

THE EFFECT OF THE EAST-BOUND 7-TRAIN

Ariel Property Advisors | August 2016





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Junction B

INTRODUCTION

It's no secret New York City has become increasingly unaffordable in the years following the Great Recession. Since 2011, the City has experienced a meteoric rise in both multifamily prices (90% increase), and residential rental rates (30% increase) for tenants and landlords alike. To combat this trend, tenants continue to look for the next up-and-coming neighborhoods in which they will be offered similar or better living amenities at a more affordable price. What we have seen is that landlords tend to follow tenants into these "value neighborhoods" effectively creating a recurring cycle of hide and seek.

Nowhere has this occurrence been more evident than in Brooklyn, where the L-train has continually shifted the boundaries of "cool" from Williamsburg to Bushwick and everywhere in between. Since 1998, weekday ridership on the L is up nearly 100%, and an even more astounding 250% at its most popular station, Bedford Avenue. Last year alone rents jumped 19% surrounding Williamsburg's Lorimer Avenue station and another 9% at the Myrtle/Wyckoff station in Bushwick. However, a similar, albeit less publicized trend has started to play out in Queens and we expect the shift to become more pronounced in the coming years.

This report will delve into this chase for affordability and subsequent development of neighborhoods that line the Queens-bound 7-train. It is obvious that the boundaries of relevancy have extended across the East River from Manhattan to Long Island City, but more recently, the spotlight has continued to move eastward to neighborhoods such as Sunnyside, Woodside, Jackson Heights and beyond. The question is how much farther east tenants are willing to move before looking to other boroughs or even outside of NYC as an alternative.

ABOUT THE 7-TRAIN

525K Average
Weekday
Ridership

622 Daily Trips
Running Through
the Line

35min Rush Hour
Travel time
End-to-End

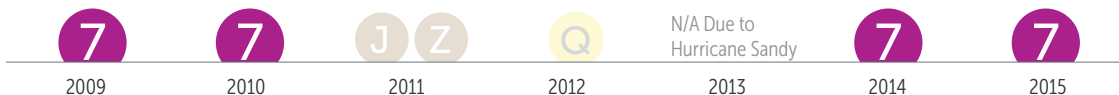
The 7-train offers local and express service between Main Street in Flushing, Queens and 34th Street / Hudson Yards in Chelsea, Manhattan. In 2015, Straphangers Campaign ranked the 7-train as number one in its overall "MetroCard Rating" for the second year in a row, leading the system in frequency of service and subway car cleanliness. Furthermore, the 7-line had the most scheduled service, with two-and-a-half minute intervals between trains during the morning rush hour. Amazingly, if the 7-line were its own metro line, it would be the 5th largest by ridership in the United States, ahead of transit systems in major metropolitan cities like the BART in San Francisco, New Jersey's PATH and Philadelphia's SEPTA.

The line first began service in 1915 between Grand Central and Vernon Boulevard / Jackson Avenue and over the next 13 years, was extended in piecemeal fashion between Times Square and Flushing / Main Street. Express service started in 1917 and the 7 designation has been assigned to trains since 1948.

The line's 22nd station, 34 Street / Hudson Yards, was opened in September of 2015 and extends the 7-Line by 1.5 miles. The new station is the MTA's 469th subway station and the first addition to the subway system since 1989, when a new segment opened on what is today's F line. Because of future development on the horizon, urban planners predict the new station will be the busiest in the city one day, with 35,000 passengers during a peak hour.

Two long-standing proposals remain on the table for future expansion of the 7-line. An additional Manhattan station is proposed for 41st Street and 10th Avenue with an approximate cost of \$1 billion and a second, more ambitious \$10 billion proposal would see the NYC subway system cross state lines for the first time and head into New Jersey.

TOP RANKED SUBWAY LINES (STRAPHANGERS CAMPAIGN)



U.S. METRO LINES | AVG. WEEKLY RIDERSHIP

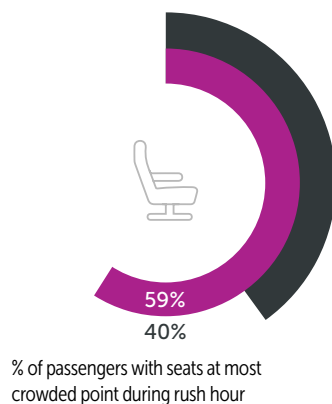
SYSTEM	TRANSIT AGENCY	AVG. WEEKDAY RIDERSHIP
New York City Subway	New York City Transit Authority	9,144,700
Washington Metro	Washington Metropolitan Area Transit Authority	836,800
Chicago 'L'	Chicago Transit Authority	772,900
MBTA Subway ("The T")	Massachusetts Bay Transportation Authority	569,200
7-Line (NYC Subway System)	New York City Transit Authority	525,000
Bay Area Rapid Transit (BART)	Bay Area Rapid Transit District	452,600
SEPTA Subway & High Speed	Southeastern Pennsylvania Transportation Authority	343,800

GROWTH IN RIDERSHIP SINCE 2011 BY NEIGHBORHOOD

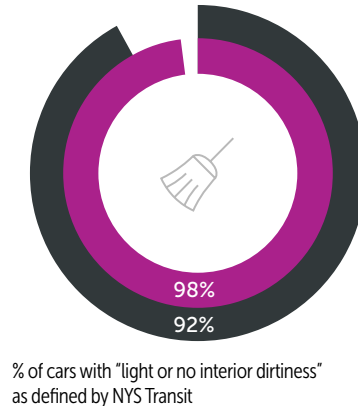
Long Island City	18%
Sunnyside	1%
Woodside	2%
Jackson Heights	3%
Elmhurst	1%
Corona	5%
Flushing	1%

7-LINE VS SYSTEM AVERAGE

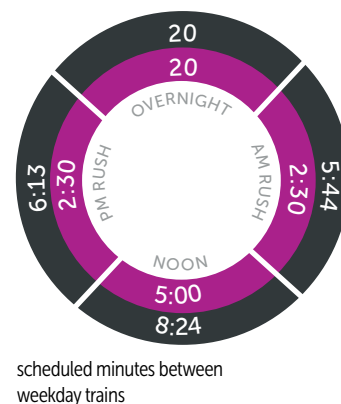
TAKE A SEAT



THE CLEANEST LINE



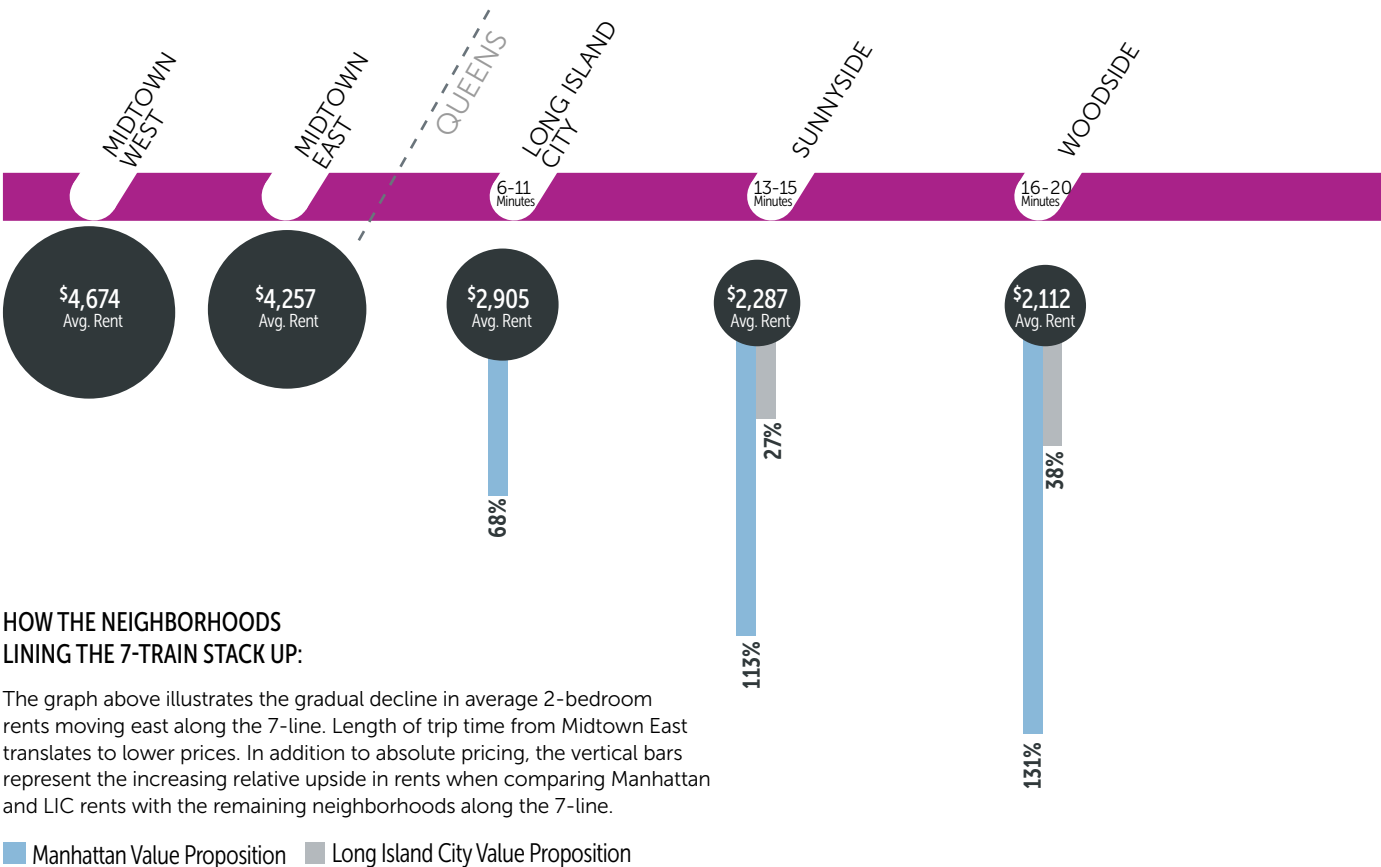
THE MOST SCHEDULED SERVICE



CLOSING THE VALUE GAP

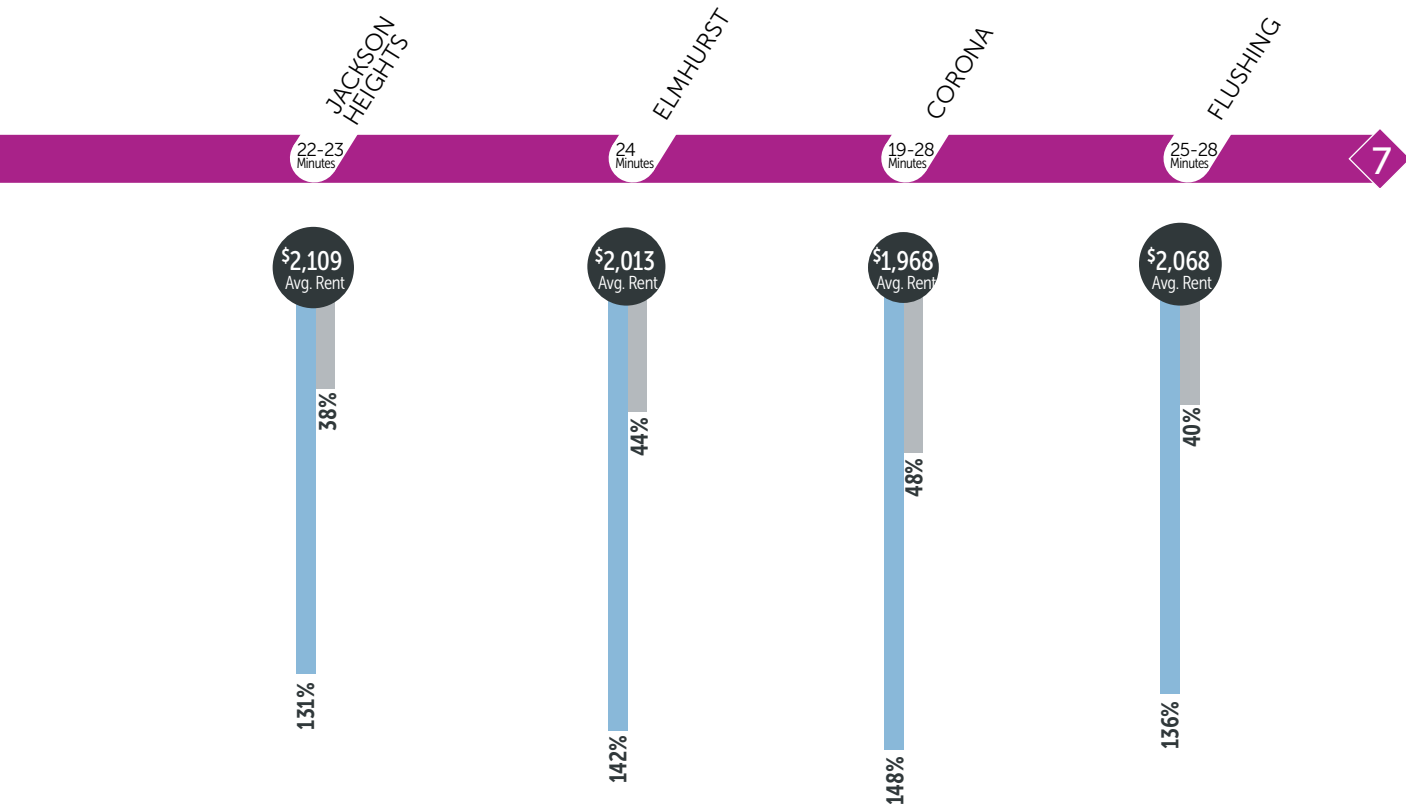
Unsurprisingly, average rent gradually declines moving east along the 7-line, a connection between a neighborhood's proximity to Manhattan and its inherent ability to attract robust demand for its rental stock. The one neighborhood that bucks the trend is the eastern book-end of the line, Flushing. With all the public and private investment dollars pouring into both ends of the Queens tracks, it's hard to imagine the five neighborhoods sandwiched between Long Island City and Flushing not benefitting from a spill-over.

Ridership is up an astounding 42% at the Vernon Blvd/Jackson Avenue station since 2011, contributing to the 18% overall growth in ridership at Long Island City 7-line stations in the same period. All other Queens neighborhoods along the line saw dramatically lower growth during that time, with only 1% to 5% more straphangers visiting their stations. As LIC continues to become more mature (READ: expensive), it's not a stretch to envision riders beginning to tack on an additional 2 minutes to their commute time in exchange for 20% lower rents in Sunnyside or another 3 minutes to Woodside and so forth.



If these neighboring locales experience even half of the ridership growth LIC has seen, rental rates and property values are in for a meaningful bump. Today, the remaining six Queens neighborhoods all offer more than a 100% potential rent growth against average Manhattan rents, and between 27%-48% upside against Long Island City rents. Long Island City's growing notoriety has seen its rental upside against Manhattan shrink to 68%, still offering plenty of room to run, but far below the remaining Queens 7-line neighborhoods.

As these dynamics unfold in conjunction with the confluence of factors affecting the Brooklyn/Queens relationship to be examined in detail shortly, we see the existing value gap narrowing in the near future.



FLIPPING THE L

In studying the factors that led to the growth in Brooklyn along the L-line we found a thread of commonalities embedded along the 7-line in Queens. The L is a case study in the search for affordability and leads us to believe that the 7-line can become to Queens what the L-train is to Brooklyn. Just as Williamsburg's growth trickled down to East Williamsburg and then to Bushwick as each proceeding stop became too expensive, Long Island City's development is primed to flow eastward in a similar manner. In the following sections we will examine the above noted similarities between the two lines, the events that led to the "L-train effect", and why the time is now for Queens.

BACKGROUND

For decades, Brooklyn was an unthinkable alternative to Manhattan in almost every regard, but the current real estate cycle has seen the City's largest borough evolve from an affordable alternative to the destination of choice for tenants, landlords and tourists alike.

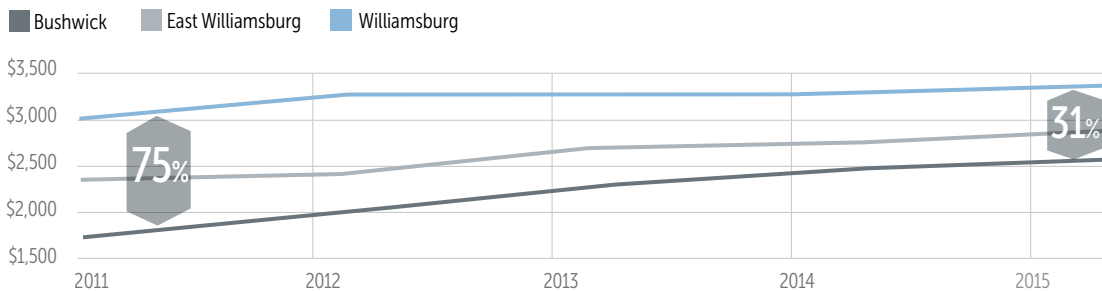
When we think about Brooklyn today, we envision the hipster millennial working out of a coffee shop, possibly eating something artisanal. While accurate in form, that demographic largely exists along a corridor lining the L-train, from Williamsburg to Bushwick, and not the borough as a whole. The distinction is important as these areas have benefited from outsized price appreciation and borough-changing developments at a very rapid pace during the current boom. More specifically, the most notable growth has taken place northwest of the Myrtle-Wyckoff stop, the 20 minute mark from Union Square. Applying the same time threshold on the 7 would land us at the 69th Street/Roosevelt Avenue station in Woodside.

THE SAME, BUT DIFFERENT

While both the L and 7 cross the east river into their respective waterfront anchor neighborhoods, their exit points from Manhattan are one of the keys to the understanding why the L's growth has been in overdrive while the 7's growth hovers in neutral. The L in Manhattan runs through the southern portion of Midtown South, a hotbed of TAMI office tenants that largely draw their employees from creative types historically living in Brooklyn for its affordability and industrial feel. This trend began in earnest in 2010 when Google bought 111 8th Avenue for \$1.8 billion and planted their flag in the neighborhood. Competitors and collaborators, seeking proximity to the tech behemoth, followed suit and accelerated Midtown South's growth into "Silicon Alley."

Williamsburg and Long Island City were both rezoned in the early 2000's allowing for the eventual repurposing of many under-utilized and industrial sites that had historically defined these areas. However, rezoning initiatives take years to implement and since most of the efforts to capitalize on the land-use changes began to take shape as the recession hit, their dramatic impact have largely been seen during the 2010-16 real estate cycle. As such, Williamsburg began to fully develop and subsequently price-out existing tenants just as those very tenants were most desired by the new industries developing across the water. Still requiring the L to get to and from work, the creative class slowly began moving eastward and developers followed. With this trend continuing further and further along the L-line for the past 5 years, the value gap that had previously existed between Williamsburg and Bushwick still remains but at a much narrower margin. In 2011, the average Bushwick apartment rented at a 75% discount to a comparable Williamsburg apartment, today that discount is down to 31%.

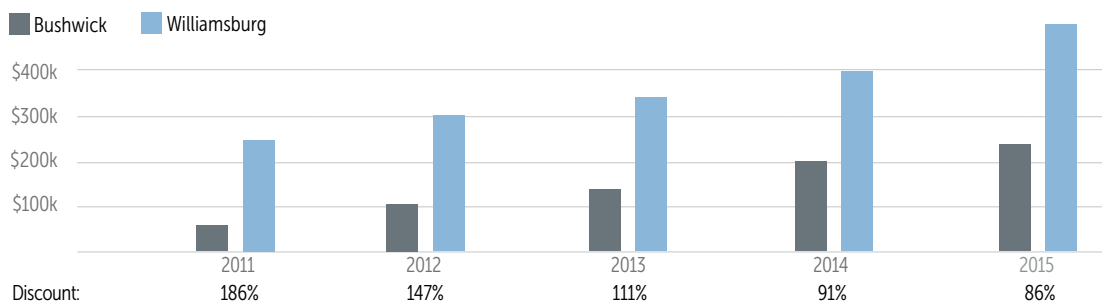
AVERAGE RENTAL PRICE



On the other hand, while the 7 begins with nearly identical fundamentals in its first Queens neighborhood, it doesn't seem to have any of the other external catalysts that have pushed the L's growth. The line exits Manhattan through Grand Central, the definition of stodgy Midtown.

The building stock outside of Long Island City doesn't cater to artists the way East Williamsburg and Bushwick's grittiness do, and nobody thinks about Queens as "hip". However, with major events set to occur in the coming years including the impending L-train shutdown, Cornell-Tech's opening on Roosevelt Island, and the potential Midtown East rezoning, it's clear that the neighborhoods surrounding the 7 are ready for L-esque growth.

BUSHWICK DISCOUNT VS WILLIAMSBURG (MULTIFAMILY \$/UNIT)

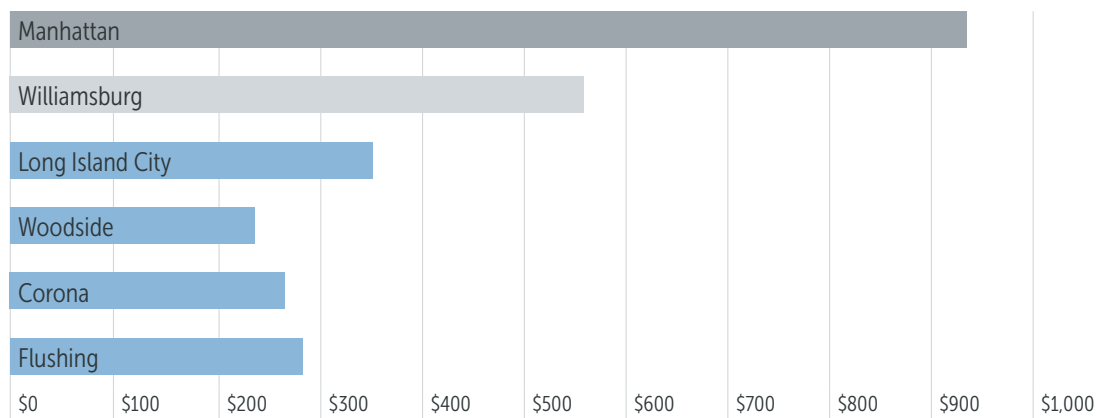


PRICE ADVANTAGE

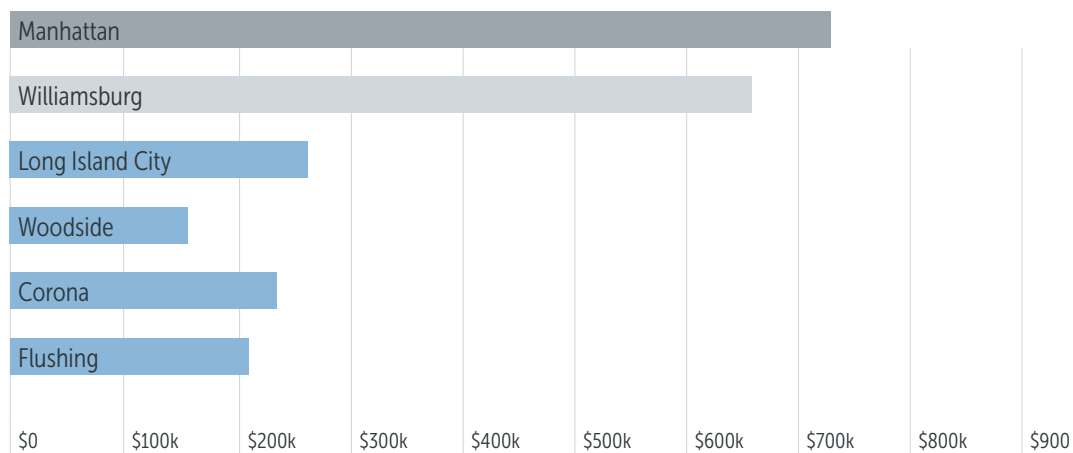
As prices for Manhattan multifamily buildings approach \$1,000/SF today, and Williamsburg closes in on \$600/SF, investors seeking to buy bricks at a relatively cheap basis should give a hard look at the neighborhoods along the 7, where prices east of Long Island City are only averaging in the low \$200-300/SF range.

Even the borough's most established neighborhood, Long Island City, whose average sale price clocks in at \$350/SF offers investors plenty of room for price appreciation when compared not only with Manhattan, but to its more expensive counterpart in Brooklyn too.

MULTIFAMILY \$/SF

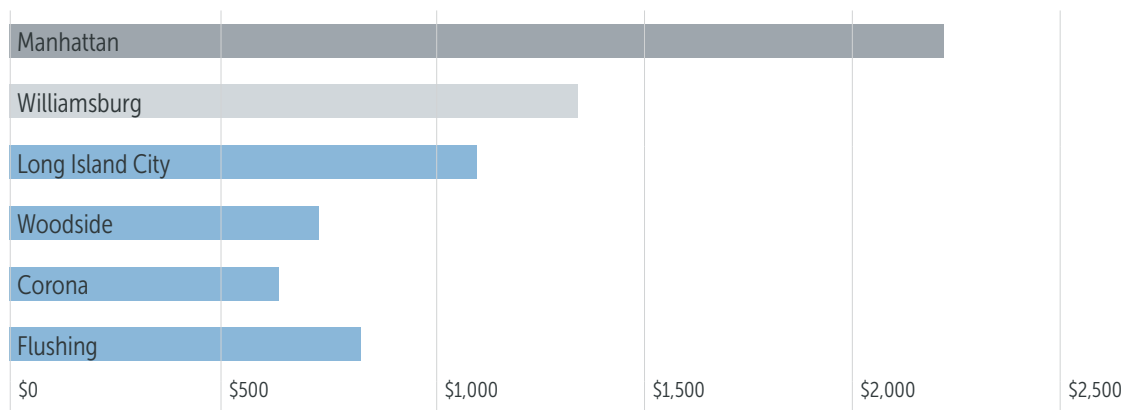


MULTIFAMILY \$/UNIT

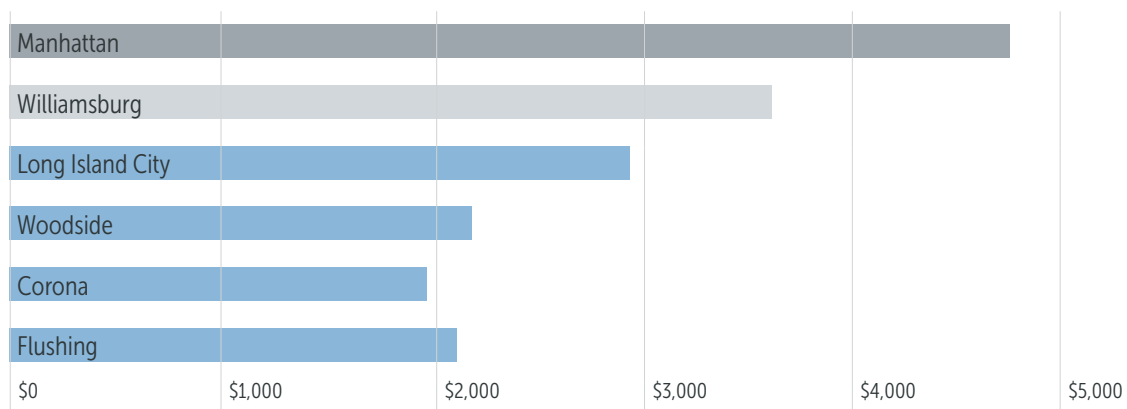


Residential fundamentals tell a similar story. For the same price, renters and home-buyers today can get as much as two or three times the space in these Queens neighborhoods than they can at a comparable apartments across the river. While it's true that many of these areas are only now beginning to develop more viable condominium markets, current rental rates and condo pricing severely trail behind prime Manhattan and Brooklyn neighborhoods.

CONDO SALES \$/SF (NEW CONSTRUCTION)



2-BEDROOM RENT



NEIGHBORHOOD CHANGING DEVELOPMENTS

End-to-end, forward thinking developers are seizing the opportunity to develop along the 7-train in Queens.

From sky-scraping condominium towers and large scale office buildings to more modest contextual rental buildings, more than 20 new development projects are underway that will surely change the look and feel of many of these neighborhoods. The majority of larger projects are taking place in and around the first and last Queens neighborhoods on the line, Long Island City and Flushing, but there is still plenty of new activity for the remaining neighborhoods to enjoy. A noticeable gap seems to exist in Elmhurst and Corona where an opportunity may lie for developers to begin projects without much competition on the supply side.



LONG ISLAND CITY

01	HUNTERS POINT SOUTH PHASE II TF Cornerstone	3K Units	60% Affordable Units	600 Seat School	02	29-26 NORTHERN BOULEVARD Simon Baron Development	500K SF	467 Units	42 Stories
03	1 & 3 GOTHAM CENTER Tishman Speyer	1.1M SF	2 Buildings	29630 Stories	04	29-37 41ST AVENUE Property Markets Group & Hakim Organization	1M SF	800 Units	70 Stories

SUNNYSIDE

05	38-01 QUEENS BOULEVARD Curbcut Urban Partners & Platinum Realty Associates	146K SF	9 Stories	OFFICE/CF Type	06	50-25 BARNETT AVENUE Phipps Houses	209 Units	100% Affordable Units	10 Stories
07	42-25 QUEENS BOULEVARD John Ciafone	MIXED-USE Type	PLANNING Stage	08	47-16 GREENPOINT AVENUE AB Capstone	12,600 Comm. SF	10 Units		4 Stories

WOODSIDE

09	50-11 QUEENS BOULEVARD Ronald Ji	60 Units	8 Stories	PROPOSED Status	10	QUEENS BOULEVARD (47 TH AVENUE & 69 TH -70 TH ST) Madison Realty Capital	358K BSF	MIXED-USE Type	PLANNING Stage
11	68-03 ROOSEVELT AVENUE The Universal Church	63K SF	6 Stories	RELIGIOUS Type					

JACKSON HEIGHTS

12	71-17 ROOSEVELT AVENUE Werber Management	122K SF	139 Units	15 Stories
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ELMHURST

13	73-02 WOODSIDE AVENUE Tim Chan	27K SF	29 Units	5 Stories
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CORONA

14	98-02 ROOSEVELT AVENUE NYC School Construction Authority	96K SF	5 Stories	EDUCATION Type
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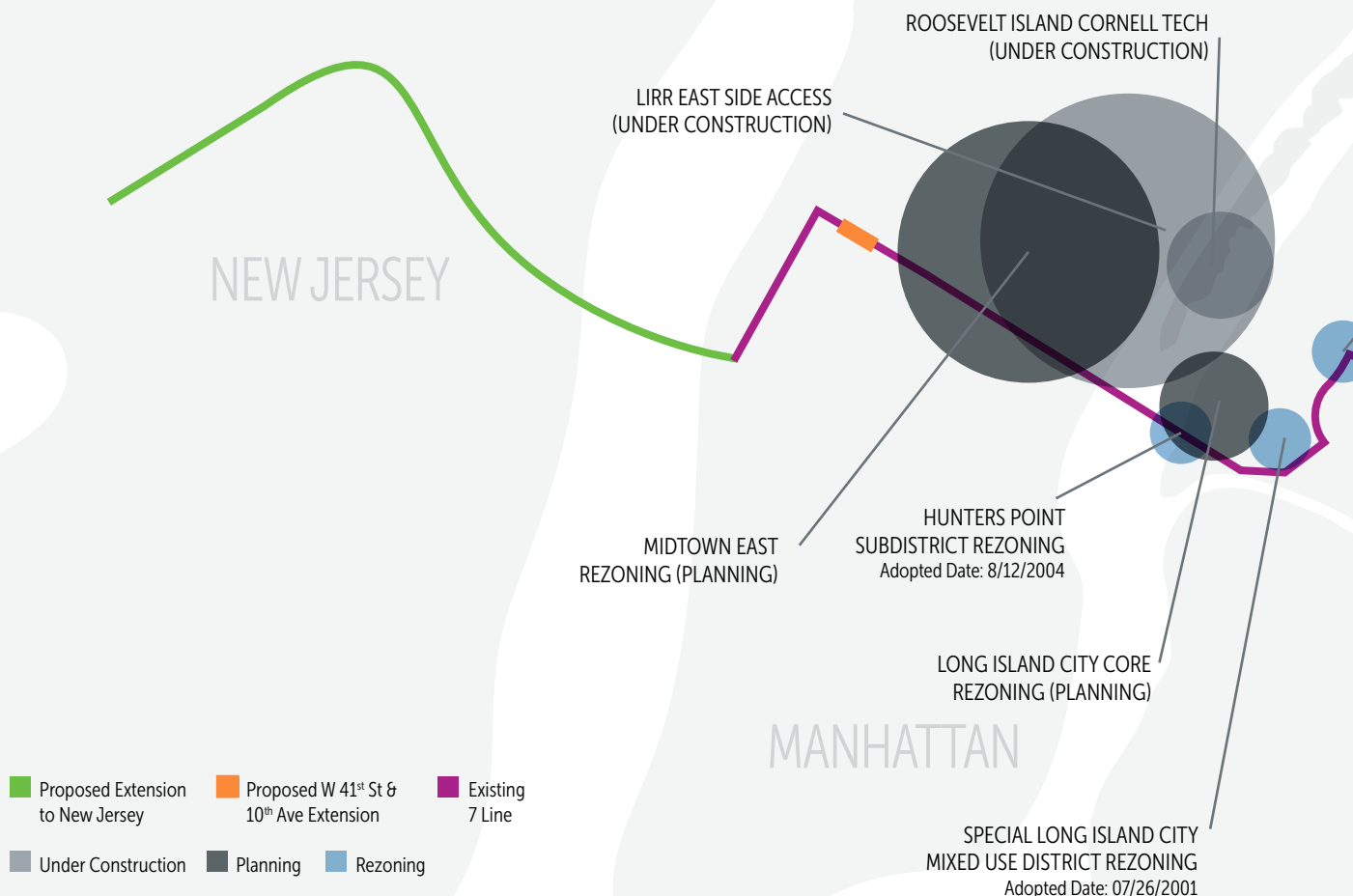
FLUSHING

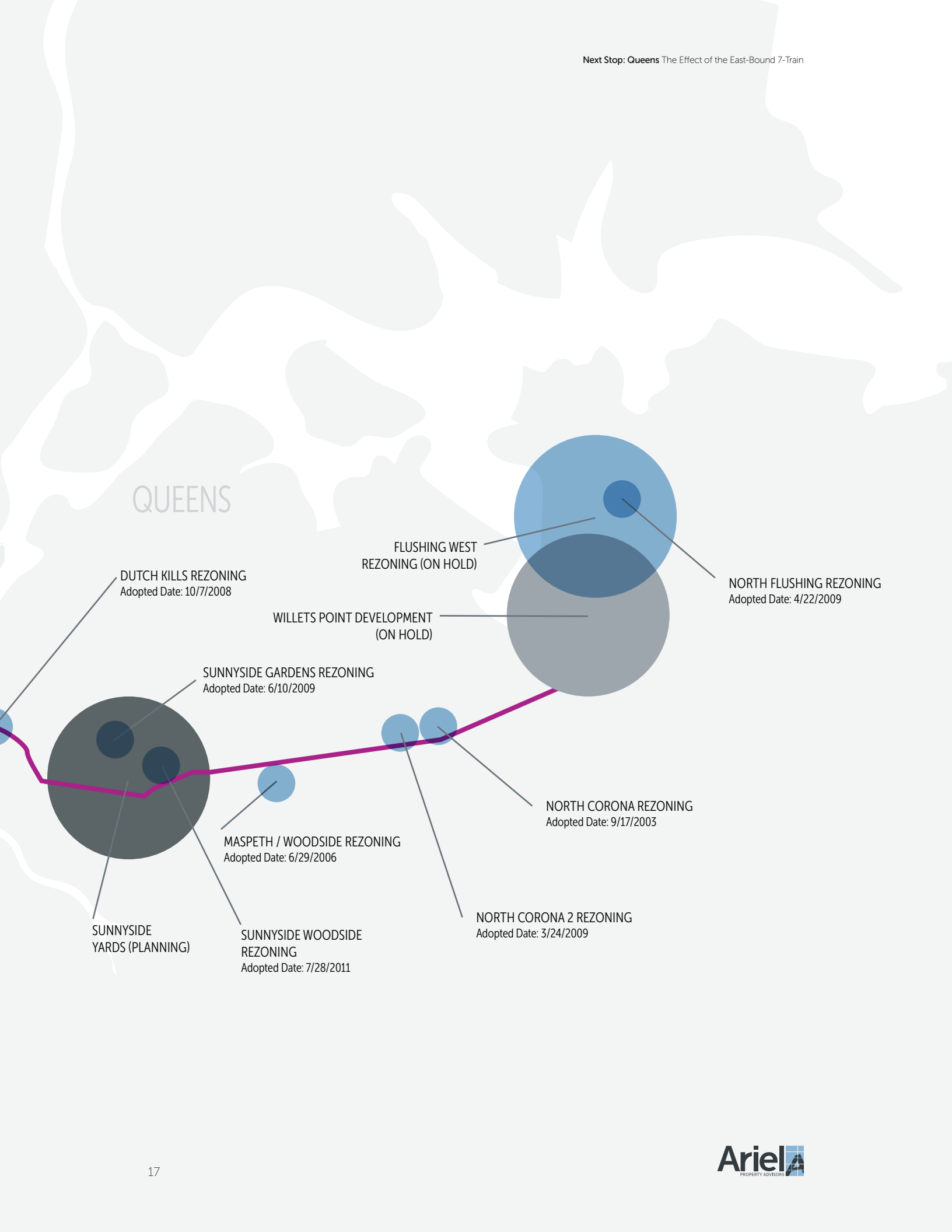
15	FLUSHING COMMONS F&T Group, Rockefeller Group & AECOM Capital	1.8M SF	5 Buildings	\$1B Cost	16	133-55 41ST AVENUE (ONE FLUSHING) Monadnock Development	227K SF	232 Units	10 Stories
17	131-01 39TH AVENUE Triple Star Realty	632K SF	360 Residential Units	200 Room Hotel	18	134-53 MAPLE AVENUE Crown Mansion LLC	338K SF	15 Stories	PROPOSED Status
19	133-27 39TH AVENUE F&T Group	190K SF	192 Units	13 Stories	20	37-09 COLLEGE POINT BLVD F&T Group	150K SF	170 Units	13 Stories
21	37-12 PRINCE STREET F&T Group	70K SF	14 Stories	OFFICE Type					

PUBLIC INITIATIVES ALONG THE LINE

For decades the city, state and federal governments have had a significant impact all across the 7-line. Through proposed track extensions, both in NYC and neighboring NJ, rezonings large and small, and neighborhood-shaping RFPs, there seems to be an endless pipeline of major initiatives that have and will continue to affect this region.

While some projects have already been completed, such as the new 7-line station at Hudson Yards, and others are already underway such as the Cornell-Tech campus on Roosevelt Island and the East Side Access Project that will bring the LIRR to Grand Central, many other major projects still hang in the balance. These include the proposed Midtown East Rezoning, the Willets Point Development in Flushing and any future plans at Sunnyside Yards, a site that has seen proposals come and go since at least the 1960s. While some of these projects will take years to hash out, and even more time to complete, their progress is worth monitoring as initiatives of this scale have the power to tip transitioning neighborhoods.





QUEENS

DUTCH KILLS REZONING
Adopted Date: 10/7/2008

FLUSHING WEST
REZONING (ON HOLD)

NORTH FLUSHING REZONING
Adopted Date: 4/22/2009

WILLETS POINT DEVELOPMENT
(ON HOLD)

SUNNYSIDE GARDENS REZONING
Adopted Date: 6/10/2009

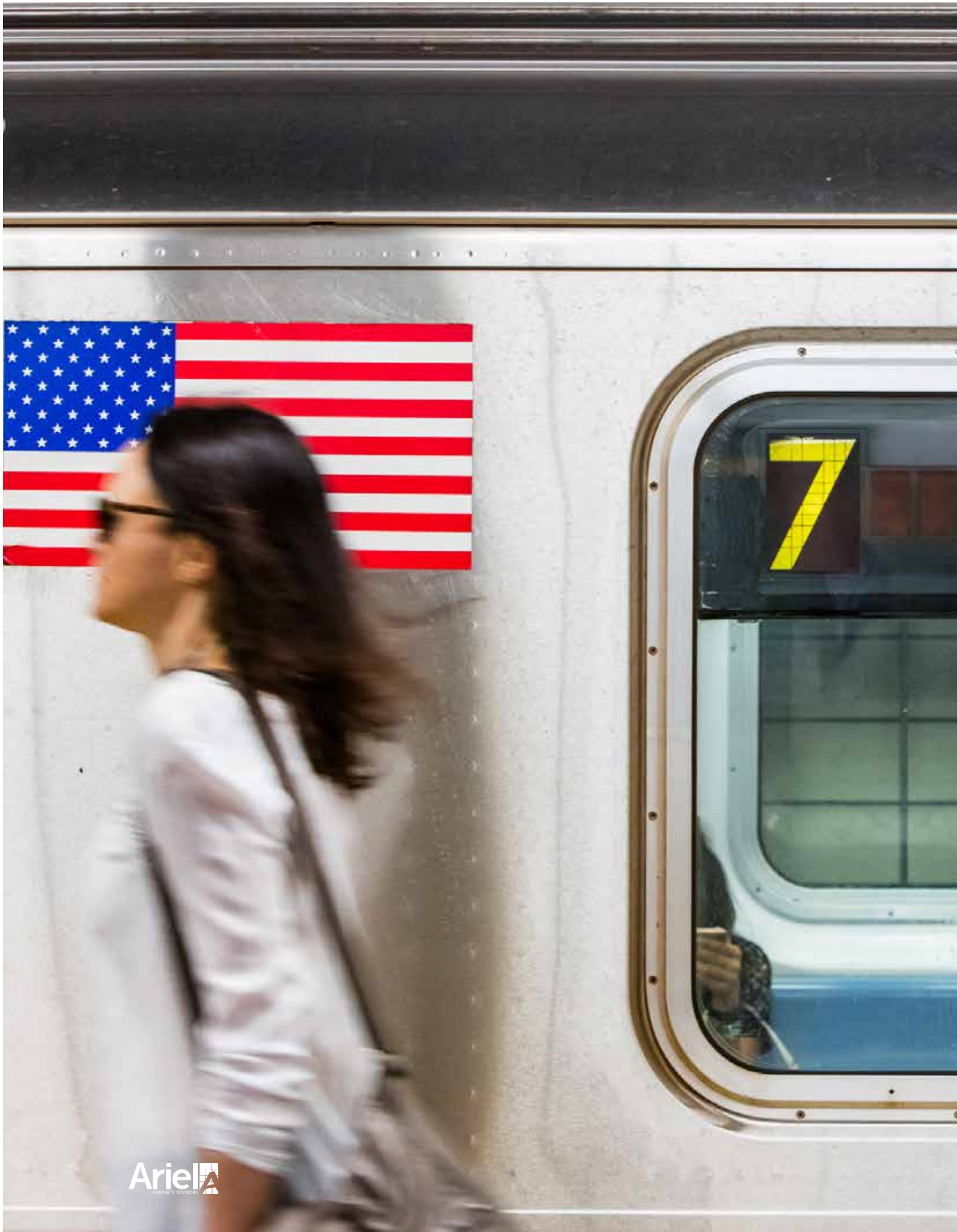
NORTH CORONA REZONING
Adopted Date: 9/17/2003

MASPETH / WOODSIDE REZONING
Adopted Date: 6/29/2006

NORTH CORONA 2 REZONING
Adopted Date: 3/24/2009

SUNNYSIDE
YARDS (PLANNING)

SUNNYSIDE WOODSIDE
REZONING
Adopted Date: 7/28/2011



CONCLUSION

WHY NOW?

Just as Brooklyn became a more affordable option to Manhattan before blooming into a destination with its own merits, we see Queens becoming that same type of affordable haven to Brooklyn. With the impending shutdown of the L-train and the oncoming development of the Cornell Tech Campus on Roosevelt Island, we see the time waning for renters and developers looking to take advantage of the relative discount in prices in Queens, specifically along the most convenient path to Manhattan, the 7-train.

In January of 2016, the city announced a nearly \$1 billion project to repair damage from Hurricane Sandy to the L-train tunnels connecting Brooklyn and Manhattan. With work beginning in 2019, service will shut down completely for 18 months. Trains will not run between 8th Avenue and the Bedford Avenue stop in Brooklyn, leaving the 225,000 daily cross-borough L-train riders searching for alternatives. To soften the blow, the city is considering the addition of extra subway service on nearby lines and a new bus and ferry service. Therefore with commute times set to increase dramatically, or not exist at all, we see current and potential Brooklynites no longer willing to pay a premium to live along the L. Instead, they may head to Queens in search of more bang for their buck and a more reliable commute to work.

In 2011, Cornell & Technion won Mayor Bloomberg's Applied Sciences NYC Initiative, paving the way for a \$2 billion, applied science and engineering campus on Roosevelt Island. When fully built in 2043, the campus will include 2 million square feet on 12 acres serving an academic community of nearly 2,500. With groundbreaking in 2015, and the first phase of the project set to open in 2017, students will soon begin filling the Island once only remembered for a prison, a lunatic asylum, and a smallpox hospital. Akin to the major effect Columbia and NYU's expansions have had on their respective neighborhoods, we see graduating Cornell-Tech students and those seeking off-campus housing heading east, given the Island's proximity to Long Island City and Queens more generally, ultimately boosting demand for housing in those areas. Interestingly, in another striking similarity, since 2013, the university has temporarily been operating out of the very same Google building on 8th Avenue that seemed to ignite the L-train movement.

With troubles ahead for the L-train, thousands of potential new residents heading east from Roosevelt Island, and the proposed Midtown East rezoning set to affect Manhattan stations along the line, 2017-2019 appear to be ripe for growth for the neighborhoods along the 7.

Should the spigot open as we foresee, the residential neighborhoods east of Long Island City do offer a fundamental base that was not available to their L-train brethren. As these Queens neighborhoods have long been residential in nature, fundamental amenities such as schools, supermarkets, and entertainment will not have to be built concurrently, or even post housing development since they already exist. With the infrastructure already in place, these neighborhoods are ready to absorb the incoming migration of additional residents without any delays.

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