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Better Faster Decisions

The Outlook for California Property Markets

COVID-19, Economic Scenarios, and What May Follow

Cristina Pieretti | Victor Calanog

March 30, 2020

Agenda

1. Welcoming Remarks
2. COVID-19 – Thinking Through Economic Scenarios
3. COVID-19 – California Property Markets
4. What’s Next, and What Can We Really Know?
5. Questions & Answers

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Welcoming Remarks

Cristina Pieretti, *Managing Director* | *Head of REIS*
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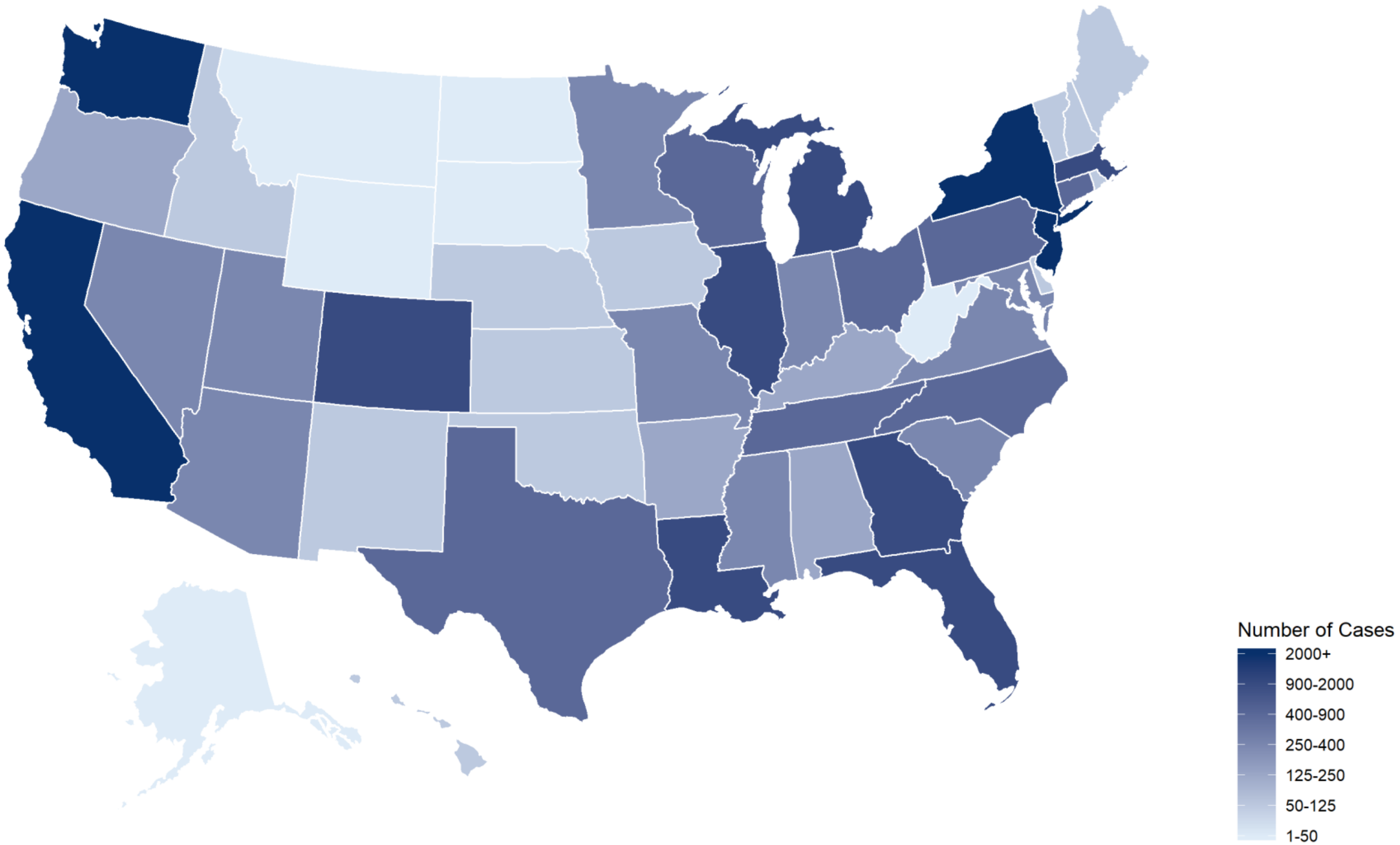
COVID-19 – Thinking Through Economic Scenarios

Victor Calanog PhD, *Head of CRE Economics*
Moody’s Analytics

Concentration Risk Apparent Given Identified Cases



Source: US CDC, as of March 25, 2020

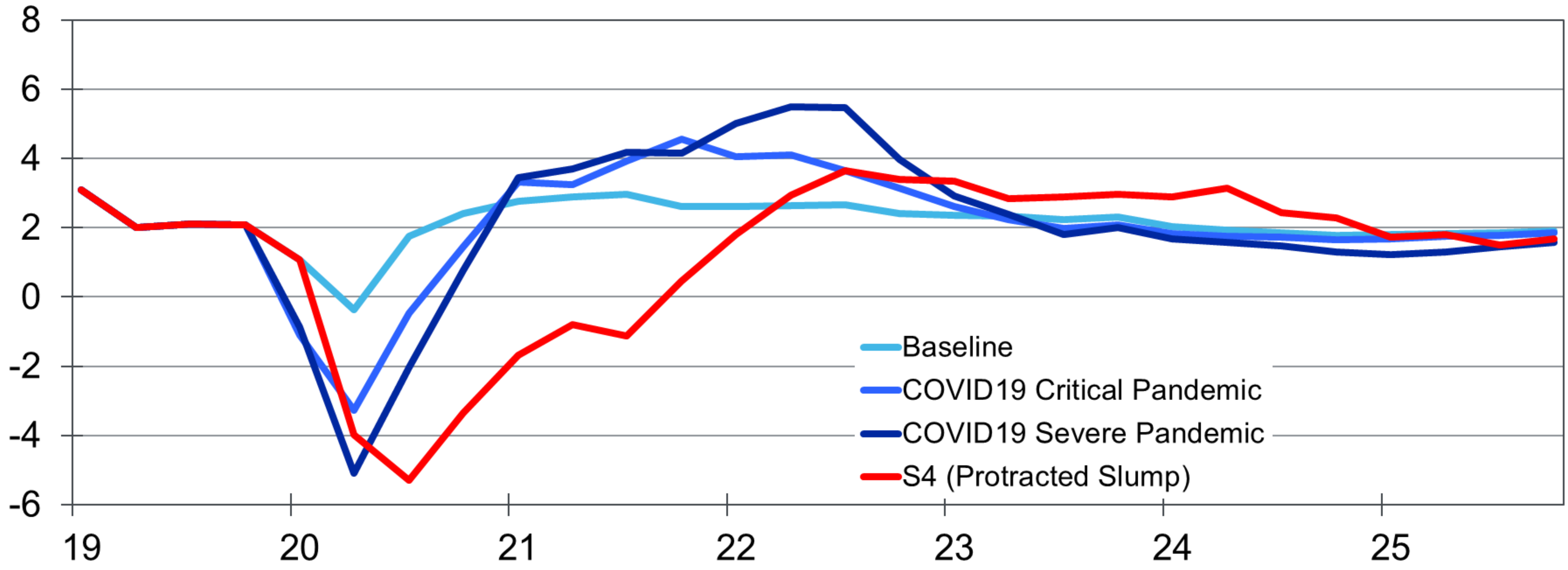
COVID-19 Economic Transmission Channels

1. **Tourism/Leisure/Hospitality**
2. **Trade**
3. **Commodity prices**
4. **Financial markets**
5. **Confidence**

Combination of Supply and Demand Shocks Complicates Forecasts

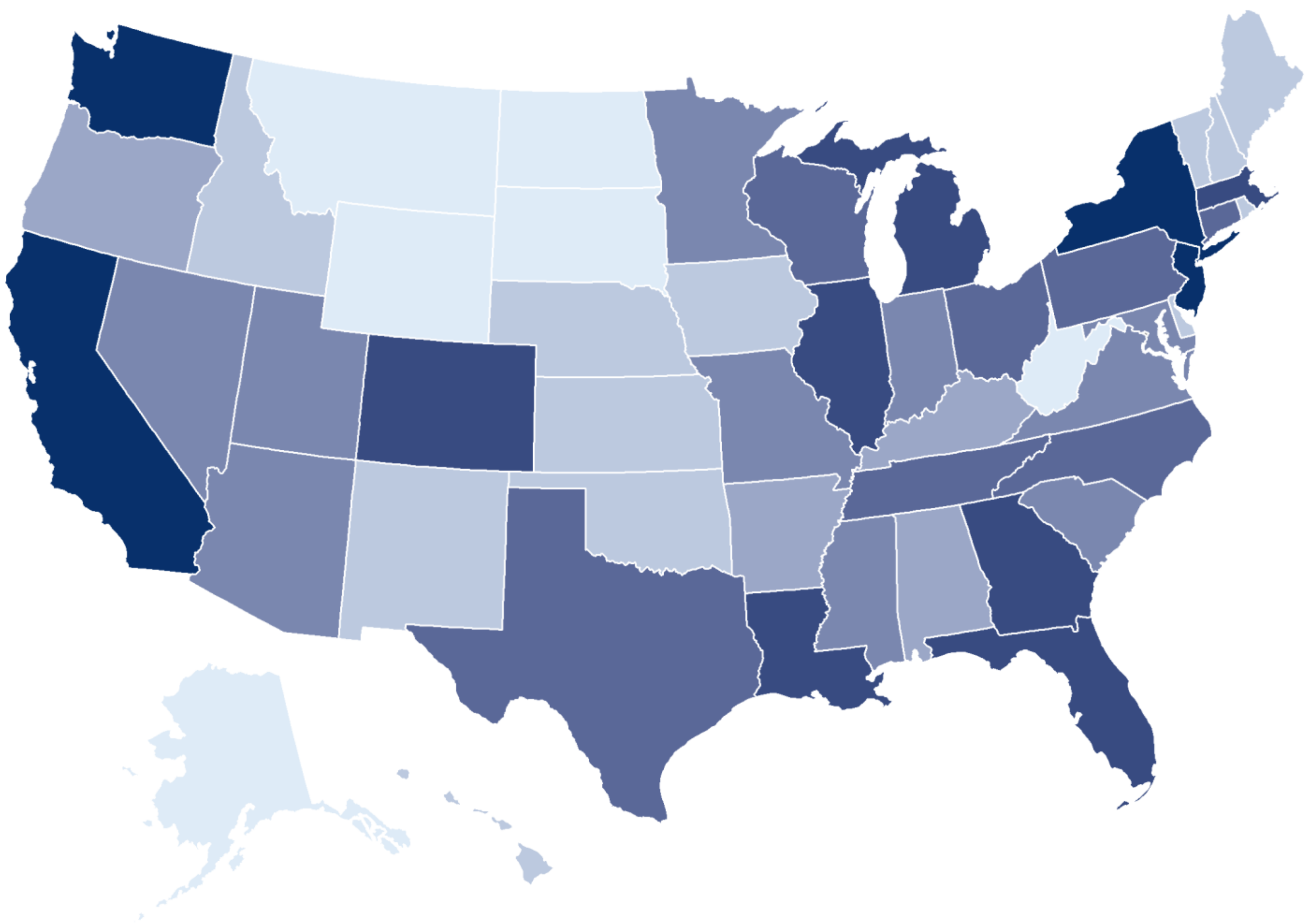
Use Economic Scenarios to Model Downside Risk

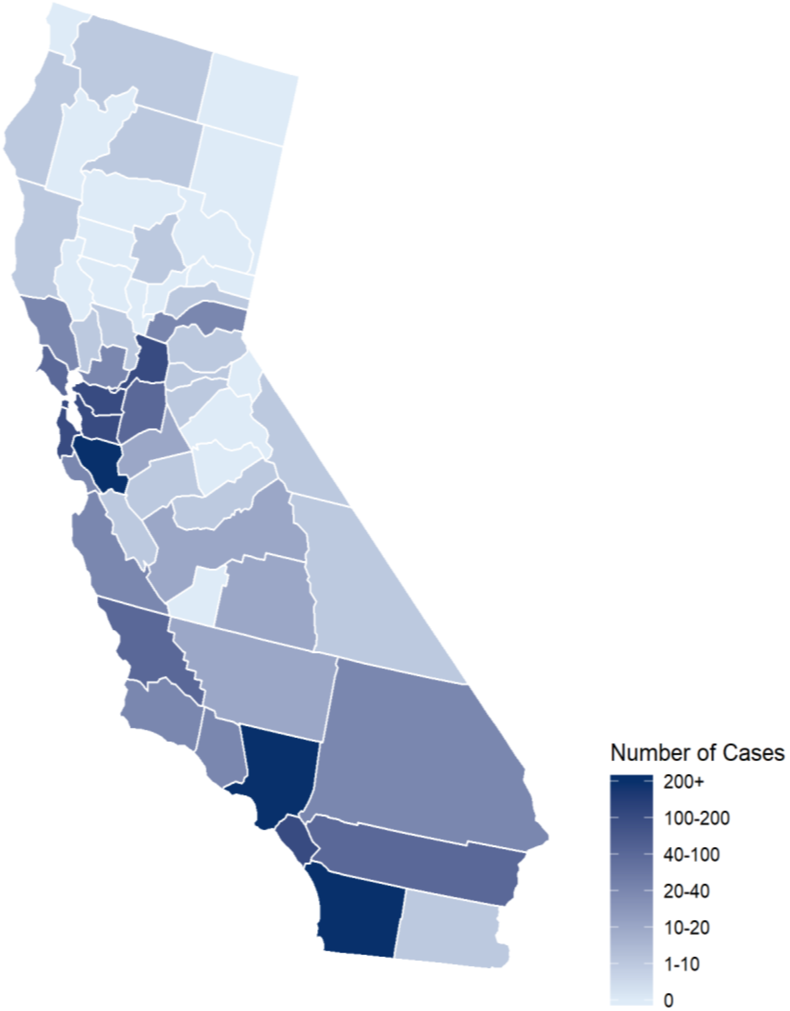
Real GDP, annualized quarter/quarter growth rate, March 2020 Forecast Vintage



Sources: BEA; Moody's Analytics

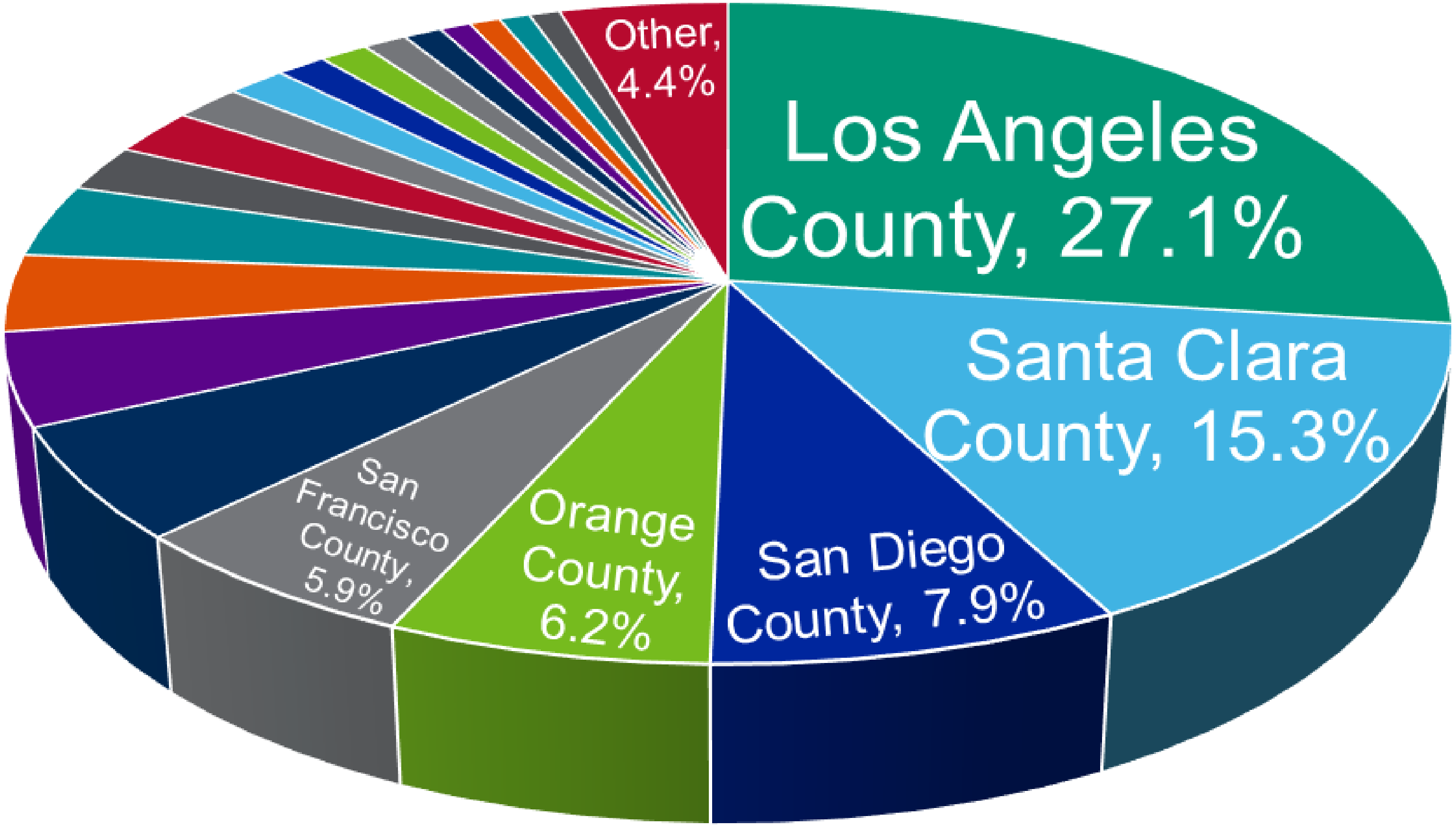
The California Situation





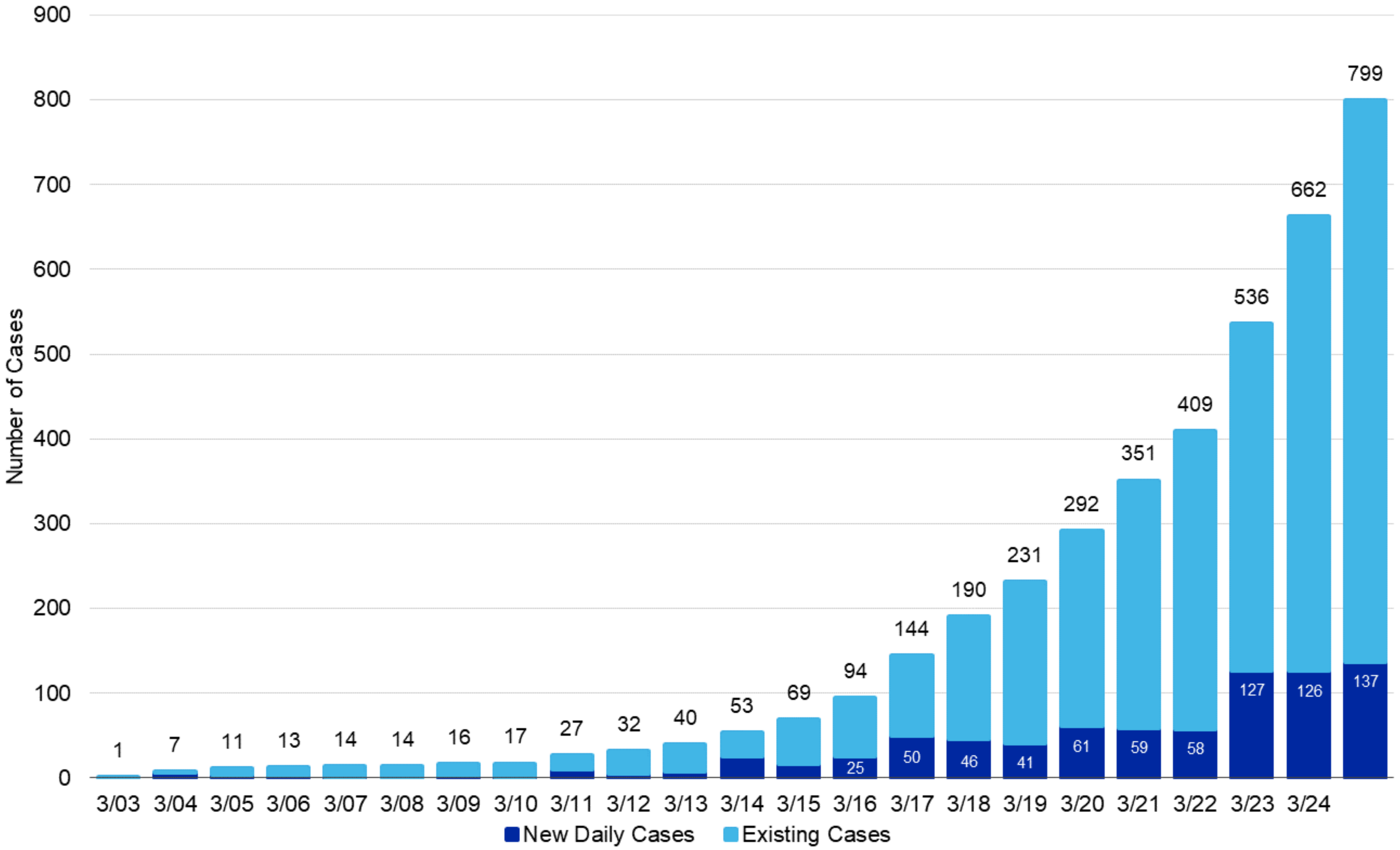
Source: US CDC, as of March 25, 2020

COVID-19 Cases in California: Share by County



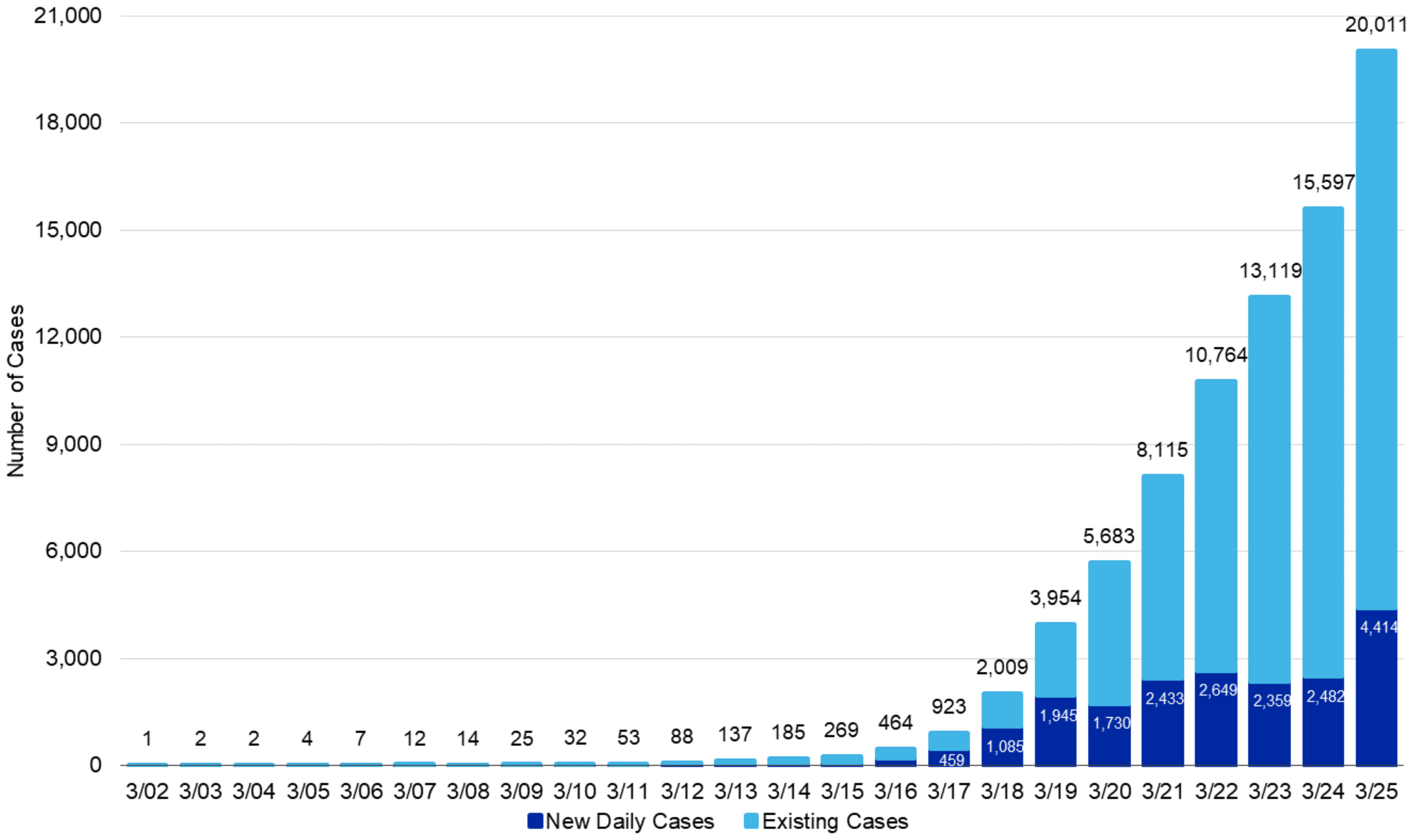
Source: US CDC, as of March 25, 2020

Los Angeles County is the COVID-19 Epicenter (for California)



Source: Los Angeles County Department of Public Health, March 26, 2020

New York City is the COVID-19 Epicenter (for the US)



Source: New York City Department of Health, March 26, 2020

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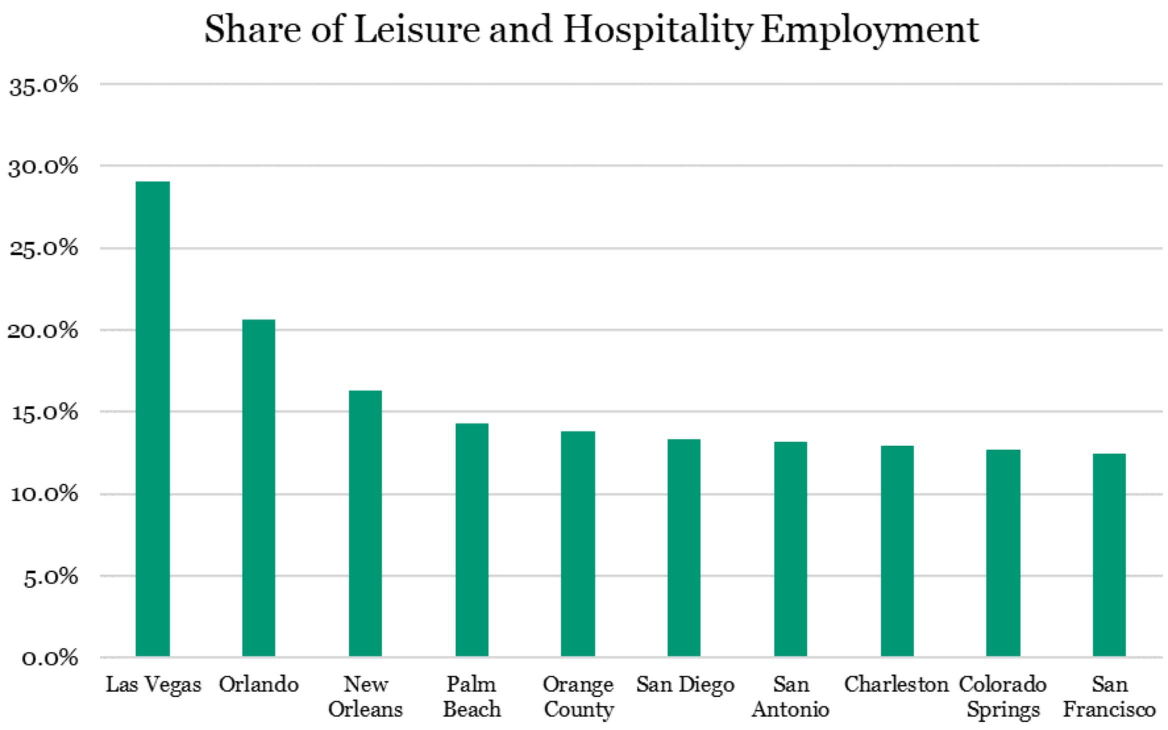
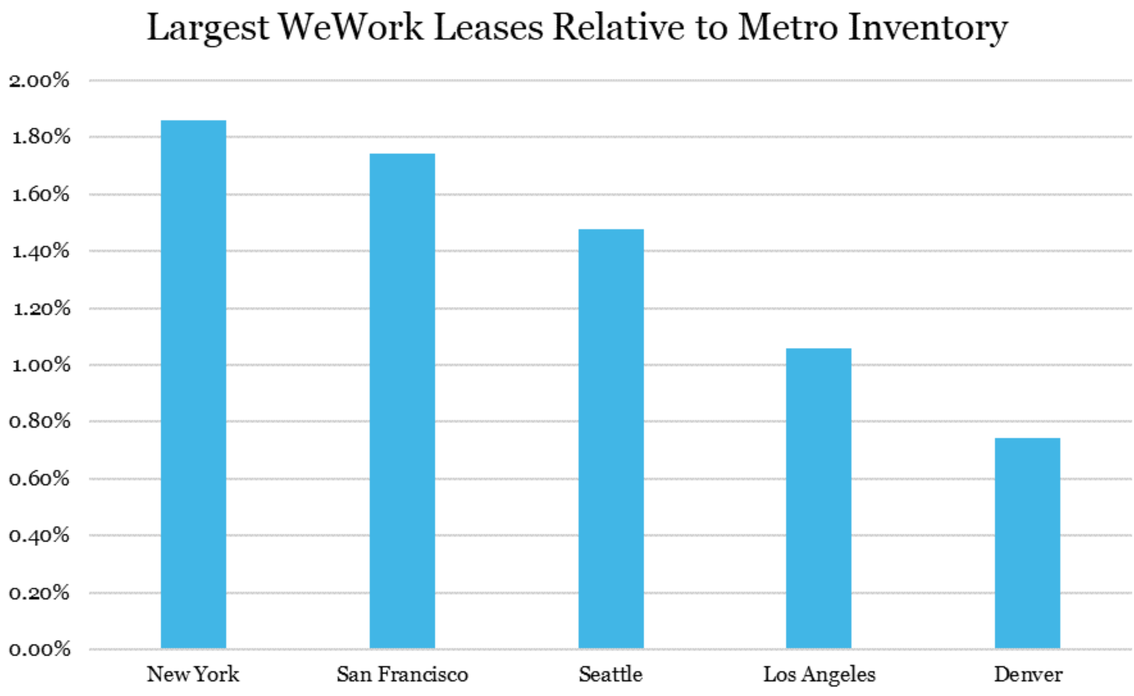
California Property Markets

California Markets in the Front Lines



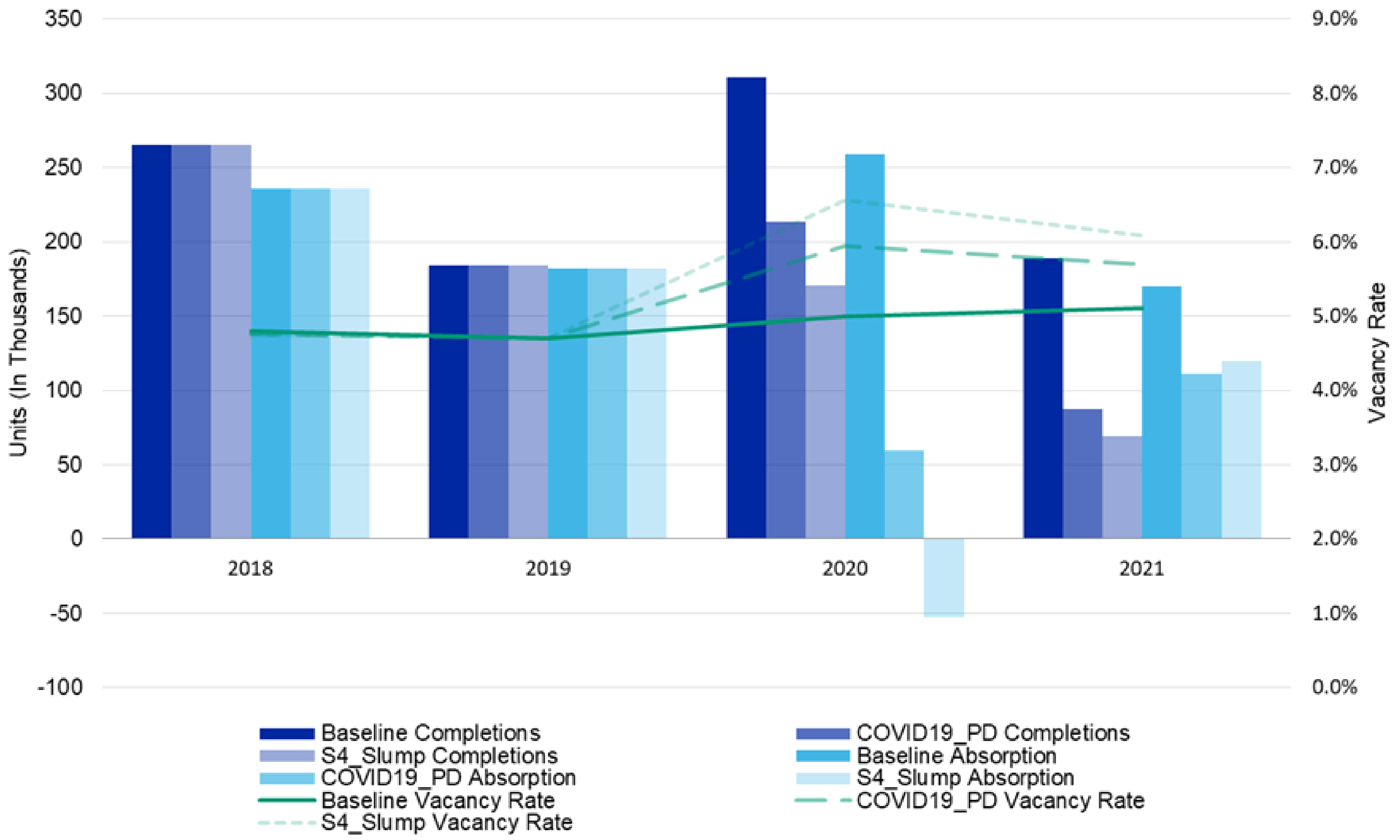
Source: Moody's Analytics



Source: Moody's Analytics REIS; CompStak

Pandemic & Protracted Slump | Multifamily

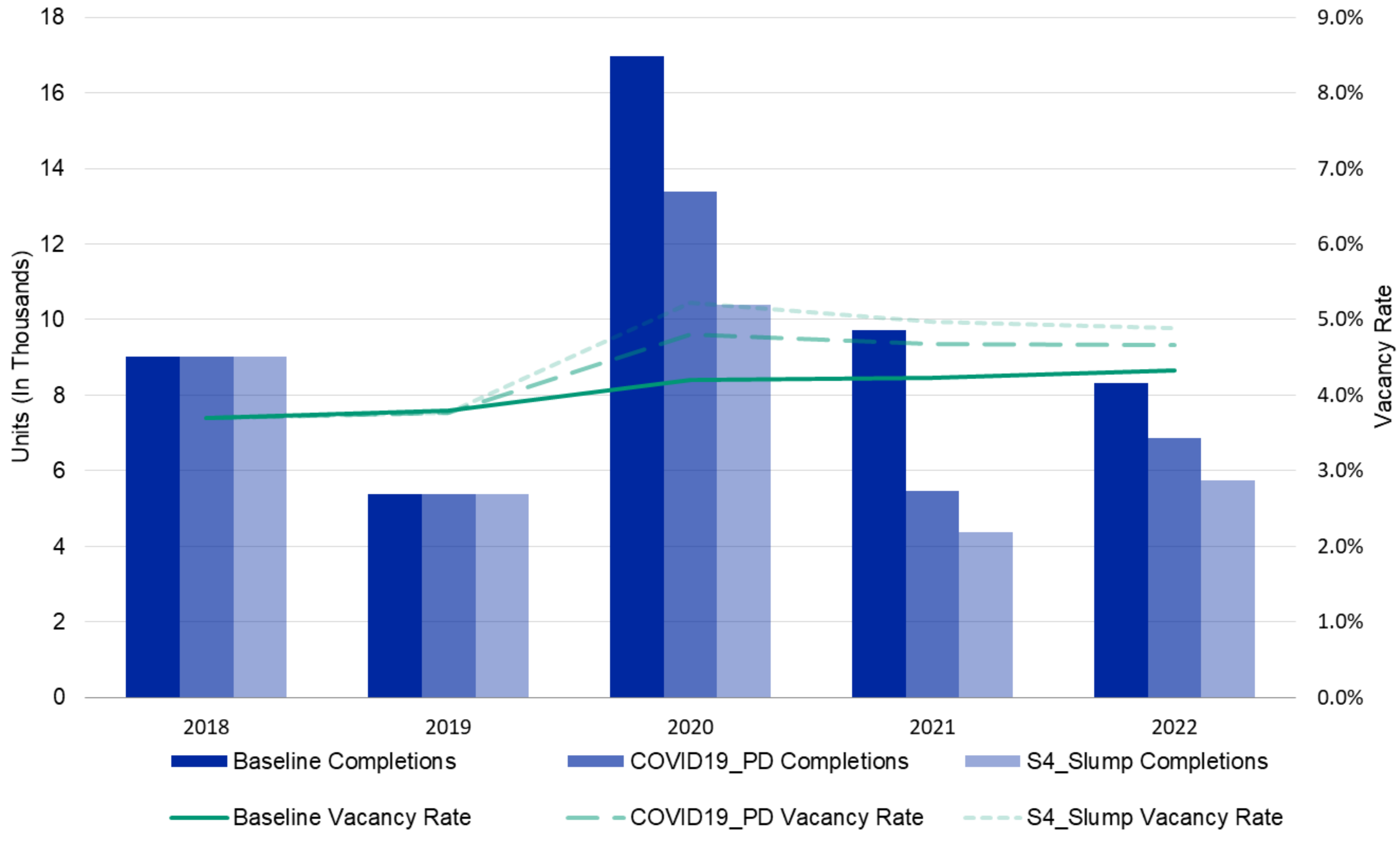
- Baseline expected a record high in terms of deliveries for 2020: over 300,000 new units.
- Severe pandemic and protracted slump scenarios produce an increase in vacancies, but construction pullback is a countervailing effect.



Source: Moody's Analytics REIS

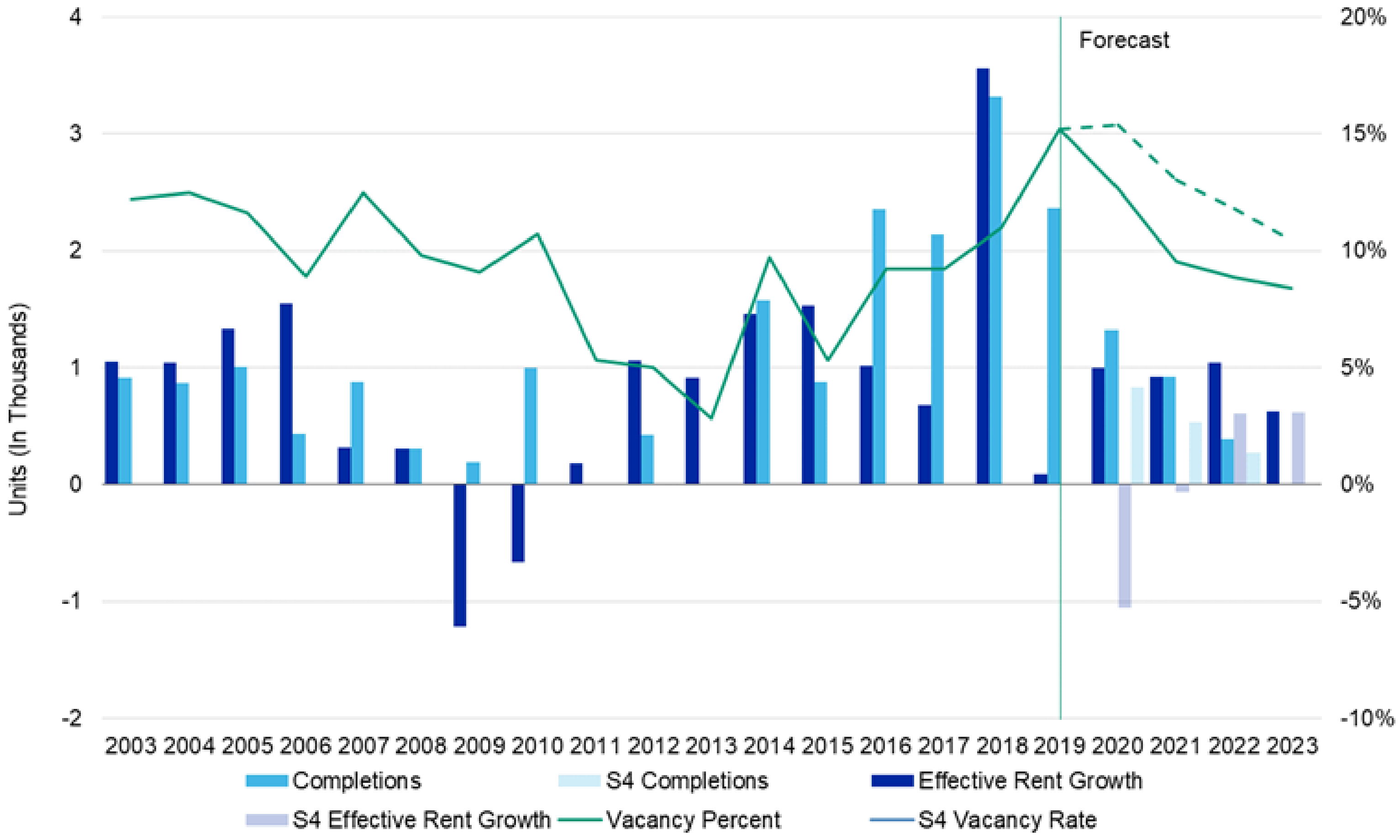
Pandemic & Protracted Slump | Los Angeles

- For Los Angeles, we were expecting close to 17,000 new units to come online by year-end 2020 (highest figure since 1990).
- 21% supply growth pullback for Severe Pandemic & 39% pullback for Protracted Slump means vacancies still rise, but not as much.



Source: Moody's Analytics REIS

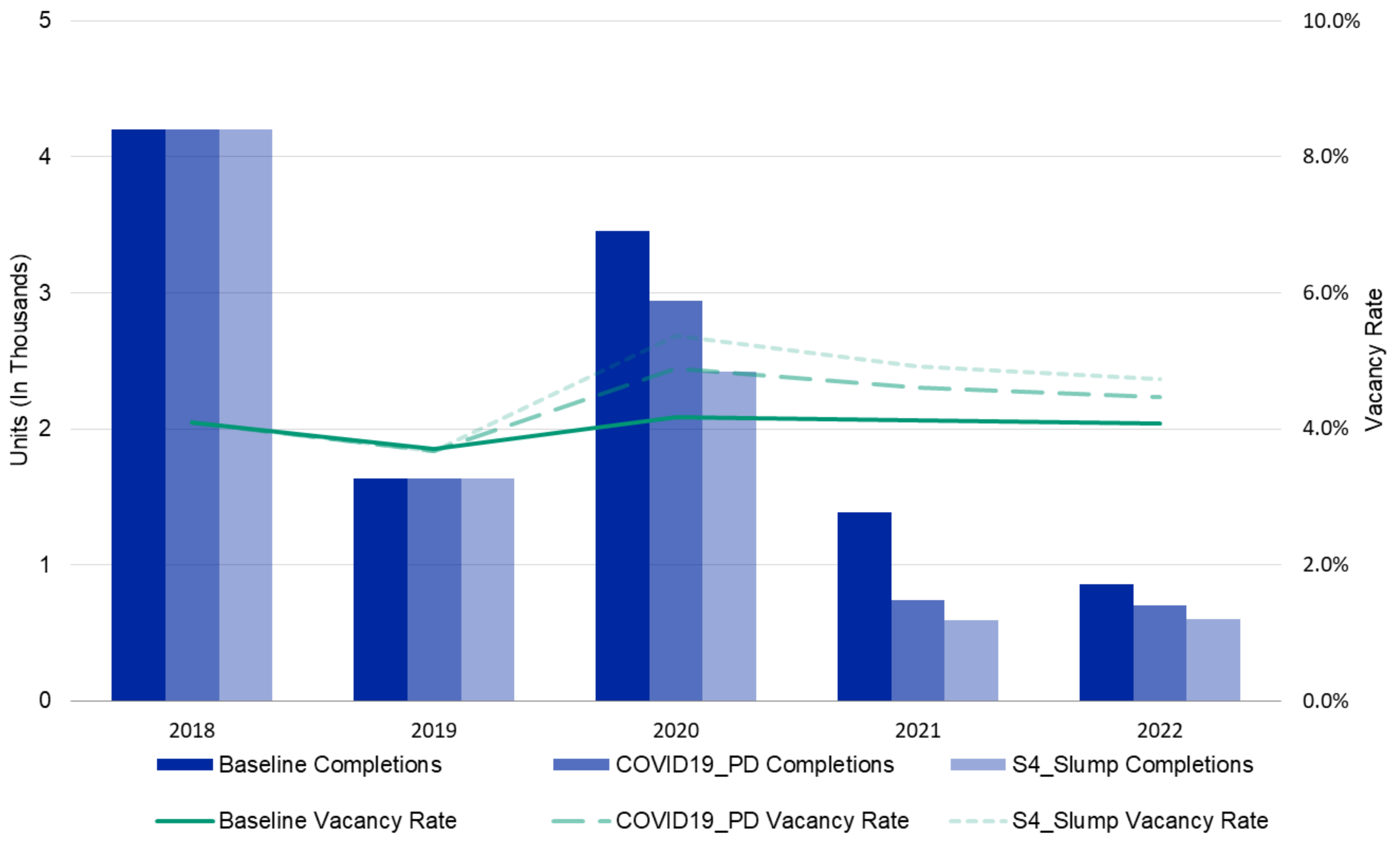
Pandemic & Protracted Slump | Downtown LA



Source: Moody's Analytics REIS

Pandemic & Protracted Slump | Orange County

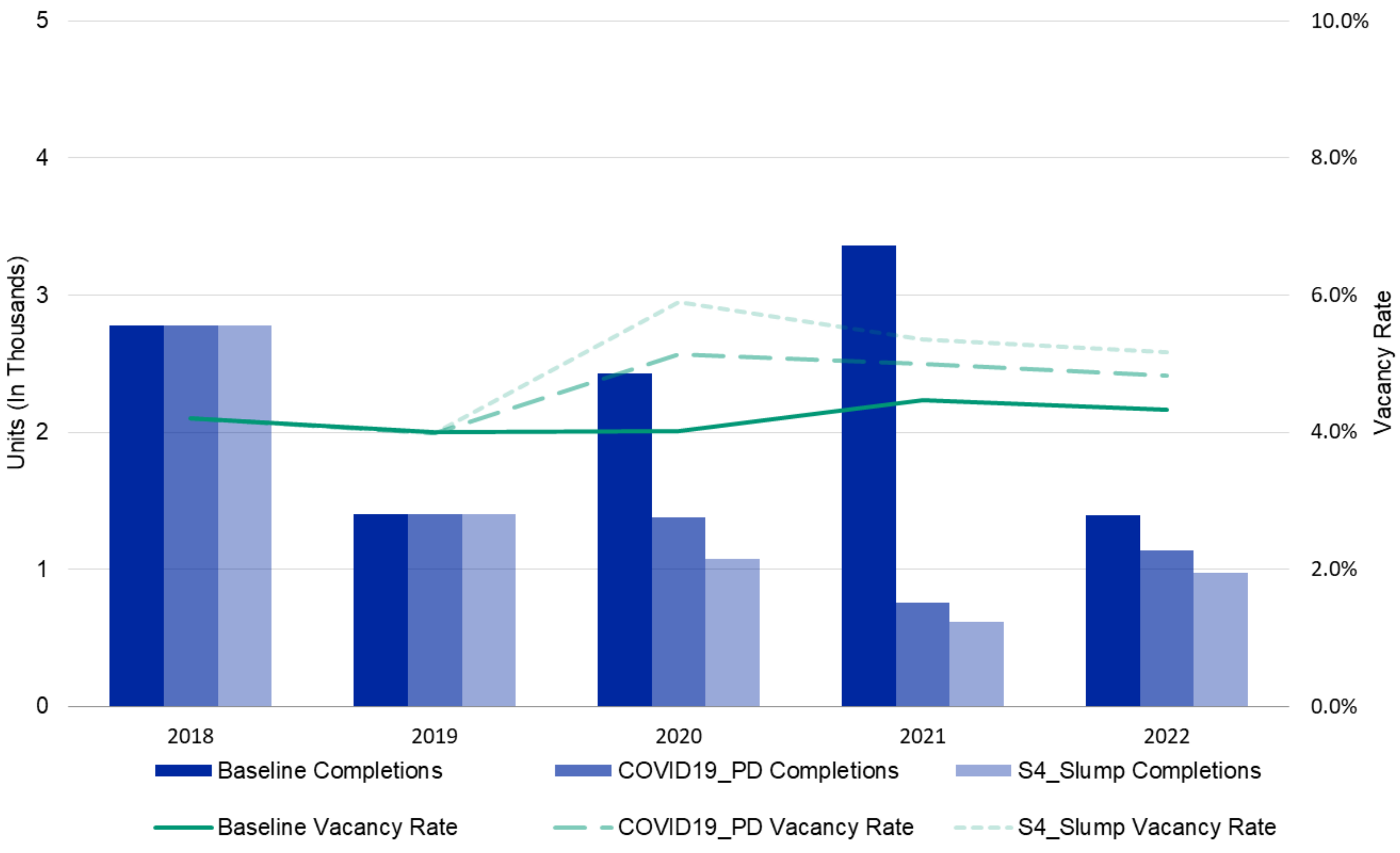
- For Orange County, more reasonable supply growth (~2,400 units in 2020) suggests less of a construction pullback (15% for Severe Pandemic; 31% for Protracted Slump).
- Vacancies top out at 5.4% in 2020 before recovering in 2021.



Source: Moody's Analytics REIS

Pandemic & Protracted Slump | San Francisco

- For San Francisco, close to record deliveries for several years (with an expected spike in 2021), so supply growth pullback in 2020 more pronounced (43% under Severe Pandemic; 56% for Protracted Slump)
- Vacancies stay relatively tight at 5.9%.
- However….



Source: Moody's Analytics REIS

Protracted Slump | Major California Multifamily Markets

- Historical reaction functions to downturns determine the relative focus and magnitude of distress in various property types and geographic markets.

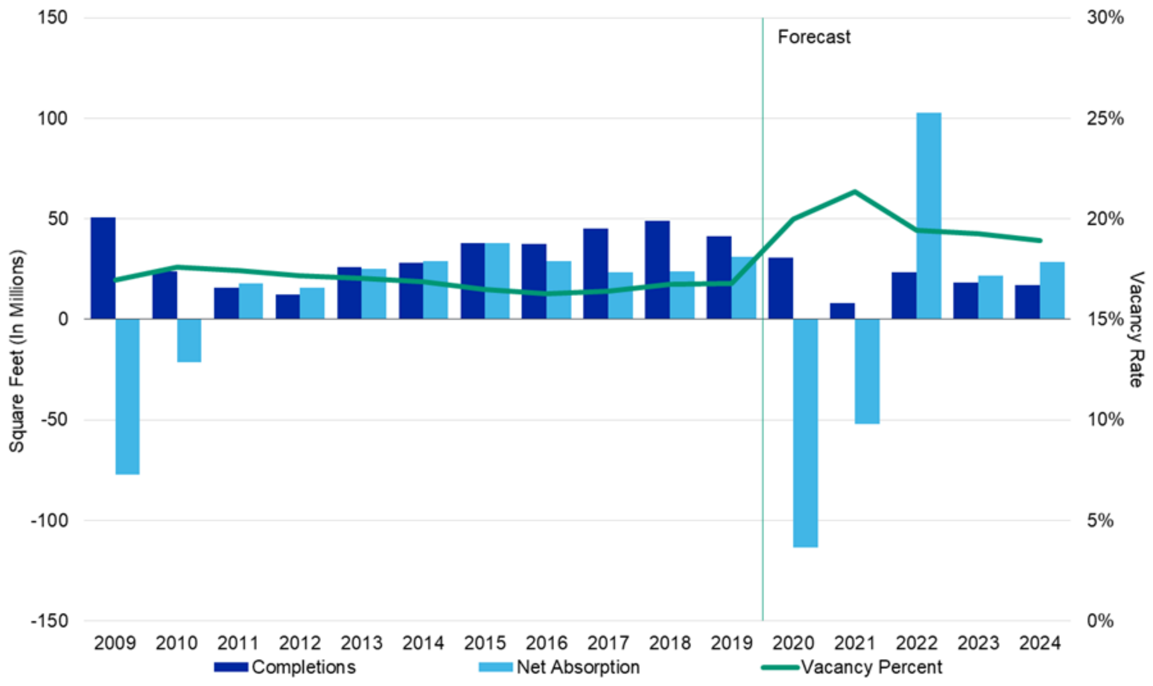
MSA	State	Year	Vacancy	Vacancy Change - BPS	Effective Rent Change
Sacramento	CA	2020	5.10%	222	-3.43%
San Bernardino/Riverside	CA	2020	5.49%	215	-3.09%
San Francisco	CA	2020	5.89%	190	-10.81%
San Jose	CA	2020	6.13%	175	-13.18%
Oakland-East Bay	CA	2020	5.45%	172	-5.79%
Orange County	CA	2020	5.36%	169	-4.30%
Los Angeles	CA	2020	5.22%	146	-4.43%
Ventura County	CA	2020	4.43%	118	-4.17%
San Diego	CA	2020	4.98%	111	-2.79%

Source: Moody's Analytics REIS

- Recent record of oversupply will position any geographic market for distress, if demand pulls back abruptly (as per a severe pandemic or protracted slump scenario).
- Recent record of poor performance, particularly when vacancies have been rising and/or rent growth has been moderating, suggests markets will not fare as well in a downturn.
- Sacramento takes the hit in occupancies, but San Francisco and San Jose tend to be more volatile in terms of effective rent declines.

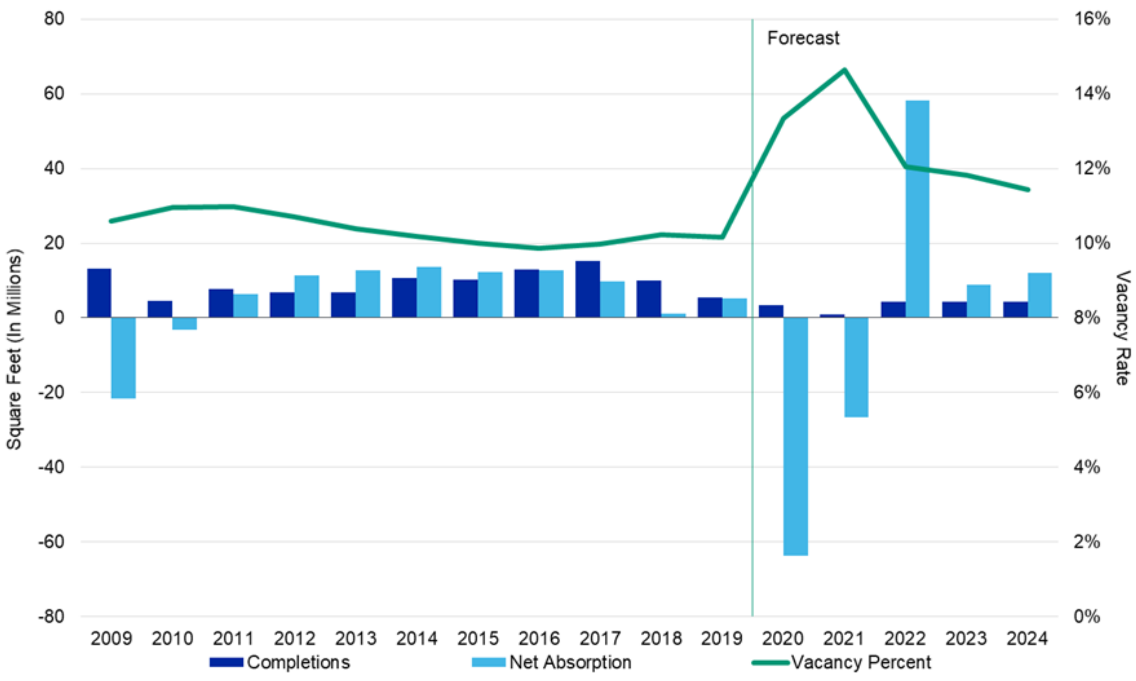
Office & Retail Do Not Fare as Well

Office Fundamentals | Protracted Slump



Source: Moody's Analytics REIS

Retail Fundamentals | Protracted Slump



Source: Moody's Analytics REIS

California Markets in a Protracted Slump: Office

MSA	State	Year	Vacancy	Vacancy Change - BPS	Effective Rent Change
Los Angeles	CA	2020	17.27%	327	-3.11%
San Francisco	CA	2020	12.08%	325	-13.17%
Orange County	CA	2020	19.71%	322	-4.40%
San Jose	CA	2020	21.42%	321	-9.50%
San Diego	CA	2020	18.84%	319	-3.49%
Oakland-East Bay	CA	2020	18.38%	318	-5.78%
Sacramento	CA	2020	21.70%	318	-2.45%
Ventura County	CA	2020	21.55%	317	-2.52%
San Bernardino/Riverside	CA	2020	19.69%	315	-2.09%

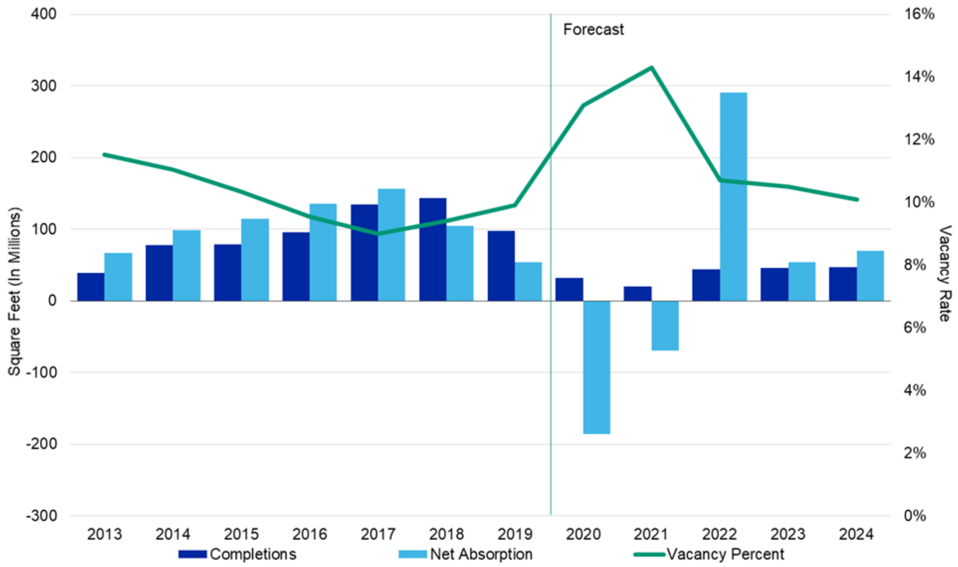
Source: Moody's Analytics REIS

California Markets in a Protracted Slump: Retail

MSA	State	Year	Vacancy	Vacancy Change - BPS	Effective Rent Change
Sacramento	CA	2020	13.28%	319	-7.33%
San Jose	CA	2020	8.67%	317	-4.70%
Los Angeles	CA	2020	10.51%	317	-4.74%
San Bernardino/Riverside	CA	2020	13.07%	317	-5.43%
Ventura County	CA	2020	11.81%	316	-4.34%
San Diego	CA	2020	9.06%	316	-3.19%
Orange County	CA	2020	8.89%	316	-4.72%
Oakland-East Bay	CA	2020	11.17%	315	-4.58%
San Francisco	CA	2020	7.32%	313	-3.43%

Source: Moody's Analytics REIS

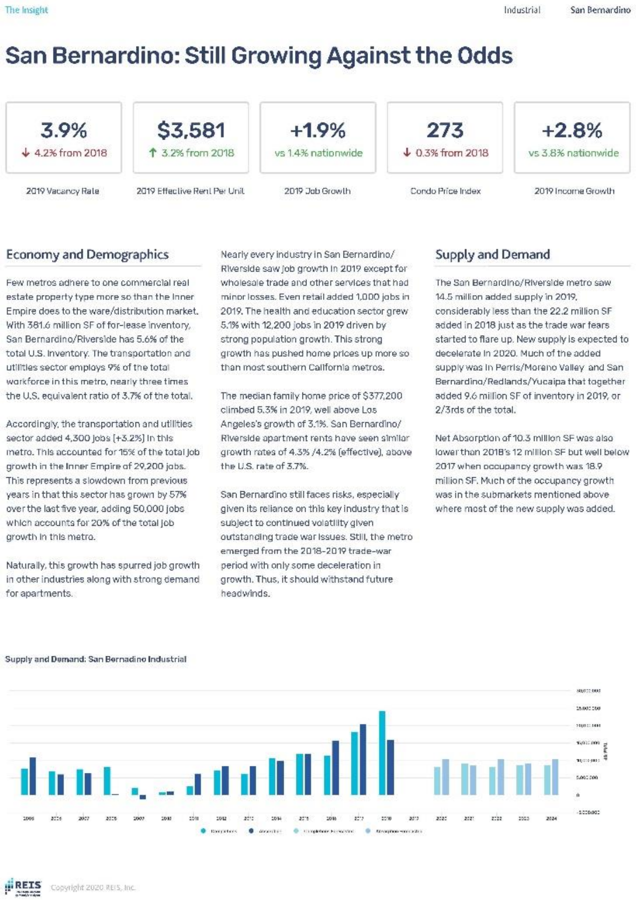
California Warehouse/Distribution Markets



Source: Moody's Analytics REIS

MSA	State	Year	Inventory Change (2015-2020)	Vacancy	Vacancy Change - BPS	Effective Rent Change
San Bernardino/Riverside	CA	2020	19.43%	12.39%	314	-4.99%
Oakland-East Bay	CA	2020	5.37%	12.97%	313	-5.18%
San Diego	CA	2020	4.10%	12.23%	313	-5.03%
Los Angeles	CA	2020	3.20%	8.51%	315	-4.74%
Sacramento	CA	2020	2.24%	12.95%	315	-4.64%
Orange County	CA	2020	2.23%	10.43%	315	-5.20%
San Jose	CA	2020	1.07%	11.38%	313	-4.23%
San Francisco	CA	2020	0.06%	8.72%	312	-4.75%

The Insight: San Bernardino/Riverside



The Insight | Industrial | San Bernardino

San Bernardino: Still Growing Against the Odds

3.9%	$3,581	+1.9%	273	+2.8%
↓ 4.2% from 2018	↑ 3.2% from 2018	vs 1.4% nationwide	↓ 0.3% from 2018	vs 3.8% nationwide
2019 Vacancy Rate	2019 Effective Rent Per Unit	2019 Job Growth	Condo Price Index	2019 Income Growth

Economy and Demographics

Few metros adhere to one commercial real estate property type more so than the Inner Empire does to the ware/distribution market. With 381.6 million SF of for-lease inventory, San Bernardino/Riverside has 5.6% of the total U.S. inventory. The transportation and utilities sector employs 9% of the total workforce in this metro, nearly three times the U.S. equivalent ratio of 3.7% of the total.

Accordingly, the transportation and utilities sector added 4,300 jobs (+3.2%) in this metro. This accounted for 15% of the total job growth in the Inner Empire of 29,200 jobs. This represents a slowdown from previous years in that this sector has grown by 57% over the last five year, adding 50,000 jobs which accounts for 20% of the total job growth in this metro.

Naturally, this growth has spurred job growth in other industries along with strong demand for apartments.

Nearly every industry in San Bernardino/Riverside saw job growth in 2019 except for wholesale trade and other services that had minor losses. Even retail added 1,000 jobs in 2019. The health and education sector grew 5.1% with 12,200 jobs in 2019 driven by strong population growth. This strong growth has pushed home prices up more so than most southern California metros.

The median family home price of $377,200 climbed 5.3% in 2019, well above Los Angeles's growth of 3.1%. San Bernardino/Riverside apartment rents have seen similar growth rates of 4.3% /4.2% (effective), above the U.S. rate of 3.7%.

San Bernardino still faces risks, especially given its reliance on this key industry that is subject to continued volatility given outstanding trade war issues. Still, the metro emerged from the 2018-2019 trade-war period with only some deceleration in growth. Thus, it should withstand future headwinds.

Supply and Demand

The San Bernardino/Riverside metro saw 14.5 million added supply in 2019, considerably less than the 22.2 million SF added in 2018 just as the trade war fears started to flare up. New supply is expected to decelerate in 2020. Much of the added supply was in Perris/Moreno Valley and San Bernardino/Redlands/Yucaipa that together added 9.6 million SF of inventory in 2019, or 2/3rds of the total.

Net Absorption of 10.3 million SF was also lower than 2018's 12 million SF but well below 2017 when occupancy growth was 18.9 million SF. Much of the occupancy growth was in the submarkets mentioned above where most of the new supply was added.

Supply and Demand: San Bernadino Industrial

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The Insight | Industrial | San Bernardino

Asking Rent and Vacancy Trends By Year (per SF)

...wth

...higher vacancy rate, rent growth ...rdino/Riverside was 2.5% ...2.6% (effective) in 2019. Not ...this was down from a growth ...asking and effective) in 2018. For ... sector, rents grew 2.8%/3.1% ...tive) in 2019, down slightly from ...spective

Transaction Analytics

Sales volume of warehouse/distribution space declined to $510 million in the fourth quarter, down from an average of $900 million in the two prior quarters. Investors have been eager to buy industrial properties in the Inner Empire, but many were cautious given the uncertainty stemming from the

The Insight | Industrial | San Bernardino

Submarkets in San Bernardino/Riverside Metro

Submarket	Inventory	Vacancy Q4 2019	Vacancy Q4 2018	Rent Growth 2019	Rent Growth 2018
Corona	37,590,000	3.8%	6.6%	3.1%	6.9%
Perris/Moreno Valley	45,446,000	4.2%	17.5%	5.4%	3.7%
Fontana	40,543,000	4.8%	9.9%	1.6%	5.3%
Rancho Cucamonga	31,076,000	3.0%	6.1%	1.5%	2.8%
Ontario	84,085,000	3.6%	4.7%	2.7%	3.0%
Montclair	4,891,000	3.0%	4.4%	3.1%	2.2%
Chino	28,483,000	3.0%	10.6%	1.8%	0.7%
San Bernardino/ Redlands/Yucaipa	92,128,000	4.8%	8.2%	1.9%	5.3%
Temecula	3,014,000	3.8%	15.5%	0.4%	4.5%
Palm Springs	3,701,000	3.9%	10.4%	0.0%	0.6%
Victorville	10,642,000	3.8%	14.7%	-1.2%	4.3%
San Bernardino/Riverside Metro	381,600,000	3.9%	8.5%	2.5%	4.1%

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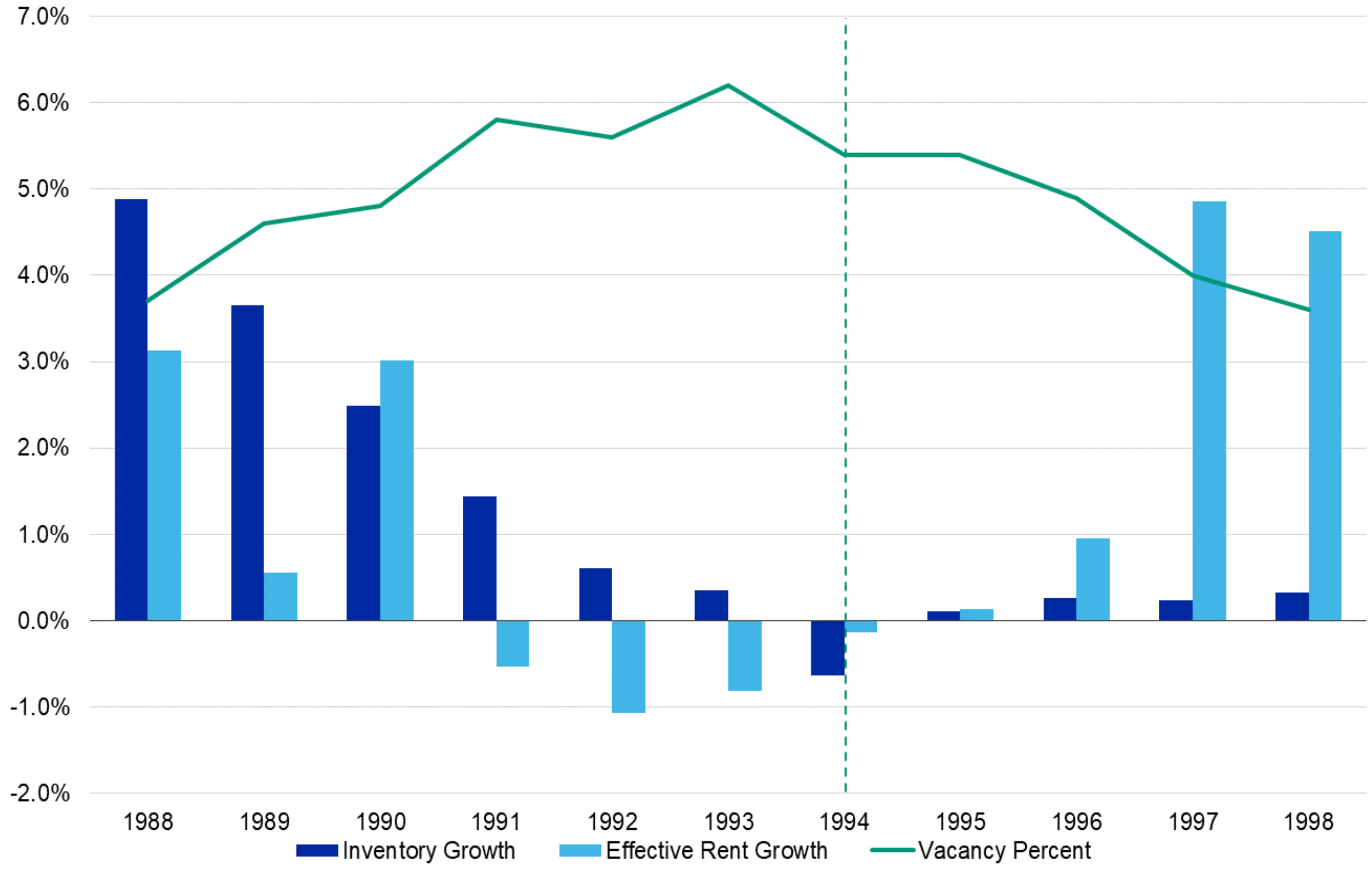
What's Next, and What Can We Really Know?

Idiosyncratic Shocks? Some Experience

Los Angeles Multifamily Fundamentals, 1988 to 1998

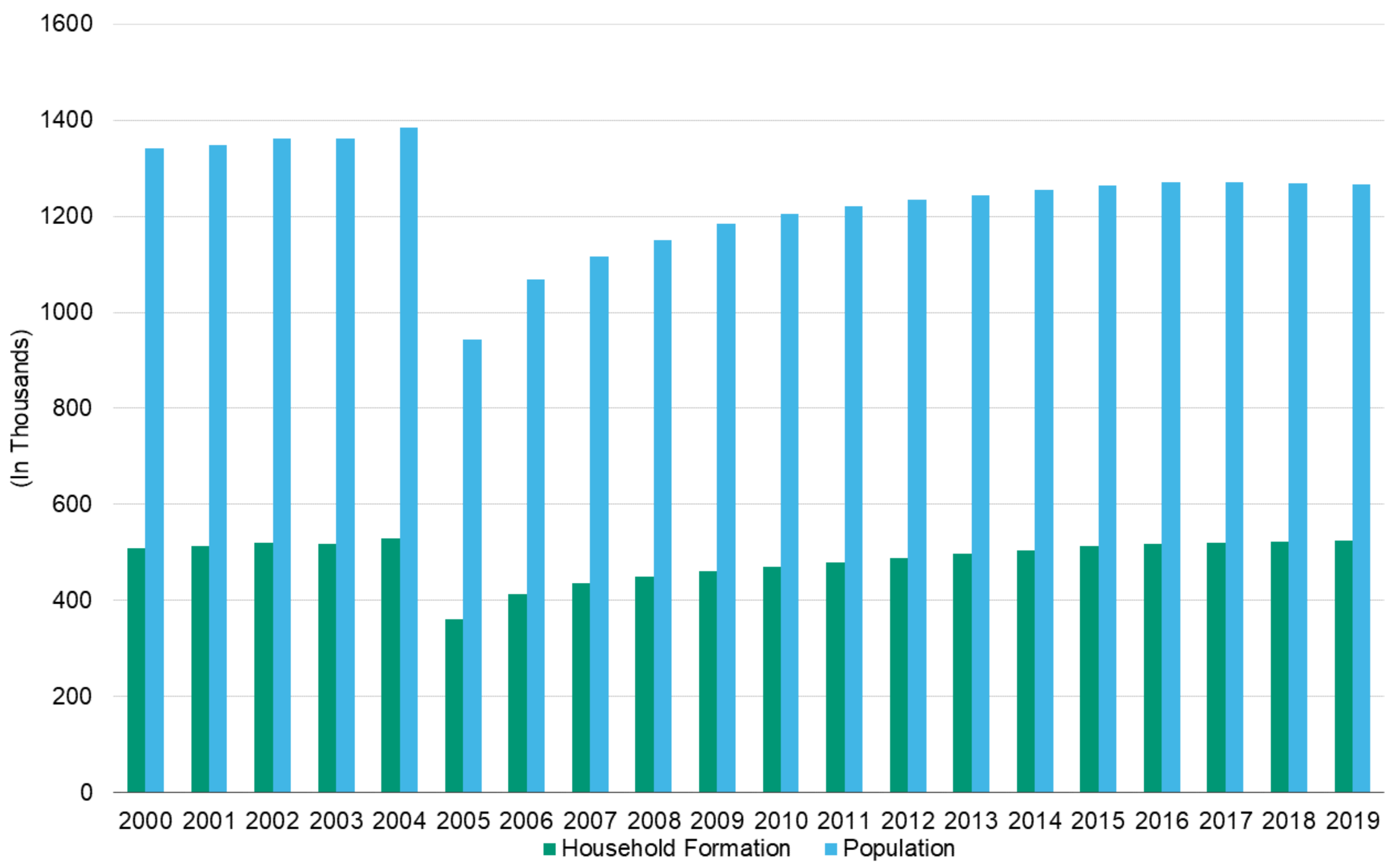


Source: Moody's Analytics REIS

- The Northside Earthquake of 1994 remains the costliest earthquake on record in the US ($26.4 billion in damages, 2018 dollars)
- *Net positive* for Los Angeles multifamily fundamentals – but *why*?
- This is the optimistic case: that demand remains strong in urban areas where multifamily properties tend to cluster.

Idiosyncratic Shocks? Potential Negatives

New Orleans Demographics, 2000 to 2019



Source: Moody's Analytics

- Hurricane Katrina in 2005 devastated New Orleans and the area suffered a permanent shock to demand
- Multifamily fundamentals received a temporary boost because of destroyed units, but over the long run weaker demand did not sustain occupancies.
- What will happen post-COVID-19?

Questions & Answers

Today’s Speakers

Cristina Pieretti
MANAGING DIRECTOR / HEAD OF REIS

Victor Calanog
HEAD OF CRE ECONOMICS

Thank You