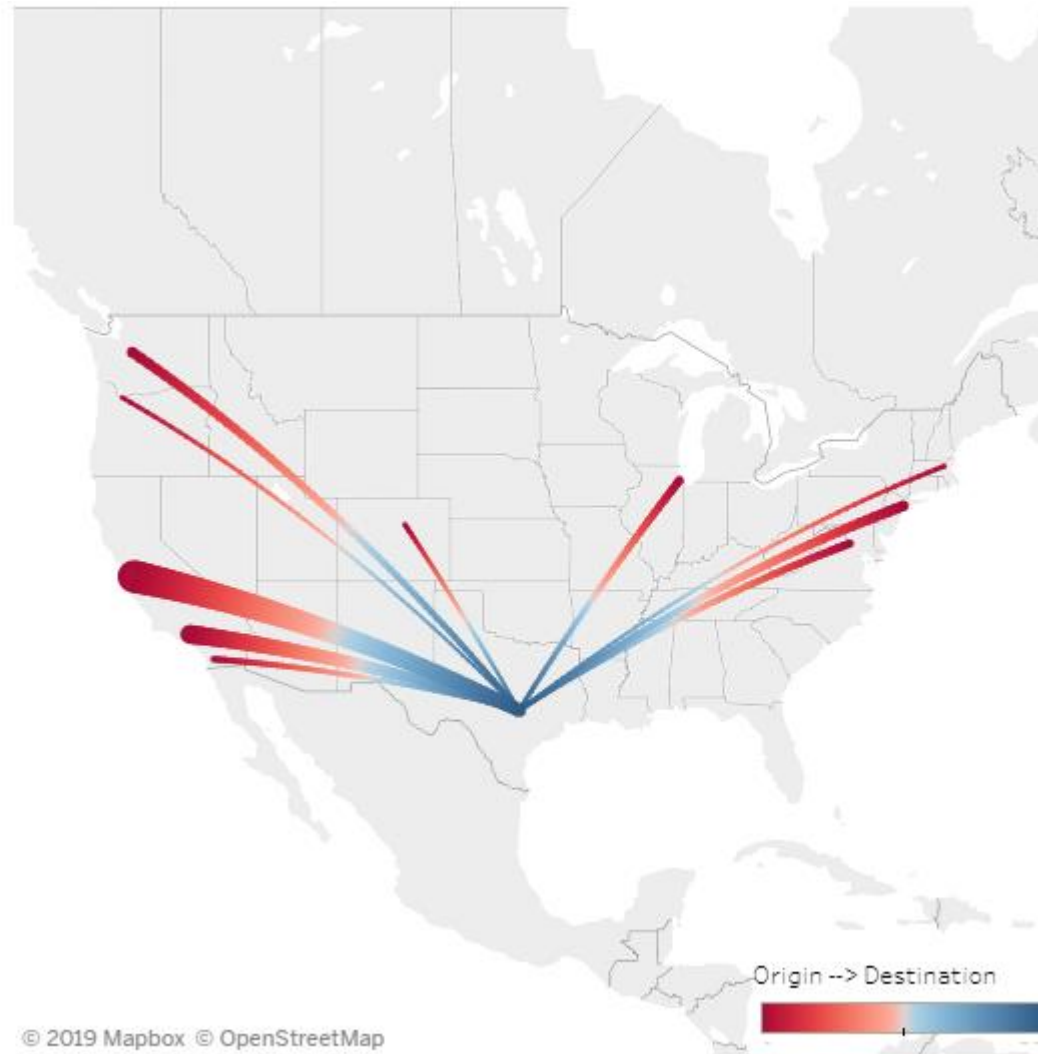


Origin as % of Destination Incomers
Out-of-state metros only

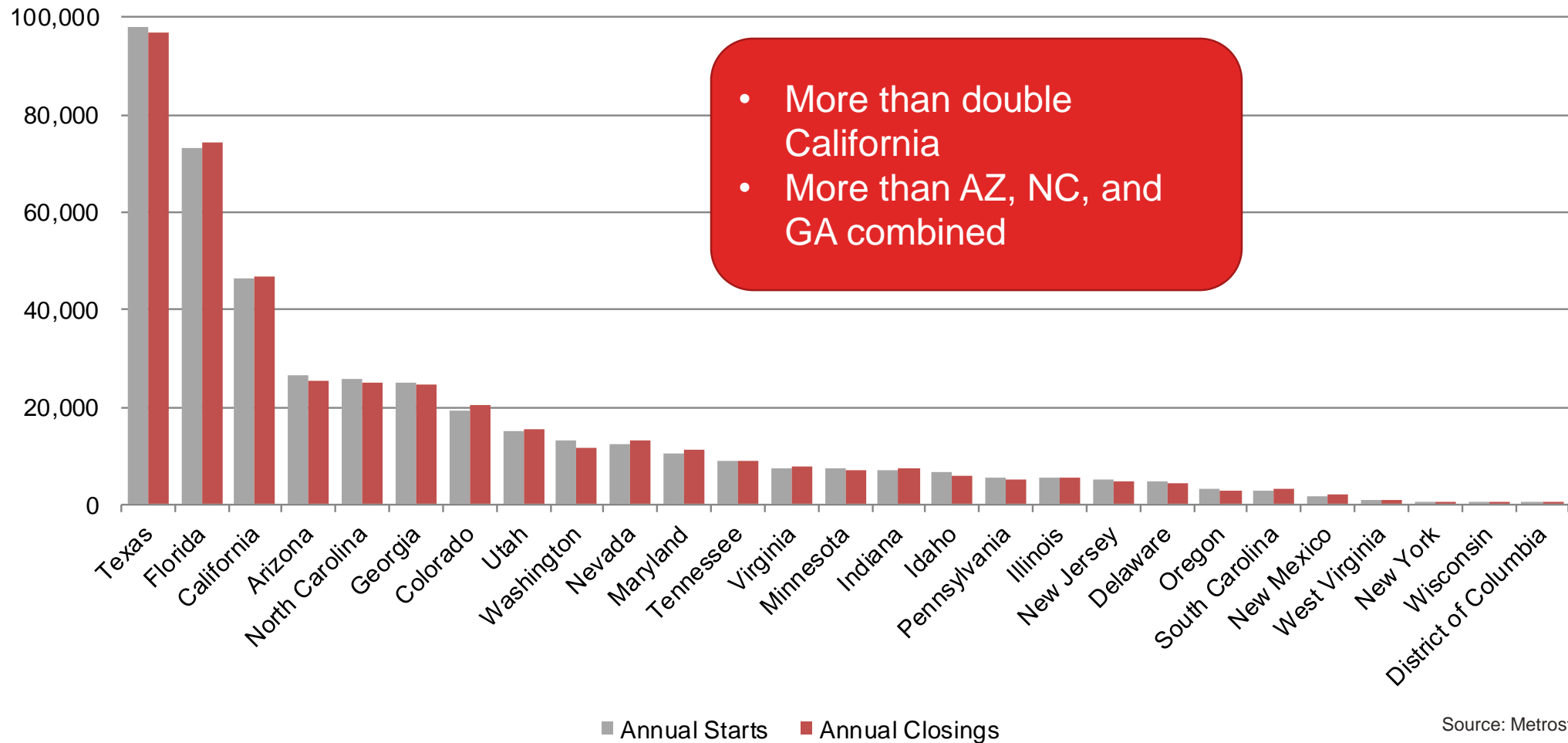


Source: Redfin user search data for Q3 2019

© 2019 Mapbox © OpenStreetMap



Texas is the Most Active Homebuilding State... by a long shot



- More than double California
- More than AZ, NC, and GA combined

Source: Metrostudy Housing Analysis

Top Homebuilding Markets by Annual Starts

Rank	Market	Annual Starts	Annual Change	% Change
1	Dallas/Ft.Worth	34,718	1,117	3.3%
2	Houston	30,547	2,872	10.4%
3	Central Florida	26,632	1,674	6.7%
4	Phoenix/Tucson	25,877	2,755	11.9%
5	Atlanta	24,416	-35	-0.1%
6	Denver/Colorado Springs	19,287	-820	-4.1%
7	Austin	18,905	2,448	14.9%
8	Southern California	16,794	-3,596	-17.6%
9	Northern California	14,580	-2,742	-15.8%
10	San Antonio	13,748	2,626	23.6%
11	Raleigh/Durham	13,080	881	7.2%
12	Salt Lake City	12,860	-182	-1.4%
13	Tampa	12,754	2,131	20.1%
14	Charlotte	12,543	249	2.0%
15	Philadelphia Region	11,846	956	8.8%
16	Seattle	10,888	784	7.8%
17	Central California	10,843	130	1.2%
18	Suburban Maryland	10,710	421	4.1%
19	Las Vegas	10,635	-60	-0.6%
20	South Florida	9,150	1,188	14.9%

#1 Dallas/Ft. Worth
 #2 Houston
 #7 Austin
 #10 San Antonio

Source: Metrostudy Housing Analysis

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Evolution of Homebuilding

1950s



American
Dream



Homebuilding



Levittown

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Evolution of Homebuilding

2019



American
Dream



Homebuilding



MPCs

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Becoming Irrelevant



1775



1907



1971



1994

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Change is Inevitable

Types of Change

1. Organic (Adapt to Market Conditions)
2. Innovation (Technology)
3. Disruption (Outside Forces)



Change is Scary... But Necessary

Organic Change

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Organic Change

North Texas Growth Projections



Source: North Texas 2050

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Organic Change

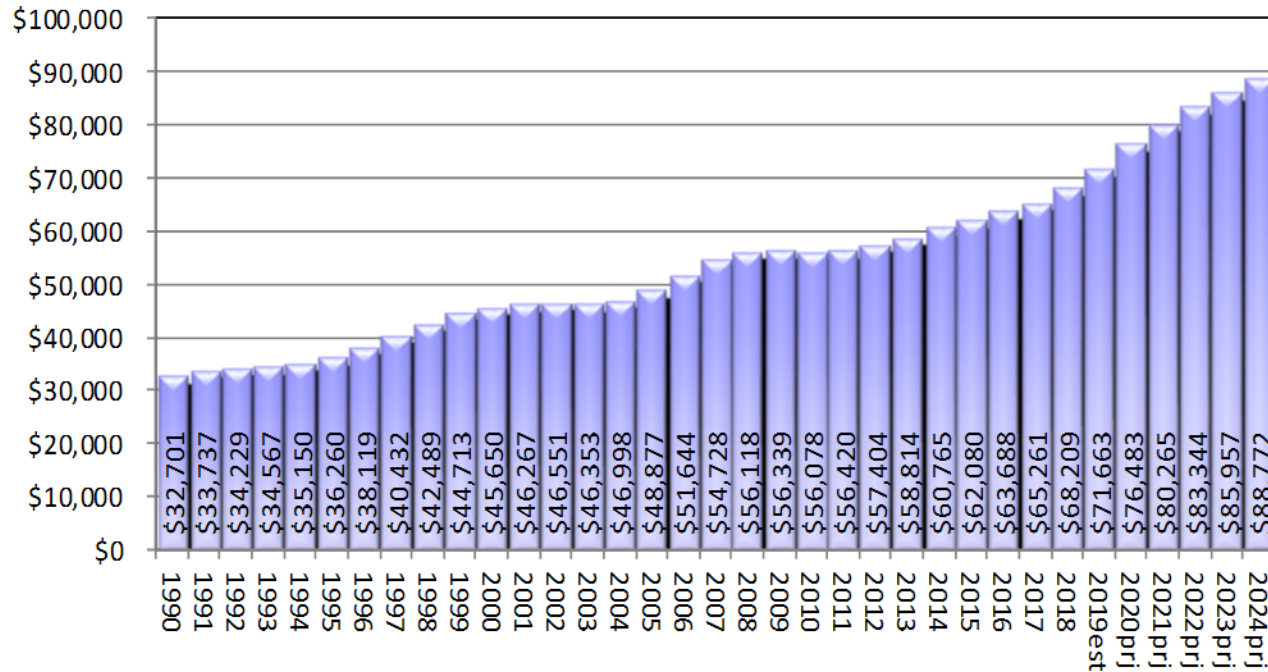
North Texas Growth Projections

	2000	2030	2050
Population (millions)			
Total Population	5.31	9.49	11.66
Total Employment	3.22	5.58	7.17
Total Households	1.94	3.48	4.38

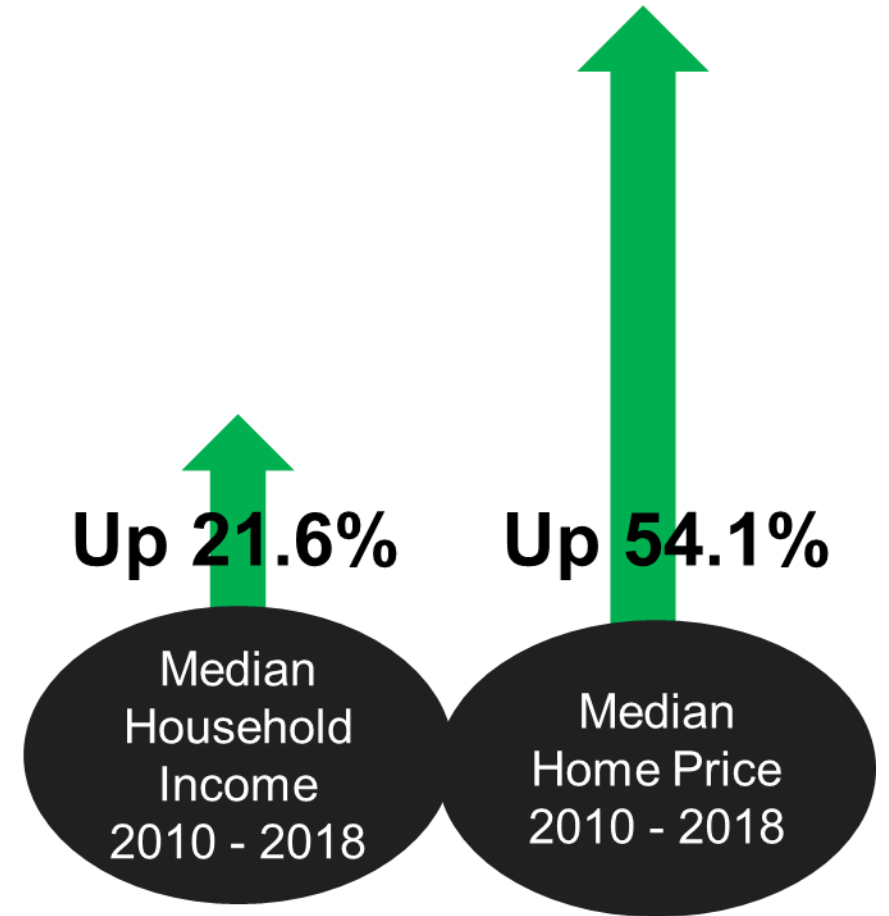
Source: North Texas 2050

Why the need to pivot for affordability?

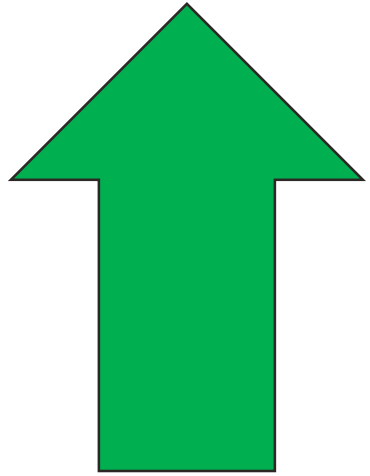
MEDIAN HOUSEHOLD INCOME
Houston-The Woodlands-Sugar Land, TX CBSA
3rd Quarter 2019



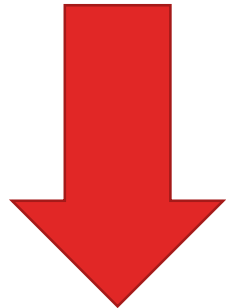
Source: Metrostudy



Affordability Equation

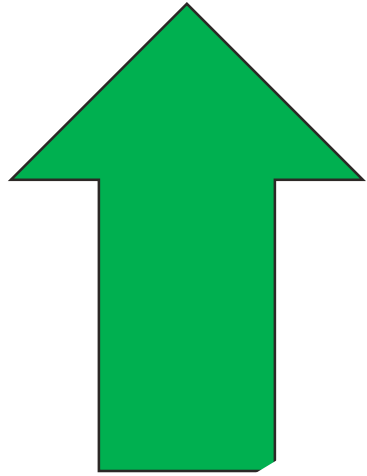


Density



Square Footage

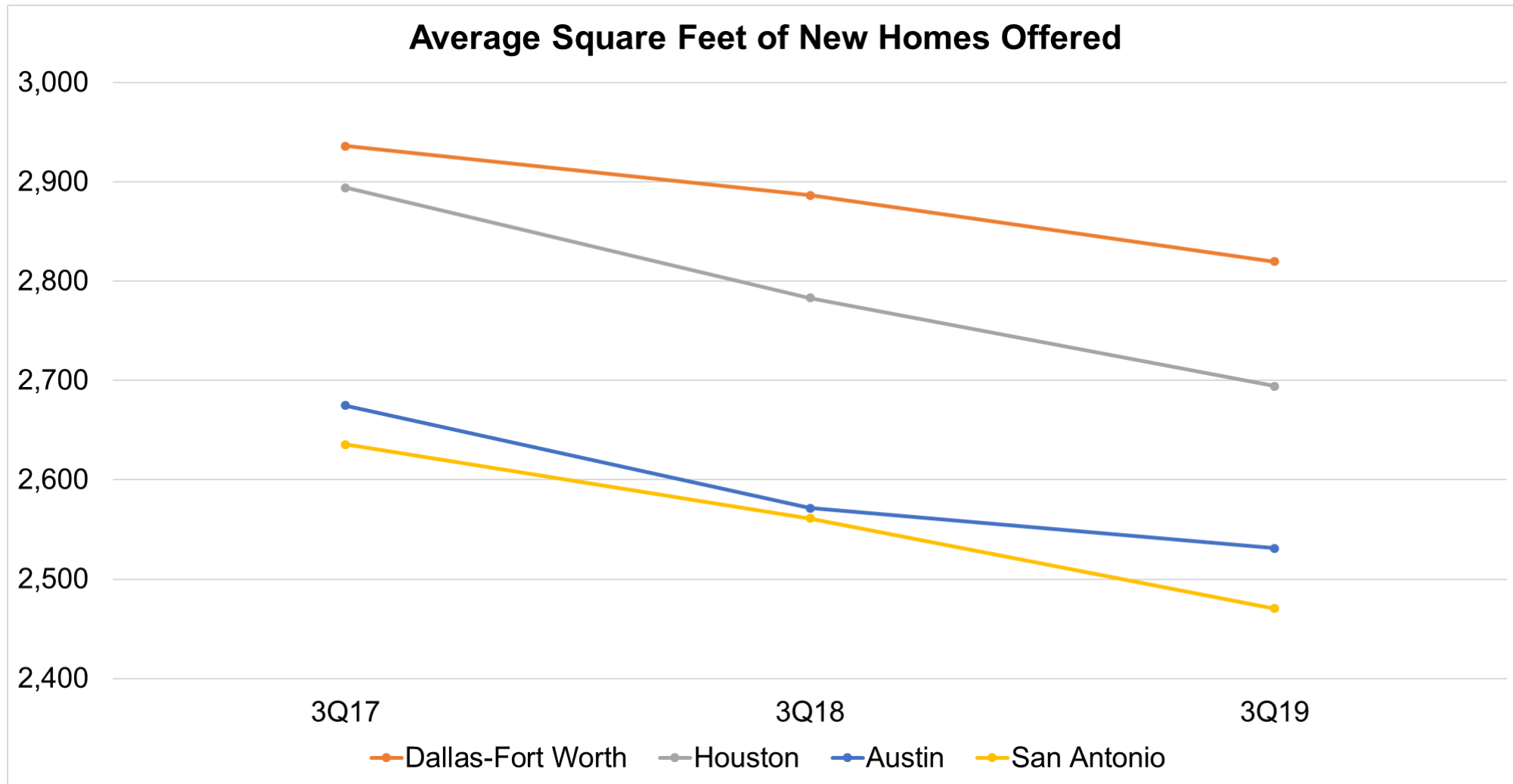
Affordability Equation



MINIMALLY

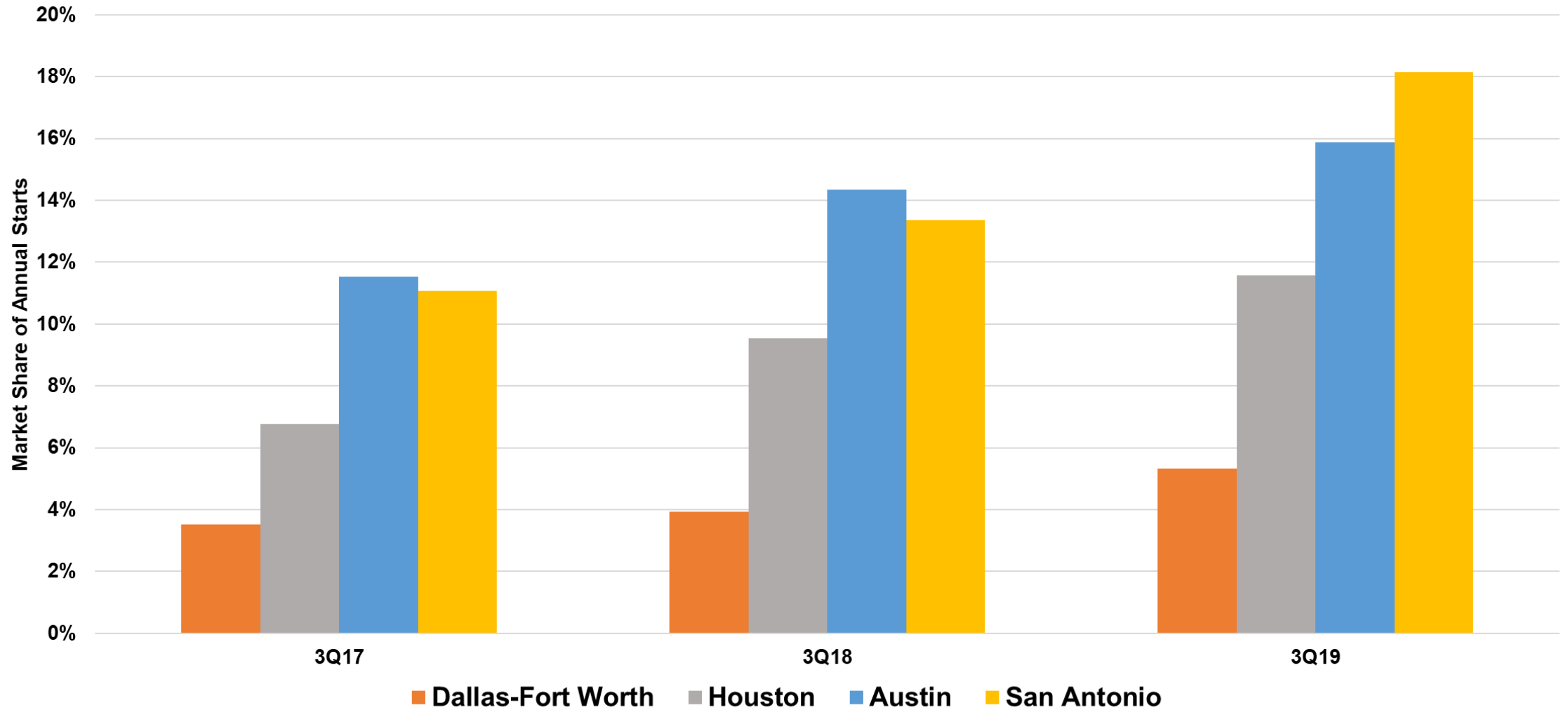
square Footage

Average Square Feet of New Homes Offered by Market



Source: Metrostudy Housing Analysis

New Home Floor Plans Under 1,800 SF by Share



Smaller (40' wide lot) does not mean inferior product



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Organic Change

Product Description	Density (DU/Acre)	Home Avg. Sq.Ft.	Average Price
Apartments - 3-4 story Walk-up	40.0/acre	750sf	\$491,400
Apartments - Podium	50.0/acre	850sf	\$568,600
Stacked Flats - Podium	36.0/acre	838sf	\$698,450
Stacked Flats - At Grade	24.0/acre	1,013sf	\$830,725
Luxury Stacked Flats-Podium	24.0/acre	1,625sf	\$1,451,825
Rowhome	20.0/acre	1,163sf	\$947,400
Townhome w/ Rooftop Deck	16.0/acre	1,438sf	\$1,145,150
Triplex w/ Carriage	14.0/acre	1,550sf	\$1,241,633
Alley/ Cluster - Rooftop Deck	12.0/acre	1,900sf	\$1,541,800
Alley w/ Granny Flat	9.0/acre	2,200sf	\$1,766,833
SFD - 40'x90' Lots	7.3/acre	2,900sf	\$2,370,033
SFD - 50'x90' Lots	5.8/acre	3,700sf	\$3,087,800
SFD - 60' Wide Estate View Lots	4.4/acre	4,500sf	\$3,976,433



Change is Scary... But Necessary
Innovation

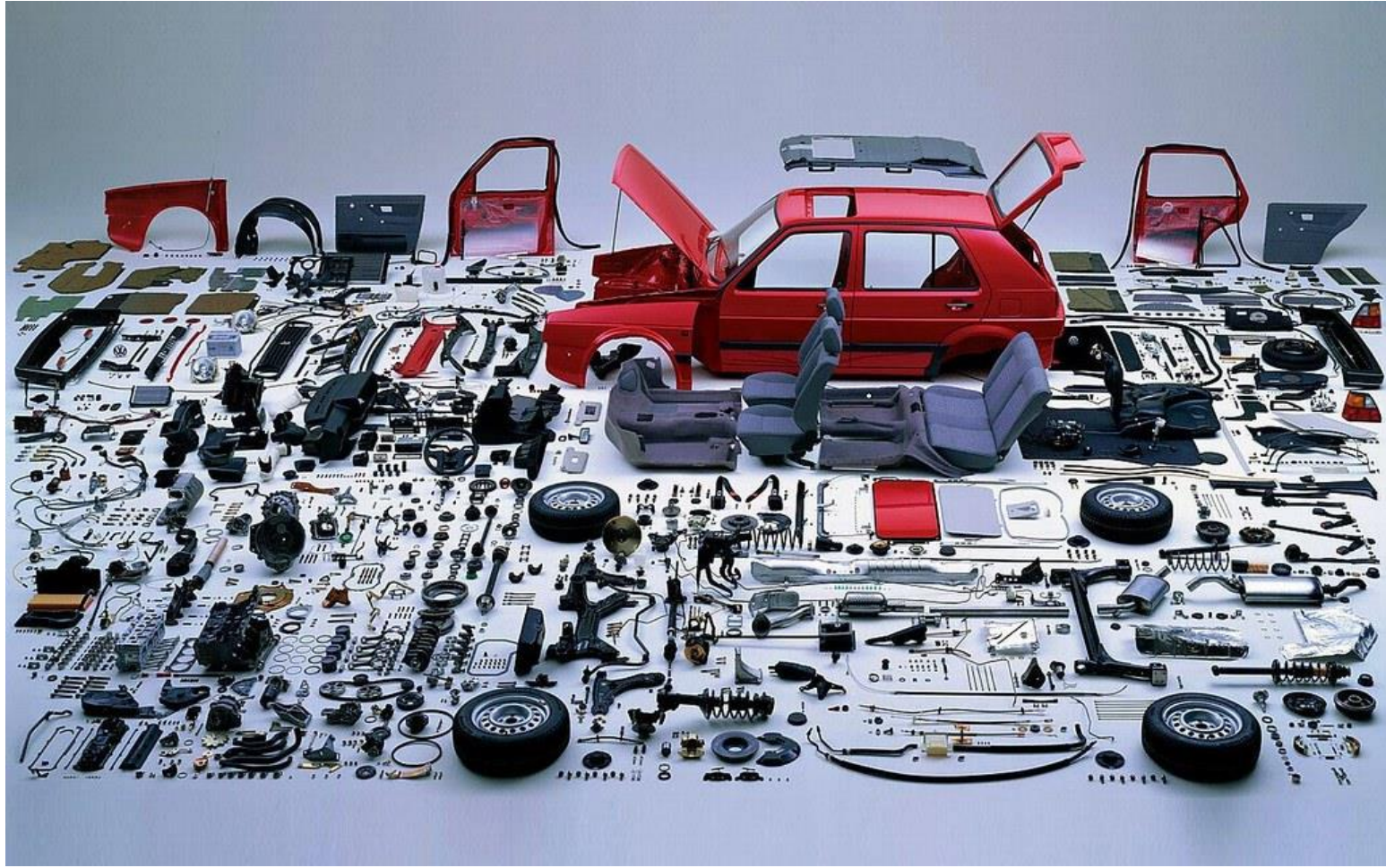
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Innovation



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Innovation



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Innovation

Off-Site Construction



BMC

www.buildwithbmc.com/bmc/s/ready-frame



Entekra

<https://www.entekra.com/videos>



Ecocor

Ecocor.us



Blu Homes

BluHomes.com



FullStack Modular

FullStackmodular.com

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Innovation

Off-Site Construction



Source: Entekra

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Innovation

Off-Site Construction



Source: Entekra

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Innovation

Off-Site Construction



Source: Entekra

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Innovation

Off-Site Construction



Source: Entekra

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Innovation

3D Printing



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Innovation

3D Printing



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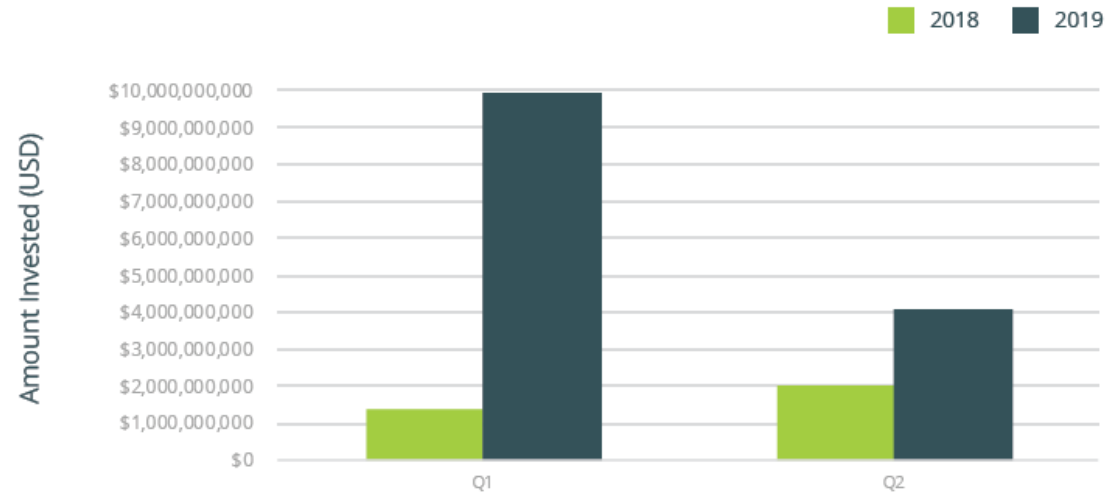
Innovation



CRETECH

Globally, venture-backed real estate tech (PropTech) companies raised \$14 billion USD in 2019 Q1-Q2, a 309% increase from 2018 Q1-Q2. Despite the 13.7% decline in total companies funded (deal volume), average deal sizes increased by 50%. Reinvestments, or follow on investments, in early stage to mid-stage companies lead the majority of total companies funded with average check sizes increasing to \$6.3 million (USD) per deal.

Dollar Volume Summary



Fifth Wall Closes New \$503 Million Fund

The Largest Real Estate Venture Capital Fund Raised to Date

British Land

CBRE

Cushman & Wakefield

D.R. Horton

Equity Residential

Gecina

GLP

Hines

Host Hotels & Resorts

Hudson Pacific Properties

Lennar

Lowes Home Improvement

Macerich

Marriott International

MERLIN Properties

MetLife Investment Management

Mitsubishi Estate

News Corp

Prologis

PulteGroup

SEGRO

Starwood Capital

Related Companies

Toll Brothers



Change is Scary... But Necessary
Disruption

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Disruption



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Disruption

Opendoor

RedfinNow

 **Zillow**[®]
Zillow Offers

Offerpad 

Orchard

knock 

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Disruption



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Disruption



Berkshire Hathaway Agrees To Acquire Clayton Homes

1. Clayton Homes goes mainstream

Since 2003, Berkshire has owned [Clayton Homes](#), a homebuilder with national scope that has traditionally focused on manufactured homes. With the housing market still doing well, Clayton has been on an acquisition spree to broaden its scope and boost its exposure to traditional homebuilding. With the purchase of Oakwood Homes in Colorado and Harris Doyle in Birmingham, Clayton will see big increases in sales of homes built on-site to go with its market-leading share of the manufactured home industry.

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Disruption

amazon  's Housing

Amazon makes splash with game-changing Realogy partnership



Buy a home with the top names in real estate. Get thousands back in Amazon products and services.



Amazon makes first investment in a homebuilder, backing start-up focused on prefabricated houses

Amazon's \$7K, do-it-yourself tiny home goes viral, sells out instantly



Lillevilla Escape | 113 SQF Allwood Kit Cabin
★★★★☆ 7
\$5,350.00



Lillevilla Allwood Cabin Kit Getaway (Getaway Cabin kit)
★★★★☆ 3
\$18,800.00



Allwood Ranger Cabin Kit | 259 SQF + 168 SQF Loft
\$19,990.00



Allwood Sommersby | 174 SQF Garden House Kit
\$8,560.00



Allwood Claudia | 209 SQF Cabin Kit, Garden House
★★★★★ 1
\$8,450.00



Allwood Eagle Point | 1108 SQF Cabin Kit
★★★★☆ 6
\$46,900.00



Allwood Estelle 5 | 157 SQF Cabin Kit, Garden House
★★★★★ 2
\$7,499.99



**Silicon Valley might get some relief from high housing prices
— Google will build nearly 10,000 homes near its new campus**

Google investing \$1B to build 20,000 homes in Bay Area

Tech giant pledges 15,000 units on its own land

*Facebook Pledges \$1 Billion to Ease
Housing Crisis Inflamed by Big Tech*

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Disruption

SIDE WALK LABS

Sidewalk Labs is designing a district in Toronto's Eastern Waterfront to tackle the challenges of urban growth, working in partnership with the tri-government agency Waterfront Toronto and the local community. This joint effort, called Sidewalk Toronto, aims to make Toronto the global hub for urban innovation.

By combining people-centered urban design with cutting-edge technology, we can achieve new standards of sustainability, affordability, mobility, and economic opportunity.

SIDE WALK LABS

Housing and **real estate** that is more
efficient and thus far more
affordable.

New construction methods and flexible building designs enable radical
mixed-use, walkable neighborhoods that reduce the cost of housing
and retail space.

Room to Grow: Housing for a New Economy

How Will We Respond to Change?

**FAILURE IS NOT
FATAL, BUT
FAILING TO CHANGE
MIGHT BE.**

JOHN WOODEN



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