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Date: October 29, 2020 Re: The Great Migration, Where They Went and Where We Are Now Data Sources: USPS and Nancy Packes Data Services

Dear Colleagues,

I have prepared this report analyzing data FOIL'd from the Post Office, with my friends at Eastdil Secured, regarding the number of temporary and permanent address changes for all NYC boroughs since 2017, as well as destination locations for the address changes. We are also reporting on NYC employment and changes in residential rentals since Covid began affecting the market in March 2020. We hope that this analysis reveals trends that help to explain current market conditions and foreseeable changes.

### How Many Have Moved

Since 2017, the Post Office has been compiling monthly data on locations from which NYC residents have filed both temporary and permanent address changes, as well as destination locations by county. The chart below shows, by month and year over year, the number of people filing such changes in NYC since Covid began affecting the market in March 2020.



TOTAL CHANGE OF ADDRESS REQUESTS IN NYC (MARCH – SEPTEMBER 2020) – 551,507 TOTAL INCREASE IN 2020 OVER 2019 (MARCH – SEPTEMBER) – 173,005 The increase in the total number of address changes, both temporary and permanent, since Covid began affecting the market in March and through September, compared to the prior year, is approximately 173,000. This is a substantial 46% increase over 2019. The effect is compounded by the fact that, in 2019, the population decrease would have been offset by an influx reflecting new job creation. As we shall detail later, there was no such offsetting trend in 2020, so that the total population loss of about 550,000 reflects the true impact on the market.

March saw the largest monthly movement, most probably in reaction to school closures. This would include families with second homes in the counties near the City taking refuge there, as well as many students. For April through August, the monthly number hovers around 20,000 and probably reflects the exodus of renters at the expiration of their leases. Most building owners time leases to expire in the warmer months when demand and pricing are higher. If this observation is correct, October moveouts will be lower. This also means that the moveouts will slow, as fewer and fewer leases are set to expire through the year end and will increase gradually until the new leasing season begins in May 2021. Also, offices have begun reopening and many people will hesitate to move as plans emerge to repopulate workplaces. For both reasons, we can expect the exodus to slow through the fall and winter months and rental demand to stabilize.

As offices repopulate, given the need for more space per worker because of density concerns, companies will experiment with models of split time, part working from home and part in the office that will keep employees within commuting distance to the office. This will also help to stabilize rents in the City.

The exodus has not escaped attention. On May 15, the New York Times published an article, based on smart phone location data, stating that 420,000 people had left the City between March 1 and May 1. Considering total changes of address for the period March through May 1 of about 240,000 and considering 2.4 average persons per household in the City, the total number of people leaving the City during that period could have been 575,000. In the household, many small children do not yet have access to smart phones, so the numbers are roughly in sync. Smart phone location data may help track the evolution of such trends in the future.

A change of address can be temporary or permanent. The chart below shows total permanent changes of address, by month, since 2017. The data is further parsed to indicate if the move was within the City or out of the City. For the period March through September 2020, the total number of permanent changes of address with a destination outside the City is about 170,000. This number probably reflects people who have lost jobs and do not expect to regain them soon, like in retail, and those who have been told they can work from home indefinitely.

As the chart below shows, most permanent address changes are to locations within the City.



#### PERMANENT INTRABOROUGH, INTERBOROUGH, AND OUT OF CITY REQUESTS – 429,167 TOTAL INCREASE IN 2020 OVER 2019 (MARCH – SEPTEMBER) – 68,613

First, please note that the total permanent requests, 429,167, is less than the 551,507 reported for all changes of address, temporary and permanent. Temporary address changes probably represent people leaving the City for relatively brief respites from the lockdown and who intend to return. Their movement does not contribute to the long-term trends we are considering.

Intra borough moves were slightly lower than in 2019, probably because landlords were very aggressive in accommodating renewal rent requests. Interborough moves were only minimally greater, and most likely reflect the search for greater value, with Manhattan losing most and Queens gaining most as shall be discussed below concerning rent changes post Covid.



Where Are They Going

Concerning the number of people moving out of the City, the chart below shows the top 15 destinations, by county, representing about 50% of address changes from March through September 2020.



It is interesting to note that the top 11 destinations are shared by all three boroughs, despite their very different income levels. For the most part, these counties, such as Westchester, Fairfield and Suffolk, represent the locations of weekend homes for affluent New Yorkers who own or rent in the City. If they own, they typically did not try to sell their apartments during the pandemic conditions in the market. They have been working from home and their change of residence does not affect the economics of the City. Some of these more affluent City residents rent and their permanent moves have affected rental values and vacancy rates in very high-end buildings. Moves to Hudson County probably represent the search for lower cost rentals in Jersey City and do affect values in the rental market.

The remaining half of changes of address out of the City since March are dispersed among 200 counties. These probably represent students returning home because of school closings and many who returned home having lost their jobs. There is a very good chance many in this group will return to the City: students when schools open and many who were furloughed will return when businesses gain clarity on the future and resume normal operations.

So, while the increase annually in people who left the City is substantial, many will return, but that is not the only factor affecting values in the residential market. Job losses are.

According to the Bureau of labor Statistics, the unemployment rate in Manhattan has changed from 3.7% in 2019 to 15.9% today. Brooklyn and Queens went from approximately 4% to more than 20%. The retail and hospitality industries have lost about half their employees. While hospitality should eventually recover, retail is far more problematic. The spaces will be occupied by retail or other uses, but price discovery, when demand has fallen so drastically, will be a drawn out process.

However, retail and hospitality are not significant drivers of demand in the residential market. Finance, Business and Professional Services and the Tech Sector are. Each has lost a substantial number of employees: Technology has lost 5% or about 10,000 jobs, Finance has lost 6.5% or about 30,000 jobs and Business and Professional Services more than 13% or about 92,000 jobs. The loss of about 140,000 jobs in these key areas has had an enormous impact on the rental market. It has also affected the sale market, but that's a far more complex analysis than should be dealt with here, given the weakness pre-existing Covid.

### What Happened to Rents

The chart below shows the changes in gross and net rents from March through September 2019 compared to the same months in 2020 for Manhattan, Brooklyn and Queens, for core and non-core areas. All data in the charts below are from Nancy Packes Data Services, Transactions Database. The data include studio through two- bedroom homes. Three-bedroom homes were not included because they are not evenly distributed across the areas and skew the data.

	Manhatta	n Gross R	ent in	Attended	Renta	l Building	s Comp	paring Mar	ch thro	ugh Oct. 2	2020 w	vith 2019,	Core an	d Non-Co	re Area	is*		
Gross Rent		Mar.	% Mo.	Apr.	% Mo.	May	% Mo.	June	% Mo.	July	% Mo.	Aug.	% Mo.	Sep.	% Mo.	Oct.	Change from Mar to Sep	Yearly Average Change
Core 2020 - Rental Price	Avg.	\$4,719	-4%	\$4,517	-3%	\$4,360	0%	\$4,346	-1%	\$4,316	-4%	\$4,139	-2%	\$4,075	-8%	\$3,737	-21%	\$4,276
Core 2019 - Rental Price	Avg.	\$4,419	-1%	\$4,374	3%	\$4,517	2%	\$4,600	0%	\$4,591	4%	\$4,755	2%	\$4,832	-4%	\$4,655	5%	\$4,593
Non-Core 2020 - Rental Price Non-Core 2019 - Rental Price	Avg.	\$2,662 \$2,791	12% -3%	\$2,977 \$2,717	4% 8%	\$3,090 \$2,929	-7% 0%	\$2,871 \$2,915	8% 11%	\$3,099 \$3,236	3% -2%	\$3,193 \$3,163	-9% 0%	\$2,917 \$3,171	-7% -12%	\$2,714 \$2,803	2% 0%	\$2,940 \$2,966
	Manhatt	an Net Re	ent in A	ttended F	Rental	Buildings	Compa	aring Marc	h throu	gh Oct. 20	020 wi	th 2019, (	Core and	Non-Cor	e Areas	*		
Net Rent		Mar.	% Mo.	Apr.	% Mo.	May	% Mo.	June	% Mo.	July	% Mo.	Aug.	% Mo.	Sep.	% Mo.	Oct.	Change from Mar to Sep	Yearly Average Change
Core 2020 - Rental Price	Avg.	\$4,600	-4%	\$4,402	-3%	\$4,253	2%	\$4,349	-4%	\$4,165	-5%	\$3,953	-7%	\$3,659	-9%	\$3,331	-28%	\$4,089
Core 2019 - Rental Price	Avg.	\$4,278	-1%	\$4,249	4%	\$4,425	2%	\$4,507	0%	\$4,499	3%	\$4,649	1%	\$4,694	-4%	\$4,514	6%	\$4,477
Non-Core 2020 - Rental Price	Avg.	\$2,616	12%	\$2,919	2%	\$2,964	-6%	\$2,780	9%	\$3,025	1%	\$3,047	-11%	\$2,727	-9%	\$2,474	-5%	\$2,819
Non-Core 2019 - Rental Price	Avg.	\$2,771	-2%	\$2,704	8%	\$2,911	-1%	\$2,894	12%	\$3,230	-2%	\$3,151	0%	\$3,138	-11%	\$2,794	1%	\$2,949
Source: Nancy Packes Transaction																		

\*Core includes all neighborhoods south of and including the UWS and Manhattan Valley on the West Side and Carnegie Hill & Yorkville on the East Side

Non-core includes all other neighborhoods in the borough

	Brooklyn	Gross Ren	it in At	tended R	ental B	uildings	Compa	ring Marc	h thro	ugh Oct. 2	2020 v	vith 2019,	Core an	d Non-Cor	e Areas*			
Gross Rent		Mar.	% Mo.	Apr.	% Mo.	May	% Mo.	June	% Mo.	July	% Mo.	Aug.	% Mo.	Sep.	% Mo.	Oct.	Change from Mar to Sep	Yearly Average Change
Core 2020 - Rental Price	Avg.	\$3,957	4%	\$4,104	-5%	\$3,889	-3%	\$3,767	-2%	\$3,694	2%	\$3,756	-7%	\$3,506	7%	\$3,741	-5%	\$3,802
Core 2019 - Rental Price	Avg.	\$3,774	-1%	\$3,745	-1%	\$3,712	3%	\$3,814	2%	\$3,903	-1%	\$3,861	4%	\$4,012	-1%	\$3,975	5%	\$3,849
Non-Core 2020 - Rental Price	Avg.	\$3,525	4%	\$3,671	-18%	\$3,025	3%	\$3,126	-6%	\$2,938	3%	\$3,039	7%	\$3,260	-10%	\$2,936	-17%	\$3,190
Non-Core 2019 - Rental Price	Avg.	\$2,987	11%	\$3,318	0%	\$3,306	-4%	\$3,162	-2%	\$3,104	2%	\$3,159	4%	\$3,293	2%	\$3,361	13%	\$3,211
	Brooklyn	Net Rent	in Att	ended Re	ntal Bu	uildings C	ompar	ing March	ı throu	gh Oct. 20	020 wi	ith 2019, (	Core and	Non-Core	Areas*			
Net Rent		Mar.	% Mo.	Apr.	% Mo.	May	% Mo.	June	% Mo.	July	% Mo.	Aug.	% Mo.	Sep.	% Mo.	Oct.	Change from Mar to Sep	Yearly Average Change
Net Rent Core 2020 - Rental Price	Avg.	<b>Mar.</b> \$3,861		<b>Apr.</b> \$3,953		<b>May</b> \$3,759		June \$3,610		July \$3,549		<b>Aug.</b> \$3,556		<b>Sep.</b> \$3,160		<b>Oct.</b> \$3,499	from	Average
	Avg. Avg.		Mo.		Mo.		Mo.		Mo.		Mo.		Mo.	•	Mo.		from Mar to Sep	Average Change
Core 2020 - Rental Price	-	\$3,861	Mo. 2%	\$3,953	Mo. -5%	\$3,759	Mo.	\$3,610	Mo. -2%	\$3,549	Mo. 0%	\$3,556	Mo. -11%	\$3,160	Mo.	\$3,499	from Mar to Sep -9%	Average Change \$3,618
Core 2020 - Rental Price	-	\$3,861	Mo. 2%	\$3,953	Mo. -5%	\$3,759	Mo.	\$3,610	Mo. -2%	\$3,549	Mo. 0%	\$3,556	Mo. -11%	\$3,160	Mo.	\$3,499	from Mar to Sep -9%	Average Change \$3,618
Core 2020 - Rental Price Core 2019 - Rental Price	Avg.	\$3,861 \$3,624	Mo. 2% 0%	\$3,953 \$3,623 \$3,576	Mo. -5% 0%	\$3,759 \$3,620	Mo. -4% 1%	\$3,610 \$3,673	Mo. -2% 3%	\$3,549 \$3,766	Mo. 0% -1%	\$3,556 \$3,714	Mo. -11% 4%	\$3,160 \$3,871	Mo. 11% 0%	\$3,499 \$3,872	from Mar to Sep -9% 7%	Average Change \$3,618 \$3,720

\*Core includes Boerum Hill, Brooklyn Heights, Clinton Hill, Downtown Brooklyn, Dumbo, Fort Greene, Greenpoint, Park Slope, Williamsburg

Non-core includes all other neighborhoods in the borough

Gross Rent		Mar.	% Mo.	Apr.	% Mo.	May	% Mo.	June	% Mo.	July	% Mo.	Aug.	% Mo.	Sep.	% Mo.	Oct.	Change from Mar to Sep	Yearly Average Change
Core 2020 - Rental Price	Avg.	\$3,558	3%	\$3,665	-3%	\$3,567	6%	\$3,777	-3%	\$3,672	-3%	\$3,556	-6%	\$3,341	9%	\$3,648	3%	\$3,598
Core 2019 - Rental Price	Avg.	\$3,457	1%	\$3,480	3%	\$3,595	0%	\$3,604	-1%	\$3,571	5%	\$3,737	-4%	\$3,571	-3%	\$3,447	0%	\$3,558
Non-Core 2020 - Rental Price	Avg.	\$2,457	-10%	\$2,213	11%	\$2,458	-3%	\$2,375	6%	\$2,513	-3%	\$2,448	4%	\$2,547	-2%	\$2,507	2%	\$2,440
Non-Core 2019 - Rental Price	Avg.	\$2,277	3%	\$2,334	3%	\$2,403	-2%	\$2,354	9%	\$2,565	4%	\$2,665	3%	\$2,732	-6%	\$2,575	13%	\$2,488
	Queens	let Rent	n Atte	nded Ren	tal Bui	ldings Cor	nparin	g March t	hrough	n Oct. 202	0 with	2019, Cor	e and No	on-Core Ar	eas*			
Net Rent	Queens	Mar.	% Mo.	nded Ren Apr.	Mo.	ldings Cor May	mparin % Mo.	g March t June	Mo.	o Oct. 202 July	% Mo.	2019, Coro Aug.	e and No % Mo.	Sep.	eas* % Mo.	Oct.	Change from Mar to Sep	•
	Queens I		%		%	-	%	_	%		%		%		%	<b>Oct.</b> \$3,348	from	Average Change
Core 2020 - Rental Price	1	Mar.	% Mo.	Apr.	% Mo.	May	% Mo.	June	% Mo.	July	% Mo.	Aug.	% Mo.	Sep.	% Mo.		from Mar to Sep	Average Change \$3,408
Net Rent Core 2020 - Rental Price Core 2019 - Rental Price Non-Core 2020 - Rental Price	Avg.	<b>Mar.</b> \$3,416	% Mo. 4%	<b>Apr.</b> \$3,536	% Mo. -3%	<b>May</b> \$3,424	% Mo. 6%	June \$3,618	% Mo. -4%	July \$3,471	% Mo. -4%	<b>Aug.</b> \$3,349	% Mo. -7%	<b>Sep.</b> \$3,105	% Mo. 8%	\$3,348	from Mar to Sep -2%	Yearly Average Change \$3,408 \$3,403 \$2,395

\*Core includes Long Island City and Hunters Point.

Non-core includes all other neighborhoods in the borough

Among the three boroughs, Manhattan core was hardest hit, dropping 12% gross and 14% net. These are probably the result of intra borough moves discussed above. Non-core Manhattan is largely low rise and less dense, so an obvious choice for those not wanting to leave the borough, and with fewer offerings, it does not take many transactions to register a change.

Brooklyn has dropped by about one month's rent, 6% gross and 8% net. Non-core Brooklyn was significantly affected, with a decrease of 14%, or almost two months' rent.

Queens, with its lowest rents, was almost unchanged, the beneficiary of movement from other boroughs.

Perhaps the most compelling observation though is that average Manhattan core rents in October were the same as Brooklyn's average core rent and that Brooklyn's average net rent was higher. This is undoubtably a first time occurrence. Further, Queens' average core rent was only slightly less than Manhattan and Brooklyn's and its net rent was on par with Manhattan's net rent. This level of price equilibrium amongst the boroughs speaks to the fact that all three boroughs are currently competing for the same renter and that renter is less concerned with location than with value.

The rent changes reflected in the chart above are for a six-month period and not projected as an annual rate as conditions are likely to change in the months ahead. With fewer leases up for renewal in the colder months, price changes should be minimal as fewer people leave and demand stabilizes.

The chart below expands on the charts above and looks at the change per unit in each borough for both core and non-core. In it we see further evidence of the erosion of the Manhattan core rents and the general trend for renters to lower their monthly rental outlay.

			C	ore	Non-	Core	
			Gross	Net	Gross	Net	
		0	-20%	-27%	-13%	-13%	
	2020	1	-20%	-27%	-13%	-22%	
	2020	2	-23%	-30%	4%	0%	
Manhattan		Avg	-21%	-28%	2%	-5%	
wannattan		0	6%	6%	-18%	-18%	
	2010	1	3%	3%	0%	0%	
	2019	2	6%	6%	22%	24%	
		Avg	5%	6%	0%	1%	
		0	-5%	-8%	-28%	-30%	
	2020	1	-10%	-17%	-4%	-1%	
	2020	2	-9%	-10%	-14%	-15%	
Dueseluluus		Avg	-5%	-9%	-17%	-16%	
Brooklyn		0	6%	8%	23%	21%	
	2019	1	4%	5%	3%	4%	
	2019	2	9%	11%	7%	5%	
		Avg	5%	7%	13%	11%	
		0	-5%	-9%	7%	3%	
	2020	1	-9%	-13%	-10%	-13%	
	2020	2	-3%	-7%	7%	1%	
0		Avg	3%	-2%	2%	-3%	
Queens		0	3%	5%	5%	6%	
	2019	1	3%	7%	3%	2%	
	2019	2	5%	6%	15%	12%	
		Avg	0%	2%	13%	12%	

- Manhattan core's uniform across the board unit decreases are not surprising given that it occupied the top of the market by price point for all unit types. Renters in Manhattan showed no discernment in their need to lower their monthly expenses, regardless of the size home they occupy.
- In Brooklyn and Queens core, the one-bedrooms decreased the greatest amount. This reflects
  patterns we have observed of individuals moving to smaller homes as a cost savings measure.
  This is supported by the lower rate of decrease seen in Brooklyn and Queens core studios as
  these unit prices have seen greater support with demand from previous one bedroom renters.
- Similarly, Queens core two bedrooms have fallen the least of any unit type. Again, this reflects the value search of renters who have roommates and are generally the most price sensitive.
   Queens core two bedrooms are the most affordable of the two-bedroom inventory.
- There is an interesting parallel in Manhattan non-core two-bedroom pricing as it has increased in both Manhattan and Queens. Similarly, the small decrease in Queens core two-bedroom pricing suggests the demand for this unit type by price sensitive renters and that is further supported by the increase in Queens non-core two-bedroom units.

# The Vacancy Rate

What these rents do not reflect is the vacancy factor. Recently, the have been reports that the vacancy factor has breached five percent level. In fact, empirical evidence shared by owners of large rental portfolios reflects that the vacancy rate for top quality buildings is between 10 and 20 % or higher. One owner of a Midtown West tower of more than 400 units has gone on record that the vacancy rate there is 35%. Reports estimating 5% do not disclose the data source or methodology and, in light of information many owners are sharing, should be given little weight.

Many renters lost their jobs in April and left the City then. BLS records indicate that in April the City lost 865,000 jobs. Every month since then, renters whose leases are expiring and who are working from home are moving to less expensive units in the boroughs or leaving the City. Monthly renewal rates have, on average, dropped from 60 to 65% to 40 to 45%. The effect has been cumulative, with the vacancy rate rising continuously. There is no floor under current pricing. Renters see increasing concessions and are negotiating aggressively, but they don't realize the backlog of increasing vacant supply. Given the migration and without new jobs, there are not enough people to fill the vacancies. These pressures should lessen over the fall and winter months as fewer leases expire and offices repopulate.

Since rent regulation hinges, in part, on the vacancy rate, and since, apparently, no reliable metric currently exists, owners might consider sharing this data, as hotel owners did with room rates, to provide government with an accurate estimate of the vacancy factor.

By tracking Post Office data monthly, we will be able to determine when the exodus and inter and intraborough movement slows to a level similar to prior years. That will enable us to begin to chart the recovery, just as job gains help to project the recovery in any job loss recessions. In the Covid induced recession, the industries that supply demand for luxury rental and sale housing were affected by job losses. But, in an expanding economy, 150,000 jobs would typically be regained in a few months. Unfortunately, those at a lower level in the income spectrum have been most deeply affected: workers in hospitality and retail. New venues need to be created in vacant retail spaces providing new jobs for those that were lost.

## Where We Are Now

Unlike past recessions resulting from corrections in financial markets, Covid has had a similar effect in causing job losses resulting from uncertainty, business closures and travel disruptions. In addition, it has caused a very large migration away from the City by those who are employed. The resulting loss of demand has been cumulative, month after month, with renters leaving the City at lease expiration. This trend can be expected to reverse in the coming months, as offices restaff and renewals decrease over the fall and winter months. There will be more renters in the City, but they may not pay the premium to live closer to the office while working part time from home.

From the pandemic there have emerged two trends: density concerns and testing the efficiency of working from home {WFH}. Density concerns should largely disappear along with the disease, although the trauma may leave lasting residues in the form of a new standard for personal space. While it persists, however, companies are altering existing office space to allow for social distancing and the result is that a significant percentage of employees are working from home some of the time.

Irrespective of the fact that the pandemic was the cause of the WFH movement, companies' reactions are in stark contrast concerning the desirability of a shift in this direction. Technology companies, as might be expected, are proponents of a shift that will give rise to new products for adaptation. Financial institutions have typically taken a more conservative approach. Over the long term, the trend will evolve and policies are needed to anticipate potential lower office space demand. While this is playing out, there is a 7 to 10-year period, the average remaining length of large company office leases, for solutions to this possible shift to be implemented.

To retain the value of office space overall, given the probability that some percentage of employees will not be in offices all or part of the time, it would be prudent to allow older office buildings to be repositioned, or demolished and rebuilt as residential buildings using a property tax abatement to facilitate the change of use. The tax abatement used to resuscitate lower Manhattan is a successful example. The result would be apartments in office corridors, alleviating the need for taking mass transit to work.

The City can maintain its allure through culture, education and entertainment. Two thirds of the City's population rents and is between mid-twenties and thirties. They are drawn by the culture and entertainment offerings of the City and the ability to socialize with their peer group. They typically cannot afford to buy, nor is it practical given how their lives may change during this age range. The City does not need to lose its magnetic attraction if there is less need for office space or retail space. But, we cannot let underutilization of spaces drag down property sectors. The coming years must be used to reinvent residential, cultural and entertainment uses to maintain the City's vibrancy.