Second Quarter 2020 / New York City

Office Leasing

Market Facts

3.3 MSF
2Q20 Manhattan office leasing volume compared to 4.8 MSF in 2Q09 at the end of the Great Recession

>3.0 MSF
Amount of sublease space to so far hit Manhattan office market post the start of COVID-19

20%
Percentage of co-working lease portfolios expected to be shed, reported separately by just two of the largest providers

10.9%
Second quarter Manhattan office vacancy rate; expect further increases throughout the next quarter and possibly beyond

*At Avison Young, we track office properties that are 20,000 square feet and greater

Ongoing Impacts of COVID-19 Drive Leasing Velocity to Record Low Levels by End of Second Quarter

Leasing: Record Low Volume Overall as COVID-19 Impacts Are Felt; Vacancy Rate Up as Sublet and Co-Working Space Starts to Hit the Market

The Manhattan office leasing market has clearly been affected by mandated "stay at home" orders in the second quarter. Total second quarter office leasing volume is at a new historical low last reached in the second quarter of 2009 at the end of the Great Recession. Manhattan office leasing volume of 3.3 million square feet for the second quarter of this year is down 68.0 percent year-over-year compared to 10.3 million square feet a year ago. Most of the larger office leasing transactions during the quarter occurred in May before total volume tapered off in June. Subleases and renewals together accounted for one-third of the total number of quarterly lease signings. Year-to-date through mid-year, total volume of 10.6 million square feet is down 44.0 percent from 18.8 million square feet a year ago.

Following the declaration of COVID-19 as a global pandemic in mid-March, tenant preference has been for office space that is pre-built and less expensive, leaving higher-priced inventory on the market. This resulted in a modest rise in average asking rents. As a result, second quarter Manhattan overall average asking rent of $81.85 is up just over 1.0 percent year-over-year. The vacancy rate of 10.9 percent is up 110 basis point year-over-year. An anticipated rise in the supply

MARKET DATA POINTS

Manhattan Overall

Indicator	2Q20	2Q19
Vacancy	10.90%	9.80%
Rent	$81.85	$80.76
Absorption	558,918 SF	(867,511) SF

Midtown Overall

Indicator	2Q20	2Q19
Vacancy	11.00%	9.70%
Rent	$88.33	$88.85
Absorption	360,151 SF	(609,000) SF

Midtown South Overall

Indicator	2Q20	2Q19
Vacancy	9.70%	8.30%
Rent	$82.75	$78.88
Absorption	480,990 SF	(142,606) SF

Downtown Overall

Indicator	2Q20	2Q19
Vacancy	11.40%	11.20%
Rent	$63.45	$62.39
Absorption	(282,223) SF	(115,905) SF

Data as of 7/1/2020

of space (including discounted sublet availability and co-working space give-backs), coupled with a contraction in demand and changing space utilization requirements, will result in a decrease in average asking rents and further increases in vacancy rates throughout the next quarter and possibly beyond.

Supply: Sublease Space, New Product Deliveries and Co-Working Space Give-Backs Will Put Upward Pressure on Vacancy and Downward Pressure on Rents

Tracked since March 1st and through the end of the second quarter, over 3.0 MSF of sublease space has so far been identified either as officially listed or as "shadow space" hitting the Manhattan office market, post the start of COVID-19. By industry, the greatest amount of this sublease space has been put on the market by technology/advertising/media/information (TAMI) tenants totaling 1.0 MSF or approximately one-third of this available space. Given the fast growth of TAMI occupancy in Manhattan, as well as announcements by some of the larger tech companies to work from home longer term, we can expect TAMI companies to be the biggest contributors of additional sublease space overall on the market. While it is too early to tell the total magnitude of the amount of sublet space that will come on the market, coupled with the uncertainty as to how long this global pandemic will last, we believe that based on past history substantially more sublease space will come to market as companies refine their business plans.

In prior downturns, discounted sublease vacant space has put downward pressure on direct average asking rents. As an example, during the Great Recession, the amount of discounted overall sublease vacant space on the market grew from 6.3 MSF in 2007 to 10.0 MSF in 2009 and overall led to a 24.0 percent decline in direct average asking rents across Manhattan markets. During that economic shock, it took about nine quarters since the start of the event to do so. As we are just now starting to see price per square foot reductions for

Notable Second Quarter Leasing by Market

Tenant Industry	New Address Submarket	Size (SF) Lease Type
Midtown		
TikTok (ByteDance) TAMI	**151 West 42nd Street** Times Square/WestSide	**232,138** New Lease
Allen & Overy Legal Services	**1221 Avenue of the Americas** Sixth Avenue/Rockefeller Center	**143,331** Renewal
Mitsubishi Corporation Financial Services	**655 Third Avenue** Grand Central	**120,087** Renewal
Midtown South		
Match.com/Tinder Business Services	**60-74 Gansevoort Row** Hudson Square	**40,000** New Lease
Big ID TAMI	**641 Avenue of the Americas** Chelsea	**21,500** Sublease
BlueRock Therapeutics Health Services	**430 East 29th Street** Gramercy Park	**20,000** New Lease
Downtown		
SEC Government/Public Administration	**100 Pearl Street** Financial District	**241,171** New Lease
AIG Insurance	**28 Liberty Street** Financial District	**200,000** New Lease
GSA (Office of Civil Rights) Government/Public Administration	**32 Old Slip** Financial District	**65,796** Renewal

Data as of 7/1/2020

sublease space in some of Manhattan's iconic assets (e.g. a recent 16.0 percent drop from $105 to $88 PSF at the GM Building), we can expect to see more rent declines at the top of the market in an effort to move more of the higher-priced space being left behind as tenants push the pause button in this current COVID-19 environment.

In addition to more sublet space being added to the amount of supply in the market, there are also new product deliveries that are now getting back on track after being delayed by nearly two months due to COVID-19 construction delays. With the resumption of non-essential construction activities in June, we can expect 5.7 MSF of new product to be delivered through the end of 2021 and another 6.3 MSF in 2022, for a total of 12.0 MSF of new product deliveries over the next two years.

Further adding to supply, there are also plans in play for substantial space give-backs by some of the co-working providers. Just looking at the top flexible office and co-working providers who lease space in Manhattan, this equates to approximately 12.0 MSF or 2.0 to 3.0 percent of total office inventory. Even if only half of this space is given back (WeWork is already executing on its plans to exit or restructure 20.0 percent of its nearly 8.0 MSF leased portfolio and Knotel is also moving forward with shedding 20.0 percent of its 5 MSF portfolio), landlords will have to contend with approximately 6.0 MSF more of additional supply on the market. While much of this co-working space is pre-built, landlords may need to offer new tenants higher concessions in order to help backfill space relinquished by flexible office and co-working providers.

Given an estimated total of 28 MSF of new supply that could be added to the Manhattan office market over the next two years, we expect average asking rents to decline, while concessions are likely to increase.

Co-Working Confirmed Space Give-Back

Tenant	Address	Landlord/Owner	SF	Status
Midtown				
Knotel	240 West 40th Street	Sioni Group	75,000	Confirmed
Midtown South				
WeWork	149 Madison Avenue	Columbia Property Trust	115,000	Confirmed
WeWork	154 Grand Street	The Eretz Company	3,000	Confirmed
WeWork	115 West 18th Street	Newmark Knight Frank	156,050	Confirmed
Downtown				
Knotel	40 Exchange Place	GFP Real Estate LLC	51,372	Confirmed
Knotel	90 John Street	The Moinian Group	42,017	Confirmed
Knotel	195 Broadway	Korea Investment & Securities/ Samsung Group	4,673	Confirmed

Data as of 7/1/2020

Demand: Office-Using Job Declines to Continue; Rent Relief Needed for Some, While Others Re-Think Office Space Utilization

Moody's is forecasting a net loss of 12,000 office-using jobs by the end of 2022 in New York City, putting the total office-using employment figure slightly above 1.1 million for the city. This comes with an anticipated decline in jobs in 2020, followed by modest growth in 2021 and more meaningful additions in 2022. The near-term weakened outlook in job growth will, inevitably, translate into softer office leasing demand. So far this year, office demand has stalled since the the start of COVID-19 through the end of June, and many tenants have put their occupier decisions on hold during this time of uncertainty. However, helping to mitigate declines in leasing, we note that many of the larger and longer-term deals of 10 to 15 years in duration (be it new leases or expansions) were re-traded after the start of COVID-19 to get them across the finish line. In some of these instances, landlords provided tenants an additional six to eight months of free of rent, 50.0 to 60.0 percent reductions in security deposits, or even the right to cancel a lease without penalty after five years.

To further support tenants and, ultimately, office demand, additional incentives have come by way of rent relief. Throughout the second quarter, many of the city's largest landlords have reported an average of 90.0 to 95.0 percent office rent collections for many of their higher quality assets occupied by credit-worthy tenants. On a case-by-case basis, relief has been requested by other tenants. When given, some forms of relief have included two-three month rent deferral periods with payback commencing on January 1, 2021, and in the case where new leases have been signed, they came with additional free rent or no cap on TI incentives.

In this COVID-19 environment, the demand for office space is indeed changing and tenants are beginning to re-think the ways in which they actually utilize such space. Considering work from home policies and firm layoffs, some companies are likely to take less space than they would have previously. In some cases, there has been a 20.0 to 30.0 percent contraction in space needs by some companies while still operating with the same headcount, as more employees work from home. In other cases, there is the need to take on more space, as more employees have opted to return to the office and require social distancing. We call this the "death of densification." Although it is too early to tell what the ultimate outcome will be on tenant demand requirements, currently in Manhattan only about 5.0 to 7.0 percent of

Post-COVID-19 Sublease Summary By Submarket

Submarket	SF
Midtown	
Grand Central	346,692
Plaza District	66,479
Sixth Avenue/Rockefeller Center	42,359
Penn Plaza/Garment	112,325
Times Square South	141,486
Hudson Yards	100,000
Times Square/West Side	236,763
Total Midtown	**1,046,104**
Midtown South	
Gramercy Park	260,552
Chelsea	670,347
SoHo/NoHo	24,815
Hudson Square	110,000
Total Midtown South	**1,065,714**
Downtown	
City Hall	8,813
World Trade Center	209,747
Financial District	674,775
Total Downtown	**893,335**
Total Market	
Total Midtown	1,046,104
Total Midtown South	1,065,714
Total Downtown	893,335
Manhattan Total	**3,005,153**

Data as of 7/1/2020

workforces have returned to a physical building. So as of right now, while the starting metric for typical office space utilization is 250 SF/person, this could go up to 300 to 400 SF/person if more companies design and operate with social distancing in mind.

In conclusion, the amount of additional supply to be added to the market starting over the next two quarters, coupled with weakened tenant demand will put heavy downward pressure on rents and upward pressure on vacancy. Along with the lingering impacts of COVID-19, landlords will be faced with strategically offering safe quality space for the overall well-being of tenants and their employees at the right price. This will all prompt office real estate users to re-think the ways in which they utilize space. In this current state of what a "new normal" could be, the ultimate benefit for occupiers will be space in a "healthy building" obtained at a lower net effective cost.

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Largest Blocks of Contiguous Space Currently Available

Address	Square Feet	Submarket
385 Ninth Avenue (Two Manhattan West)	**1,462,296***	**Hudson Yards/Manhattan West**
390 Ninth Avenue (The Farley Building)	**740,000**	**Penn Plaza/Garment**
919 Third Avenue	**615,444**	**Plaza District**
750 Third Avenue	**602,932**	**Grand Central**
1301-1315 Avenue of the Americas	**462,152**	**Sixth Avenue/Rockefeller Center**

** Block of 714,492 SF and block of 747,804 SF to total 1,462,296 SF*

Trends to Watch

Expect the anticipated increase in the amount of sublease space put on the market, new product deliveries and co-working space give-back to further drive up vacancy rates well above equilibrium, beginning over the next two quarters.

+28 MSF

If we assume 28 MSF of added supply will come on the market and look at the weakened office-using employment outlook, this could drive up the current 10.9 percent vacancy rate by 300 to 400 basis points, bringing the level to the 14.0 to 15.0 percent range.

Although the majority of tenants will wish to remain in Manhattan with easier access to top diverse talent, expect some tenants to consider a move to the suburbs either to open a satellite office or to relocate there entirely.

Market by the Numbers

Submarket	Inventory (SF)	Direct Vacant (SF)	Sublet Vacant (SF)	2nd Quarter 2020 Overall Vacancy Rate	2nd Quarter 2020 Net Absorption (SF)	Year-to-Date Absorption	Current Under Construction* (SF)	Overall Average Asking Rent Class A	Overall Average Asking Rent Class B
Midtown									
Grand Central	70,558,601	5,638,516	1,737,913	10.5%	(142,779)	(982,819)	0	$81.83	$58.81
Penn Plaza/ Garment	21,410,638	1,406,717	1,142,346	11.9%	223,665	248,745	0	$102.95	$57.39
Hudson Yards/ Manhattan West	10,977,263	407,643	60,874	4.3%	62,593	71,842	9,719,950	$127.14	$54.28
Plaza District	72,040,740	7,988,019	1,534,484	13.2%	49,663	(234,051)	0	$104.17	$64.96
Sixth Avenue/ Rockefeller Center	50,364,114	4,304,990	1,064,807	10.7%	(103,539)	(573,379)	0	$86.55	$66.15
Times Square South	24,426,019	1,725,365	942,908	10.9%	2,609	97,773	0	$66.02	$57.55
Times Square/ West Side	37,017,023	2,155,834	1,484,546	9.8%	267,939	(236,041)	0	$78.67	$60.73
Total	**286,794,398**	**23,627,084**	**7,967,878**	**11.0%**	**360,151**	**(1,607,930)**	**9,719,950**	**$91.18**	**$59.06**
Midtown South									
Chelsea	23,843,826	1,330,990	772,200	8.8%	88,154	(193,869)	1,171,167	$126.12	$70.90
Hudson Square	14,600,547	628,932	346,375	6.7%	65,551	(128,887)	1,300,000	$98.06	$75.26
Gramercy Park	31,585,367	2,279,178	1,107,385	10.7%	447,162	(286,910)	0	$90.55	$60.96
SoHo/NoHo	9,672,667	1,050,411	234,205	13.3%	(119,877)	(269,311)	0	$113.82	$76.48
Total	**79,702,407**	**5,289,511**	**2,460,165**	**9.7%**	**480,990**	**(878,977)**	**2,471,167**	**$101.58**	**$68.08**
Downtown									
TriBeCa	3,601,580	180,061	12,159	5.3%	(1,400)	500	0	$164.93**	$73.38
City Hall	9,327,251	907,083	63,451	10.4%	(110,272)	(233,962)	0	$65.89	$53.73
Financial District	63,568,400	4,921,762	2,219,128	11.2%	146,328	(585,505)	0	$57.83	$50.91
World Trade Center	22,064,287	1,893,399	1,032,289	13.3%	(316,879)	(372,604)	0	$75.07	$0.00
Total	**98,561,518**	**7,902,305**	**3,327,027**	**11.4%**	**(282,223)**	**(818,967)**	**0**	**$65.19**	**$52.06**
Manhattan Overall Total	465,058,323	36,818,900	13,755,070	10.9%	558,918	(3,305,874)	12,191,117	$86.64	$61.65

Data as of 7/1/2020
** Excludes 5.7 MSF coming online within the next 12 months.*
*** Includes 15 Laight Street, which has an average asking rent of $175.00 PSF.*

Investment Sales

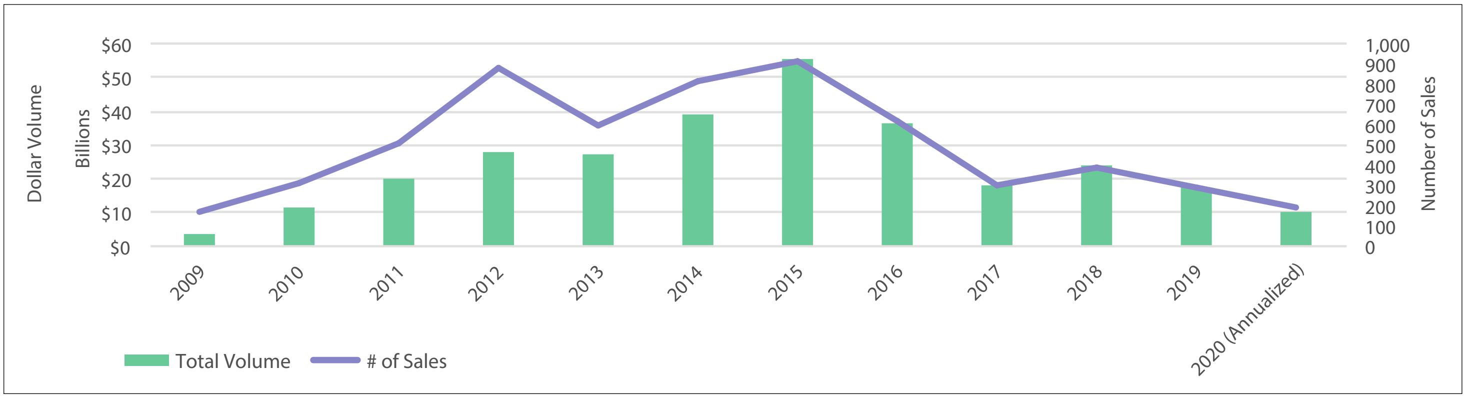
Second Quarter 2020 Summary

In the second quarter of 2020, Manhattan saw an unprecedented halt in transaction activity due to COVID-19. The quarter tallied 30 transactions and $753 million in total dollar volume, down 56 percent and 83 percent, based off the trailing four quarter average and the lowest totals for each since the third quarter of 2009. With COVID decimating the second quarter, combined with an already sluggish first quarter, the first half of the year recorded just 96 transactions and $5.17 billion in total dollar volume. During the second quarter as the effect of COVID intensified, March's 15 transactions gave way as the market activity bottomed out in May with only seven transactions, June showed a modest yet positive improvement with nine transactions. Annualizing this pace, Manhattan is on track for 190 transactions and $10.3 billion in total dollar volume, which is 66 percent and 63 percent of the 10-year average, respectively. In normal markets there are enough data points to opine on market pricing trends. However, with few data points, combined with the long nature of a real estate transaction, there were not enough transactions to say definitively what pricing correction may result.

Multi-Family

The second quarter of 2020 recorded only 14 multi-family and mixed-use sales combining for a total of $151 million in total dollar volume, yet was nearly half of the total transaction count. This represents a 55 percent decrease in transaction volume and 77 percent decrease in dollar volume off the trailing four quarter average, respectively. While pricing per square foot remained steady at $868, cap rates increased by 33 basis points off the trailing four-quarter average, which is based off a smaller than usual sample size. For the first half,

Transaction Volume and Number of Sales by Year



sales totaled 40 with $962 million in dollar volume, if annualized, this would be 80 sales and $1.92 billion, which would equate to 33 percent and 23 percent decline off 2019 totals.

Retail

In the second quarter, the retail market saw five transactions for a total of $256 million in dollar volume. This represented a 41 percent decrease in transaction volume and an 81 percent increase in dollar volume off the trailing four-quarter average, respectively. For the first half, sales totaled 14 with $322 million in dollar volume, if annualized, this would be 28 sales and $645 million, which would equate to a 26 percent and 11 percent decline off 2019 totals. The increase in dollar volume is skewed due to the leading transaction of the quarter, 609 Fifth Avenue, where the sale price was greater the trailing four-quarter average alone. The three-story retail condo, in which Puma is the main tenant, was sold by SL Green to Rueben Cos for $168 million equating to $5,822 per square foot and a 5.00 percent cap rate.

Office

Coming off a strong first quarter, the office sales market was nearly non-existent in the second quarter. There were four transactions totaling $145 million in dollar volume. This is a 68 percent decrease in transaction volume and 94 percent decrease in dollar volume off the trailing four-quarter average, respectively. For the first half, there were 17 sales for $3.15 billion in total dollar volume, if annualized, this would be 34 sales and $6.3 billion, which would equate to 24 percent and 34 percent decline off 2019 totals. The leading transaction for the quarter was The Park Avenue South Portfolio, 114 East 25th Street and 331 Park Avenue South, which was sold by The Prodigy Network for a collective $82.5 million, $921 per square foot.

Development

We saw an increase in the activity in the development market in the first quarter, but we only saw two transactions in the second quarter. For the first half, there were 14 sales for $632 million in total dollar volume, if annualized, this would be 28 sales and $1.2 billion, which would equate to a 7 percent and 11 percent decline off 2019 totals. The leading transaction for the quarter was 410 Madison Avenue, which JP Morgan Chase purchased from The Bank of China for $115 million. The lot allows for 107,500 buildable square feet, equating to $1,070 per buildable square foot. The two parties entered contract in 2018 so the price may not reflect current market conditions.

Conversion

The conversion market saw three transactions totaling $27.65 million in total dollar volume, a 52 percent and 83 percent decreases off the trailing four-quarter average, respectively. For the first half, conversion sales totaled at seven for $68.9 million in total dollar volume, annualized to 14 sales and $165 million in dollar volume, we project a 47 percent and 81 percent decrease off 2019 totals.

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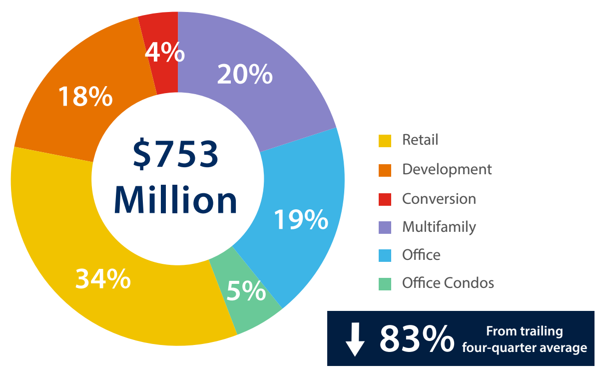
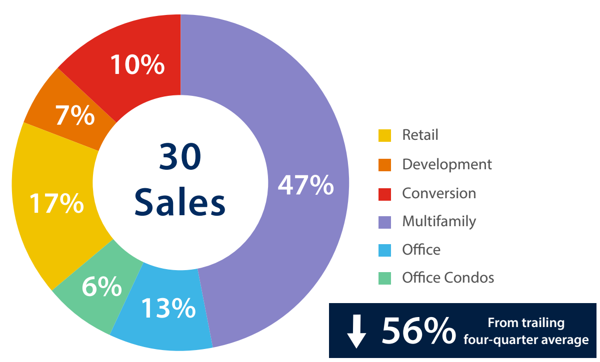
Avison Young's Tri-State Investment Sales group tracks confirmed transactions above $5 million ($1 for retail properties and office condominiums) sold in Manhattan below 96th Street.

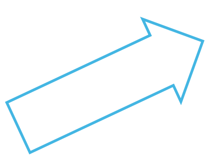
Second Quarter Total Dollar Volume by Asset Class



Second Quarter Number of Sales by Asset Class

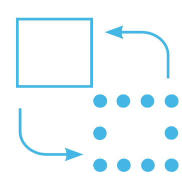


Trends to Watch



When will we see an increase in distressed sales?

Will activity begin returning to normal in Q3, Q4 or beyond?



Will there be fundamental changes in the use of real estate?

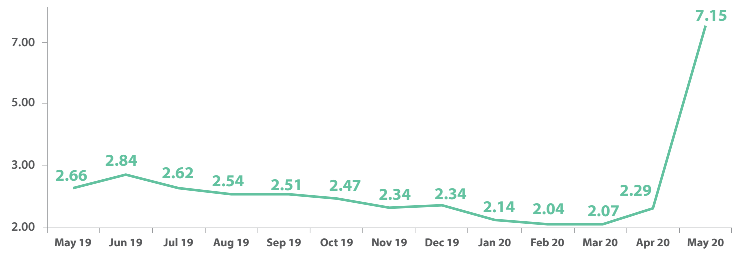
Debt & Equity

Debt, Joint Venture and Structured Capital

Consequences of Economic Shutdown on Real Estate Financing, Includes Spike in CMBS Delinquencies

The shutdown of the economy in March will have consequences that are, in some cases, yet to be felt in the commercial real estate markets. Forbearances, by lenders in the case of mortgages, and landlords in the case of tenants, have masked the full effect for the moment. The CMBS market, for example, has seen delinquencies rise from about 2.0 percent in April to over 7.15 percent in May, according to Trepp per the chart to the right. The increase is almost entirely in the 30-day delinquent category. Borrowers will have to now navigate the messy process of dealing with Special Servicers to get any relief. The reason as to why that is such a problem is inherent in the way that CMBS loan documents are structured. Special servicers need to follow the loan documents without too much discretion of their own allowed. This restriction has always been a negative when doing a CMBS loan. As an example, according to a survey from the American Hotel & Lodging Association, 91.0 percent of hotel loans financed by banks had their payments adjusted due to the pandemic. Only 20.0 percent

Percentage of CMBS marked as 30+ Days Delinquent



Source: Trepp

of CMBS hotel loans had their payments adjusted as the borrowers attempt to engage with the servicers, partially explaining why the delinquency rate spiked for CMBS loans.

New Lending Break-Down – Multi-Family More Desirable to Lenders

As to new lending, the landscape is bifurcated into two distinct buckets of financeable and unfinanceable. If you are a stable multi-family property, Freddie Mac, Fannie Mae and insurance companies are all still viable cheap options. Freddie Mac reported that it received $8 billion worth of loan requests during the first two weeks of June which matches pre-pandemic levels. Freddie Mac even went so far as saying that they are reducing debt service reserve requirements and will now consider properties still in lease up and student housing. At the other end of the barbell, if you are a transitional property that requires a high-octane bridge loan, there are no shortage of debt funds or pseudo-hard money lenders willing to lend to borrowers at 10.0 to 12.0 percent. However, the chasm in the middle of that barbell has become much larger. Retail properties that aren't grocery anchored, many office buildings and almost all hotels have become much extremely difficult to finance in this environment. High interest rates plus lower leverage are the only remotely possible solutions for these asset classes. As for CMBS, the industry is still projecting $45 billion of loans for the year. We have had some lenders quoting with wide spreads and lower leverage than pre-pandemic levels, so they are back in the market, albeit in lukewarm fashion. In May, Argentic had the first securitization since the pandemic hit but pricing was very wide with AAA tranches at Libor plus 262 (versus Libor plus 100 pre-pandemic) and the junior most tranche (the A- rated C transaction) had pricing at Libor plus 600. Meanwhile, construction loans have likewise become more difficult to finance. Multi-family construction can still be financed but at a significantly higher cost and lower leverage than pre-COVID-19. In general, all loans have become more expensive as spreads have increased across all sectors. This will eventually affect cap rates as overall returns are dampened as a result of both the interest rate rise as well as the increased equity requirement due to lower leverage.

Warehouse Lines Being Reeled In

The biggest factor not being discussed is the reluctance of banks to do new lending for anybody except existing clients. Most banks have legacy issues with existing loans so most lending officers are being diverted to asset management to deal with those problem loans. An ancillary problem is that many banks provide warehouse lines to many debt fund lenders. Warehouse lines allow debt funds to finance the senior tranche of their loans at mid-single digits thus enhancing the returns of the overall loan done at high-single digits. We know of one debt fund that uses Deutsche Bank as a warehouse lender. Deutsche Bank, for one, is effectively out of business during this pandemic. Warehouse lines were supposed to be the safer alternative to CLOs since CLOs were reliant upon the public markets to finance their paper. With warehouse lines being pulled by these banks, debt fund's only alternative is to keep 100.0 percent of the loan on its books and thus they can't leverage their return. If they promised their investors a 12.0 percent return, they now need to charge 12.0 percent (plus fees) to achieve that dividend.

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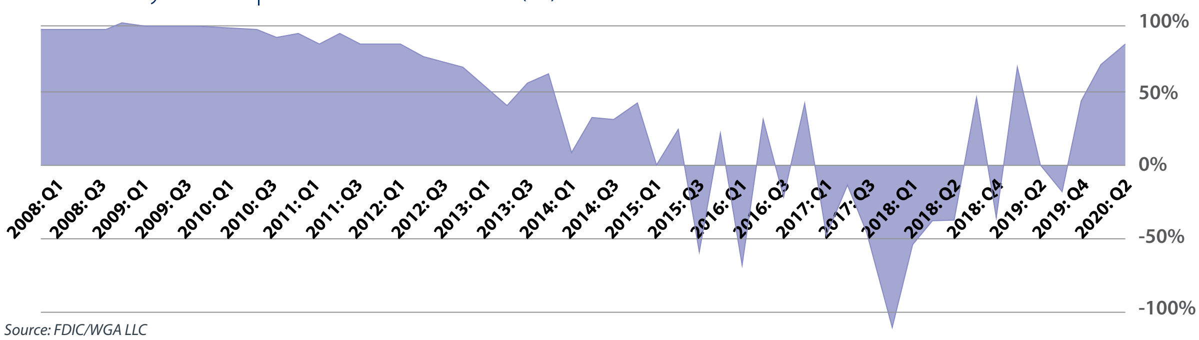
Multi-Family Loans | Loss Given Default (%)



Source: FDIC/WGA LLC

Trends to Watch

Shutdown of economy caused CMBS delinquencies to spike from 2.0 percent to 7.15 percent in May, most of those being 30-day delinquent. This number, for both CMBS and others, will likely increase as temporary forbearances expire.

New lending is bifurcated into the haves and have nots. Multi-family and industrial are desirable to lenders while retail, hotel, and to a lesser extent, office, have become much more difficult to finance. Construction lending is also somewhat shunned.

Banks are dealing with legacy issues which not only limits their ability to do new loans but also causes them to pull warehouse lines to debt funds and other lenders that lay off their senior tranches.

Interest rates on new loans will likely rise as spreads are higher across-the-board.

Design & Construction

Design and Construction in New York City

Returning to Site

After a shutdown of non-essential construction activities that spanned 57 business days (nearly three months), the design and construction industries have seen profound changes that affect the financial and timeline strategies of new projects. In this early phase of return to work, it is too soon to know the full impact of state and local restrictions, but it is clear that we are not back to "business as usual." From re-thinking the way offices will function to the logistics of building new space, the industry has seen early trends that provide insight to how landlords and tenants should approach their real estate planning.

Space Planning

Despite the trend of work-from-home considerations, tenants may require increased rentable square feet to accommodate social distancing requirements. Spatial design of circulation, meetings spaces and the increased quantity of closed-door offices push the essential footprint beyond what was used for open-office benching layouts. With larger conference rooms required to accommodate the same number of attendees and one-way corridors requiring more access space, designers are sometimes in need of five to 15 percent more total area to accommodate. Along with the use of space, signage packages are being added to design plans to direct employees to new standards and practices when using meeting spaces or walkways.

Not-So-Common Space

A major concern for tenants as they return to their offices is the use of common space that is frequented by many employees such as break rooms, corridors, restrooms and coat closets. Traditional hardware is being replaced with automatic door openers ("wave" sensors and actuators) in these areas, while touchless fixtures are being installed for faucets, soap dispensers, paper towel dispensers and toilets. These carry a higher cost than traditional fixtures and require power or battery maintenance as a result.

The use of copper has increased due to its low adherence times for microbes which can increase cost from typical aluminum or brass, and the spike in demand has increased lead times for sourcing. Stand-alone and integrated hand sanitizer dispensers are being installed throughout office spaces, with signage reminding employees of best practices. This is a new cost that is now the norm for safe space.

Tech Perspective

Even with the return to office workspace, the video conference meeting norm will demand improved video conferencing capabilities for those who previously attended meetings in-person. This includes upgrades to infrastructure, equipment and software to connect a combination of in-office and remote participants. This cost is well beyond the common media screen with internet connection at the center of a conference room table. Speaker targeted video cameras, distributed microphones/speakers and increased screen sizes are all necessary in the video conference environment to maintain productivity of meetings.

Some buildings have explored re-purposing previous egress-only stairwells to convenience-use in order to reduce circulation in lieu of crowded elevators. The new use of stairwells for typical access will require increased security on doors to tenant space in the form of cameras, card readers and emergency-release door hardware. Coordination of these items should be considered when compared to projected use by employees.

A Breath of Fresh Air

To mitigate airborne health concerns, it is recommended to optimize mechanical systems, often increasing outdoor air, improving filtration measures and providing sanitization methods (UV-C, etc.). These concepts employ air monitoring systems that must be implanted into workspaces. Humidity is also a consideration when controlling microbe spread. At the owner and tenant levels, adding controls with sensors can help regulate conditions to safe levels.

As all mechanical system designs are unique, and their integration with any base building systems are specific, it is highly recommended that occupier tenants speak with their landlord or building manager to understand the systems being used and the options for improvement or optimization.

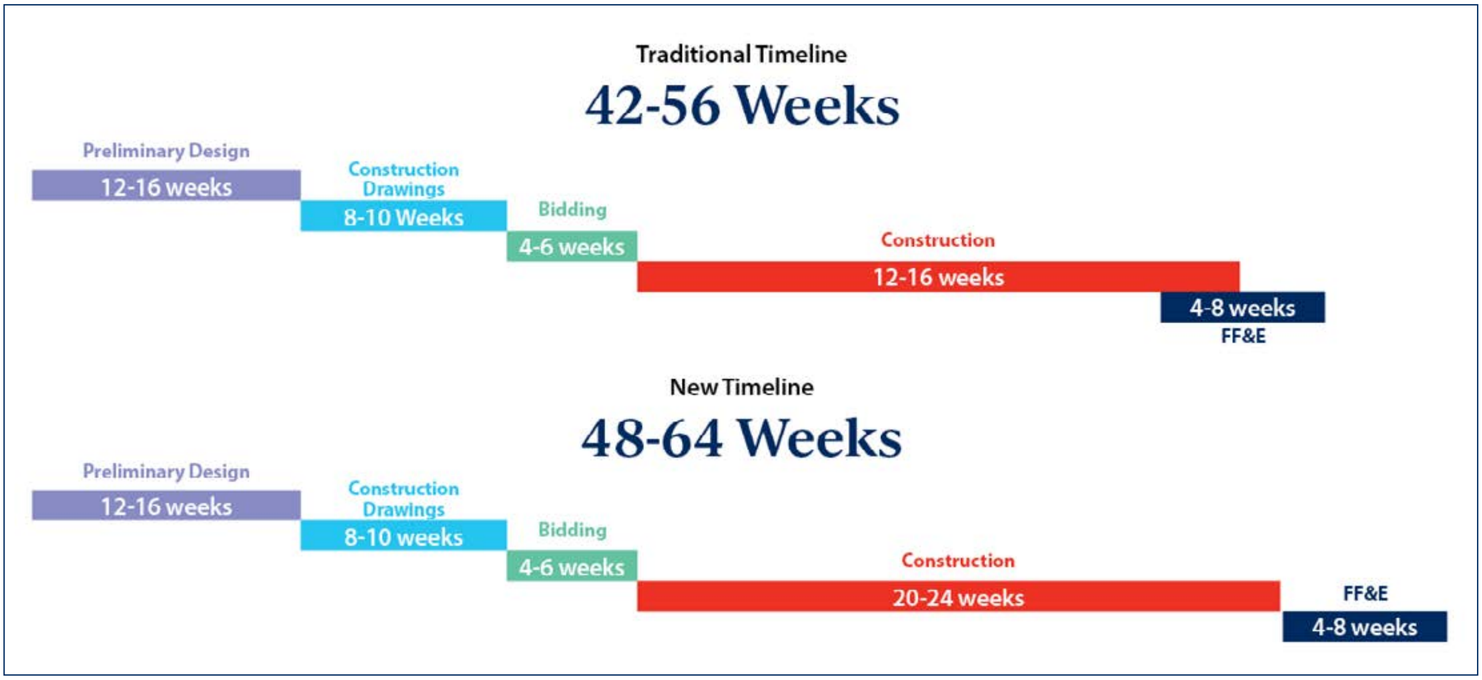
This is commonly the most substantial cost impact to optimizing office conditions. Beyond the effect to budget due to upgraded equipment, filters and monitoring systems, the maintenance of these systems will present a new burden for facilities management teams or tenants when they have the responsibility for dedicated units.

A New Construction Safety Factor

Non-essential construction was permitted to resume in New York City on June 8, 2020, with stringent requirements to avoid spread of infection. Density restrictions have required general contractors (GCs) to re-think sequencing of activities and they can no longer have trades stacked for optimal efficiency. Freight access is also highly restricted which demands a high level of coordination and increased hours for labor to accommodate. Longer days with split labor shifts can alleviate some of this, but at the cost of overtime rates and increased supervision hours. In addition, New York City mandates additional cleaning during construction and GC-supplied PPE, hand sanitizers and additional labor to assure compliance.

These new measures in the already strict safety measures for New York City construction has increased general conditions costs

Impact to Timeline



which previously averaged 8.0 to 12.0 percent but could now be as high as 15.0 to 20.0 percent. Overall schedule durations are seeing an increase of 20.0 to 30.0 percent depending on the desire to pay for extended working times and management.

In addition to the general extension of construction time, tenants also have to consider the tenant installations impact to the project. Typically, the GC is not responsible for furniture, IT, AV, security or tenant signage. However, they do work closely with the tenant or owners' rep to integrate those efforts into the overall schedule. We anticipate this overlap to be minimized due to the density limitations. So, where we used to overlap furniture in the final weeks of a schedule, we may only see that overlap within the final days or even post-substantial completion, further extending the overall project schedule.

In summary, there are significant guidelines and requirements in place to protect tradespeople, visitors and all whom they come in contact with and if everyone works together, we can have a smooth transition to the new "abnormal" in construction in New York City.

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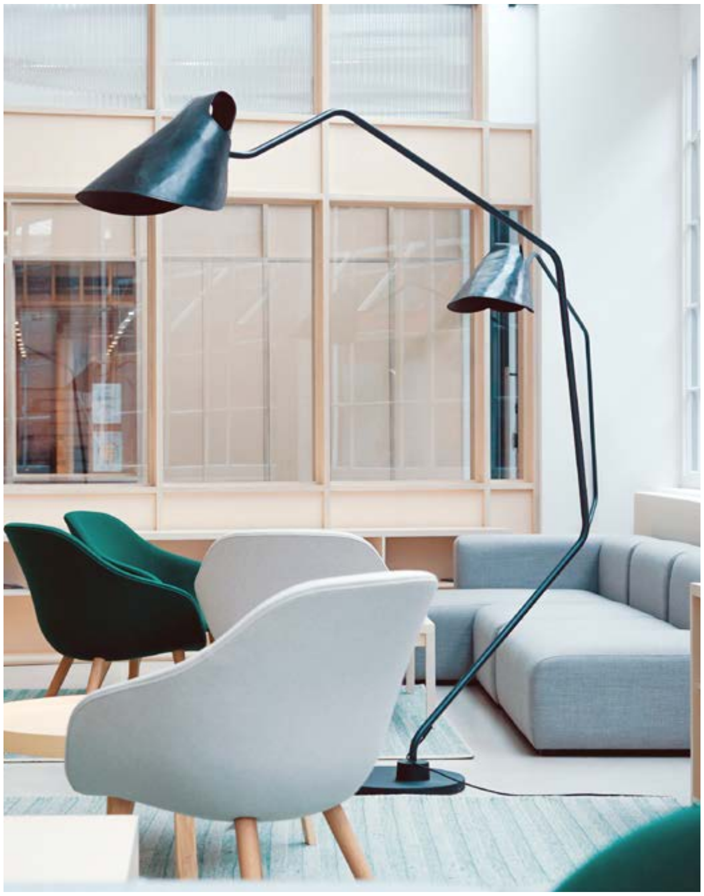
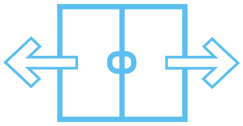
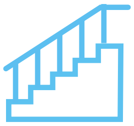


Trends to Watch



Auto door openers will replace traditional hardware, and the use of copper due to its low adherence times for microbes will replace typical aluminum or brass touch points. Although more costly, this is now the norm for safe space within common areas.



Egress-only stairwells will be re-purposed in some buildings. Their use for typical access in lieu of crowded elevators will require increased security on doors to tenant space in the form of cameras, card readers and emergency-released door hardware.

Expect overall project schedules to be extended given overlap within the final days or even post-substantial completion as it relates to the coordination of furniture, fixtures and equipment (FF&E).

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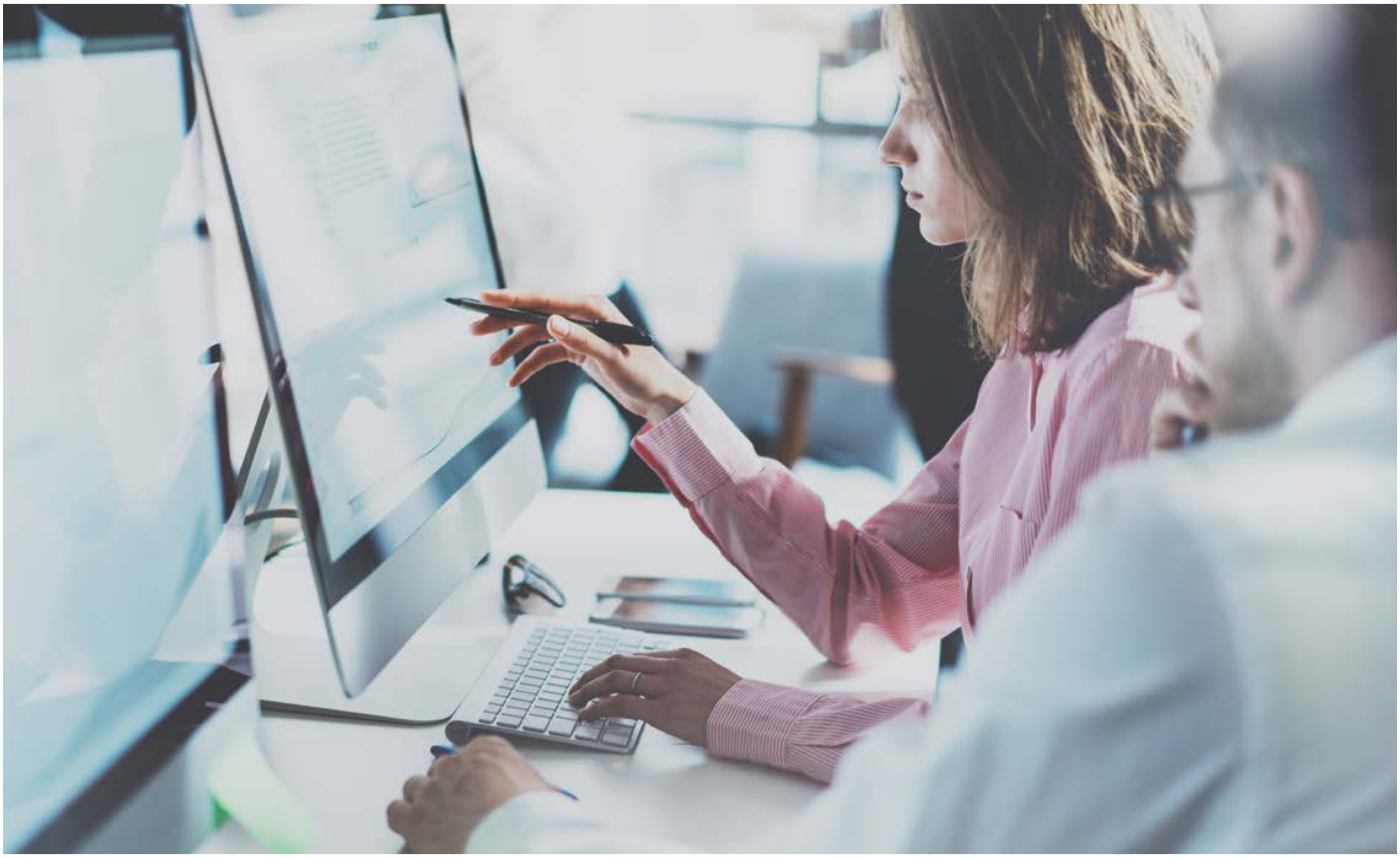
Valuation & Advisory



Real Estate Prospects for "Value Sustainability"

Real estate is very capital intensive and requires long-lead times. In the past, either "overvaluation" or "over-leveraging" created economic mayhem in the macro economy for several years.

Moving forward, "value sustainability analysis" should be a significant lending or project requirement. In substance, this tool is a highly functional "sensitivity" analysis that can be used to model risk, loan and investment metrics, real estate cycles and loan term in a single window and in real time.

This tool is scalable to an enterprise level or can be used to pluck single asset metrics from a portfolio. The key, however, is that all real estate factors (e.g., demographics) must be tied more closely to each property's underwriting so that unnecessary speculation cannot occur.

More specifically, investors must accurately value assets today, fully underwrite down periods, and forecast whether "fundamental" value is "sustainable" over the survey window.

Credible Valuation and Risk Forecast Modeling Through 'Value Sustainability'

"Sustainable Value" is described in Guide Notes 10 & 12 of Uniform Standards of Professional Appraisal Practice (USPAP). It is not a new concept, nor is Value Sustainability hard to conceptualize. Simply place yourself in the position of a lender, buyer or investor and ask whether that purchase will hold its value over the time you plan to own/lend on it.

Unlike a new car, which is expected to depreciate from the moment it is driven off the lot and is treated as a consumable, real estate values are expected to be durable, or sustainable over a loan term or hold period. "Value Sustainability," developed correctly, and used at each stage of the real estate transaction period will help investors, lenders and analysts navigate this market blind spot that we now face as a result of the COVID-19 pandemic.

What is the Value Sustainability Analysis?

Value Sustainability Analysis is a forward-looking yield capitalization model that compares market value and its implied reversion to "fundamental value" and its implied reversion over a cycle period and along a market equilibrium line.

Detachment from equilibrium created by fundamental value and its fundamental reversion value by a margin of 15.0 percent or more implies either that the surrounding market fundamentals will not support that valuation through its holding period (the asset is overvalued by the collective market and not necessarily an appraisal and is potentially in a market 'bubble'), or that market fundamentals are pointing to an undervalued asset (by the collective market and not necessarily an appraisal), and a buying opportunity exists.

Conclusion

This tool is scalable to an enterprise level or can be used to pluck single asset metrics from a portfolio. The key, however, is that all real estate factors (e.g., demographics) must be tied more closely to each property's underwriting so that unnecessary speculation cannot occur.

More specifically, investors must accurately value assets today, fully underwrite down periods, and forecast whether that fundamental value is sustainable over the survey window.

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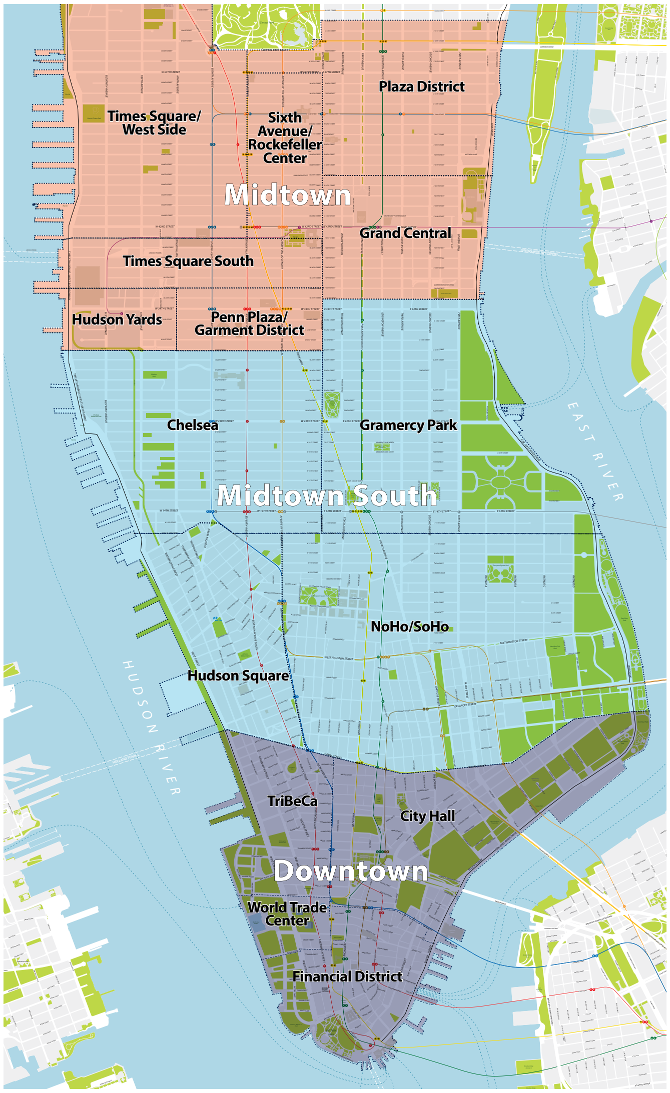
Trends to Watch

"Value sustainability analysis" will become a significant lending or project requirement to assess important real estate metrics on a real time basis.

"Value sustainability," developed correctly, will be increasingly important to help investors, lenders and analysts navigate valuation blind spots that we now face as a result of the COVID-19 pandemic.

The "value sustainable analysis" tool, which is scalable to an enterprise level, is to be used more often to help mitigate unnecessary speculation in the property underwriting process.

About the Market



Midtown

Plaza District: Borders East 62nd and West 59th Streets on the north, Seventh Avenue on the west, East 49th and West 57th Streets on the south and the East River on the east (includes prior Park Avenue submarket)

Grand Central: Borders East 49th Street on the north, Fifth Avenue on the west, East 35th Street on the south and the East River on the east

Sixth Avenue/Rockefeller Center: Carved out section that borders West 57th Street on the north, Seventh Avenue on the west, West 41st Street on the south and the mid-block of Fifth Avenue on the east

Times Square/West Side: Borders West 64th Street on the north, the Hudson River on the west, West 41st Street on the south and Seventh Avenue on the east (includes Columbus Circle)

Times Square South: Borders West 41st Street on the north, Ninth Avenue on the west, West 36th Street on the south and Fifth Avenue on the east

Penn Plaza/Garment: Borders West 36th Street on the north, Ninth Avenue on the west, West 30th Street on the south and Fifth Avenue on the east

Hudson Yards/Manhattan West: Carved out section that borders West 41st Street on the north, the Hudson River on the west, West 30th Street on the south and west side of Ninth Avenue on the east

Midtown South

Chelsea: Borders West 30th Street on the north, the Hudson River on the west, West 12th Street on the south and Fifth Avenue on the east (includes prior Flatiron submarket)

Gramercy Park: Borders East 35th Street on the north, Fifth Avenue on the west, East 12th Street on the south and the East River on the east (includes prior Union Square/Madison Square/Park Avenue South submarkets)

Hudson Square: West 12th Street on the north, the Hudson River on the west, Canal Street on the south and Sixth Avenue/Avenue of the Americas on the east

NoHo/SoHo: Borders East 12th Street on the north, Sixth Avenue/Avenue of the Americas on the west, Canal Street/East Broadway on the south and the East River on the east (includes Greenwich Village)

Downtown

TriBeCa: Borders Canal Street/East Broadway on the north, the Hudson River on the west, Vesey Street on the south and Church Street on the east

City Hall: Borders Canal Street on the north, Church Street on the west, Fulton Street on the south, and the East River on the east

World Trade Center: Borders Vesey Street on the north, the Hudson River on the west, Albany Street on the south and Church Street/Trinity Place on the east

Financial District: Borders Fulton Street on the north, the Hudson River on the west, South Street on the south and the East River on the east (rest of lower Manhattan)

New York City

Market Report
Second Quarter 2020

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