



HOUSING MARKET FORECASTS AND THE ECONOMIC IMPACT OF NEW HOME CONSTRUCTION IN SAN BERNARDINO COUNTY, CALIFORNIA

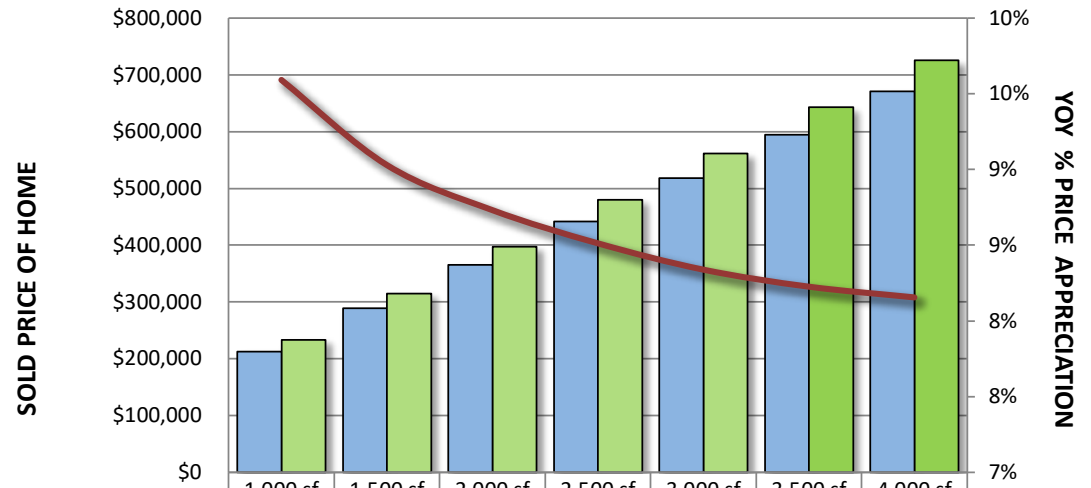
**PREPARED FOR BIA SOUTHERN CALIFORNIA – BALDY VIEW CHAPTER
JUNE 2018**

REGIONAL HOUSING MARKET ACTIVITY



TRUE PRICE APPRECIATION MEASURES BY YEAR-OVER-YEAR PRICE LINE COMPARISONS SAN BERNARDINO COUNTY

Home Size	Home Sales		% Appreciation	
	April 2017	April 2018	\$\$\$	%
Based on Median Home Size				
1,558 sf	\$297,900	\$324,700	\$26,800	9.0%
Based on Range of Home Size				
1,000 sf	\$212,700	\$233,100	\$20,400	9.6%
1,500 sf	\$289,100	\$315,200	\$26,100	9.0%
2,000 sf	\$365,400	\$397,300	\$31,900	8.7%
2,500 sf	\$441,800	\$479,400	\$37,600	8.5%
3,000 sf	\$518,200	\$561,400	\$43,200	8.3%
3,500 sf	\$594,600	\$643,500	\$48,900	8.2%
4,000 sf	\$670,900	\$725,600	\$54,700	8.2%



Home Sales April 2017	\$212,700	\$289,100	\$365,400	\$441,800	\$518,200	\$594,600	\$670,900
Home Sales April 2018	\$233,100	\$315,200	\$397,300	\$479,400	\$561,400	\$643,500	\$725,600
% Appreciation	9.6%	9.0%	8.7%	8.5%	8.3%	8.2%	8.2%

Source: Real Estate Economics; RealtyTrac; County Recorder

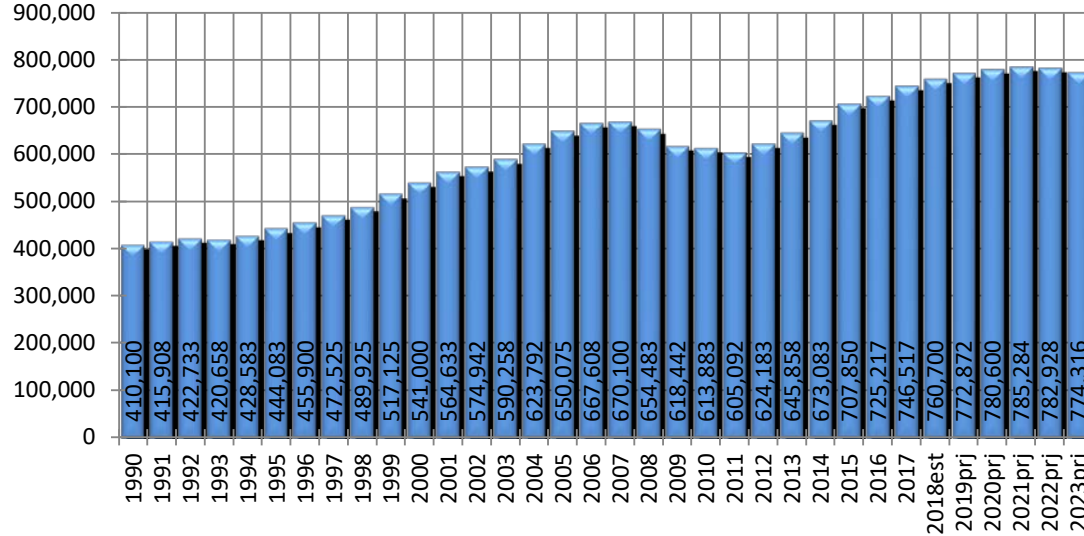


2,391 Records Found
Apr2018 to Apr2018

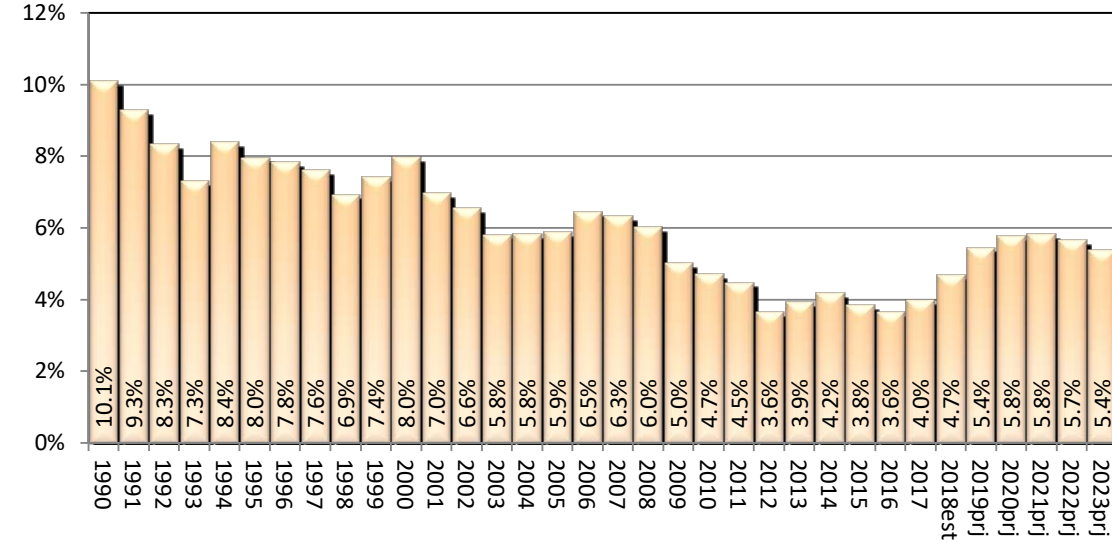


REGIONAL ECONOMIC, SOCIO-ECONOMIC AND CONSTRUCTION FORECASTS

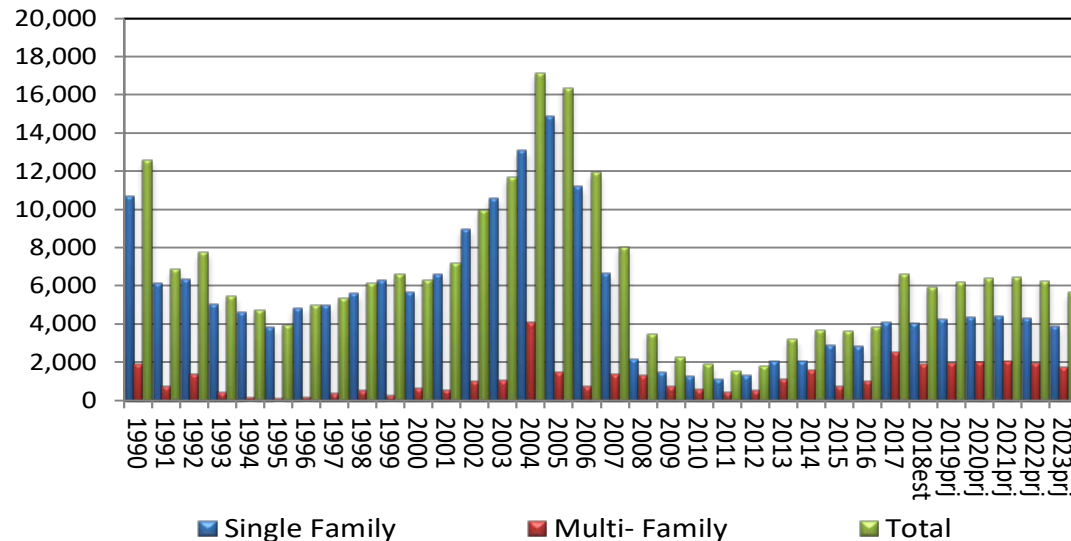
San Bernardino County
Total Non-Farm



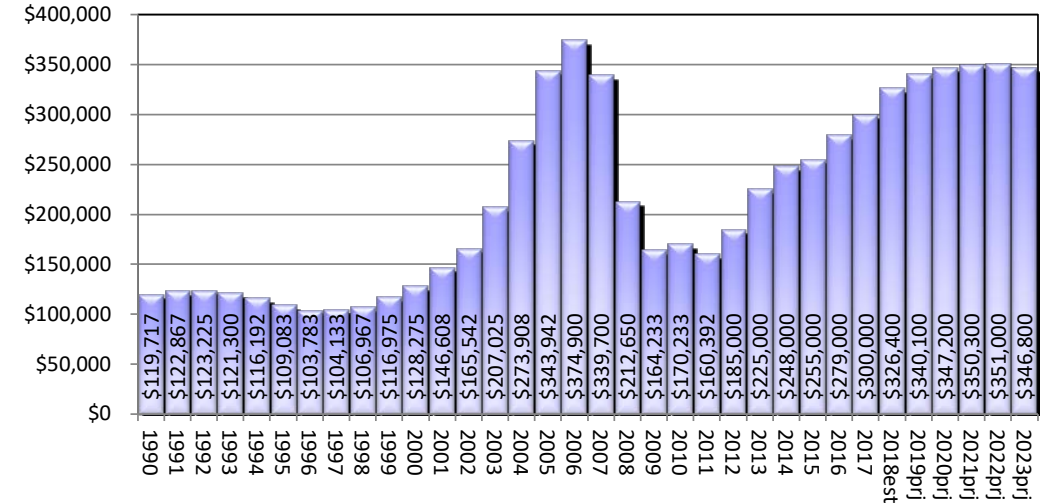
30-YEAR FIXED RATE MORTGAGES
NATIONAL AVERAGES
2nd Quarter 2018



ANNUAL RESIDENTIAL PERMIT ACTIVITY
San Bernardino County
2nd Quarter 2018



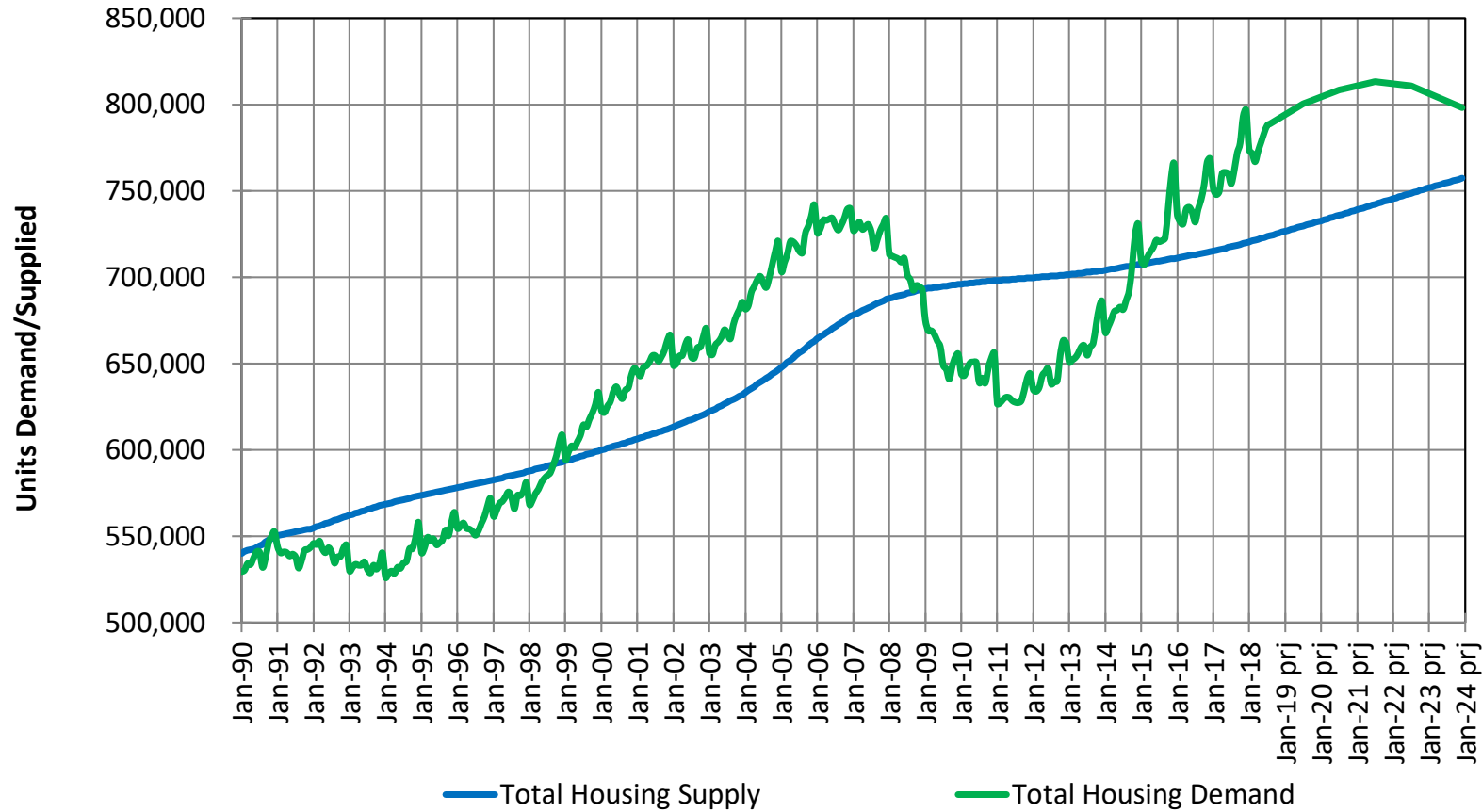
MEDIAN ANNUAL HOME PRICE
San Bernardino County
2nd Quarter 2018



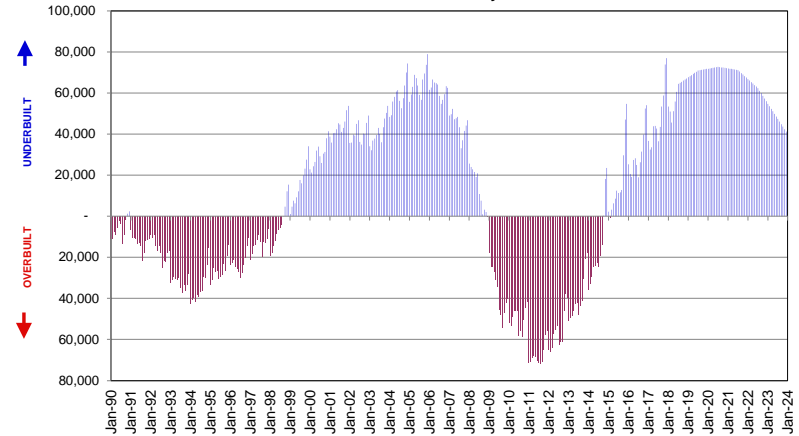
Source: NAR via Moody's Analytics; various county recorders offices; RealtyTrac; Metrostudy

HOUSING DEMAND AND SUPPLY TRENDS AND FORECASTS

HOUSING DEMAND AND SUPPLY PATTERNS San Bernardino County



HOUSING OVER/UNDERSUPPLY PATTERNS San Bernardino County

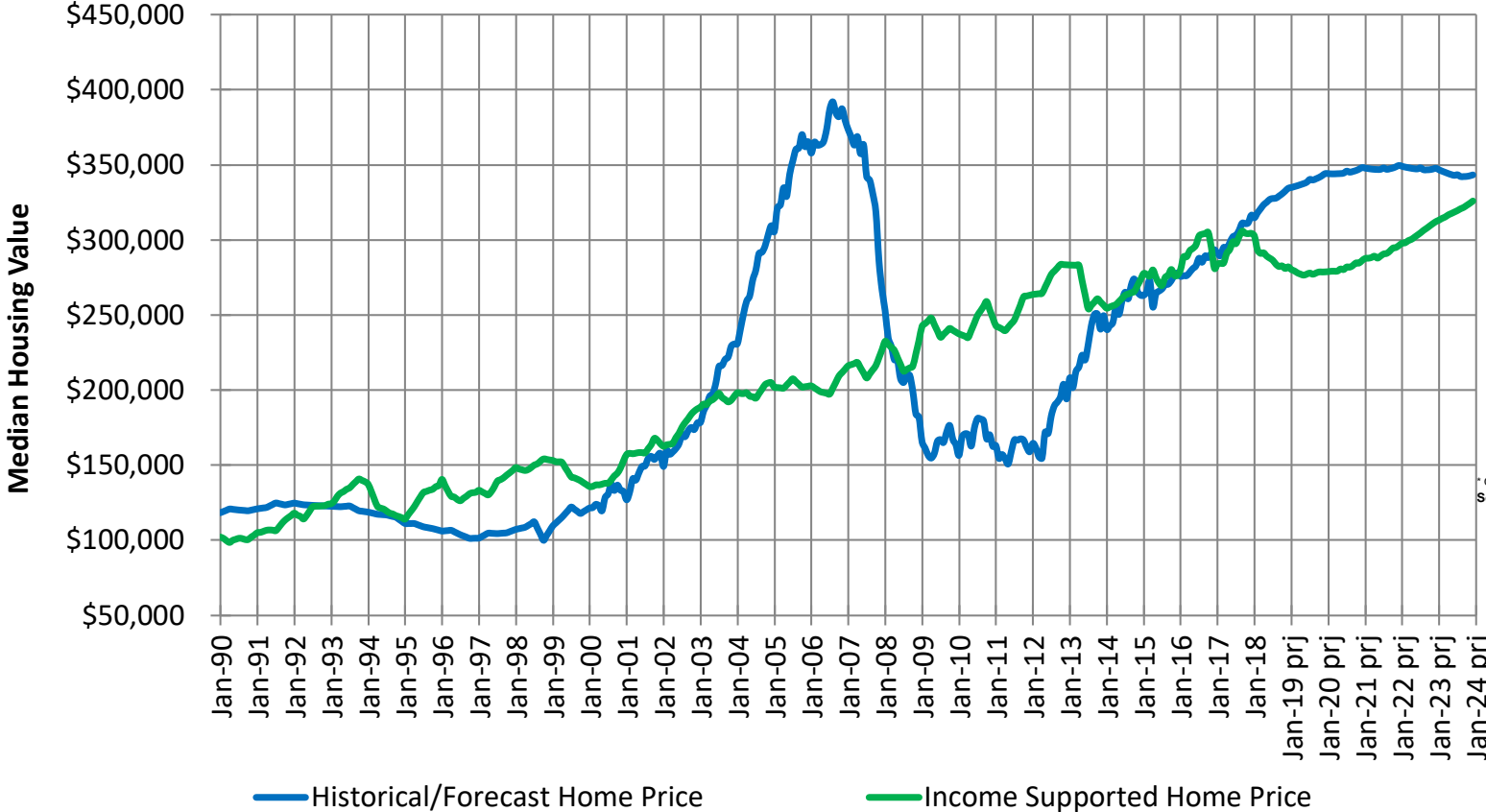


* Over/Undersupply measures based on current jobs-to-housing relationship relative to long-term relationship between jobs and housing.
Source: Bureau of Labor Statistics; Moody's Analytics; Metrostudy

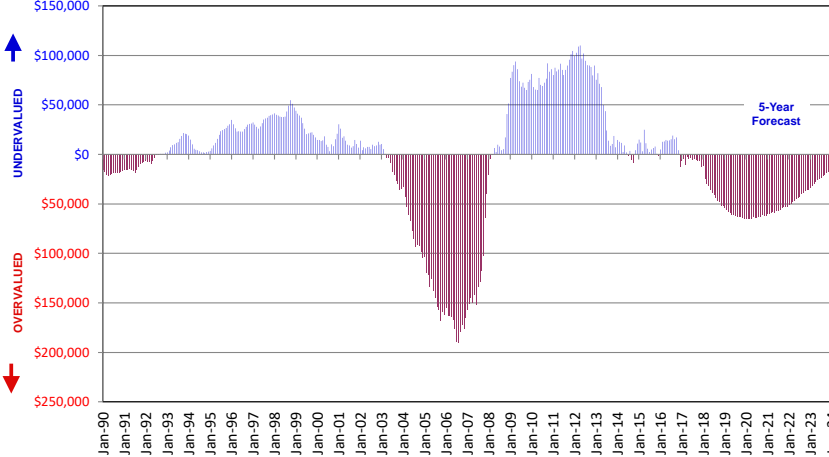
Source: Bureau of Labor Statistics; Moody's Analytics; Metrostudy

HOUSING OVER/UNDER VALUATION TRENDS AND FORECASTS

HOUSING VALUATION PATTERNS
San Bernardino County



HOUSING OVER/UNDERVALUATION PATTERNS
San Bernardino County



* Over/Undervaluation based on value of housing (inclusive of mortgage rates) relative to long-term relationship between housing value & household incomes.
Source: Bureau of Labor Statistics; Moody's Analytics; Metrostudy

Source: Bureau of Labor Statistics; Moody's Analytics; Metrostudy

RESIDENTIAL MARKET OPPORTUNITY/RISK INDEX

San Bernardino County

2nd Quarter 2018

Year	Housing Demand	Housing Supply	Market is Over/ Underbuilt		Market is Over/ Undervalued		O/R Index (100=Equil.)	Home Mkt. Health	Land Mkt. Health	Buy/Sell Land
2000	632,610	605,828	26,782	4.4% Underbuilt	\$12,466	9.7% Undervalued	106.0	Very Strong	Strong	Buy
2001	653,078	612,581	40,497	6.6% Underbuilt	\$14,253	9.7% Undervalued	107.5	Strong	Strong	Buy
2002	657,865	621,156	36,710	5.9% Underbuilt	\$8,412	5.1% Undervalued	105.7	Strong	Strong	Buy
2003	668,205	631,968	36,237	5.7% Underbuilt	\$13,606	6.6% Overvalued	102.0	Strong	Stable	Buy/Sell
2004	698,724	646,374	52,349	8.1% Underbuilt	\$74,668	27.3% Overvalued	97.5	Strong	Weak	Sell
2005	720,590	663,133	57,457	8.7% Underbuilt	\$140,595	40.9% Overvalued	93.8	Stable	Weak	Sell
2006	732,427	677,283	55,144	8.1% Underbuilt	\$171,587	45.8% Overvalued	92.0	Weak	Weak	Sell
2007	727,678	687,261	40,416	5.9% Underbuilt	\$123,535	36.4% Overvalued	93.2	Weak	Weak	Sell
2008	703,555	693,019	10,537	1.5% Underbuilt	\$10,050	4.7% Undervalued	102.5	Weak	Stable	Buy/Sell
2009	658,173	695,882	37,710	5.4% Overbuilt	\$77,100	46.9% Undervalued	107.7	Weak	Strong	Buy
2010	646,828	697,934	51,106	7.3% Overbuilt	\$75,522	44.4% Undervalued	105.6	Stable	Strong	Buy
2011	631,310	699,634	68,324	9.8% Overbuilt	\$89,212	55.6% Undervalued	106.6	Strong	Strong	Buy
2012	644,830	701,307	56,477	8.1% Overbuilt	\$88,926	48.1% Undervalued	106.0	Strong	Strong	Buy
2013	662,492	703,806	41,314	5.9% Overbuilt	\$42,944	19.1% Undervalued	100.4	Strong	Stable	Buy/Sell
2014	690,150	707,233	17,083	2.4% Overbuilt	\$14,095	5.7% Undervalued	100.0	Strong	Stable	Buy/Sell
2015	725,798	710,876	14,922	2.1% Underbuilt	\$21,016	8.2% Undervalued	103.9	Stable	Strong	Buy
2016	743,605	714,612	28,993	4.1% Underbuilt	\$15,531	5.6% Undervalued	104.5	Stable	Strong	Buy
2017	765,445	719,858	45,588	6.3% Underbuilt	\$3,686	1.2% Overvalued	104.1	Strong	Strong	Buy
2018est	782,591	726,132	56,457	7.8% Underbuilt	\$38,490	11.8% Overvalued	101.9	Strong	Stable	Buy/Sell
2019prj	799,529	732,798	67,331	9.2% Underbuilt	\$61,869	18.2% Overvalued	101.0	Strong	Stable	Buy/Sell
2020prj	807,877	738,493	69,384	9.4% Underbuilt	\$65,468	18.9% Overvalued	100.9	Stable	Stable	Buy/Sell
2021prj	812,429	744,903	67,525	9.1% Underbuilt	\$59,367	16.9% Overvalued	101.3	Stable	Stable	Buy/Sell
2022prj	810,377	751,218	59,128	7.9% Underbuilt	\$46,569	13.3% Overvalued	101.5	Stable	Stable	Buy/Sell
2023prj	802,401	757,188	45,213	6.0% Underbuilt	\$27,476	7.9% Overvalued	101.8	Stable	Stable	Buy/Sell

SAN BERNARDINO COUNTY NEW HOUSING INVENTORY SUMMARY

SAN BERNARDINO SUMMARY OF NEW HOME AND LAND INVENTORY



98,208 Lots in Raw Land



4,908 Vacant Developed Lots, 3,377 Lots Under Improvement



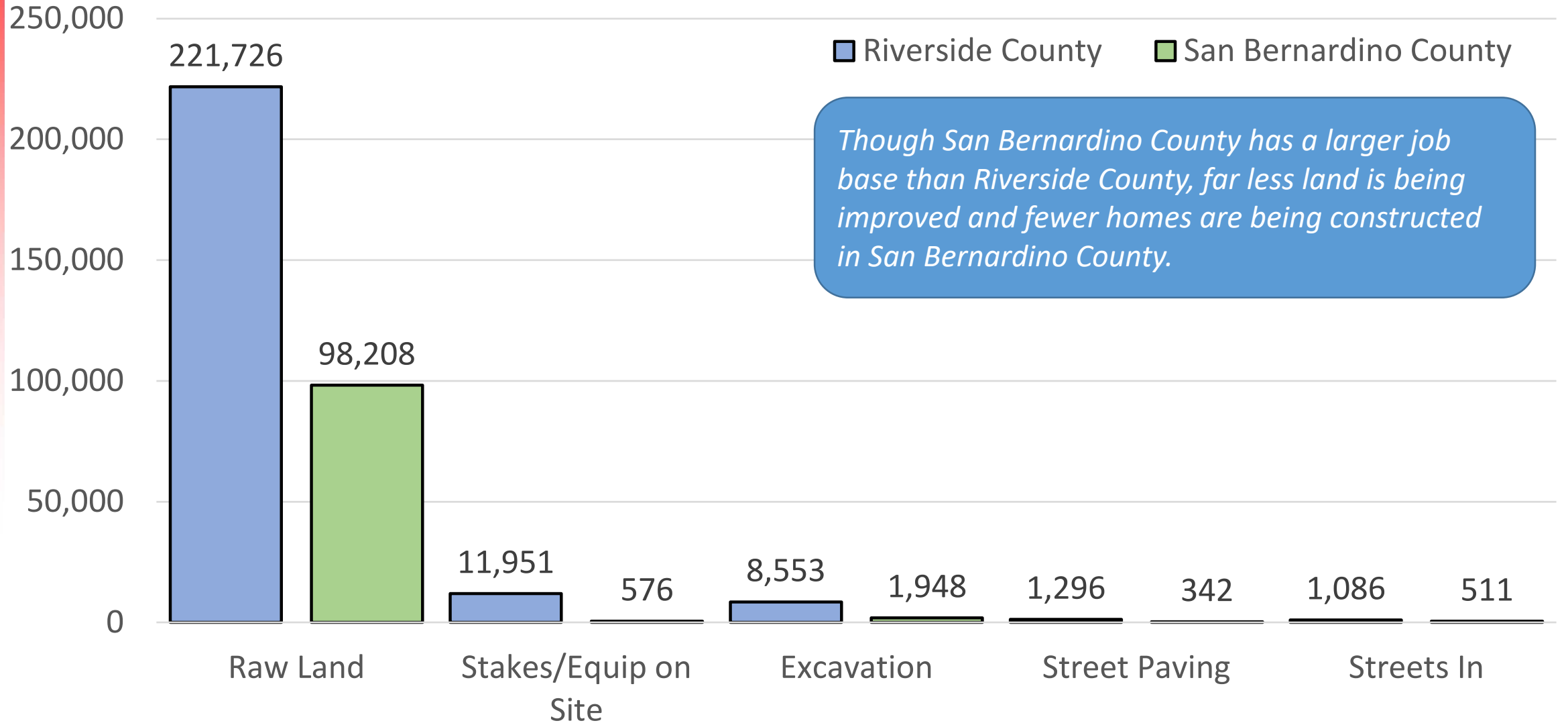
1,422 Homes Under Construction



594 Finished Unsold Homes and 212 Model Homes

INLAND EMPIRE FUTURE NEW HOME DEVELOPMENT

FUTURE RESIDENTIAL LOTS IN THE INLAND EMPIRE



REGIONAL INPUT-OUTPUT MODELING SYSTEM FOR SAN BERNARDINO COUNTY'S NEW HOME CONSTRUCTION INDUSTRY

CONSTRUCTION WORKER WAGES IN THE INLAND EMPIRE

- Brickmasons/Blockmasons (\$59,480/yr.)
- Carpenters (\$52,590/yr.)
- Concrete workers (\$57,590/yr.)
- Electricians (\$58,140/yr.)
- Reinforcing Iron/Rebar Workers (\$74,640/yr.)
- Plumbers (\$50,410/yr.)
- Roofers (\$55,350)
- Construction Laborers (\$45,350/yr.)



Avg. Const. Wage = \$42,480/yr.
(inclusive of non-skilled labor)

National Skills Gap Construction/Industrial

Profession	Vacancies per Job-seeker
Equipment operator	7,272
Project engineer	607
Safety officer	188
Pipe fitter	163
Drilling	152
Industrial engineering	106
Structural engineer	100
Scaffolding	38
Concrete finisher	31
Civil engineer	28
Masonry	24

DIRECT CONSTRUCTION COST BASIS FOR 15 NEW HOMES

Workers	28
Avg. Worker Per Home	1.87
Avg. Annual Wage	\$42,480
Total Labor Cost for 15 Homes	\$1,189,440
Average Home Sq.Ft.	2,359sf
Total Sq.Ft.	35,385sf
Labor cost per sf(1)	\$33.61
Material Cost Per SF	\$37.81
Other Local Expenditures Per SF	\$2.86
Total Direct Construction Costs	\$74.28
Yr. 2015 Direct Construction Costs	\$63.07



Note(1): Labor costs include Equipment rental costs.
Source: Real Estate Economics; Plumbers World; RS Means
California Employment Development Department

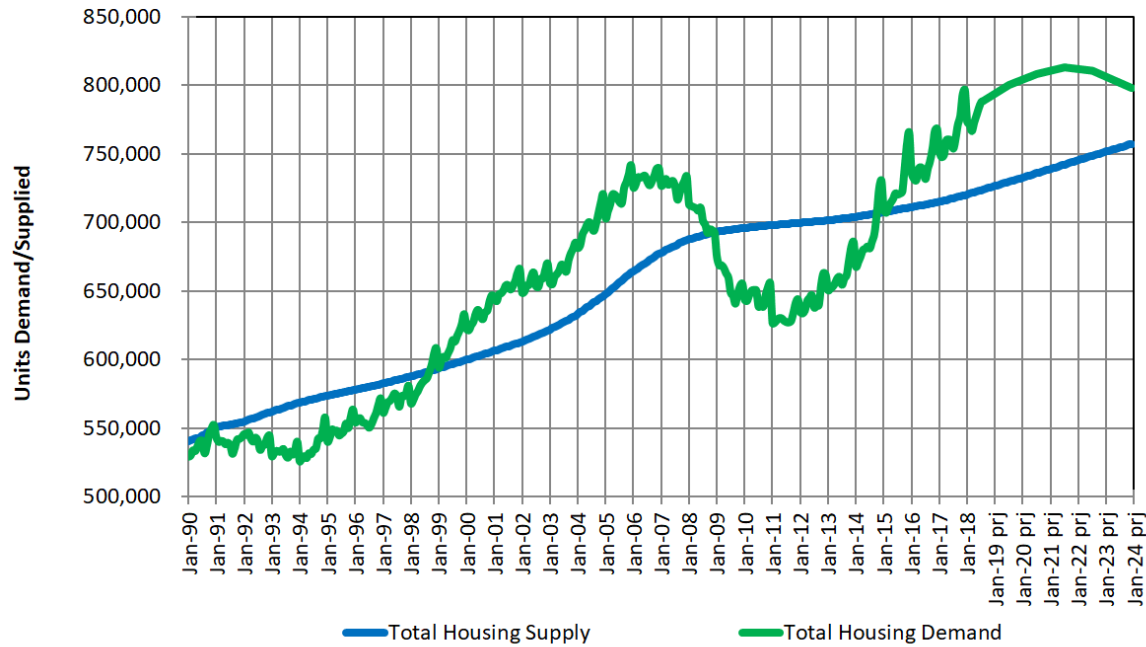
DIRECT ECONOMIC IMPACT FROM NEW HOME CONSTRUCTION

	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018
Homes to be Constructed (Starts)	1,932	2,704	2,940	3,883	4,725
Apartments to be Constructed(1)	1,107	895	447	1,356	1,838
Average Home Size	2,393sf	2,476sf	2,452sf	2,410sf	2,359sf
Average Apartment Size	1,150sf	1,150sf	1,150sf	1,150sf	1,150sf
Total For-Sale Home SF	4,623,276sf	6,695,104sf	7,208,880sf	9,358,030sf	11,146,275sf
Total Apartment SF	1,273,050sf	1,028,675sf	514,050sf	1,559,400sf	2,113,700sf
Total SF	5,896,326sf	7,723,779sf	7,722,930sf	10,917,430sf	13,259,975sf
Total Construction Payroll	\$198,200,537	\$259,628,987	\$259,600,448	\$366,981,148	\$445,724,026
Total Construction Materials	\$222,929,122	\$292,021,721	\$291,989,622	\$412,767,727	\$501,334,997
Total Other Local Expenditures	\$16,876,749	\$22,107,373	\$22,104,943	\$31,248,395	\$37,953,340
Average 2Q Price of New Homes in County	\$418,680	\$447,523	\$461,639	\$479,647	\$494,035
4% Commissions from outside money (75%)	\$24,266,693	\$36,303,066	\$40,716,560	\$55,874,079	\$70,029,461
Total Direct Economic Impact	\$462,273,100	\$610,061,147	\$614,411,573	\$866,871,349	\$1,055,041,825

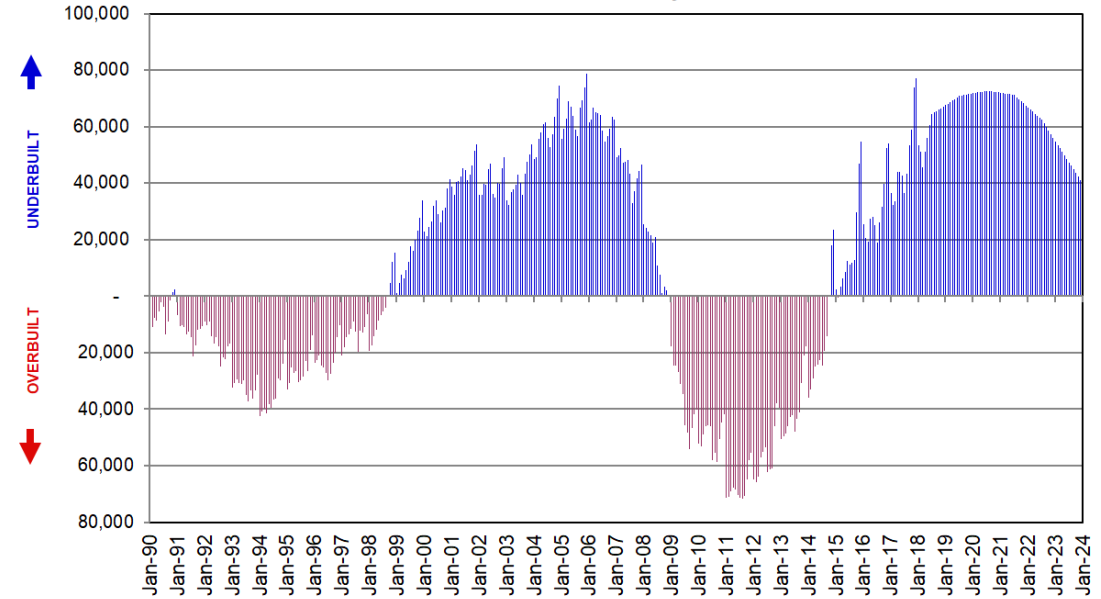
Year	Total Direct Economic Impact
Year 2014	\$462,273,100
Year 2015	\$610,061,147
Year 2016	\$614,411,573
Year 2017	\$866,871,349
Year 2018	\$1,055,041,825

DEFINITION OF PENT-UP HOUSING DEMAND

HOUSING DEMAND AND SUPPLY PATTERNS
San Bernardino County



HOUSING OVER/UNDERSUPPLY PATTERNS
San Bernardino County



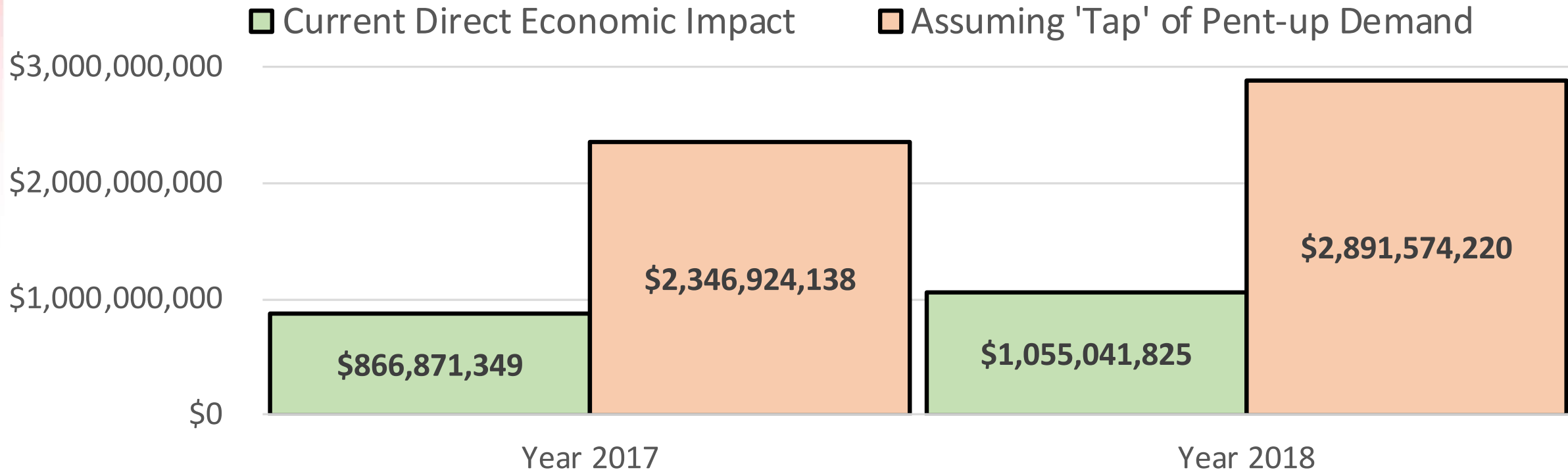
* Over/Undersupply measures based on current jobs-to-housing relationship relative to long-term relationship between jobs and housing.
Source: Bureau of Labor Statistics; Moody's Analytics; Metrostudy

SAN BERNARDINO COUNTY HOUSING DEMAND/SUPPLY PATTERNS

Year	Total Jobs	Housing Supply	Housing Demand	Market is Over/ Undersupplied	
2014	673,083	707,233	690,150	17,083	2.4% Overbuilt
2015	707,850	710,876	725,798	14,922	2.1% Underbuilt
2016	725,217	714,612	743,605	28,993	4.1% Underbuilt
2017	746,517	719,858	765,445	45,588	6.1% Underbuilt
2018est	768,442	726,133	782,591	56,457	7.8% Underbuilt
2019prj	780,737	732,198	799,529	67,331	9.2% Underbuilt
2020prj	788,545	738,493	807,877	69,384	9.4% Underbuilt
2021prj	793,276	744,903	812,429	67,525	9.1% Underbuilt
2022prj	790,896	751,248	810,377	59,128	7.9% Underbuilt
2023prj	782,196	757,188	802,401	45,213	6.0% Underbuilt

IMPROVEMENT IN DIRECT ECONOMIC IMPACT WITH NEW HOME CONSTRUCTION AT LONG-TERM AVERAGE AND WITH A 25% 'TAP' OF PENT-UP HOUSING DEMAND

- Case #1 reflects current conditions in San Bernardino County.
- Case #2 assumes additional new home construction by **'tapping' into 25% of the measured level of pent-up new home demand** for San Bernardino County. New home prices and sizes fall substantially, resulting in increased affordability via availability.



IMPROVEMENT IN DIRECT ECONOMIC IMPACT WITH NEW HOME CONSTRUCTION AT LONG-TERM AVERAGE AND WITH A 25% 'TAP' OF PENT-UP HOUSING DEMAND

	BASE CASE (CURRENT)		CASE #2 ('TAP' DEMAND)	
	Year 2017	Year 2018	Year 2017	Year 2018
Housing Starts ⁽¹⁾	3,883	4,725	12,330	14,887
Apartment Starts ⁽¹⁾	1,356	1,838	4,306	5,791
Average Home Size ⁽²⁾	2,410sf	2,359sf	2,000sf	2,000sf
Average Apartment Size	1,150sf	1,150sf	1,150sf	1,150sf
Total For-Sale Home SF	9,358,030sf	11,146,275sf	24,660,112sf	29,773,051sf
Total Apartment SF	1,559,400sf	2,113,700sf	4,951,710sf	6,659,397sf
Total SF	10,917,430sf	13,259,975sf	29,611,822sf	36,432,448sf
Construction Payroll	\$366,981,148	\$445,724,026	\$995,378,976	\$1,224,649,155
Construction Materials	\$412,767,727	\$501,334,997	\$1,119,567,911	\$1,377,443,093
Other Local Expenditures	\$31,248,395	\$37,953,340	\$84,756,384	\$104,278,709
Avg Price of New Home	\$479,647	\$494,035	\$398,000	\$414,700
4% Comm. (75%)	\$55,874,079	\$70,029,461	\$147,220,867	\$185,203,263
Direct Economic Impact	\$866,871,349	\$1,055,041,825	\$2,346,924,138	\$2,891,574,220

Note(1) assumes tapping 25% of latent demand for Years 2017 and 2018 beyond estimated level of starts.

Note(2) For Case #2, assumes reductions of new home size and price based on improved supply patterns.

THE IMPACT OF FINAL DEMAND AND EMPLOYMENT MULTIPLIERS

(Based on Regional Input-Output Modeling System)

YEAR 2017 BASE CASE					YEAR 2018 BASE CASE				
Economic Impact	Output (Sales)	Earnings	Jobs	Value-Added	Economic Impact	Output (Sales)	Earnings	Jobs	Value-Added

BASE CASE (BASED ON CURRENT CONSTRUCTION PROJECTIONS)

Direct	\$866,871,349	\$290,716,644	5,596	\$473,976,550	Direct	\$1,055,041,825	\$353,822,073	6,811	\$576,861,935
Indirect	\$871,119,019	\$220,130,643	5,497	\$446,814,197	Indirect	\$1,060,211,530	\$267,914,074	6,690	\$543,803,491
Total	\$1,737,990,368	\$510,847,286	11,093	\$920,790,747	Total	\$2,115,253,355	\$621,736,147	13,501	\$1,120,665,426

CASE #2 (INCREASE HOUSING SUPPLY TO 'TAP' LATENT HOUSING DEMAND⁽²⁾)

Direct	\$2,346,924,138	\$787,071,702	15,151	\$1,283,220,408	Direct	\$2,891,574,220	\$969,727,230	18,667	\$1,581,017,038
Indirect	\$2,358,424,067	\$595,970,693	14,883	\$1,209,682,412	Indirect	\$2,905,742,934	\$734,277,458	18,337	\$1,490,413,099
Total	\$4,705,348,205	\$1,383,042,395	30,034	\$2,492,902,820	Total	\$5,797,317,155	\$1,704,004,688	37,003	\$3,071,430,137

Note(1) assumes tapping 25% of latent demand for Years 2017 and 2018 beyond estimated level of starts..

Note(2) For Case #2, assumes reductions of new home size and price based on improved supply patterns.

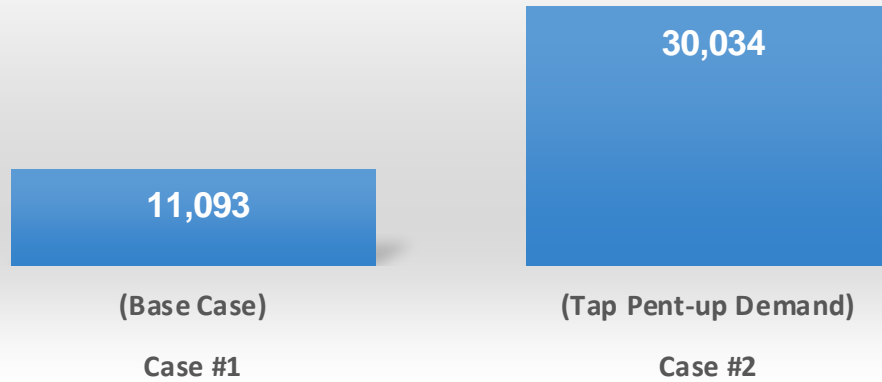
Source: Bureau of Economic Analysis: RIMS II Input-Output multipliers; Real Estate Economics

RIMS II Final Demand and Employment Multipliers						
	1	2	3	4	5	6
	Final Demand Multiplier				Direct Effect Multiplier	
Industry	Output (\$)	Earnings (\$)	Employment (jobs)	Value-added (\$)	Earnings (\$)	Employment (jobs)
230000—Construction	2.0049	0.5893	12.7970	1.0622	1.7572	1.9823

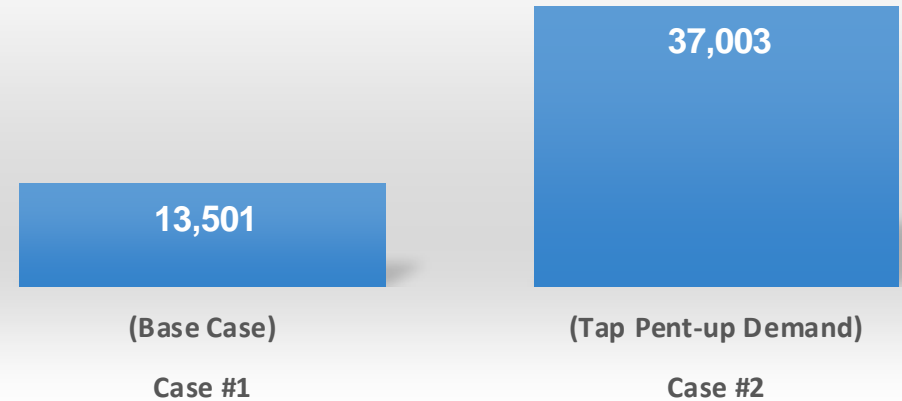
Region Definition: Riverside, CA; San Bernardino, CA

SUMMARY OF ECONOMIC IMPACTS

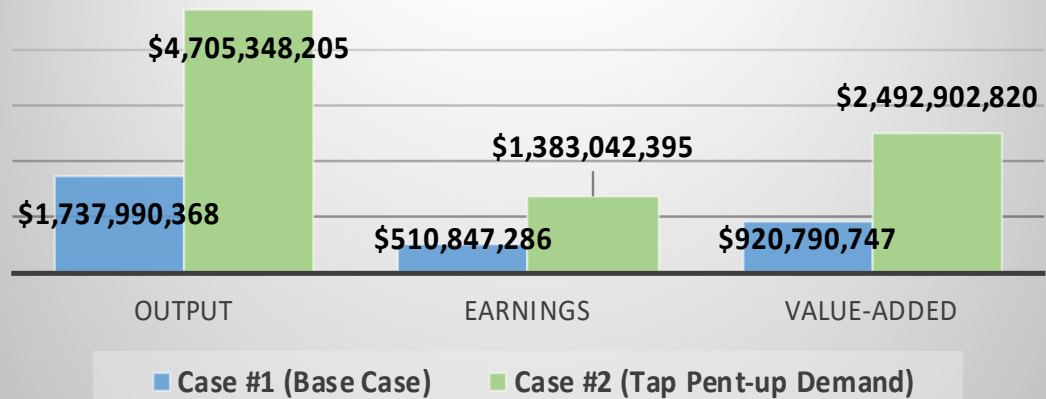
2017 Jobs



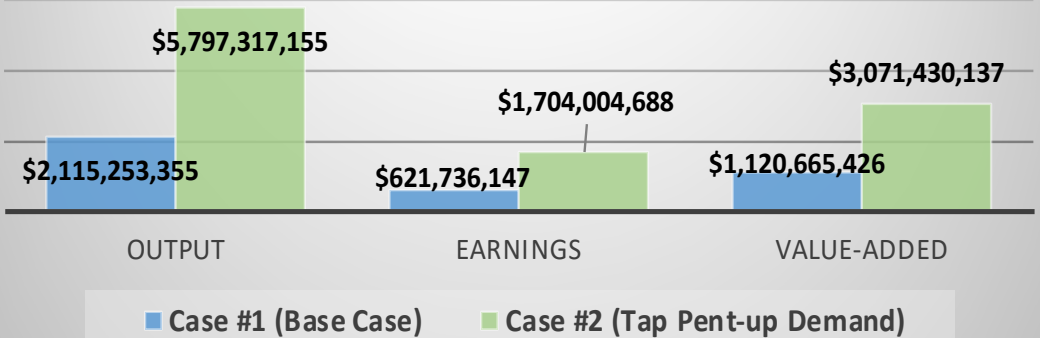
2018 Jobs



OUTPUT, EARNINGS AND VALUE-ADDED



OUTPUT, EARNINGS AND VALUE-ADDED





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