Teardowns and Land Values in New York City

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Abstract

A "teardown sale" occurs when a buyer purchases a property intending to demolish the existing structure and rebuild. In cities where vacant land is scarce, teardowns can play an important role in redevelopment. Furthermore, as Dye and McMillen (2007) show, teardowns represent a unique opportunity to estimate land values in dense urban areas. This report examines teardown sales in New York City occurring between 1994 and 2006, and the analysis proceeds in two steps. First, we describe teardown activity, answering such questions as: To what extent has teardown activity increased in recent years? In which neighborhoods has teardown activity been concentrated? What types of lots are selected for teardown? Second, we use information from teardown sales to estimate land values in different neighborhoods. We find strong growth in teardown activity over the study period and find that land values have increased considerably since the late 1990s.

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Introduction

This paper examines teardowns, an important component of redevelopment in New York City. A "teardown" occurs when a buyer purchases property intending to demolish the existing structure and rebuild, presumably closer to zoning capacity. There is widespread anecdotal evidence pointing to a rise in teardown activity in New York in recent years. Indeed, the New York metropolitan area recently overtook Chicago as the "epicenter" of teardown activity in the United States (National Trust for Historic Preservation 2007). An examination of teardowns is important not only to assess their role in redevelopment, but also because teardowns provide a unique opportunity to measure land values in dense urban areas, where sales of vacant land are relatively rare. As Dye and McMillen (2007) show, the value of the land can be estimated as the purchase price of teardown properties plus the cost of demolishing the existing structure. Land values are of interest to policymakers and researchers for two main reasons. For local policymakers interested in restructuring the property tax so that it allows for a differential rate of taxation on land and structures, a crucial first step is to develop estimates of land values. Also, researchers are interested in knowing how much land is worth in densely populated cities like New York in order to estimate the costs of building various structures, the benefits of environmental clean-ups, and many other important policy concerns.

Building on Dye and McMillen's (2007) work in Chicago, we use teardowns to estimate land values in various neighborhoods in New York City. We assume that the cost of demolition is close to zero and that the price paid for teardown properties provides a good estimate of land value. We identify teardowns by matching information from a unique data set of residential sales in New York to a listing of all demolition permits issued in New York in recent decades. A teardown is defined as a residential property sale that is followed by the issuance of a demolition permit within three years after the sale. The analysis is restricted to sales of one-family homes, two-family buildings and walkup apartment buildings.[1] We observe strong growth in teardown activity between 1994 and 2006, but relatively little teardown activity prior to 1994, so we focus on the 1994 to 2006 period. We analyze the almost 3,400 teardown sales that occurred in New York City over this period.

To the best of our knowledge, this paper is the first to examine teardowns in New York The paper makes two contributions. First, it describes teardown activity, answering such questions as: To what extent has teardown activity increased in recent years? In which neighborhoods has teardown activity been concentrated? What types of lots are selected for teardown? Second, it uses information from teardown sales to estimate land values in New York.

[1] Excluded from the analysis are sales of properties that are listed as being condominiums, cooperative apartments, elevator apartment buildings or mixed-use. Please see discussion below.

Identifying Teardowns

We identify teardowns by matching sales records to demolition permits based on a unique tax lot identifier. A sale is considered a teardown if a demolition permit is issued for the lot within three years after a sale occurs.[2] We rely on information from three sources: sales data, permits data, and information on building and lot characteristics for all properties in New York City. First, we obtained from the New York City Department of Buildings a listing of all building and demolition permits issued from 1990 through 2006.[3] Each observation in this data set corresponds to one property (tax lot) and includes the following information: a unique tax lot identifier, permit issuance date, an indicator for whether the permit was for building demolition or new construction, and an indicator for initial permits vs. renewals. Our analysis is restricted to the initial issuance of all demolition permits.

The second source of information is a unique database provided by the New York City Department of Finance that includes information on all real property sales in the city occurring between 1974 and 2006.[4] Each record contains the following information: sales price, date of sale and a unique tax lot identifier.

Third, we rely on information on the characteristics of all buildings in New York City provided by the New York City Department of Finance. This information is collected annually for the purposes of computing property tax assessments and provided in the Real Property Assessment Data (RPAD) file. Our analysis relies on RPAD files from 1993 to 2006.[5] These files contain a wealth of information for each tax lot in the city. For this analysis, we rely on the following fields: a unique tax lot identifier; geographic identifiers (borough and community district); lot size (land area); and building class. Linking RPAD files to sales data based on the tax lot identifier, we are able to determine the lot size and building class of the existing structures on the property as of the time of sale. As discussed above, the analysis is restricted to sales of one-family homes (attached or detached), two-family homes (attached or detached) and walkup apartment buildings. Although properties classified as walkup apartments in New York City can be as large as 700 units, teardown properties classified as walkup apartments appear to be relatively small. For example, of the approximately 300 walkup apartment teardowns we identified, more than 95 percent had five or fewer units.

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[2] Our method for identifying teardowns differs slightly from Dye and McMillen (2007), who restrict teardowns to sales that take place in the two years prior to the calendar year of the demolition permit. In Dye and McMillen's sample of teardowns, a demolition permit can be issued up to three years after a sale occurs; this corresponds to our three-year window. Dye and McMillen note that their results changed little when the window was increased or decreased by a year or two.

[3] As noted above, although we obtained data on demolition permits back to 1990, because we observe relatively little teardown activity prior to 1994, the analysis is restricted to 1994 through 2006.

[4] Because our focus is on teardowns occurring between 1994 and 2006, we do not include in the final analysis sales occurring prior to 1994.

[5] To determine the lot characteristics of sale properties, we rely on RPAD information from 1993, one year before the sales series begins. It seems unlikely that the lot characteristics we are interested in (land area and building class) would change between 1993 and the year of sale, without seeing any demolition permit issued.

Our sample of teardowns is identified as follows. We begin with a list of all initial demolition permits issued in New York City between 1994 and 2006. We then match this list of demolition permits, based on the unique tax lot identifier, to a list of all sales of residential properties occurring between 1994 and 2006 that are listed as one-family homes, two-family homes or walkup apartments in 1993 RPAD.[6] We effectively limit the analysis to all tax lots (properties) in existence in New York City in 1993 and assume that a maximum of one teardown can occur for each property in existence in 1993. Many properties with demolition permits were sold multiple times during the study period. For each property that had both a demolition permit issued and at least one sale from 1994 to 2006, we identify the *latest* sale taking place *before* the date the demolition permit was issued. If the issuance date of the demolition permit occurs no more than three years (1095 days) after the date of this sale, then we classify the sale as a teardown.[7] Our final sample includes 3,382 teardowns occurring in New York City between 1994 and 2006.

Describing Teardowns in New York City

Teardowns are of interest to researchers for two reasons. First, although urban redevelopment can take many forms, teardowns appear to play an increasingly important role in re-shaping the urban built environment. Second, teardowns represent instances where developers essentially purchase a property for its value as vacant land. As a result, teardowns can be used to estimate developers' willingness to pay for land (and therefore, to estimate local land values).

In this report, we examine teardowns primarily through this second lens. Nevertheless, it is useful to begin with a brief discussion of the relationship between teardowns, redevelopment activity and demolition permits[8] in New York City. As Table 1 shows,

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[6] We exclude condominium and cooperative apartment buildings because land is owned in common by multiple owners, and acquisition of the entire property is very rare. Elevator apartment buildings and mixed-use properties are also excluded. From 1994 to 2006, elevator apartment buildings made up less than one percent of all residential sale transactions in New York City. Mixed-use properties also made up a relatively small share of residential property sales in New York City over this period.

[7] Since we allow for a three-year window between the sale date and the issuance of a demolition permit, it is likely that we undercount teardown sales in the last three years of the sample, 2004 to 2006. Because we do not have information for demolition permits beyond 2006, sales occurring in 2004 to 2006 do not get a chance to "age" fully. Undercounting is expected to be worst in 2006. Looking at teardowns from 1994 to 2003, we found that about 40 percent occurred before end of the calendar year of the sale, and about 70 percent before the end of the second calendar year. This might suggest that our numbers undercount teardowns by 60 percent for 2006 and 30 percent for 2005. Finally, it is important to note that if there are systematic differences between teardowns that occur "early" (within, say, a year after the sale occurs) vs. "late" (closer to three years after the sale occurs), the composition of teardowns may also be different in these later years, particularly in 2006.

[8] Based on conversations with the New York City Department of Buildings (DOB), the DOB estimates that upwards of 95 percent of the demolition permits issued over our study period resulted in the complete physical demolition of the existing structure. To further assess the link between demolition permits and redevelopment, we also examined how the building class of properties changed over time when a demolition permit was issued for that property. We examined all properties for which a demolition permit had been issued in 1997, restricting to those properties classified as single-family homes in 1996 RPAD data. We found that by 1999, the building class for these properties had changed to either a larger residential structure such as a two-family home or walkup apartment building (75 percent) or to vacant land

only about 20 percent of the roughly 16,000 demolition permits issued in New York City between 1994 and 2006 were part of an identified teardown. This reveals that although teardowns make up an important component of redevelopment in New York, the lion's share of demolition activity in New York City takes place outside the context of teardowns.

This section describes trends and patterns in teardown activity in New York City from 1994-2006 by examining three questions. How has the amount of total teardown activity in the city evolved over time? How are teardowns distributed across the city's neighborhoods? How do characteristics of teardown properties compare to all properties in New York City, in terms of building class and lot size?

How has the amount of teardown activity evolved over time?

There has been a striking increase in teardown activity in New York City since 1994. Table 1 compares demolition permits and teardown activity in New York City from 1994 to 2006. We identify a total of 16,289 demolition permits and 3,382 teardown sales over this period. As noted above, roughly 20 percent of demolition permits issued between 1994 and 2006 were part of a "teardown" sale transaction. For both demolition permits and teardowns, activity increases considerably over time. Annual teardown activity in the city increased almost eight-fold from 1994 to 2004, from 45 to 357. In 2005, teardown activity peaks sharply at 920. In 2006, we identify only 376 teardowns. As discussed previously in footnote 7, there is likely to be a significant undercount of teardowns in 2006 and, to a lesser degree, in 2005 and 2004.

How is teardown activity distributed across the city's neighborhoods?

Table 2 provides a breakdown of teardowns by borough. Over the entire study period, more than 90 percent of teardowns occurred in Brooklyn (34 percent), Queens (42 percent) and Staten Island (18 percent). Six percent of teardowns occurred in the Bronx, and less than one percent in Manhattan. This is not surprising, because smaller buildings, which tend to have lower demolition costs, are concentrated in Brooklyn, Queens and Staten Island. This finding is consistent with Dye and McMillen (2007), who find that smaller structures are more likely to receive a demolition permit, all else equal. Comparing the last two rows of Table 2, we see that each borough's share of all NYC teardowns is very similar to the borough's share of New York City's one- and two-family properties. For example, 42 percent of all teardowns occur in Queens and 45 percent of all one- and two-family properties are located in Queens.

Table 2 also reveals changes in the share of teardown activity in each borough over time. The share of NYC teardown activity occurring in the Bronx, Manhattan and Staten Island remains more or less stable from 1994 to 2006. In contrast, a clear trend emerges for

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(10 percent). This suggests that the overwhelming majority of demolition permits result in some form of redevelopment -- a finding that is consistent with the fact that obtaining a demolition permit is a lengthy administrative process that requires a large investment of time and resources on the part of the property owner.

Brooklyn and Queens. At the beginning of the study period, roughly half of NYC teardowns occurred in Brooklyn; by the end of the study period, Brooklyn's share had declined to about 30 percent. Conversely, teardowns in Queens increased dramatically, from about 25 percent of teardowns in the late 1990s to 50 percent by the end of the study period. In the mid 1990s, teardown activity was greatest in Brooklyn, but by 2002 Queens claimed this title. Over the last six years of the study, from 2001 to 2006, Queens experienced 50 percent more teardowns than Brooklyn (about 1,200 compared to 800).

It is helpful to focus on teardown activity at a smaller geography. We chose to focus on Brooklyn, both because teardowns are plentiful in this borough and because it has a more economically and socially diverse set of neighborhoods than some of the other boroughs. Table 3 shows that two-thirds of Brooklyn teardowns are concentrated in just four of the borough's 18 community districts[9]: Sheepshead Bay (248), Borough Park (217), Bensonhurst (163) and Coney Island (117). The table also lists 2006 poverty and homeownership rates for each neighborhood. The three neighborhoods with the fewest teardowns (Brownsville, Crown Heights and Bushwick) are also among Brooklyn's poorest. However, it is also interesting to note that two of Brooklyn's more affluent neighborhoods (Park Slope/Carroll Gardens and Fort Greene/Brooklyn Heights) experienced just 17 teardowns in the thirteen years studied; one contributing factor may be the presence of historic preservation districts in these two neighborhoods. Overall, no consistent relationship emerges between teardown activity in Brooklyn neighborhoods and either poverty or homeownership rate.

How do characteristics of teardown properties compare to all properties in New York City, in terms of building class and lot size?

As Table 4 shows, the majority of teardowns were of properties classified as single-family homes (60 percent), followed by two-family homes (31 percent) and walkup apartment buildings (9 percent). The share of teardowns in each building class remains relatively stable over time. Table 5 compares the building class of teardowns to the proportion of all New York City properties that are classified as one-family, two-family or walkup apartments (as of 1993). Among all lots in New York City in these three property types, 47 percent are single-family homes. A somewhat higher share of teardowns – 60% – involved single-family homes. This finding is consistent with the discussion above regarding the relationship between the cost of demolition and the likelihood of demolition. On average, it is likely less expensive to demolish single-family homes compared to bulkier structures such as two-family homes or walkup apartment buildings. Because of this, we would expect to see a disproportionately large share of single-family homes among teardowns. Perhaps for similar reasons, walkup apartments are considerably underrepresented in teardowns. Likewise, among two-family teardowns, structures classified as "brick" (B1) are considerably less likely to be

[9] Community districts are sub-borough political jurisdictions within New York City, each of which has an appointed community board that offers recommendations on zoning and development proposals. Since these boards may exercise influence over development proposals in their district, differences in the level of teardown activity in different community districts may reflect systematic differences in attitudes towards development, as well as market conditions, zoning restrictions, and condition of the housing stock.

torn down than wood frame houses (B2). This is consistent with Dye and McMillen's (2007) finding that brick construction is associated with a significantly lower probability of demolition -- presumably the result of relatively high demolition costs for brick structures compared to other building types.

Table 6 shows that over the full study period, the average lot size for all teardowns was 5,200 square feet. This is 53 percent larger than the average lot size for all one-family, two-family and walkup apartment lots in New York City as of 1993. The average lot size for a one-family teardown in New York City (which accounted for about 60% of the teardowns) was about 5,700 square feet.

Comparing average lot size by borough, Table 7 shows that the average size of a teardown lot is largest in Staten Island (8,300) and smallest in Manhattan (2,600). This differential reflects the fact that the average residential lot size for all properties in these three building classes is almost twice as large in Staten Island compared to Manhattan. The difference persists even when comparing lot size within each building class. As columns (5) to (8) of Table 7 show, for all boroughs but Manhattan, teardown lots tend to be larger than other lots in the borough, even after controlling for building class.

Estimating Land Values in New York City

In this section, we use teardown sales to estimate land values in New York City. For each teardown, we estimate land values by calculating the price paid per square foot of land. Before diving into the analysis, it is important to first underline a caveat regarding the interpretation of these land value estimates. As Dye and McMillen (2007) note, theoretically the value of land is dependent on the attributes associated with the location of the land itself (e.g., neighborhood conditions, proximity to public amenities). The estimates we present here do not control for the locational and neighborhood mix of teardown properties below the borough level. To the extent that the typical teardown lot is of higher (lower) "locational quality" than the other properties in the same borough, our estimates will overstate (understate) the true value of land. Furthermore, our estimates do not control for changes in the average locational quality of teardowns over time. For example, if (contrary to fact, at least in Brooklyn), in the late 1990s most teardowns occurred in New York's poorest neighborhoods, and in recent years most teardowns occurred in the city's most affluent neighborhoods, our estimates of land value would be overstated in later years relative to earlier years.

Table 8 reports our estimates of land value from 1994 to 2006 by borough, expressed in 2005 dollars. Unfortunately, sample sizes in Manhattan and the Bronx are too small to construct reliable estimates of land values over time. Figure 1 compares the trend in land values for Brooklyn, Queens and Staten Island to a repeat sales index for single-family homes in New York City,[10] from 1994 to 2006. It reveals that since at least 1999, land

[10] The Furman Center for Real Estate and Urban Policy produces historical series of repeat sales price indices for each borough and building class in New York City. For a detailed description of the repeat sales index, please refer to *State of New York City's Housing and Neighborhood: 2007s* (Armstrong et al. 2008).

values show a steady upward trend in each of the three boroughs. This is consistent with a general increase in home values in New York City over this period.

Stark differences emerge between the boroughs, however. In 2005, the estimated value of land in Brooklyn was $216 per square foot, compared to just $142 in Queens and $83 in Staten Island. This hierarchy remains steady over time. For example, land values in Staten Island amounted to 34 percent of Brooklyn values in 1994; in 2005, this figure was 38 percent. Land is considerably cheaper in Queens than Brooklyn over the entire period. However, land values in Queens grow closer to land values in Brooklyn over time, with the ratio of land values in the two boroughs rising from 50 percent in 1994 to almost 70 percent in 2006. As noted above, this trend coincides with an increase in teardown activity in Queens relative to Brooklyn over the study period.

Figures 2 to 4 compare estimated land values in each of the three boroughs to a repeat sales index for single-family homes in that borough. In Brooklyn (Figure 2), home prices remained flat from 1994 to 1997, but land values actually decrease by 33 percent over this period. From 1997 to 2006, Brooklyn home prices rose by 105 percent, compared to a 95 percent increase in land values. Figure 3 shows that in Queens land values track the single-family repeat sales home price index very closely. In Staten Island (Figure 4), land prices are slightly more volatile over time, perhaps because the sample of teardowns is smaller in this borough. From about 1999 to the end of the study period, estimated land values in Staten Island follow a similar trend as the single-family home price index. However, from 1997 to 1999 estimated land values in Staten Island decline sharply, by about 40 percent.

In addition to borough-level comparisons, we also compare estimated land values in Brooklyn by community district. Table 9 ranks Brooklyn's neighborhoods based on average estimated land value in 2005, but must be interpreted with caution because of the small sample sizes.

Finally, we use the estimates of land value presented above to generate an admittedly rough estimate of the total value of residentially zoned land in New York City as of 2005. Table 10 presents separate estimates for each borough. Column 1 lists the total square footage of land zoned to permit residential use[11]; the second column shows our estimate of land value for each borough as of 2005, taken directly from Table 8. The third column is the estimated value of all residentially zoned land in that borough, based on the 2005 estimates of land value; column 3 is the product of columns 1 and 2, expressed in billions of 2005 dollars. For example, we estimate the value of all residentially zoned land in Brooklyn in 2005 to be about $200 billion, compared to $240 billion for Queens. However, it is important to note that because the land value estimates based on teardowns vary considerably from year to year, the estimates of total land value based on teardown values are not very stable over time. Table 11 shows that from 2001 to 2006, all years when at least one teardown occurred in each borough, our estimates of total value of residentially zoned land in New York City vary considerably from year to year.

[11] We calculate total land zoned as residential as of 2006 using 2006 RPAD. The total includes all lots in the following zoning categories: BPC (Battery Park City), R1-R10, and mixed residential.

More generally, it is important to interpret our estimates of land value with some degree of caution. There are two main caveats to highlight. First, it is unlikely that the land value of a typical teardown lot is representative of all lots in residentially zoned neighborhoods. To the extent that the typical teardown lot is of higher (lower) "locational quality" than the average residentially zoned lot, these estimates will overstate (understate) the true value of residentially zoned land. A second caveat is that the study estimates land prices from 1994 to 2006, a period that coincides with a real estate boom in New York City and a general period of abnormally high levels of real estate price appreciation. It is unclear how relevant our estimates are for a city that is currently in the midst of a downturn in the real estate market.

Conclusions and Further Research

The rapid growth in teardown activity in New York City in the last fifteen years presents the city with new policy and research opportunities as well as policy challenges. In a city with very little vacant land, most new development in New York must take place on property with existing buildings that must be demolished. If policymakers wish to encourage increased property redevelopment through land use and property tax policies, they have an interest in better understanding how these tools encourage or discourage teardown activity. At the same time, however, many city residents react to teardowns by demanding higher regulatory barriers to property demolition to protect neighborhood character or to save older, historic properties that were built below current zoning capacity when land was less valuable. By identifying where teardowns have occurred in New York City and investigating what they can reveal about land prices, our analysis is a vital first step for policymakers looking to strike this balance.

Our analysis points to several related areas of further research we would like to pursue. First, we would like to broaden our initial investigation to cover non-residential properties. By including commercial and industrial property, we will likely increase the number of observations considerably. In addition, it will be important to explore further just how significant teardowns are to the development of new housing in New York City by tracking tax lots past demolition, until they are redeveloped with new structures. Are additional housing units added through teardowns or are older units merely replaced with larger modern units? Through regression analyses, we would also like to investigate the interaction between teardowns and rezonings that either increase or decrease the amount of building area that can be built on residential lots. Finally, we would like to compare our estimates of aggregate land value for the city and each borough to other estimates based solely on vacant land or through appraisals.

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Table 1

Demolition permits and teardowns [1]

New York City, 1994-2006

Year	Demolition permits issued	Teardowns
(1)	(2)	(3)
1994	505	45
1995	526	52
1996	571	68
1997	654	108
1998	769	138
1999	930	191
2000	1,050	228
2001	1,113	270
2002	1,360	300
2003	1,645	329
2004	2,011	357
2005	2,523	920
2006	2,632	376
Total	**16,289**	**3,382**

Notes:

[1] For demolition permits, year refers to the year the permit was issued. For teardowns, the year refers to the year of sale. Note that we identify teardowns as any demolition permit issued within three years of a sale. As a result, the demolition permit associated with a teardown sale may be issued up to three calendar years after the year of the sale.

Table 2
Teardowns, by borough and year
New York City, 1994-2006

	Teardowns by borough									
	Number					Percent				
Year	BK	BX	MN	QN	SI	BK	BX	MN	QN	SI
1994	23	4		12	6	51%	9%		27%	13%
1995	26	4		13	9	50%	8%		25%	17%
1996	28	5		16	19	41%	7%		24%	28%
1997	47	6		28	27	44%	6%		26%	25%
1998	52	14		46	26	38%	10%		33%	19%
1999	89	6	2	33	61	47%	3%	1%	17%	32%
2000	83	9		76	60	36%	4%		33%	26%
2001	87	6	3	104	70	32%	2%	1%	39%	26%
2002	75	20	1	122	82	25%	7%	0%	41%	27%
2003	99	20	4	172	34	30%	6%	1%	52%	10%
2004	141	14	2	170	30	39%	4%	1%	48%	8%
2005	291	65	11	429	124	32%	7%	1%	47%	13%
2006	93	28	1	202	52	25%	7%	0%	54%	14%
Total	**1,134**	**201**	**24**	**1,423**	**600**	**34%**	**6%**	**1%**	**42%**	**18%**
All 1F and 2F properties in borough in 1993	152,221	48,980	2,793	242,527	86,826	29%	9%	1%	45%	16%

Table 3
Brooklyn teardowns, 1994-2006
Ranking by community district

Ranking	Community district	Teardowns	% of all Brooklyn teardowns	Poverty Rate [1]		Homeownership rate [1]	
				Rate	Ranking	Rate	Ranking
1	CD 215- Sheepshead Bay	248	22%	17.7%	15	48.3%	2
2	CD 212- Borough Park	217	19%	24.5%	6	31.1%	9
3	CD 211- Bensonhurst	163	14%	17.9%	14	39.1%	4
4	CD 213- Coney Island	117	10%	22.0%	9	28.5%	10
5	CD 214- Flatbush/Midwood	64	6%	18.1%	13	22.8%	13
6	CD 201- Greenpoint/Williamsburg	52	5%	35.2%	3	18.1%	17
7	CD 210- Bay Ridge/Dyker Heights	51	4%	13.7%	16	40.0%	3
8	CD 218- Flatlands/Canarsie	47	4%	10.8%	18	62.4%	1
9	CD 207- Sunset Park	34	3%	20.8%	10	31.7%	8
10	CD 205- East New York/Starrett City	33	3%	27.8%	5	24.8%	12
11	CD 209- S. Crown Heights/Prospect Heights	31	3%	22.3%	8	17.4%	18
12	CD 217- East Flatbush	24	2%	19.1%	12	38.2%	5
13	CD 203- Bedford Stuyvesant	19	2%	37.7%	2	26.1%	11
14	CD 206- Park Slope/Carroll Gardens	10	1%	12.0%	17	34.7%	7
15	CD 202- Fort Greene/Brooklyn Heights	7	1%	20.4%	11	37.8%	6
16	CD 204- Bushwick	7	1%	32.9%	4	18.7%	16
17	CD 208- Crown Heights	6	1%	22.9%	7	20.0%	15
18	CD 216- Brownsville	4	0%	38.7%	1	21.6%	14
	Total	**1,134**	**100.0%**	**22.6%**		**32.3%**	

Notes:

[1] Poverty and homeownership rates are from the 2006 American Community Survey.

Table 4
Teardowns, by building class and year
New York City, 1994-2006

	Teardowns by building class					
	Number			Percent		
Year	One family	Two family	Walkup apts.	One family	Two family	Walkup apts.
(1)	(4)	(5)	(6)	(7)	(8)	(9)
1994	31	11	3	69%	24%	7%
1995	29	18	5	56%	35%	10%
1996	39	17	12	57%	25%	18%
1997	60	35	13	56%	32%	12%
1998	82	49	7	59%	36%	5%
1999	113	62	16	59%	32%	8%
2000	149	63	16	65%	28%	7%
2001	158	91	21	59%	34%	8%
2002	199	80	21	66%	27%	7%
2003	199	102	28	60%	31%	9%
2004	212	109	36	59%	31%	10%
2005	535	298	87	58%	32%	9%
2006	227	117	32	60%	31%	9%
Total	**2,033**	**1,052**	**297**	**60%**	**31%**	**9%**

Table 5
Teardowns, by building class
New York City, 1994-2006

Building class of lot (as of 1993)		Number of teardowns	Percent in this building class: Teardowns	Percent in this building class: All NYC lots in 1993 classified as 1F, 2F or walkup apartments
One family		*2,033*	*60.1%*	*47.2%*
A0	Cape Cod	31	0.9%	0.7%
A1	Two Stories Detached (Small or Moderate Size, With or Without Attic)	963	28.5%	18.6%
A2	One Story (Permanent Living Quarters)	776	22.9%	10.4%
A3	Large Suburban Residence	25	0.7%	0.6%
A4	City Residence	6	0.2%	0.5%
A5	Attached or Semi-Detached	43	1.3%	11.4%
A6	Summer Cottages/Mobile Homes/Trailers	40	1.2%	0.2%
A7	Mansion Type	3	0.1%	0.1%
A8	Bungalow Colony/Land Coop Owned	1	0.0%	0.0%
A9	Miscellaneous (Old Buildings, Attached & Semi-Detached Frame Houses, etc.)	145	4.3%	4.6%
Two family		*1,052*	*31.1%*	*34.0%*
B1	Brick	83	2.5%	11.9%
B2	Frame	421	12.4%	10.3%
B3	Converted (From One Family)	492	14.5%	8.4%
B9	Miscellaneous (City Type, Old, etc.)	56	1.7%	3.4%
Walkup apartments		*297*	*8.8%*	*18.8%*
C0	Three Families	201	5.9%	9.3%
C1	Over Six Families Without Stores	6	0.2%	2.2%
C2	Five to Six Families	20	0.6%	2.2%
C3	Four Families	45	1.3%	2.5%
C4	Old Law Tenements	7	0.2%	0.9%
C5	Converted Dwelling or Rooming House	9	0.3%	0.7%
C7	Over Six Families With Stores	6	0.2%	1.0%
C9	Garden Apartments/Mobile Home Park/Trailer Park	3	0.1%	0.1%
Total		**3,382**	**100.0%**	**100.0%**

Source:
1993 RPAD

Table 6
Average lot size for teardowns, by building class
New York City, 1994-2006

	Average lot size for teardowns	
	Expressed in square feet	**Expressed as % of average lot size for NYC lots classified as 1F, 2F or walkup apt in 1993**
All building classes	*5,207*	*153%*
One family	5,650	155%
Two family	4,532	153%
Walkup apartments	4,564	125%

Source:
1993 RPAD

Table 7
Average lot size for teardowns, 1994-2006, by borough

	Average lot size for teardowns (square feet)				Average lot size for teardowns (expressed as % of all NYC lots in 1993 classified as 1F, 2F or walkup apt.)			
	All building classes	By building class			All building classes	By building class		
		One family	Two family	Walkup apts.		One family	Two family	Walkup apts.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Brooklyn	3,762	3,655	3,841	3,835	146%	143%	161%	134%
Bronx	5,434	5,311	6,115	4,473	155%	146%	210%	103%
Manhattan	2,596	1,424	1,651	2,924	93%	77%	94%	99%
Queens	5,081	5,230	4,510	6,359	143%	149%	145%	131%
Staten Is.	8,265	8,376	7,807	6,575	159%	165%	157%	55%

Source:
1993 RPAD

Table 8
Teardowns, 1994-2006
Estimated value of land per square foot (in 2005$), by borough and year

	Brooklyn		*Bronx*		*Manhattan*		*Queens*		*Staten Is.*	
Year	***N***	**Avg. price per sq. ft.**	***N***	**Avg. price per sq. ft.**	***N***	**Avg. price per sq. ft.**	***N***	**Avg. price per sq. ft.**	***N***	**Avg. price per sq. ft.**
1994	*23*	$157	*4*	$67	.	.	*12*	$78	*6*	$53
1995	*26*	$132	*4*	$56	.	.	*13*	$61	*9*	$55
1996	*28*	$123	*5*	$75	.	.	*16*	$92	*19*	$54
1997	*47*	$118	*6*	$73	.	.	*28*	$83	*27*	$61
1998	*52*	$127	*14*	$70	.	.	*46*	$73	*26*	$40
1999	*89*	$129	*6*	$86	*2*	$391	*33*	$68	*61*	$37
2000	*83*	$159	*9*	$81	.	.	*76*	$86	*60*	$44
2001	*87*	$161	*6*	$72	*3*	$650	*104*	$99	*70*	$45
2002	*75*	$207	*20*	$115	*1*	$205	*122*	$129	*82*	$67
2003	*99*	$195	*20*	$85	*4*	$5,749	*172*	$138	*34*	$62
2004	*141*	$227	*14*	$122	*2*	$1,912	*170*	$166	*30*	$98
2005	*291*	$216	*65*	$85	*11*	$2,259	*429*	$142	*124*	$83
2006	*93*	$231	*28*	$93	*1*	$688	*202*	$156	*52*	$88
Total	***1,134***		***201***		***24***		***1,423***		***600***	

Table 9
Brooklyn teardowns, 2005
Estimated value of land per square foot (in 2005$)
Ranking by community district

Ranking	Community district	N	Avg. price per sq. ft.
1	CD 202- Fort Greene/Brooklyn Heights	5	$558
2	CD 208- Crown Heights	3	$346
3	CD 212- Borough Park	27	$299
4	CD 215- Sheepshead Bay	51	$259
5	CD 207- Sunset Park	14	$257
6	CD 201- Greenpoint/Williamsburg	18	$246
7	CD 214- Flatbush/Midwood	18	$212
8	CD 210- Bay Ridge/Dyker Heights	6	$211
9	CD 211- Bensonhurst	59	$196
10	CD 206- Park Slope/Carroll Gardens	6	$195
11	CD 204- Bushwick	3	$188
12	CD 213- Coney Island	32	$176
13	CD 203- Bedford Stuyvesant	6	$168
14	CD 209- S. Crown Heights/Prospect Heights	14	$116
15	CD 205- East New York/Starrett City	8	$112
16	CD 217- East Flatbush	12	$101
17	CD 218- Flatlands/Canarsie	8	$101
18	CD 216- Brownsville	1	$95
	Total Brooklyn teardowns in 2005	**291**	

Table 10
Estimating total value of residentially zoned land in New York City, by borough
Based on estimated land values in 2005 (reported in 2005$)

Borough	Total land zoned as residential[1] (square feet)	Average price of land per sq. ft. in 2005 (2005$)	Estimated value of residentially zoned land as of 2005 (billions of 2005$)
	(1)	(2)	(3)
Brooklyn	942,215,810	$216	$203.3
Bronx	515,606,184	$85	$43.9
Manhattan	223,738,194	$2,259	$505.5
Queens	1,701,238,908	$142	$241.9
Staten Is.	864,661,604	$83	$71.4
Total NYC			**$1,066.0**

Notes:

[1] This column reports total land zoned as residential as of 2006, based on 2006 RPAD. The total includes all lots in the following zoning categories: BPC (Battery Park City), R1-R10, and mixed.

Table 11
Estimating total value of residentially zoned land in New York City (all boroughs combined)
Based on estimated land values in each year
Reported in billions of 2005$

Year	Estimated value of all residentially zoned land in NYC (billions of 2005$)
2001	$541.3
2002	$576.8
2003	$1,802.7
2004	$1,071.9
2005	$1,066.0
2006	$761.3

Figure 1
Average price paid per square foot of land (in 2005$), 1994-2006
New York City, by borough

Figure 2 - Brooklyn
Average price paid per square foot of land (left axis) and
Repeat sales index for single-family homes (right axis, 1994=100)
1994-2006

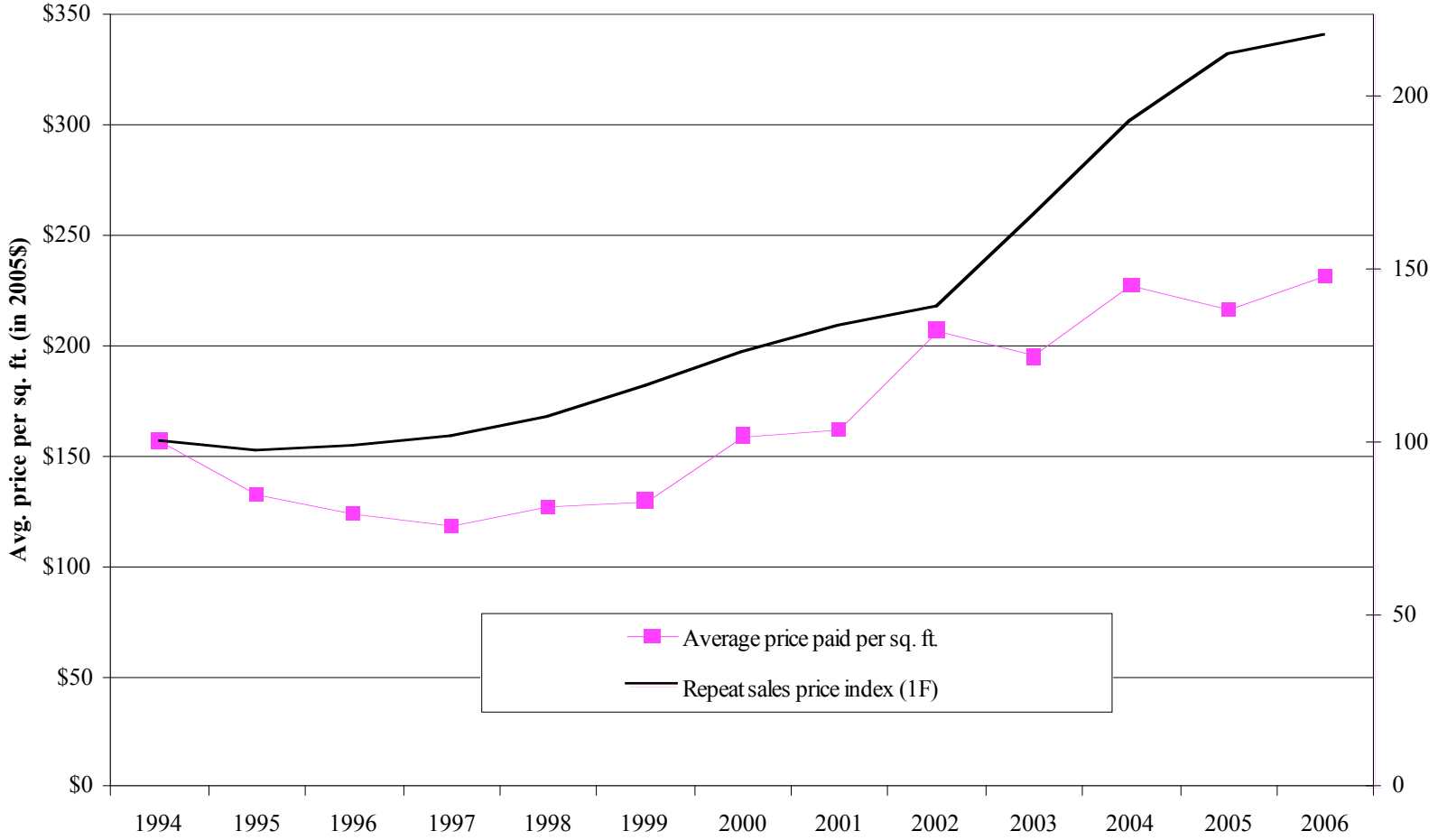

Figure 3 - Queens
Average price paid per square foot of land (left axis) and
Repeat sales index for single-family homes (right axis, 1994=100)
1994-2006

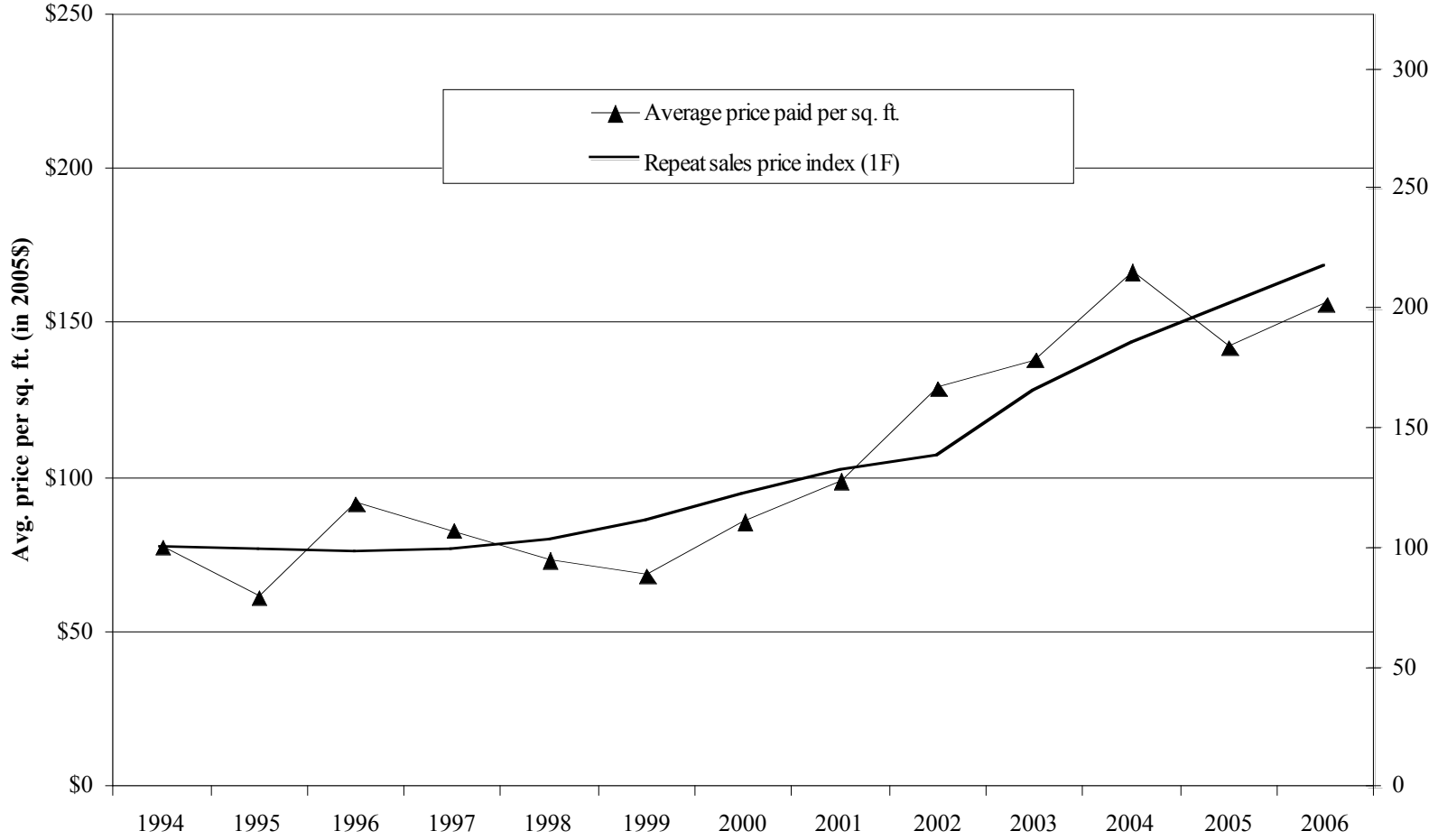

Figure 4 - Staten Island
Average price paid per square foot of land (left axis) and
Repeat sales index for single-family homes (right axis, 1994=100)
1994-2006