

# Multifamily Sector

## MSRE513 Final (Fall 2022)



Source: CoStar

4553 Park Blvd (University Heights)  
Currently under construction

Jasmine Johanesen  
Mark Scarola

Rod Cho  
Alex Cesta

# Executive Summary

Multifamily housing is an umbrella term that covers different types of residential units that are designed to house multiple families within the same building. This can include duplexes, triplexes, townhomes, condominiums, garden apartments, and massive high-rise buildings. The typical multifamily lease term is one year, though shorter term leases do exist. Unlike retail and office properties, multifamily leases are typically gross leases, meaning that tenants do not pay for maintenance, property taxes, or property insurance.

Looking first at fundamental demand drivers, we see increases in the population of San Diego, along with job growth in the export sector including professional, scientific, and technology, healthcare, real estate, and military positions. Real income is steadily increasing along with interest rates that will persuade residents on the fence to consider rentals over home ownership in the short run.

On the supply side, increases in construction and labor costs, economic obsolescence, topographical and human induced supply constraints, as well as an increased cost of acquiring capital are all putting downwards pressure on development.

Technical indicators such as months remaining inventory further suggest that in the asset market, demand is also outpacing supply.

In short, the overall theme of our research is that demand is continuing to increase while supply remains constricted. While there is some supply that is on the verge of coming aboard that will help to reduce rental prices and property values in the short run, we expect to see a return to long-term consistent rental growth and price appreciation in the long run.

# Supplemental Research and Conclusions

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## Definition of Multifamily Sector

Multifamily housing is an umbrella term that covers different types of residential units that are designed to house multiple families within the same building. This can include duplexes, triplexes, townhomes, condominiums, garden apartments, and massive high-rise buildings. It is an increasingly popular type of housing that allows families to benefit from communal space and amenities that would otherwise be unavailable with single-family homes. Often multifamily projects are combined into mixed-use projects that incorporate retail and/or other real estate usage types as well.

For the purpose of this assignment, we will only consider multifamily properties consisting of five or more units.

## Typical Lease Terms

The typical multifamily lease term is one year, though shorter term leases do exist. This is because multifamily housing is typically intended for residential use, and people tend to prefer the flexibility of being able to move more easily if their living situation changes. Tenants will typically pay for some portion of their utilities such as electricity, heat, water, and/or telecommunications. Unlike retail and office properties, multifamily leases are typically gross leases, meaning that tenants do not pay for maintenance, property taxes, or property insurance. Instead, these costs are typically included in the monthly rent payment.

## A Word on Sustainability

Given the certainty of climate change and its impact on the environment, people, and buildings, there is simply no suitable alternative to being prepared. Additionally, there is an increasing pressure for greater environmental, social, and governance (ESG) investment disclosures by private and institutional investors<sup>5</sup>. Thus, climate resilience is a form of risk mitigation that leads to long-term value creation<sup>6</sup>.

Risk mitigation entails bringing in higher quality tenants who demand higher ESG standards, working with shareholders who insist on accountability when making investment decisions, and being prepared for regulatory standards and disclosure requirements. By reducing environmental obsolescence, one can lower the exit cap rate, which in turn increases the overall property value through a higher reversion value. As more developers incorporate sustainability into their projects we will see an increase in property values, at least in the buildings where owners can afford to implement such measures. Thus, in the short run, it's possible that we could see a continued growth in the spread between lower and higher valued properties.

## Fundamentals

Market fundamentals refer to overall conditions affecting a particular market. For the purposes of this assignment, we are concentrating on five plus unit multifamily projects within the City of San Diego, CA.

## Demand Drivers

### **Economic Bases**

San Diego has a wide economic base, and is not reliant on any one industry for economic growth. Among its largest employment sectors are professional services, technology, biotech, healthcare, real estate, and military. Each stands out for its high location quotient as shown below, indicating they are exporting goods and services, and bringing outside money into the San Diego market.

<b>Top Employers in 2019</b>	<b>Jobs</b>	<b>Percentage</b>	<b>Location Quotient</b>
Professional, Scientific, and Tech Services	228077	10.57%	1.70
Healthcare and Social Assistance	215422	9.98%	7.05
State and local	203884	9.45%	0.74
Accommodation and food services (tourism)	184655	8.56%	0.94
Retail trade	180339	8.36%	0.82
Administrative and support	129975	6.02%	1.00
Manufacturing	123881	5.74%	0.70
Construction	111548	5.17%	1.05
Real estate	107367	4.97%	3.26
Finance and insurance	94400	4.37%	1.05
Military	85749	3.97%	2.83
<b>Total San Diego Employment</b>	<b>2158174</b>	<b>100.00%</b>	

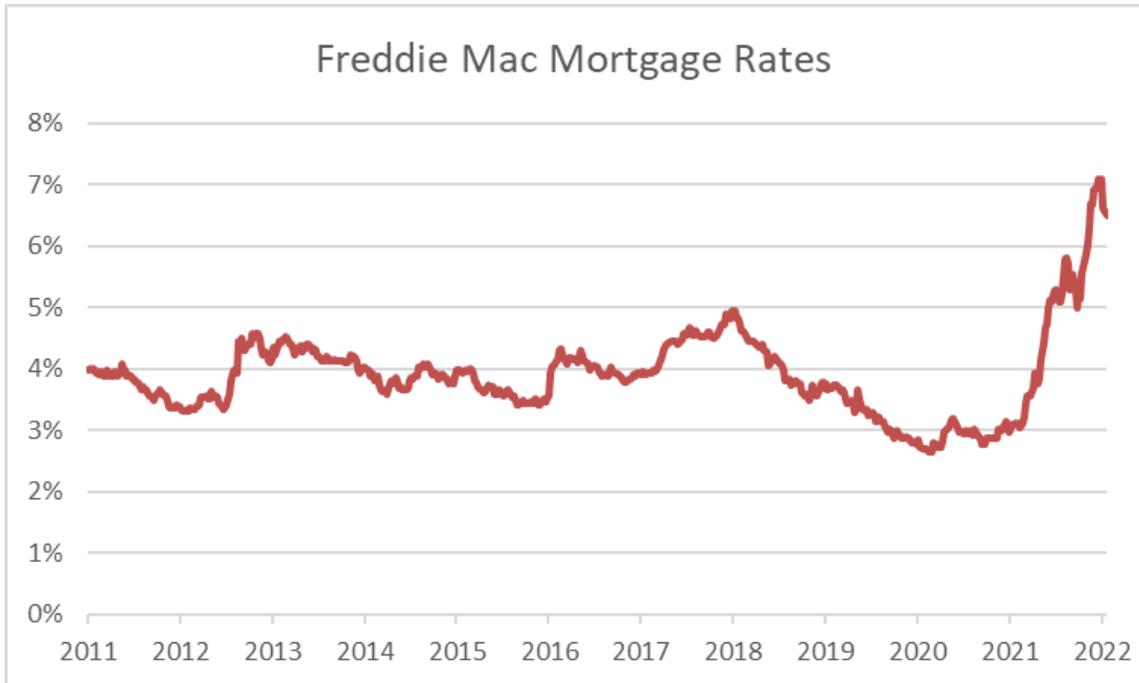
Source: US Bureau of Economic Analysis

### **Job Growth**

San Diego is home to the third largest biotech cluster in the world thanks in part to its proximity to world-class education and research institutions like the University of California San Diego. At the end of 2021, San Diego had “eight new-construction lab projects underway... totaling 3.2 million square feet, as well as 1.6 million square feet of conversions into life-sciences space”<sup>1</sup>. Venture capital funding for life sciences smashed records in 2020 and 2021, and while 2022 has seen a slowdown in venture capital, it is reasonable to expect life sciences job growth and funding to continue to grow and outperform other industries well into the future<sup>2</sup>. Job creation in the industry will benefit San Diego and drive demand for housing in the area.

### **Interest Rates**

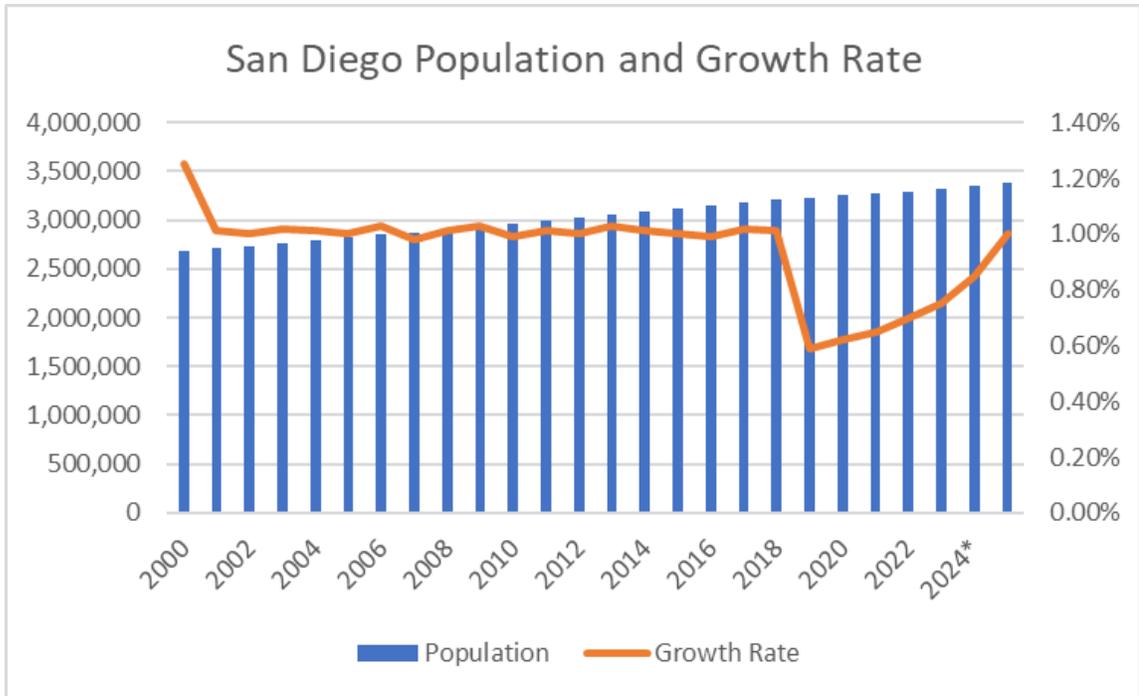
Interest rates have risen dramatically over the past year, and with them mortgage rates are currently sitting at about 6.5% - more than twice the rates from this time in 2021<sup>3</sup>. As interest rates rise and the cost to purchase a home increases, rental options look more appealing by comparison. So, if rates stay high or even continue to rise over the next couple of years, we would expect this to contribute to increased demand for rental housing.



Source: FreddieMac

### Population Growth

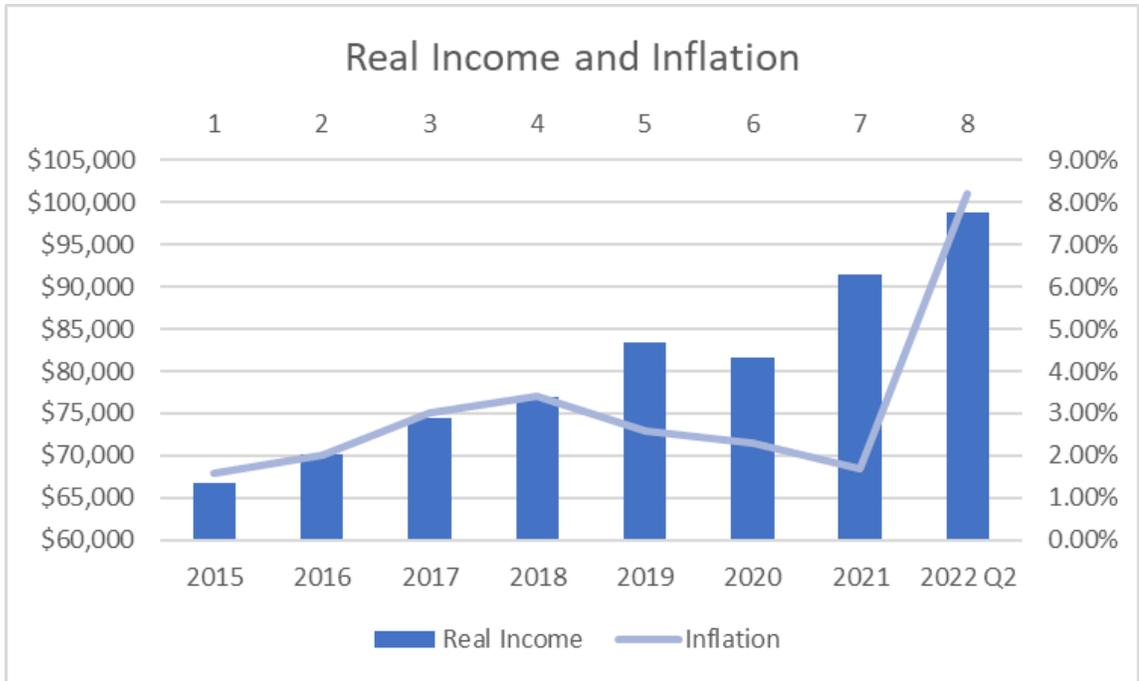
San Diego's population has steadily grown at about 1% per year since the year 2000 and prior to COVID-19. Since 2019, San Diego's growth rate has trended back upwards towards 1% again. As such, we will presume 0.75% growth in 2023, 0.85% in 2024, and 1% thereafter. This would translate to an increase of roughly 86,000 people, or 30,000 households (given an average of 2.86 people per household<sup>4</sup>) over the next few years needing housing.



Source: US Census

### Income Growth

Real income in San Diego has risen steadily with the exception of 2022, which saw a drastic increase in real income in the first two quarters. This increase in income is a demand driver and will put upward pressure on multifamily rental rates. Despite high inflation increasing the cost of competing expenses like food and transportation, incomes so far have increased sufficiently to more than offset the increased costs.



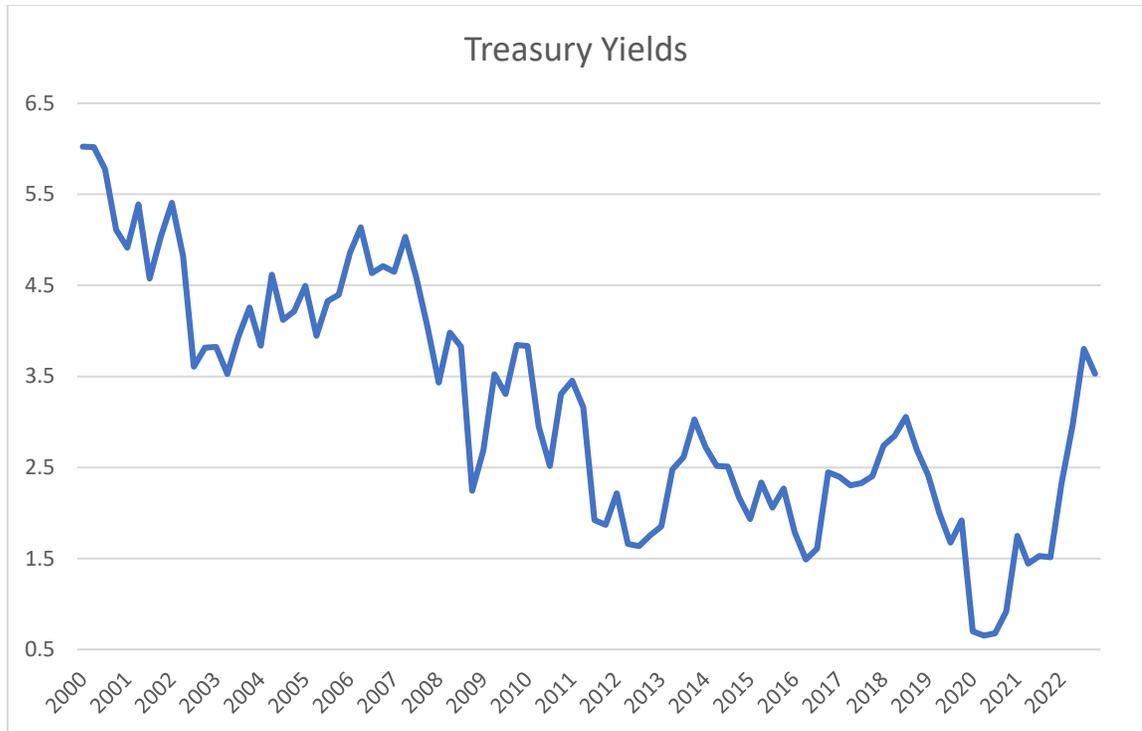
Source: US Bureau of Labor Statistics

## Supply Drivers

### Current Economic Conditions

In a September 2022 survey, 90% of respondents reported delays in construction. 41% cited economic uncertainty as a contributing factor in those delays. 76% reported that they've experienced repricing of materials in the last three months, with an average increase of 9% overall. One-third of respondents also saw available construction labor lessen in the last three months, though that percentage is nearly half of what it was earlier in March of 2022, suggesting that in spite of continuing shortages, the labor market is improving<sup>7</sup>.

With the Federal Reserve aggressively hiking up interest rates, capital has also become more expensive and developers are delaying or halting projects as a result. In March 2022, 7% of respondents cited issues obtaining capital as a direct cause of delays. In June that number was up to 15%, while today it's at 31%<sup>7</sup>.



Source: US Dept of the Treasury

### Supply Constraints

Supply constraints can often be thought of as coming in two forms: topographical and human induced. Topographically, San Diego County has restricted growth potential by virtue of its location. We have the Pacific Ocean to the west, Mexico to the south, mountains to the east, and the nation's second largest city to the north. San Diego can only physically expand horizontally so much.

When it comes to vertical development, regulations and community resistance will limit the amount of growth. For instance, the proximity of the airport limits the height of buildings downtown to 500 feet<sup>8</sup> and in other areas such as the Midway District to only 30 feet<sup>9</sup>.

Various indexes have attempted to measure the impact of local regulatory environments. The Hoyt Institute<sup>10</sup> for example, ranked San Diego 51<sup>st</sup> out of 58 major metropolitan areas, with an index of 1.30 suggesting that we're amongst the highest regulated cities in the nation. The Wharton Index<sup>11</sup> lists San Diego at 17 out of 44 Core-based statistical areas, again putting us in the top of the pack in terms of highly regulated areas.

Thirdly, when we look specifically at the multifamily sector, The Multifamily Supply Restrictions Index ranks San Diego 40 out of 50, and specifically cites its highly restrictive environment as a key reason that supply cannot keep up with demand<sup>12</sup>.

## **Economic Obsolescence**

The concept of economic obsolescence suggests that there is a decline in value due to a change in the highest and best use within a community. For example, a neighborhood may be moving from being primarily residential to primarily commercial, decreasing the value of the remaining residential properties.

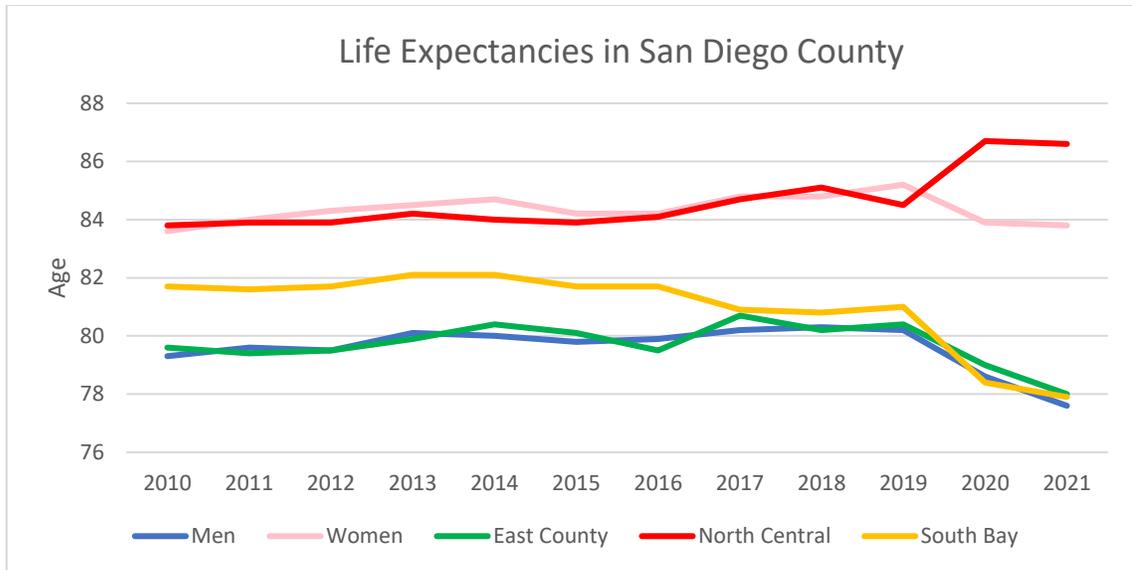
The proliferation of Airbnb and other such home-sharing services may provide a possible example of economic obsolescence. As of September 18, 2022, there were 11,848 hours listed for rent on Airbnb within the City of San Diego<sup>13</sup>. This only includes entire house listings and not individual rooms for rent or hotels using the service. Overall in the city, there were 1,237,638 total housing units in San Diego in July 2021<sup>4</sup>. Despite the one-year time difference in the above cited figures, we can use them to estimate that approximately 0.96% of San Diego homes are listed on Airbnb.

Recent legislation limits whole-home rentals for more than 20 days per year to 1% of the city's total housing stock, except in Mission Beach, which currently sits at .07% of the city's housing stock<sup>14</sup>. Increasingly homes are being rented on sites like Airbnb on a short-term basis, which removes them from the possible stock of properties available to long-term renters. This data however, suggests that aside from Mission Beach, we shouldn't expect to see more supply degradation for long-term renters as a result of Airbnb style rentals than we currently have.

## **Life Expectancy**

When people pass away, they no longer have a need for their residence and thus as mortality rates increase, we will have an increase in the supply of available housing. While the life expectancy generally increases over time, the graph below reminds us of the stark reality that COVID-19 has played on our lives in recent years, with spikes in deaths beginning in late 2019 and continuing through 2021.

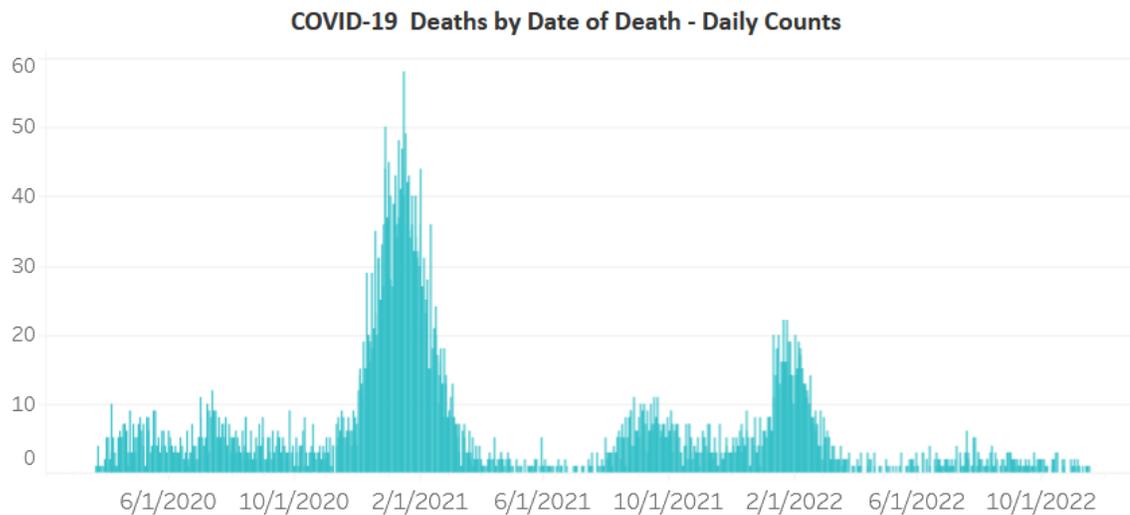
What's interesting about the graph below<sup>15</sup> is that while it may be common knowledge that women outlive men on average, communities such as Easy County and South Bay within the greater San Diego region have higher mortality rates than seen in our more northern communities. This suggests that we can expect greater levels of turnover, and thus more supply in the short-term, in the eastern and southern parts of San Diego County.



Source: San Diego County Health & Human Services Agency

### The Impact of COVID-19

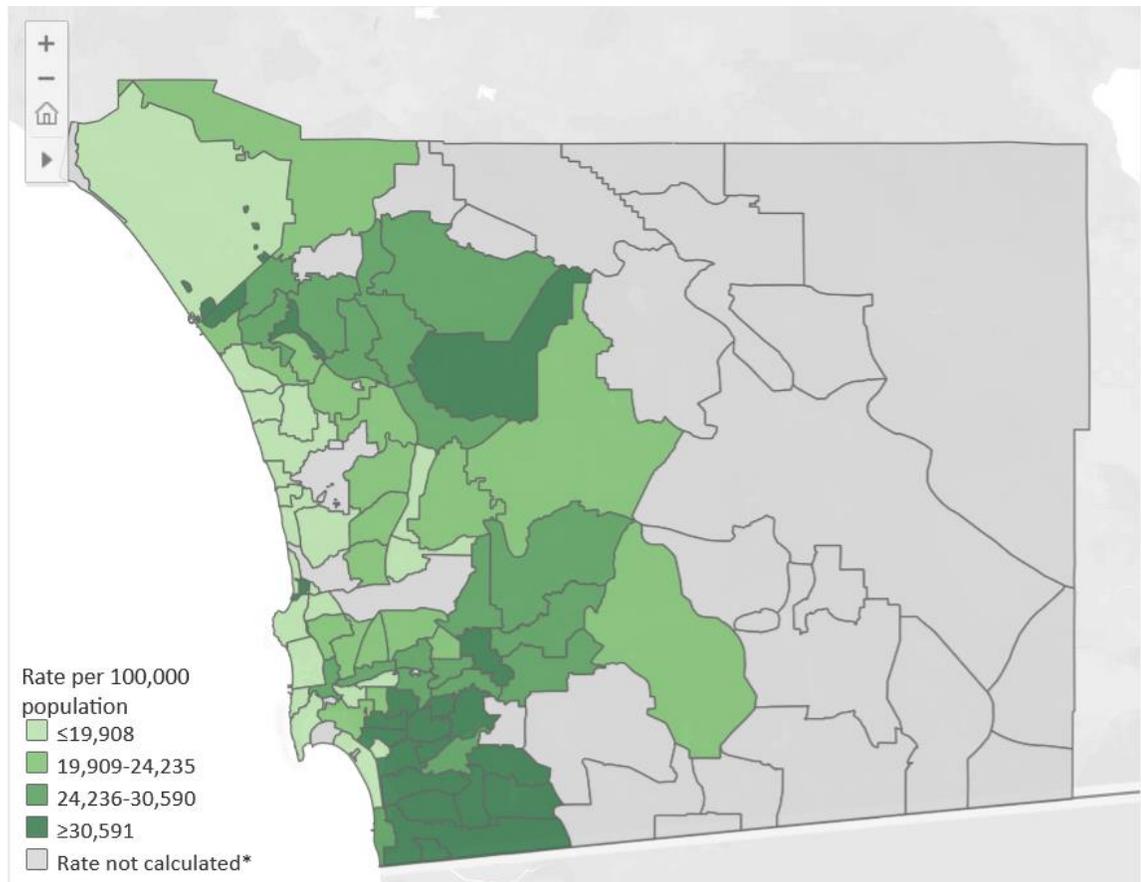
While still prevalent in our world, deaths in San Diego County have flattened out, at least for now. It's always possible that as in the past, we may see new spikes in cases, and later spikes in deaths. Below we see deaths peaking in the month of February likely a result of cases originating around the end of the year as people travel more to be with family. Deaths will naturally lag infections<sup>16</sup>.



Source: Our World in Data

Consistent with the life expectancy graph above, the map below shows more cases of COVID-19 in places such as the South Bay between 2020 and November 2022<sup>17</sup>. Again, where there are cases, there will be deaths, and these deaths carry the potential to add

to the housing stock and provide more naturally affordable housing in some of the County's lower income areas. Still as the milder Omicron variant is now the dominant strain, its impact is not expected to be as significant as earlier variants.



Source: County of San Diego

### Net New Supply

The current population of San Diego County is over 3.2 million and there are 2.86 people on average per household. Therefore, we would have an anticipated need for 1,148,975 housing units (including both rentals and owned homes). Currently, the County has 1,130,703 total housing units, suggesting that supply is below demand<sup>18</sup>.

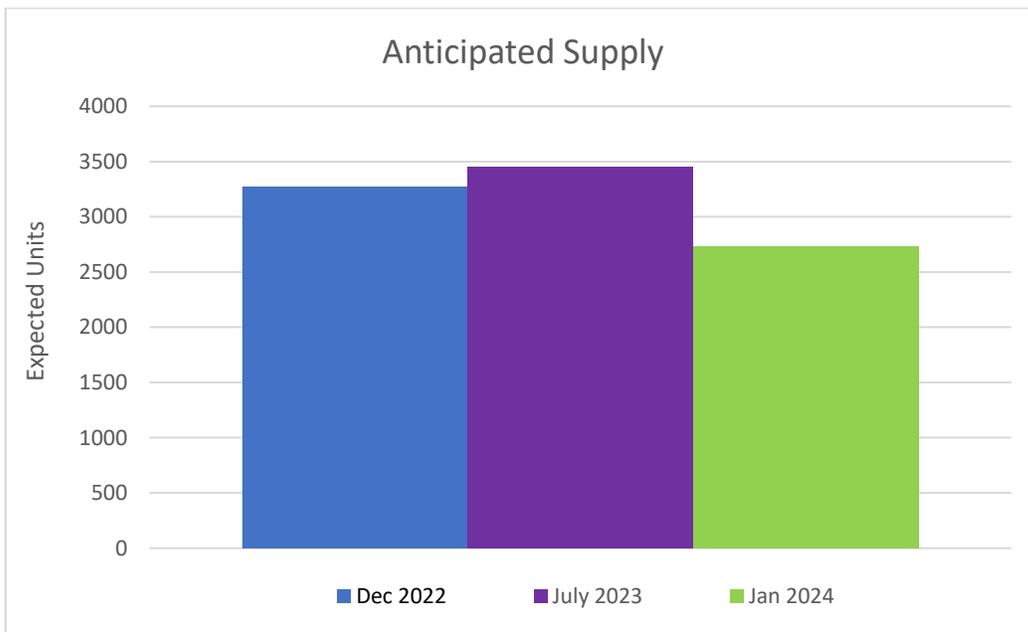
In the chart below, we see the inelasticity of supply wherein there were no new recorded completions for five plus unit multifamily projects between 2018 and 2020. However, as economic conditions were better during those years than they are today, we saw projects being entitled and permits being issued. Thus, while buildings weren't finished, there certainly was development work being done.

Project Status	2018	2019	2020	2021
Submitted for Approval	7375	5339	3339	3909
Fully Entitled	5889	1144	2055	4937
Permits Issued	3309	4637	6141	4675
Completed	0	0	0	3544

Source: CA Department of Housing and Community Development / SANDAG

According to the California Department of Housing and Community Development and the San Diego Association of Governments (SANDAG)<sup>19</sup>, it takes on average 188 days to move a project from being initially submitted to the local municipality to being entitled, 218 to move from entitlement to having a permit issued, and an additional 349 days from the time a building is permitted to the time when a certificate of occupancy is granted.

Based upon that development timeline and the figures shown above, we can decipher a few things. First, in 2021 we finally saw new stock being added to the market. We can also extrapolate that additional construction completions should occur with much of the anticipated development occurring right now in December 2022, but also in July 2023 and January 2024. As not all projects will make it all the way through the development process to being actually constructed, the diagram below assumes that only 70% of the submissions, entitlements, and permitted projects will be completed.



Source: CA Department of Housing and Community Development / SANDAG

## Technical Indicators

After we've considered the fundamental drivers of supply and demand, it's worth looking at some technical factors. These technical factors help to make short-term forecasts as we move back to a state of equilibrium. The goal of examining technical factors is to identify and make use of leading indicators<sup>20</sup>.

### Turnover Rate

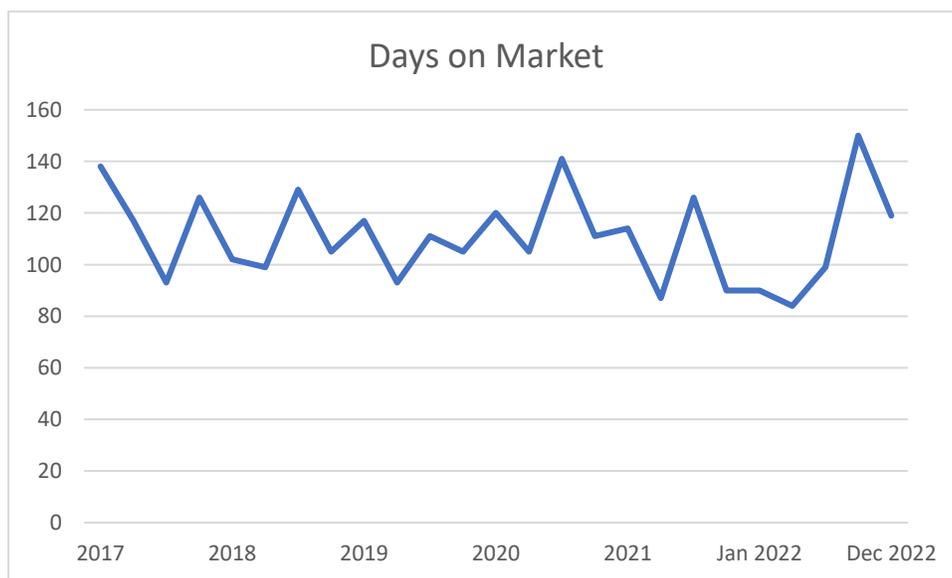
The turnover rate represents the ratio of properties sold within the past year to the current stock. Miller and Sklarz<sup>21</sup> point out that the turnover rate is measured by looking not at the percentage of listings sold, but the total inventory. In doing so, it provides an indication as to the relative life cycle of the market.

In our case, the turnover rate is 4.4%. Generally, the higher the market activity as measured by the turnover rate, the stronger demand is relative to the available supply. Miller and Sklarz<sup>21</sup> also point out that turnover rates provide a consistent and significant lead time over changes in property values.

### Days on Market

The Days on Market (DOM) for sold properties is a commonly used measure of market activity. The graph below shows that this year we saw a spike in the time that it took to sell multifamily properties, however towards the end of the year the average DOM dipped down to within the normal range that we've seen over the past five years. The dip we're currently seeing suggests that demand is increasing.

At the same time, we should be careful about reading too much into the DOM indicator as it can produce flawed data when brokers attempting to play the system take properties off the market briefly only to reinstate them as "new listings" days later. Additionally, DOM may be defined differently by different listing services leading to inconsistent data<sup>21</sup>.



### Months Remaining Inventory

Miller and Sklarz<sup>21</sup> argue that months remaining inventory (MRI) is a more reliable measure than DOM. They also highly recommend using this particular indicator as it tends to be the most consistent predictor of market conditions across various markets.

MRI is the ratio of current listings to the current rate of sales. As per the authors recommendation<sup>21</sup> and in order to avoid a seasonality bias, we used the average monthly sales rate over the past twelve months. This led to an MRI of 2.76, which suggests that it would take on average less than three months to sell the existing inventory of all for sale multifamily properties in San Diego. We were unable to compute a similar measure with respect to MRI as it pertains to for-lease properties as that data was not made accessible through CoStar.

### Equilibrium Measures & Forecasts

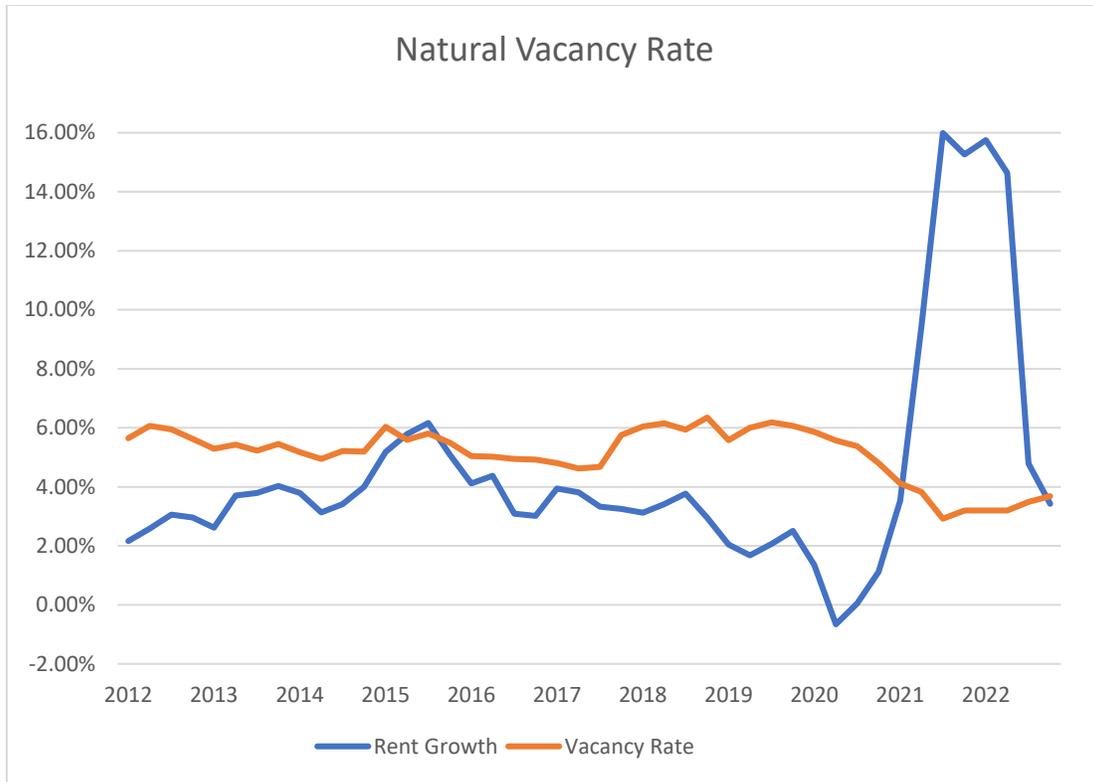
Equilibrium measures are intended to address the balance or imbalance between the forces of supply and demand. Our research has shown that the preponderance of evidence points to increasing demand and decreases in supply.

Demand Drivers		Supply Drivers	
Increasing	Decreasing	Increasing	Decreasing
* Job Growth * Increasing Income * Population Growth * Rising Interest Rates		* COVID deaths	* Increase in Construction Costs * Increase in Labor Costs * Topographical and Human Supply Constraints * Higher Cost of Capital * Economic Obsolescence

### Natural Vacancy Rate

An equilibrium vacancy rate (or natural vacancy rate) suggests that there is no pressure on rents to increase or decrease. Having no pressure on rents, an equilibrium vacancy rate should be characterized by stability in rental prices. Equilibrium may also be based on a change in direction in vacancy rates (increasing to decreasing or vice versa), whereby stability exists however briefly. Graphical peaks therefore represent the point at which supply and demand catch up to one another<sup>M21</sup>.

In the graph below, we see four distinct points where vacancy rates change direction and intersect with the rate of rental growth. As rental growth remains positive throughout the duration of the graph's timeframe, we know that we're talking about a decline in the growth of rent as opposed to a decrease in actual rental rates. Still, the fact that vacancy rates are a leading indicator of rents helps us to understand that when vacancy rates hit a certain level, we can expect rents will also adjust.



Source: CoStar

Here we see that in 2015, the natural vacancy rate was approximately 5.7%, while between 2021 and 2022 it's closer to 3.9%. Averaging the two, we can forecast an approximate equilibrium vacancy rate of 4.8%. The dramatic spike in rents in 2021 was unsustainable, which is why even in a demand-intensive market like San Diego, we've actually begun to see vacancy rates increasing. Then, in response, rental rates will decline, at least in the short run.

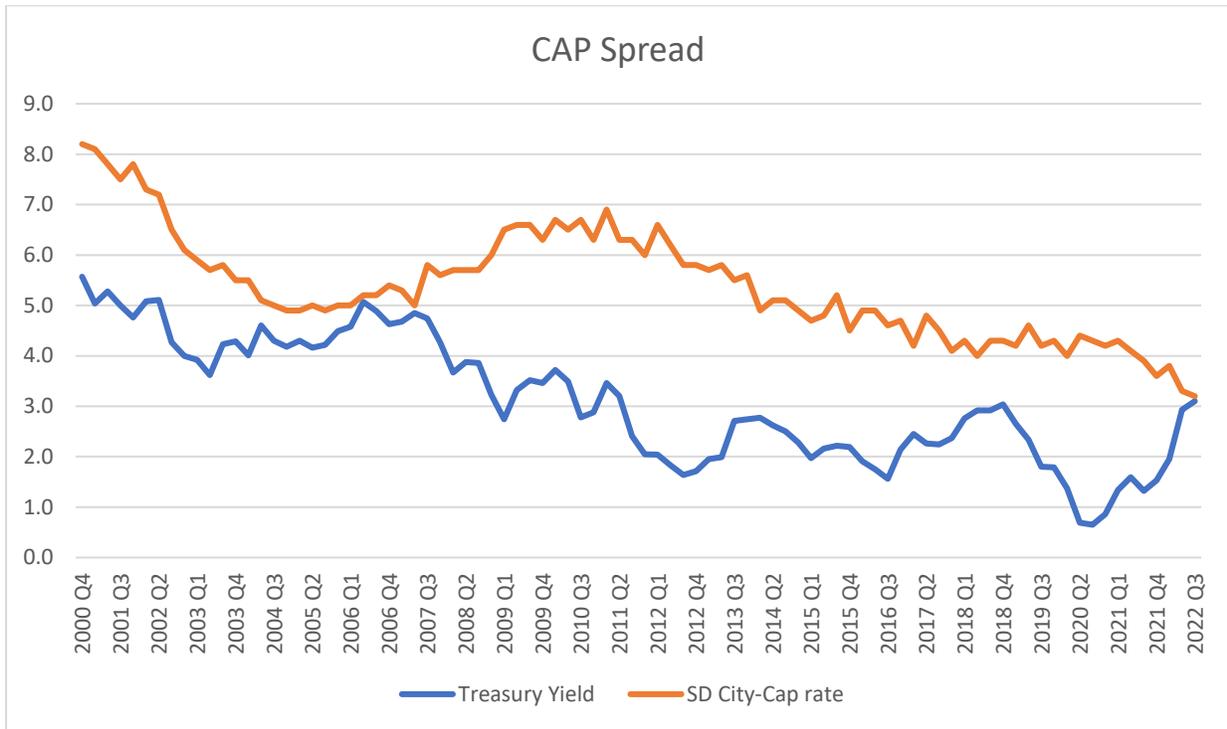
### CAP Spread

Treasury yields and San Diego city multifamily cap rates in the 3Q 2022 were 3.1 and 3.2 respectively, leaving a such a small spread that, essentially investors are not being compensated for the additional risk that they are taking with multifamily real estate investments. This low spread is indicative of a nearing inflection point in real estate values and a possible recession. Prior to the Great Recession the spread in 2Q 2007 was just 0.29 due to a hyperactive overpriced real estate market<sup>22</sup>. Small spreads mean there no incentive for investors to park their money in multifamily real estate when the risk-free rate provides an equitable return.

### CAP Rates / Values Forecast

Consistent with our forecast, because we anticipate that interest rates will either increase or remain consistent and net operating incomes will be not increasing in the short-term to offset rates, cap rate will have to increase in the short-term. Accordingly, San Diego multifamily sales will see a short-term decline in real estate values and an

increase in cap rates before investors demand higher rates of return as a risk premium for holding real estate.



Source: CoStar

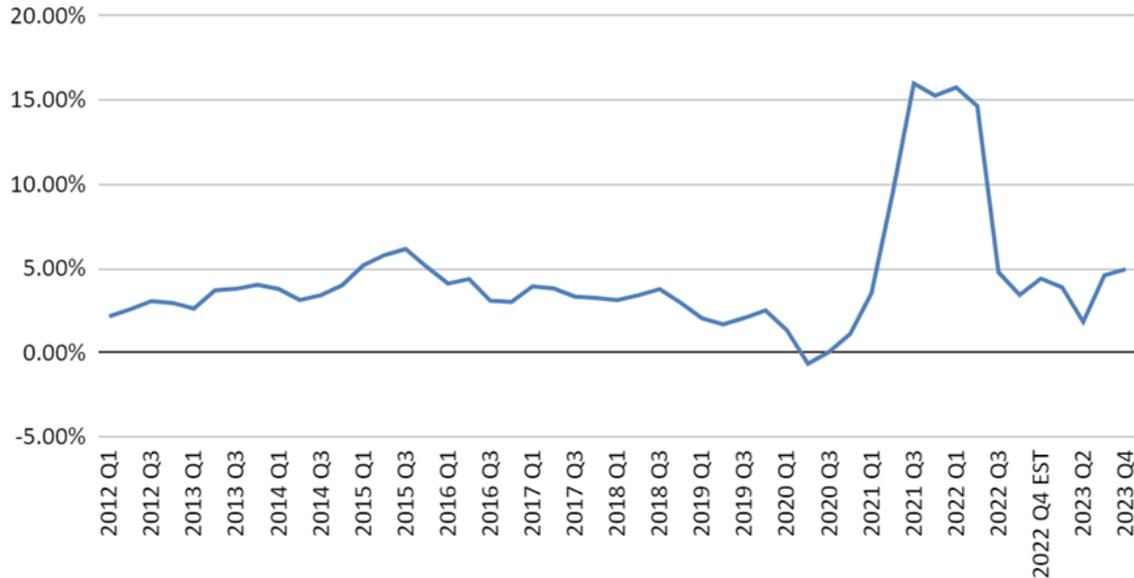
### Rents

Annual year-over-year rent growth in San Diego reached 16% (Q1 2022) which was almost three times higher than the market's five-year average of 5.67%. However, asking rents fell total 2.2% in the San Diego apartment market three months in a row from September through November, marking the longest stretch of rents falling on a month-over-month basis in San Diego in more than eight years<sup>23</sup>.

### Forecast

In the short-term, we believe that rents will either flatten or decline as new supply enters the market. Then in the next several years once the existing supply is absorbed and new supply wanes, rents will again return to a more sustainable growth pattern.

## YOY Rent Growth



Source: CoStar

## Vacancy Rates

Vacancy rates hit their lowest point in ten years in Q3 2021 at 2.8%. The overall vacancy rate for Q3 2022 increased to 3.3%, compared to the five-year average of 4.1%<sup>24</sup>. The reason for this low vacancy is a strong demand for apartment housing, due to record low for-sale housing inventory. San Diego home prices have risen by 27.1% in the past twelve months which has kept people locked into the rental market. Additionally, with more people working remotely, San Diego is welcoming people from higher-cost areas such as Los Angeles and the San Francisco Bay Area. Further, the eviction moratorium has also kept units filled that might otherwise be vacated<sup>23</sup>. We believe that vacancy rates will continue increase in the short-term as new supply enters the market.

## Further Conclusions

### Income Categories

Given that supply is kinked<sup>25</sup>, we will only see an increase in the housing supply when developers are sufficiently compensated, that is rents in the space market are high enough to generate sufficient value creation in the asset market. Between this effect and supply constraints discussed earlier, it's not surprising that rents in San Diego are among the highest in the nation<sup>M26</sup>. In fact, 47% of renters in San Diego pay more than 35% of their income on housing<sup>12</sup>.

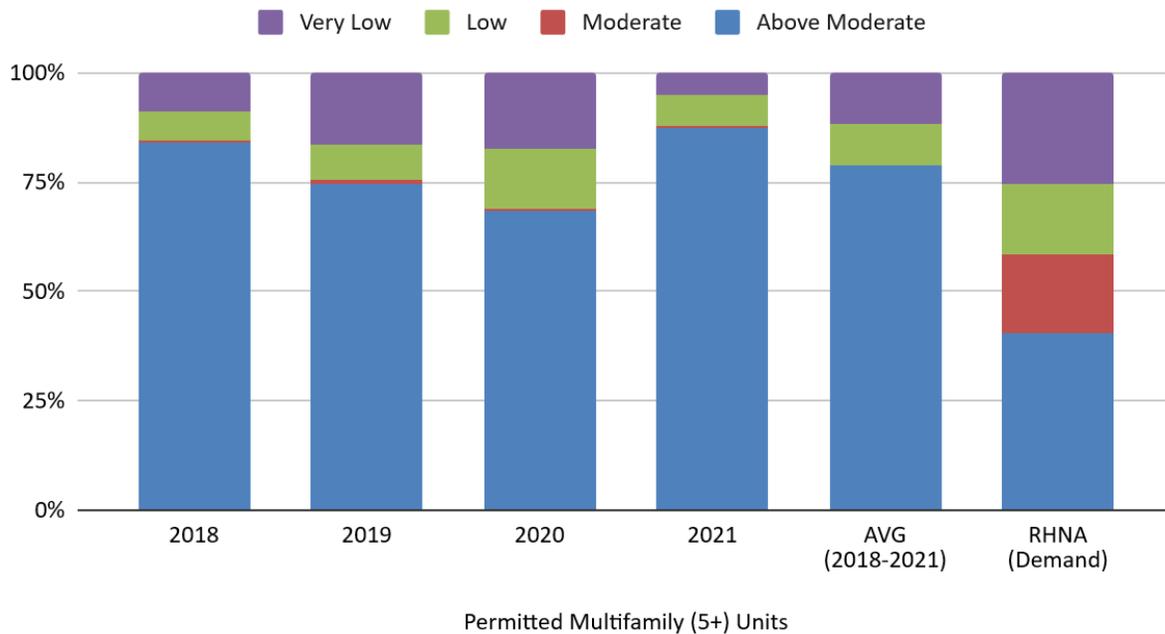
The income categories shown below represents a range within the region's Area Median Income (AMI) as defined below. These definitions are used throughout California, while the income ranges are specific to San Diego County.

The Regional Housing Needs Assessment (RHNA) is a report put together approximately once a decade by the California Department of Housing and Community Development (HCD), which creates projections of housing demand for various regions throughout the state. Each region’s association of governments, locally SANDAG, then assigns housing allocation figures to each municipality within its region.

Income Categories (as of 2022)		
Income Category	Definition	Income Range
Very Low	< 50% AMI	\$0 - \$60,050
Low	50-80% AMI	\$60,051 - \$104,100
Moderate	80-120% AMI	\$104,101 - \$128,300
Above Moderate	> 120% AMI	\$128,301+

The following information provided by HCD and SANDAG uses the same income categories as defined above<sup>19</sup>. The RHNA allocations in the far right column are a proxy for demand as created by HCD and agreed to by SANDAG and the City of San Diego. The other columns display permits issued, an indicator of pending supply. This chart clearly shows that developers are focusing on the above moderate income range, despite the demand for housing in those earning less than \$128,301 a year.

### Supply vs Demand by Income Level



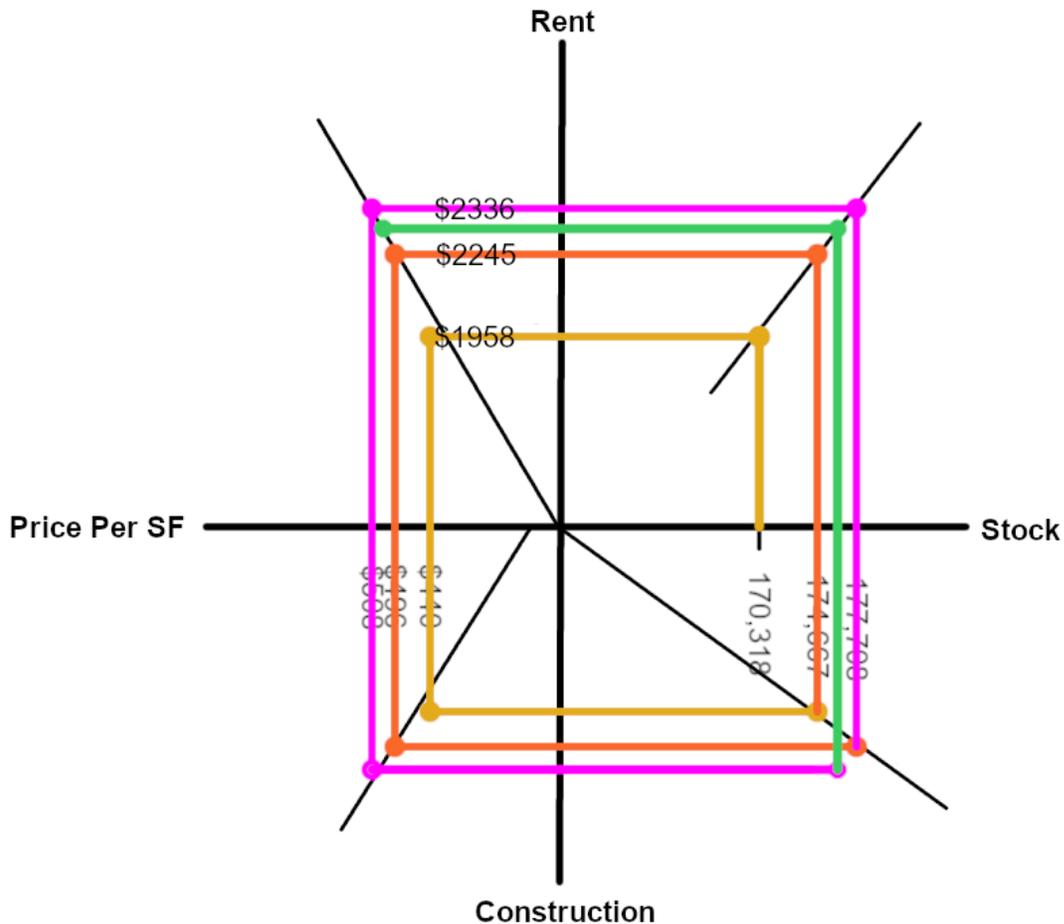
Source: CA Department of Housing and Community Development / SANDAG

It is our recommendation that developers seeking to add supply to the San Diego five-plus unit multifamily market consider the lower to moderate income level categories where the pending inventory is currently lacking.

### Applying the Four-Quadrant Model

The Four-Quadrant (4Q) Model may be thought of as a graphical representation of the real estate system and the interplay of various real estate markets, specifically the space, asset, and construction markets<sup>25</sup>. Using this model, we can attempt to forecast changes in one of the markets based upon changes in the other markets.

In plotting data on the stock of multifamily properties, average rents, and property values, we see a definite trend emerging. Starting in 2020 (mustard line), there were 170,318 units with an average rent of \$1958. This led to a price per square foot of \$440. Working counterclockwise around the model, this valuation led to an increase in the supply seen in the market. Inventory then rose in 2021 (orange line) to 174,667 units. But despite the increase in supply, we saw an increase in rents as they rose to an average of \$2245/month. This in turn raised property values to \$496/sf. In 2022 (magenta line) stock rose to 177,708 units. Again, instead of decreasing, rents actually rose to \$2336/month leading property values to hit \$508/sf.



The theme we see here in the northeastern quadrant is that of a direct demand function line, as opposed to an inverse demand function line as would be expected. As outlined earlier in this report, demand is and will remain consistently strong. Supply on the other hand is inelastic and we're in the midst of an influx of supply. Thus at the moment, both supply and demand appear to be moving in the same direction. However, the market will in time seek a new equilibrium point which will help to revert the demand function line to its typical inverse relationship.

The 4Q Model presented here would suggest that looking forward (green line) we may expect to see a more normative pattern develop in that with each cycle around the model there is an alternating centripetal and centrifugal pattern around the intersection of the axes such that in time a new equilibrium is settled upon. This supports our forecast that rents will decrease in the short run as a result of the current increase in supply, but over the next several years as the pipeline of supply runs dry and few new projects are initiated (due in part to a more challenging capital market at present) rents will again increase, pulling the next "cycle" or colored line inward leading in time to a new equilibrium in the market.

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## Biographies



**Mark Scarola's** experience includes marketing and fundraising for private syndications, residential asset management, and conducting workouts with delinquent mortgage loan borrowers. He recently raised \$1.2 million dollars in a private placement and managed the entitlement process of an industrial development project. Mark has a master's degree in social work and previously worked as a mental health therapist and now incorporates those skills in real estate development, managing conflict and keeping teams focused on their goals. Mark currently works with a private fund developing workforce housing in San Diego County. His long-term goal is to work on real estate projects that serve a social purpose (e.g. building domestic violence shelters or converting abandoned motels into business incubators).



**Jasmine Johanesen** works as a real estate asset management assistant at a private bank's investment management and trust group, providing services including property management, asset management, acquisitions and dispositions, and financing. She works alongside a team of professionals administering estates, developing strategic wealth plans and managing investment portfolios, including real estate. Jasmine's introduction into real estate began when she started an interior design company in college and worked as a licensed salesperson. Additionally, she worked with non-profit clients acting as a custodian of the estate for real estate gifts, overseeing acquisition and liquidation of real estate donations into charitable remainder trusts.



Alex Cesta graduated from Towson University in 2019 with a BS in Financial Economics and a passion for business and technology. After working in IT for a year he was accepted to the law school at USD where he particularly enjoyed his contracts and property classes. Now Alex is a JD/MSRE dual degree student and is working with a property developer in Maryland to create large and small residential communities in Baltimore City and across Maryland and Virginia. Alex hopes to work in residential or mixed use development in or around San Diego, especially with regard to finance and compliance with local and state laws, and to expand his real estate network to San Diego.



Tzu-Hsiang (Rod) Cho attended National Chung Cheng University in Taiwan and participated in exchange programs at the City University of Hong Kong and Georgetown University, where he audited business classes and competed with business students for a trading internship. He also took a year to travel throughout Europe and learn about different cultures. Following graduation, he elected to work in a traditional shoe factory in China as a product supervisor, coordinating the work of 500 employees. Shortly thereafter, Tzu-Hsiang and his father started a real estate development company, which gave him the opportunity to support his father's dream, while simultaneously building a career for himself.