

# **External Effects of Concentrated Mortgage Foreclosures: Evidence from New York City**

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Before  
**Committee on Oversight and Government Reform**  
**Subcommittee on Domestic Policy**

Honorable Dennis Kucinich, Chair  
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Chairman Kucinich, Ranking Member Issa, and all the members of the Subcommittee, I am honored to be here today to share with you findings from the Furman Center's research on the external effects of concentrated mortgage foreclosures. My name is Vicki Been, and I am the Elihu Root Professor of Law at New York University School of Law and director of the Furman Center for Real Estate and Urban Policy. The Furman Center is a joint research center of NYU's School of Law and its Robert F. Wagner School of Public Service, and is a member of the National Neighborhood Indicators Partnership. Founded in 1995, the Center brings the talents of both our law faculty and our urban economics faculty to bear on urban problems, and has become one of the nation's leading academic research centers devoted to the public policy aspects of land use, real estate development and housing.

As the national mortgage crisis has worsened, an increasing number of communities are facing declining housing prices and high rates of foreclosure. Central to the call for government intervention in this crisis is the claim that foreclosures not only hurt those who are losing their homes to foreclosure, but also harm others – neighbors, communities, and tenants – by reducing

the value of nearby properties and in turn, reducing local governments' tax bases, and by displacing tenants. The extent to which foreclosures do in fact drive down neighboring property values or displace tenants, and how those impacts may vary according to neighborhood characteristics and local housing markets, thus have become crucial questions for policy-makers as they struggle to address the rising tide of foreclosures throughout the country.

In part because of the difficulty of obtaining necessary data, few empirical studies have examined the relationship between foreclosures and surrounding property values, and those that have addressed the issue have been unable to resolve the critical question of causality—that is, whether foreclosures drive down surrounding home prices or whether foreclosures simply tend to occur in neighborhoods with lower-value homes. The Furman Center has tried to respond to the pressing need for information about the effects of foreclosures by examining the impact that the filing of a foreclosure notice (a “*lis pendens*”, or LP) has on the sales prices of nearby properties.<sup>1</sup> Our research offers several methodological improvements over prior studies that help to shed light on the causal relationships at play.

In addition, the Furman Center has examined the characteristics of the approximately 15,000 buildings that entered foreclosure in 2007 in New York City to assess whether foreclosures are affecting tenants. I will describe our research on both these issues in turn.

### **The Effects Foreclosures Have on the Value of Neighboring Properties:**

We have provided background on the foreclosure process in New York City, along with a detailed explanation of our data and methodology, in Appendices A and B. In brief, we examine data on foreclosure starts and sales prices over a six year period, as opposed to the one year of sales data other studies typically have used. We take into account unobserved characteristics of

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<sup>1</sup> Our research on the impacts foreclosures have on neighboring properties was supported through a grant by the Surdna Foundation.

the neighborhood, as well as broader economic conditions. Our model accordingly does a better job of controlling for the various neighborhood characteristics that may affect both sales prices and the likelihood that a foreclosure will occur nearby, which allows us to isolate the impacts foreclosure starts have on prices from the impacts of other market conditions. Moreover, we study the impacts of foreclosures during a period of price appreciation in the New York City housing market.

Before I share our results, it is useful to review the various hypotheses about why foreclosures may have a negative impact on surrounding housing prices. First, property owners who are in default on their mortgages may be less likely to maintain or upgrade their properties, either because they have less incentive to maintain property they may lose, or because the mortgage default results from financial problems that also constrain the property owners from taking appropriate care of their homes. Properties may start to appear rundown as a result, which may make the surrounding homes less desirable. Second, after completion of foreclosure proceedings and eviction of the delinquent borrower, the property may sit vacant and suffer further physical decline. Vacant properties are likely to depress surrounding property values because they contribute to neighborhood blight, may attract vandalism and crime, and more generally signal that the neighborhood is not stable. Even if the vacant properties are well maintained and do not attract criminal or other undesirable activities, they add to the local supply of available units, and under the law of supply and demand, will thus depress property values. Third, distressed properties sold either at foreclosure auctions or pre-foreclosure sales may be more likely to be sold to investors and become renter-occupied, which may lead to lower levels of maintenance even after the properties are re-occupied. Finally, properties with distressed loans are likely to sell at a discount – both at pre-foreclosure sales and at foreclosure auctions – thus affecting the price of “comparables” used to estimate neighboring property values.

If foreclosures are clustered by neighborhood, the magnitude of these negative effects is likely to increase. Further, the size of these effects is likely to differ according to the strength of the housing market. Foreclosed properties are more likely to remain vacant for longer periods in stable or declining housing markets than in appreciating markets.

Our research shows that foreclosures have a depressing effect on nearby sales both in neighborhoods with few foreclosures and neighborhoods with many concentrated foreclosures. Properties near recent foreclosure starts on average sell at lower prices than comparable properties in the same neighborhoods that are not near foreclosure starts. As expected, the size of the price impact generally increases with the number of nearby foreclosure starts, although the marginal impact of each additional foreclosure decreases once there is a concentration of foreclosures in a neighborhood.

Specifically, we find that:

- Foreclosures in New York City are highly concentrated in specific neighborhoods. We separated New York City's neighborhoods<sup>2</sup> into two groups: in "high-exposure" neighborhoods, the median property sold was within 1,000 feet of fifteen properties for which notices of foreclosure had been filed; in "low-exposure" neighborhoods, the median home sale was within 1,000 feet of only one property subject to a *lis pendens*. High-exposure neighborhoods tend to have a greater proportion of black and Hispanic residents, lower median incomes, lower median sales prices and higher rates of subprime lending than low-exposure neighborhoods.

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<sup>2</sup> For the purposes of our research, we use the City's 59 community district (CD) boundaries to identify distinct neighborhoods. Staten Island is not included in our data set because *lis pendens* data for the borough was unavailable for the time period we studied.

- In low-exposure neighborhoods, the sales prices of homes within 500 feet of just one or two properties for which a *lis pendens* had been filed in the prior 24 months were 1.8 percent lower than the prices of similar properties in the same neighborhood but not within 500 feet of any recent foreclosure start, all else equal. Sales prices of homes within 500 feet of three to five properties for which a *lis pendens* had been filed in the past two years were 2.8 percent lower than the prices of comparable properties not within 500 feet of any recent foreclosure start. We found that homes slightly further from foreclosure starts (500 to 1,000 feet) also sold for significantly less than comparable properties, but estimated price reductions were smaller.
- In high-exposure neighborhoods, properties near nine to nineteen recent LPs sold for 2.5 percent less than comparable properties in the same neighborhood but near fewer than nine recent LPs. Properties near twenty or more recent LPs sell for approximately 3.7 percent less than comparable properties near less than nine recent LPs, all else equal. The median sales price in high-exposure neighborhoods during our study period was approximately \$216,000, implying that being close to twenty or more LPs is associated with a discount of approximately \$8,000 in sales price.
- Overall, the results suggest that in low-exposure neighborhoods, prices are sensitive to even a small number of nearby LPs. In high-exposure neighborhoods, almost all sales occur near a large number of recent LPs, so we cannot test for the effects of being near only a few LPs. However, in these high-exposure neighborhoods, we do find significant price discounts from being near a larger than average number of recent LPs.

### **Explaining Differences in the Results of Research on the Effects Foreclosures Have on Neighboring Properties:**

These numbers, while staggeringly high in terms of their impact on America's neighborhoods and upon the wealth available to America's homeowners, are lower than some of the estimates that have been discussed in the debate over how to respond to the housing crisis. In the most frequently cited study, Dan Immergluck and Geoff Smith find that each foreclosure within one-eighth of a mile of a single-family home is associated with a decline in property values of approximately 1 percent.<sup>3</sup>

The disparity between our estimates and theirs may be the result of several factors. First, there may be differences in the market conditions in their study area (Chicago) and ours (New York City) that affect the impact foreclosures have. Second, our study evaluated impacts during a different time period (2000 – 2005) than theirs (1997 – 1999). Third, our data allowed us to make several improvements over the methodology Immergluck and Smith used. Their research attempted to identify the effects of foreclosures by examining whether properties sell at lower prices if a foreclosure has occurred nearby in the two years prior to the sale. However, they looked only at price differences after the foreclosure, and did not account for possible price differences before the foreclosures occurred. It is likely that there are unobservable differences between properties and neighborhoods that are close to a foreclosure at some point in time and properties (and their neighborhoods) that are not. If the characteristics of properties that determine the likelihood of being near a foreclosure also are correlated with sales prices, then only measuring the effect of foreclosures within the two-year window will produce biased estimates. Because we have data on foreclosure starts and sales prices over a longer period of

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<sup>3</sup> Immergluck, Dan and Geoff Smith. 2006. "The External Costs of Foreclosure: The Impact of Single-Family Mortgage Foreclosures on Property Values." *Housing Policy Debate*. 17(1): 57-79.

time (six years), we are able to control for whether a foreclosure occurs near each sale at any time within six years, not just in the two years immediately before the sale. The longitudinal structure of our data also allows us to control for unobserved characteristics of the neighborhood that do not change over time (what we call zipcode “fixed effects”) as well as to control for broader economic conditions that do vary over time.

To understand whether the difference between our estimates and those of Immergluck and Smith is driven by New York City’s market, which was appreciating during the study period, or by methodology, we replicated their research using our data. Using their methods, we find that a foreclosure start within one-eighth of a mile is associated with a 0.2 percent reduction in property values (as compared to their 1 percent estimate). Because we replicated their methods as closely as possible, the difference between their larger estimates and our smaller estimates must be driven by differences between the Chicago and New York City housing markets or differences between the housing market in 1997 and 1998 (the time period Immergluck and Smith studied) and the later six year period of 2000 to 2005 that we studied.

But the improvements in methodology that we were able to make also explain some of the difference. The results of our methodology are not directly comparable to the Immergluck and Smith estimates because their work assumes that each additional foreclosure in a neighborhood has the same effect as the prior foreclosure. It is highly unlikely, however, that each additional foreclosure in a neighborhood generates the same impact. Indeed, as described above, our estimates suggest that while the first few foreclosures in a neighborhood generate fairly significant impacts, subsequent foreclosures have a much smaller marginal impact.

Despite the differences between the study areas and between our methodologies, however, both our work and that of Immergluck and Smith provide strong evidence that neighbors, and local governments, bear significant costs when a homeowner loses his or her

property to foreclosure, and that efforts to help stem the tide of foreclosures and to assist local governments in putting foreclosed properties back into productive use may be justified by the external effects that foreclosures have on neighboring properties.

### **The Effects of Foreclosures on Tenants:**

Our research also documents that foreclosures have an impact on another group of collateral victims. As detailed in Appendix C, we recently documented that in New York City, 60 percent of the properties going into foreclosure in 2007 were two- to four-family or multi-family buildings, representing at least 15,000 renter households (or approximately 38,000 individuals). If these properties are sold at auction, most of these households will face eviction. Recent research by the National Low Income Housing Coalition has highlighted this problem in other regions as well, specifically finding that multi-family buildings made up one-third of foreclosed properties in New England.<sup>4</sup>

### **What Do Our Findings Suggest About How Resources Should be Targeted?**

Our results show that foreclosures not only harm the homeowners involved, but also hurt neighboring properties, the community itself, and tenants. Whatever the outcome of the debate over the desirability of assisting homeowners facing foreclosure (or their creditors), therefore, there is a justification for intervening in the foreclosure crisis to protect neighbors, tenants and communities, who our results reveal are bearing a significant part of the cost of foreclosures.

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<sup>4</sup> Pelletiere, Danilo and Keith E. Wardrip. "Properties, Units, and Tenure in the Foreclosure Crisis: An Initial Analysis of Properties at the End of the Foreclosure Process in New England." National Low Income Housing Coalition, Research Note #08-01. May 6, 2008. Also available at <http://www.nlihc.org/doc/RN-08-01-Multi-Unit-Foreclosure-FINAL-05-06-08.pdf>.



Our results also can help policy-makers allocate limited resources to local governments confronting rising foreclosures. One preliminary caution: as noted above, the comparison of our results to those of Immergluck and Smith's show that there is considerable variation in the effects foreclosures may have in different cities, and at different times. Our results also show that even within New York City neighborhoods, the effects of foreclosures vary. Those variations suggest that we cannot necessarily extrapolate the experience of one housing market to another, and caution against developing policies that treat all foreclosures equally.

Nevertheless, our results suggest some of the ways in which programs to address the foreclosure crisis should be targeted. First, the results make clear that even in appreciating markets, where properties are unlikely to sit vacant for long periods after a foreclosure, neighbors and tenants suffer when properties go into foreclosure. While limited resources must be targeted to the areas most in need, it would be a mistake to think that so-called "hot" markets are immune from the negative effects of foreclosures.

Second, we know from previous research, and from the experience of communities around the country, that vacant properties can damage neighborhood property values and contribute to other problems such as crime. Programs to minimize the number of vacant properties resulting from foreclosures accordingly are critically necessary. In work published several years ago, Furman Center researchers found that properties near to vacant properties sold for significantly less than otherwise comparable properties that were not close to vacant properties. Specifically, properties adjacent to abandoned or vacant buildings typically sold for 28 percent less than comparable properties located further away but still in the same

neighborhood. The negative associations were significant at distances up to 2,000 feet away from the abandoned property.<sup>5</sup>

Third, any effort to target resources to those communities most in need must take into account not only existing foreclosures, but the probability that the neighborhood will suffer foreclosures in the future. Data about foreclosures themselves are notoriously unreliable and subject to variation from jurisdiction to jurisdiction. But even if the data about foreclosures were perfect, by the time foreclosures are filed, it often will be too late for local governments to implement cost-effective ways to avoid or minimize the external effects of foreclosures. Any formula allocating aid to local governments accordingly should use all data available to predict where foreclosures are likely to occur, rather than looking only at where foreclosures already have occurred.

Several indicators are reliable harbingers of foreclosures to come. First, there is a substantial relationship between the prevalence of subprime lending and the prevalence of foreclosures.<sup>6</sup> In New York City, among the ten community districts with the highest rates of subprime lending, our research shows that seven of them also were among the ten community districts with the highest rates of foreclosure.<sup>7</sup> Therefore, the formula for allocating aid should take into account the prevalence of subprime lending in a community. Second, other forms of risky lending also are associated with higher than average rates of foreclosure. For example, the proportion of borrowers taking out second liens, or piggyback loans, is associated with higher

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<sup>5</sup> Michael H. Schill, Ingrid Gould Ellen, Amy Ellen Schwartz, and Ioan Voicu, "Revitalizing Inner-City Neighborhoods: New York City's Ten Year Plan for Housing," *Housing Policy Debate* 13(3), 2002: 529-566.

<sup>6</sup> For example, the Federal Reserve Bank of New York recently analyzed existing mortgage loans in New York City and found that, as of December 2007, approximately 6 percent of subprime fixed rate first mortgages and approximately 20 percent of the more common subprime adjustable rate first mortgages were in foreclosure. In both cases, these foreclosure rates exceed the corresponding national rates. See

<http://www.ny.frb.org/regional/subprime.html>

<sup>7</sup> See Amy Armstrong et al. 2008. *State of New York City's Housing and Neighborhoods 2007*. New York: Furman Center for Real Estate and Urban Policy.

rates of foreclosure.<sup>8</sup> Similarly, the proportion of borrowers who are refinancing even when increasing interest rates are making refinancing financially unattractive should be a danger signal.<sup>9</sup>

Finally, the plight of renters that have been or will be displaced from units they rented in buildings that go into foreclosure should be factored into formulas for targeting aid to communities.

### **Conclusion:**

Our research shows that the foreclosure crisis is affecting not just the homeowners who are unable to pay their mortgages, but also is imposing significant costs upon the neighbors and tenants of those owners, as well as the communities in which the properties going into foreclosure lie. The costs inflicted upon those collateral victims may justify government intervention in the foreclosure crisis, and should be considered in decisions about how to target aid to local governments confronting the crisis.

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<sup>8</sup> See <http://www.ny.frb.org/regional/subprime.html>

<sup>9</sup> See generally, Amy Armstrong et al. 2008. State of New York City's Housing and Neighborhoods 2007. New York: Furman Center for Real Estate and Urban Policy.

## **Appendix A: Foreclosure Process in New York City**

The mechanisms by which defaulted loans can create negative spillovers into their neighborhoods and at what point in time these spillovers occur depend on the details of the foreclosure process. Since the foreclosure process differs considerably across states, I will offer a brief review of how foreclosures work in New York City, focusing particularly on points during the process when information becomes available to third parties.

The first stage of loan distress, mortgage default, occurs when the borrower fails to make the mortgage payment for a period of time specified in the mortgage contract. Once a borrower defaults on the mortgage, lenders then have several options, including loan restructuring, forbearance, or beginning the process to reclaim the property, described below. We do not observe when a borrower initially defaults or any actions taken by the lender prior to the *lis pendens* filing, since no public notice or third party involvement occurs in the initial stage of default. Thus, for the purposes of our analysis, we treat the date of the *lis pendens* filing as the starting point for the foreclosure process.

After a mortgage has gone unpaid for a minimum of three consecutive months, the lender can file a *lis pendens* (LP), essentially a notice of the intention to sue the property owner and reclaim the property if the loan is not repaid.<sup>10</sup> The *lis pendens* is filed with the county clerk's office and is therefore a public record. A number of private data vendors collect and sell information on LP filings, which prospective real estate investors use to identify properties for potential purchase.

After the *lis pendens* has been filed, the borrower may attempt to prevent the property from being foreclosed by restructuring the loan with the existing lender, refinancing the property

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<sup>10</sup> *Lis pendens* can be filed for a number of reasons other than default on mortgage loan, including unpaid taxes, unpaid condominium fees, or mechanic's or contractor's liens. We include only *lis pendens* filings that result from mortgage default.

with a different lender, or selling the property to a third party and satisfying the loan. The borrower may also turn over the deed to the property to the lender in lieu of paying off the loan. Any of these actions to avoid a foreclosure auction can be observed through documents filed in the public record.

In the third and final stage, if the borrower and lender do not reach an agreement to satisfy the outstanding loan after the filing of a *lis pendens* notice, then the lender may request that the court appoint a referee (an attorney who ultimately conducts the foreclosure sale) and schedule an auction. The judge then signs a Judgment of Foreclosure and Sale that directs a Notice of Sale to be published. A notice of the property's pending sale – including the date, time, and location of the auction, the property address, and the names of the borrower and lender – must be published in newspapers or other media for four successive weeks prior to the auction. The announcements of foreclosure auctions are thus available to any party that chooses to search the papers; several data vendors also collect and sell this information.

At the auction itself, the property will be sold to the highest bidder. The original lender will generally purchase the property if no private investor bids higher than the amount of the outstanding loan. The winning bidder must pay 10 percent of the purchase price immediately after the auction, and is required to pay the balance within thirty days. The sale price, along with the name of the new owner, is recorded as part of the public record in the deed transfer.

If the lender takes ownership of the property, either through an agreement with the borrower during pre-foreclosure or at the foreclosure auction, the lender will typically re-sell the property to recover the unpaid loan amount in what is known as a “Real Estate Owned” (REO) sale. The transfer of property ownership back to lender, as well as the subsequent REO sale price, is recorded as part of the public record.

## Appendix B: Data and Empirical Strategy

To identify the effect of foreclosure starts on neighboring property values, we use a variation of hedonic regression analysis, controlling for property and neighborhood characteristics. The general form of the regression is shown in Equation 1 below:

$$(1) LPRICE_{ijt} = \beta_0 + \beta_1 RecentLP_{ijt} + \beta_3 EverLP_{ij} + \beta_4 PropChars_{ij} + Zip_j + Boro * quarter_t$$

in which  $LPRICE_{ijt}$  is the log per unit sales price of property  $i$  in zipcode  $j$  in quarter  $t$ ;

$RecentLP_{ijt}$  is an indicator of the presence (or number) of LP filings within 1000 feet of property  $i$  during the period of time 24 months prior to the sale;  $EverLP_{ij}$  is a dummy variable indicating the presence of an LP within 1000 feet of the sale at any time between January 1 2000 and December 31 2005;  $PropChars_{ij}$  is a vector of characteristics describing property  $i$ , including size, age, and building class;  $Zip_j$  is a set of zipcode fixed effects and  $Boro * quarter_t$  is a set of borough-quarter-year fixed effects. Data sources and brief descriptions of each variable are shown in Table 1.

Our dependent variable is the actual per-unit sales price of residential properties in New York City, provided by the City's Department of Finance.<sup>11</sup> We restrict the sales to years in which we have data on LPs during the relevant periods. Our data on LP filings begin as of January 2000 and end in December 2005. Thus for sales beginning July 1 2001, we have at least eighteen months of prior LP filings. We end the period of analysis with sales through September 30, 2005, so that we also have LP filings in the subsequent three months.

The regressions include a number of variables standard to hedonic price analysis, specifically physical property characteristics, fixed effects for zipcodes and period of sale. Property characteristics include the building type, age, size, lot shape and whether the unit has

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<sup>11</sup> We exclude non-residential property sales and sales of coops, which are counted as shares in a corporation.

recently been altered. To control for locational amenities and neighborhood characteristics, such as proximity to transportation, quality of local schools and other public services, demographic and economic characteristics of the population, we include a series of fixed effects for the zipcodes in which the sale is located. We also include fixed effects for the quarter of sale, interacted with borough to control for time-varying economic trends that may differ by borough.

To identify whether each sale is likely to be affected by mortgage foreclosure starts, we draw upon property-level LP filings between 2000 and 2005 in four of the five NYC boroughs (Staten Island did not report LP data in a comparable fashion). Data on LPs from Bronx, Kings, New York and Queens Counties were purchased from Public Data Corporation, which collected these data from the county court registers. We exclude all LPs that are not related to mortgage foreclosures (such as tax liens, mechanics liens and housing code violations) and LPs filed on non-residential properties. It is fairly common for multiple LPs to be filed on the same property in a short period of time; we assume that the first filing indicates the beginning of the period of financial distress and drop any subsequent LPs filed on that property within 365 days by the same plaintiff. We assume that one of the mechanisms by which LPs create spillover affects is physical deterioration; because condominium units that enter foreclosure are less likely to display signs of distress that will be visible outside the building, we also exclude LPs on condominiums.<sup>12</sup> Most of the remaining properties on which LPs were filed are one- to four-family buildings, and a small number of multifamily buildings.

Table 2 shows the number of LPs in each borough by year, while Table 3 shows the distribution of LPs by property type. We calculate several different indicators of the extent of foreclosure activity around each sale. The simplest measure is a dummy variable that indicates whether any LP occurred in the 24-month period previously described within 1000 feet of the

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<sup>12</sup> Some LPs are dropped from our analysis because they are missing the geographic indicators needed to match with sales locations, but these are quite small numbers and are unlikely to affect our results.

sale. The distribution of LPs near each sale is highly skewed; therefore in several specifications, we use a series of categorical variables for the number of LPs within 1000 feet.

There are several empirical and theoretical challenges to identifying possible effects of LPs on housing prices. The primary concern is that LPs are more likely to occur in neighborhoods with initially lower property values, making it difficult to determine the direction of causality. As shown in Figures 1, 2 and 3, LPs are more frequent in neighborhoods with low-income and minority populations and high rates of subprime lending. In New York City, LPs are highly concentrated geographically, also hindering a clean identification. As shown in Figure 4, sales that are within 1,000 feet of at least one LP are likely to be near large numbers of LPs. Thus it is quite difficult to compare the price of a sale near no LPs with the price of a sale near one or more LPs within the same zipcode. If LPs have a cumulative effect on prices, then identifying the magnitude of being near exactly one LP should not be extrapolated linearly to determine the effect of being near multiple LPs, particularly because sales near many LPs are likely to occur in quite different neighborhoods from those with isolated LPs.

We employ several different techniques to correct for potential selection bias and other challenges to identification. In specifications using the full sample of sales, in addition to looking at the number of LPs that occurred in the previous 24 months, we control for whether an LP was issued within 1000 feet of the sale at any time during the six year period for which we have data (2000 to 2005), and for some specifications, whether at least five or ten were issued. Over 90 percent of sales across the city had at least one LP within 1000 feet at some time during those years (over 97 percent in Brooklyn and Queens, just over half in Manhattan). This suggests that in most boroughs and many CDs, proximity to at least some foreclosure activity is almost universal, with the variation arising from timing and intensity of activity.



However, these statistics of proximity to LPs at the borough and CD level may obscure considerable differences in the prevalence of foreclosures resulting from selection bias at smaller levels of geography. One approach is to segment the sample by the prevalence of LPs in the CD and test separately for effects of LPs in high- and low-exposure CDs. We define high- and low-exposure CDs by calculating the rate of LPs per 1,000 owner-occupied housing units (using census data from 2000 on tenure rates and housing stock). CDs with fewer than twenty LPs (over the six year period) per 1000 owner-occupied units are defined as low-exposure, while those with fifty or more LPs are defined as high exposure.<sup>13</sup> As shown in Table 4, in high-exposure CDs, almost all sales are within 1000 feet of at least one LP in the 24-month window, and most are near multiple LPs. In these regression specifications, identification of the effect of LPs comes from variation in number of LPs within the 24-month window; we cannot test for the effect of a single LP compared to none in this sample, but can test for the marginal effect and differences between median prevalence of LPs and unusually high prevalence. In the low-exposure CDs, we are able to test for the effect of being near one LP, compared to being near none. Not surprisingly, low- and high-exposure CDs differ quite a bit in their economic and demographic characteristics. In particular, as shown in Table 5, CDs with very high rates of LPs have lower median housing prices initially, lower median incomes, a larger share of black residents and higher exposure to subprime lending. This supports the hypothesis that lower-value neighborhoods are more vulnerable foreclosure starts.

Besides econometric difficulties, identifying the effects of LPs is complicated by limited information over the intermediate and final outcomes of the distressed property and the length of time needed to resolve each LP. As described in Section 3, magnitude and duration of spillover effects depends on extent and timing of visible signs of deterioration, when and to whom the

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<sup>13</sup> These cutoffs were identified based on the distribution of the variable, to provide roughly similar sized groups. Neither the descriptive statistics nor the regression results are sensitive to moderate changes in the cutoff points.

property is sold, when and by whom it is occupied, etc. Unfortunately we do not have data that allow us to determine the outcomes of individual LPs and so cannot examine differential effects by outcomes, but this is an area that should be pursued in future research.

**Table 1: Variable definitions and data sources**

Variable	Comments and source
<i>Dependent variable</i>	
Log(Price/unit)	Log(price per unit), constant 2005 \$. Source: NYC DOF
<i>Proximity to LP measures</i>	
<i>Source: PDC, DOF</i>	
Any LPs	Any LPs within 1000 feet of sale, 24 months
1-2 LPs (etc.)	Dummy = 1 if 1-2 LPs within 1000 feet, 24 months (comparison group varies by specification)
Any LP 2000-06?	Any LPs within 1000 feet of sale, 2000-05
<i>Hedonic characteristics</i>	
<i>Source: RPAD</i>	
unitage	Unit age, years.
noyrblt	Unit age missing flag
sqftunt	Square feet of unit
bldgs	Number of buildings on lot
numunits	Number of units in building
sf_att	= 1 if SF attached, 0 otherwise
twofam	= 1 if two-family
mf3_4	= 1 if 3-4 family building
mfwalkup	= 1 if 5+ family multifamily, walkup
elnoend	= 1 if elevator multifamily, not condo
cndnoel	= 1 if condo, no elevator
cndelev	= 1 if condo, elevator building
mixed	= 1 if mixed residential-commercial building
oddshape	= 1 if lot is oddly shaped
garage	= 1 if garage
extended	= 1 if building was extended
xcorner	= 1 if corner lot
altered2	= 1 if building had recent significant alteration
<i>Fixed effects</i>	
Boro-year-qrtr	Dummy variables for each borough-quarter-year of sale
Census tract/ZIP	Dummy variables for each census tract or ZIP code

**Table 2: Number of LPs by borough and year**

	2000	2001	2002	2003	2004	2005	Total
Bronx	755	967	1,052	979	871	775	5,399
Brooklyn	2,742	2,466	2,944	2,861	2,455	2,504	15,972
Manhattan	268	155	146	123	95	84	871
Queens	2,553	2,556	2,637	2,482	2,330	2,372	14,930
Total	6,318	6,144	6,779	6,445	5,751	5,735	37,172

Source: Furman Center calculations based on data from Public Data Corporation (PDC)

**Table 3: Number of LPs by building type (2000 – 2005)**

One-family	14,376
Two-family	14,547
Walk-up apartments	7,753
Elevator apartments	73
Condominiums	1
Residential-mixed use	1,795
Total	38,545

Source: Furman Center calculations based on data from PDC and NYC Department of Finance

**Table 4: Segmenting Community Districts (CDs) by LP Prevalence**

	All CDs	Low LP CDs	High LP CDs*
LPs/1000 owner-occupied units (2000-05)			
Median	30	11	102
Range	0-284	0-20	50-284
Number of CDs	56	22	22
Number of sales	91,863	35,129	38,498
Median sales price	268,435	403,200	216,087
Sales w/ LPs in 1000 ft			
LPs/sale (24 mos)	Median	1	15
	Range	0-16	0-90
% sales near LP (24 mos)	82.5%	62.1%	98.0%
% sales near LP (2000-06)	91.8%	81.5%	99.6%
Sales w/in 250 ft of 1+ LP			
LPs/sale (24 mos)	Median	0	1
	Range	0-8	0-16
% sales near LP (24 mos)	36.7%	11.6%	62.5%
% sales near LP (2000-06)	57.8%	27.5%	86.4%

\* Excludes Parkchester/Soundview

Source: Furman Center calculations based on data from PDC and NYC Department of Finance

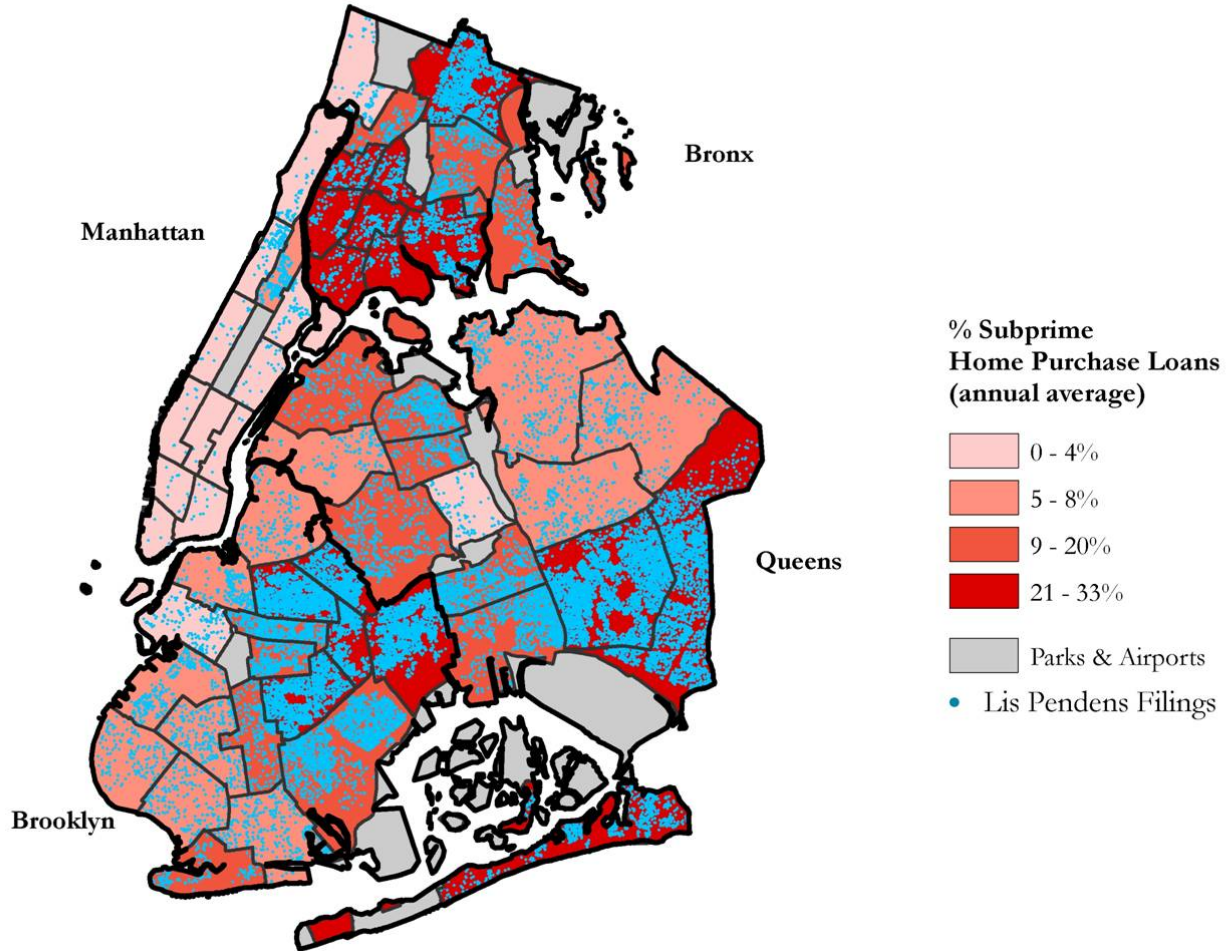
**Table 5: Characteristics of CDs by Exposure to LPs (2000)**

	<b>All CDs</b>	<b>Low LP</b>	<b>Middle LP</b>	<b>High LP</b>
Number of CDs	56	22	11	23
Median Income	\$37,038	\$47,159	\$32,789	\$29,390
% subprime home purchase loans	4.0%	0.8%	2.6%	7.7%
% Black	26.7%	7.1%	18.1%	49.7%
% White	33.7%	57.8%	34.5%	10.4%
% Hispanic	29.3%	19.2%	36.4%	35.5%
% Asian	10.2%	16.0%	11.0%	4.4%
% Poor	23.0%	15.1%	24.8%	29.8%
% Unemployed	11.1%	6.9%	10.5%	15.4%

Source: Furman Center calculations based on data from the U.S. Census and the Home Mortgage Disclosure Act (HMDA)

**Figure 1**

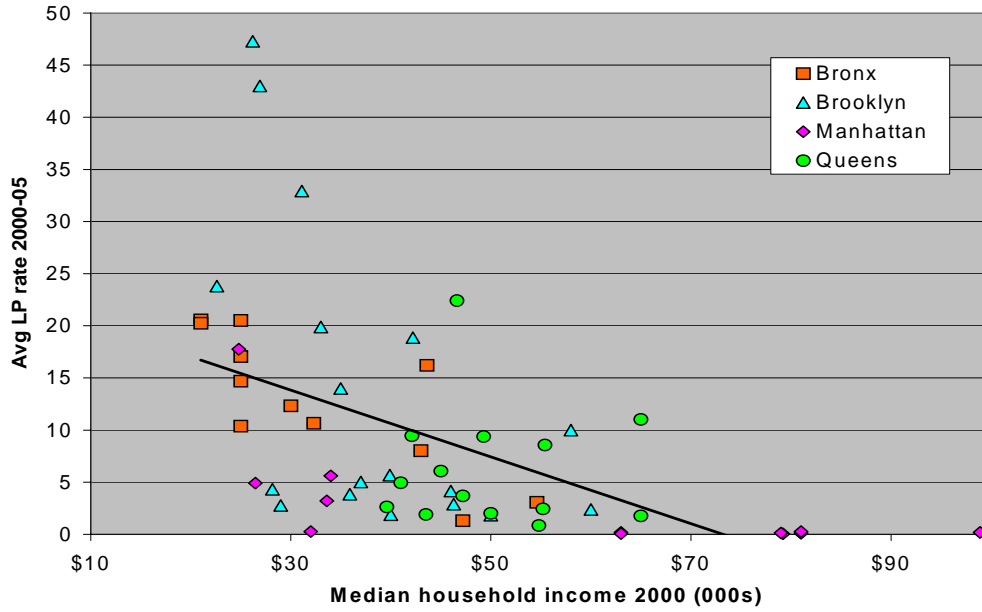
## Subprime Lending & Lis Penden Filings, 2000-2005



Source: Furman Center calculations of data from PDC and HMDA

Figure 2

### LP rate\* & median household income by CD

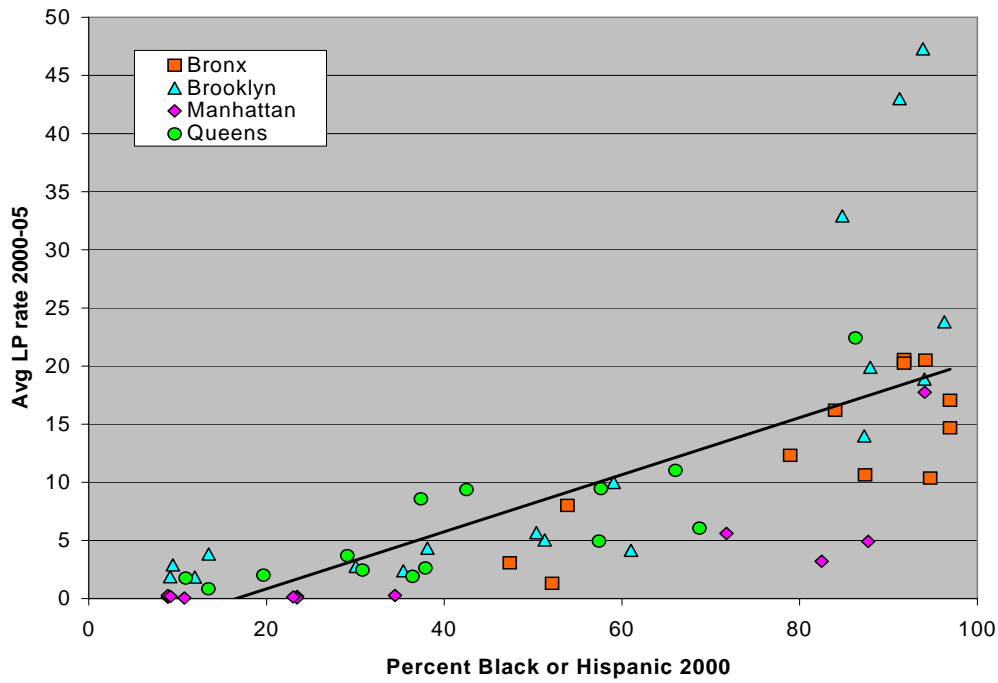


\*LP rate = LPs per 1000 owner-occupied housing units

Source: Furman Center calculations of data from PDC and the U.S. Census

**Figure3**

### LP rate\* and percent Black or Hispanic by CD

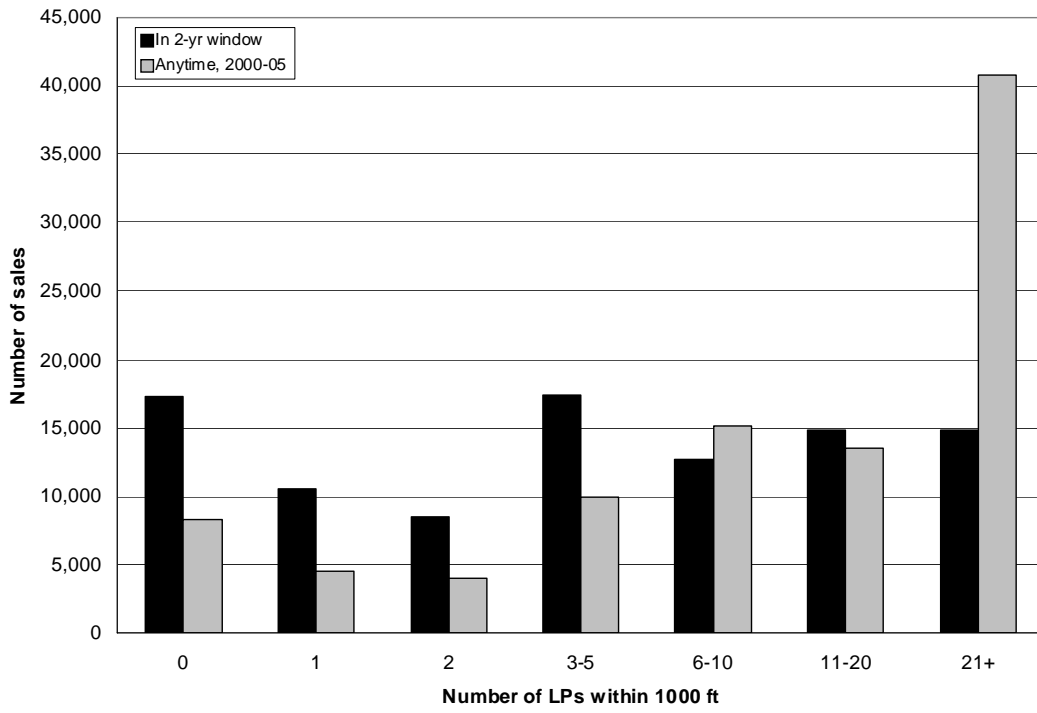


\*LP rate = LPs per 1000 owner-occupied housing units

Source: Furman Center calculations of data from PDC and the U.S. Census



**Figure 4: Distribution of sales by number of LPs within 1000 feet**



Source: Furman Center calculations of data from PDC and NYC Department of Finance

## APPENDIX C: Analysis of Renters Affected by Foreclosures

### FURMAN CENTER FOR REAL ESTATE & URBAN POLICY

NEW YORK UNIVERSITY SCHOOL OF LAW ■ WAGNER SCHOOL OF PUBLIC SERVICE

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**For Immediate Release**

**New York, NY**

**April 14, 2008**

### **New Analysis of NYC Foreclosure Data Reveals 15,000 Renter Households Living in Buildings that Entered Foreclosure in 2007**

Nearly 60% of the 15,000 foreclosure filings in New York City in 2007 were on 2 to 4 family or multi-family buildings, leaving a significant number of renters threatened by foreclosure. A conservative estimate puts the number of renter households impacted at about 15,000.

A new analysis by NYU's Furman Center for Real Estate and Urban Policy finds that a majority of the nearly 15,000 mortgage-related foreclosure filings in New York City in 2007 were on multi-family buildings, and only about 40% were on condominiums or single-family homes. The analysis shows that over 30,000 households (or about 76,000 New Yorkers) are living in properties that entered the foreclosure process in 2007. The Center estimates that more than 15,000 of these households (or some 38,000 New Yorkers) were living in rental units. This is a conservative estimate, because the analysis assumes that an owner lives in one of the units in all 2-4 family buildings, but in all likelihood, some of those buildings are completely occupied by renters.

Most tenants living in buildings going through foreclosure face eviction if the property is sold at auction. However, tenants protected by New York State's rent regulation laws, which apply to many units in larger 6+ buildings, are not at risk.

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**In 2007, New York City  
had approximately 15,000  
foreclosure filings:**

- 40% were on condo & single-family buildings
- 60% were on 2-4 family and 5+ buildings

**More than 30,000 households  
are living in properties in  
foreclosure:**

- 15,000 renter households
  - 15,000 owner households
- 

"It is not known how many buildings that entered foreclosure in 2007 will end up at auction, but the number of rental households at risk is troubling. The plight of renters in foreclosed buildings has not been part of the national conversation," said Vicki Been, director of the Furman Center. "Proposed

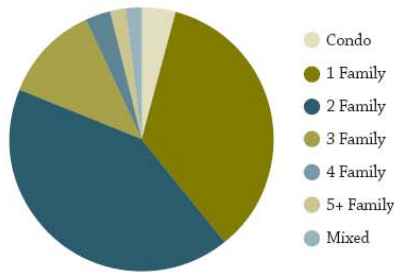
legislative reactions to the foreclosure crisis have focused on owner-occupants living in single-family homes, but the data reveal that, at least in New York City, there are many renters at risk. We need to craft responses that meet the needs of all those affected.”

Nearly 11,000 of the 15,000 renter households living in buildings that entered foreclosure in 2007 reside in Brooklyn and Queens, with Brooklyn home to the largest share—about 7,200. Two community districts in Brooklyn, Bedford Stuyvesant and

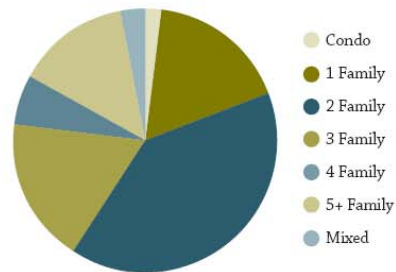
East New York, are each home to more than 1,000 renter households facing foreclosure.

“The recent scale of foreclosure filings is staggering,” commented Ingrid Gould Ellen, co-director of the Furman Center. “Citywide foreclosures doubled between 2004 and 2007, with the highest rates of increase seen in 2 and 3 family buildings. If foreclosed multi-family properties are being bought by speculators, reverting to banks, or sitting vacant, we may lose a significant share of our stock of decent, affordable rentals.”

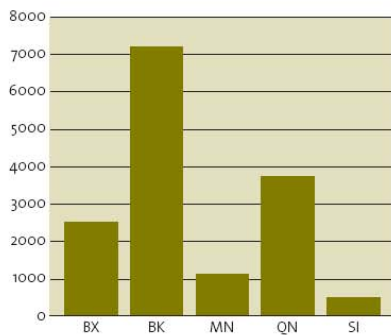
**Breakdown of Properties that Entered Foreclosure in 2007**



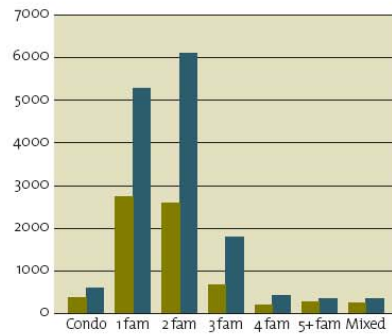
**Breakdown of Total Units in Properties that Entered Foreclosure in 2007**



**Renter Households Living in Buildings that Entered Foreclosure in 2007**



**Foreclosure Filings by Building Type, 2004–2007**



**20 Community Districts with the Most Households Living in Buildings that Entered Foreclosure in 2007**

<i>Rank</i>	<i>CD Name</i>	<i>Borough</i>	<i>Total Households Facing Foreclosure</i>	<i>Renter Households in Buildings in Foreclosure</i>
1	Jamaica/Hollis	Queens	2,852	919
2	Bedford Stuyvesant	Brooklyn	2,411	1,511
3	East New York/Starrett City	Brooklyn	2,107	1,155
4	Queens Village	Queens	1,517	395
5	Flatlands/Canarsie	Brooklyn	1,342	538
6	Bushwick	Brooklyn	1,269	820
7	East Flatbush	Brooklyn	1,187	596
8	Williamsbridge/Baychester	Bronx	1,043	488
9	Parkchester/Soundview	Bronx	1,025	708
10	Kew Gardens/Woodhaven	Queens	1,009	434
11	Brownsville	Brooklyn	962	580
12	St. George/Stapleton	Staten Island	931	308
13	Rockaway/Broad Channel	Queens	922	453
14	S. Ozone Park/Howard Beach	Queens	899	294
15	Crown Heights	Brooklyn	812	529
16	Jackson Heights	Queens	694	319
17	Washington Heights/Inwood	Manhattan	607	594
18	Tottenville/Great Kills	Staten Island	480	90
19	South Crown Heights/Prospect	Brooklyn	423	206
20	Ridgewood/Maspeth	Queens	418	234
<b>Borough Totals</b>				
1	Brooklyn		12,795	7,175
2	Queens		9,933	3,723
3	Bronx		4,188	2,483
4	Staten Island		1,785	488
5	Manhattan		1,334	1,111
<b>New York City Total</b>			<b>30,035</b>	<b>14,980</b>

**For more information, contact Amy Armstrong at 212-998-6697, or [armstrong@juris.law.nyu.edu](mailto:armstrong@juris.law.nyu.edu).**

**THE FURMAN CENTER FOR REAL ESTATE AND URBAN POLICY** is a joint initiative of the New York University School of Law and the Robert F. Wagner Graduate School of Public Service at NYU. Since its founding in 1995, the Furman Center has become the leading academic research center in New York City devoted to the public policy aspects of land use, real estate, and housing development. The Furman Center is dedicated to providing objective academic and empirical research on the legal and public policy issues involving land use, real estate, housing and urban affairs in the United States, with a particular focus on New York City. More information about the Furman Center can be found at <http://furmancenter.nyu.edu>.