

***The Effects of Foreclosure on
Children and Schools:
A NNIP Cross Site Study***

***Baltimore Analysis Plan and
Data Diagnostic Memo***

**Prepared by the Baltimore Neighborhood Indicators Alliance
University of Baltimore, Jacob France Center
for The Urban Institute**

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This is a planning document prepared for a project funded by the Foundation for Open Society that will examine the effects of foreclosures on public school children in three cities (Baltimore, New York, and Washington, D.C.). The working products are being made available as a resource for organizations who are interested in doing similar analysis for other cities.

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For more information about the overall project, see <http://www2.urban.org/nnip/foreclosures.html> or contact the project coordinators: Kathy Pettit (kpettit@urban.org) and Jenn Comey (jcomey@urban.org)

Foreclosure and Public School Students

Baltimore City Analysis Plan for Phase I and II

Baltimore City's Housing Market and Foreclosure Trends

Housing Market

According to the U.S. Census Bureau, Baltimore City, Maryland has 294,319 housing units. Nearly 40% of these structures were built prior to 1939 with approximately 10,000 housing units being constructed after 2000. Fifty three percent (53%) of the housing units are single attached housing (row houses and townhomes), 18% are mid-sized housing units of two to nine units, 15% are 10 or more units per structure, and 13% is single detached housing. Roughly half of the housing stock is rental housing (49%) with a median rent of \$822 per month and 45% of rental households pay more than 35% of their household income as rent. For owner-occupied units, the median mortgage cost per month is \$1,362 with 33% of households paying more than 35% of their income for housing costs. The rental vacancy rate is 10% and the homeowner vacancy rate is 5%.¹

Baltimore City's housing market went through a boom starting in 2002 with a peak occurring in 2005, but began to decline starting in 2007. The median sales price of homes sold more than doubled increasing by 138% from 2000 to 2008. Within the City's neighborhoods, many experienced increases in sales prices over 200% over the same time period.² From 2000 to 2008, nearly 8,000 new units were constructed with a majority of these being located in the Baltimore Inner Harbor area from Federal Hill to Fells Point and Canton.³

The national economic and housing market downturn has affected Baltimore City. The City's housing market experienced significant decline from 2007 through 2009 with the number of homes sold decreasing and days on the market increasing. While the median prices of homes sold increased slightly (3%), the number of homes sold decreased by 54%. Several neighborhoods such as Upton, Perkins, and Downtown experienced declines in home sales prices over 15% from 2007 to 2008. In 2009, we continue to see a lower number of homes sold, prices being slightly lower or stable, and days on market increasing.⁴

Foreclosure Trends

Foreclosure is the legal and professional proceeding in which a mortgagee, or other lien holder, usually a lender, obtains a termination of a mortgagor's equitable right of redemption. In other words, if you default or fail to pay the loan according to the terms in a loan, the lender has the right to foreclose on the property in question. In the State of Maryland, lenders must go to court to file a foreclosure complaint along with a lis pendens, a recorded document that provides public notice that the property is being foreclosed upon. There is also a non-judicial process in Maryland, but this process also requires court approval.

¹ All data are from the 2008 American Community Survey.

² All figures are not adjusted for inflation.

³ All data about the housing market are from *Vital Signs*. *Vital Signs* is both a database and publication of comprehensive outcome indicators for Baltimore City's neighborhoods. (<http://www.ubalt.edu/bnia/indicators/reports.html>)

⁴ All data about the housing market are from *Vital Signs*.

Before a foreclosure is filed, the borrower and property owner should have received notice from the lender that the mortgage is in default under the terms of the loan. Many, but not all mortgages allow for the property owner to remedy the default before filing for foreclosure. In order for a foreclosure to be filed, the lender must:

- Wait 90 days from the day the loan is in default; and
- Send a Notice of Intent to Foreclose (NOI) 45 days prior to a foreclosure case is filed.

If the property remains in default, the lender must file several documents with the Circuit Court in the jurisdiction where the property is located. These documents include a statement of debt, certification that the property owner is not in the military service, a statement of default, a copy of the NOI, a copy of the mortgage or deed of trust, and several other documents. The lender must also serve the property owner with all of the papers filed with the court.

Before a foreclosure sale can occur, there are several steps that a lender must follow. These steps include:

- Waiting 45 days from the time the property owner was served with the court documents;
- A notice of sale must be published for three successive weeks in a newspaper with general circulation in the county where the action is pending;
- A notice of the date of sale must be sent to the property owner by certified and first class mail at least 10 days prior to the sale date; and
- Accept payment of funds due to cure the default.

During this time that a property is in default, several outcomes can take place. These include:

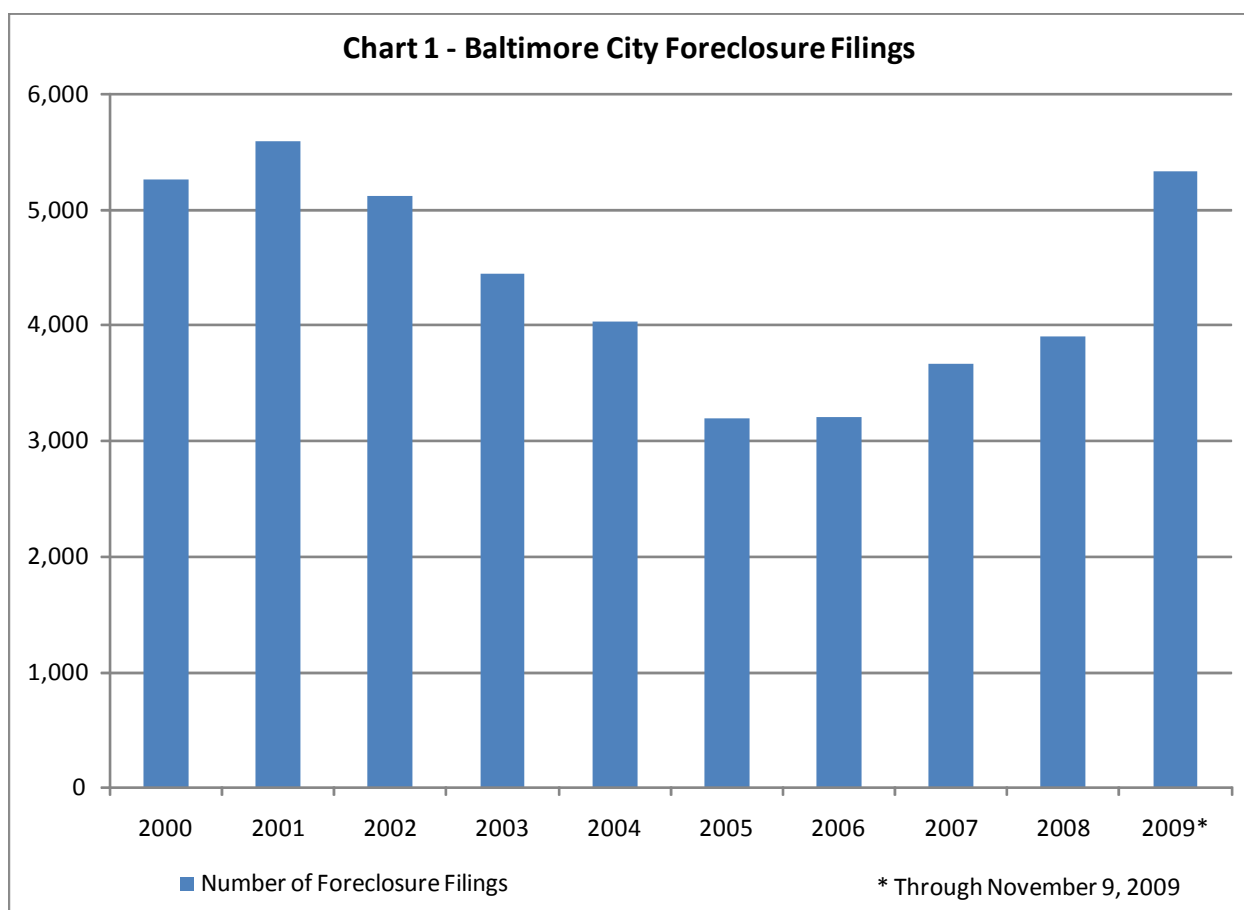
- Curing (the right to fix/the right to pay the amount of mortgage in default plus any penalties and fees) the default on the property by the owner;
- The owner may come to an agreement with the lender through negotiating a forbearance agreement or a loan modification, the property owner can refinance the property;
- The property can be sold to recover proceeds to satisfy the debt obligation; and
- A lender might accept a deed in lieu of foreclosure, or the property might go through a foreclosure sale which is accomplished through a trustee's deed sale.

The estimates as to the length of the foreclosure process in Baltimore City ranges from 46 days to over 100 days. It is important to note though that this is the process of foreclosing upon a property. The length of time that a property owner may be in default on the mortgage is not included in this period of time and may be well over the required 90 days of default.

In the early part of the decade, Baltimore City was experiencing a large number of property foreclosures. From 2000 to 2003, there were over 5,000 foreclosure filings each year in Baltimore City. This number decreased from 2003 to 2006, but has risen dramatically since then (see Chart 1). From 2005 until early November of 2009, the number of foreclosure filings

has increased by 67%. There were over 5,700 foreclosure filings in Baltimore City in 2009 (as of December 2, 2009).⁵

While there are foreclosures across all of Baltimore City, there is variation among neighborhoods. From 2005 to 2008, many neighborhoods experienced an increase in the percentage of properties with a foreclosure filing. Neighborhoods such as Washington Village, South Baltimore, Reservoir Hill, Federal Hill, Howard Park, Downtown, and Canton have an increase of more than 150%. Many of these neighborhoods are recognized as being areas that have either experienced gentrification or are considered to be residential hot spots, such as Canton, Fells Point, and Patterson Park. The neighborhoods with the greatest percentage increase in foreclosure filings are listed in Table 1. Other neighborhoods such as Allendale, Greater Mondawmin, Mount Washington, and Guilford have experienced declines in the number of foreclosure filings.

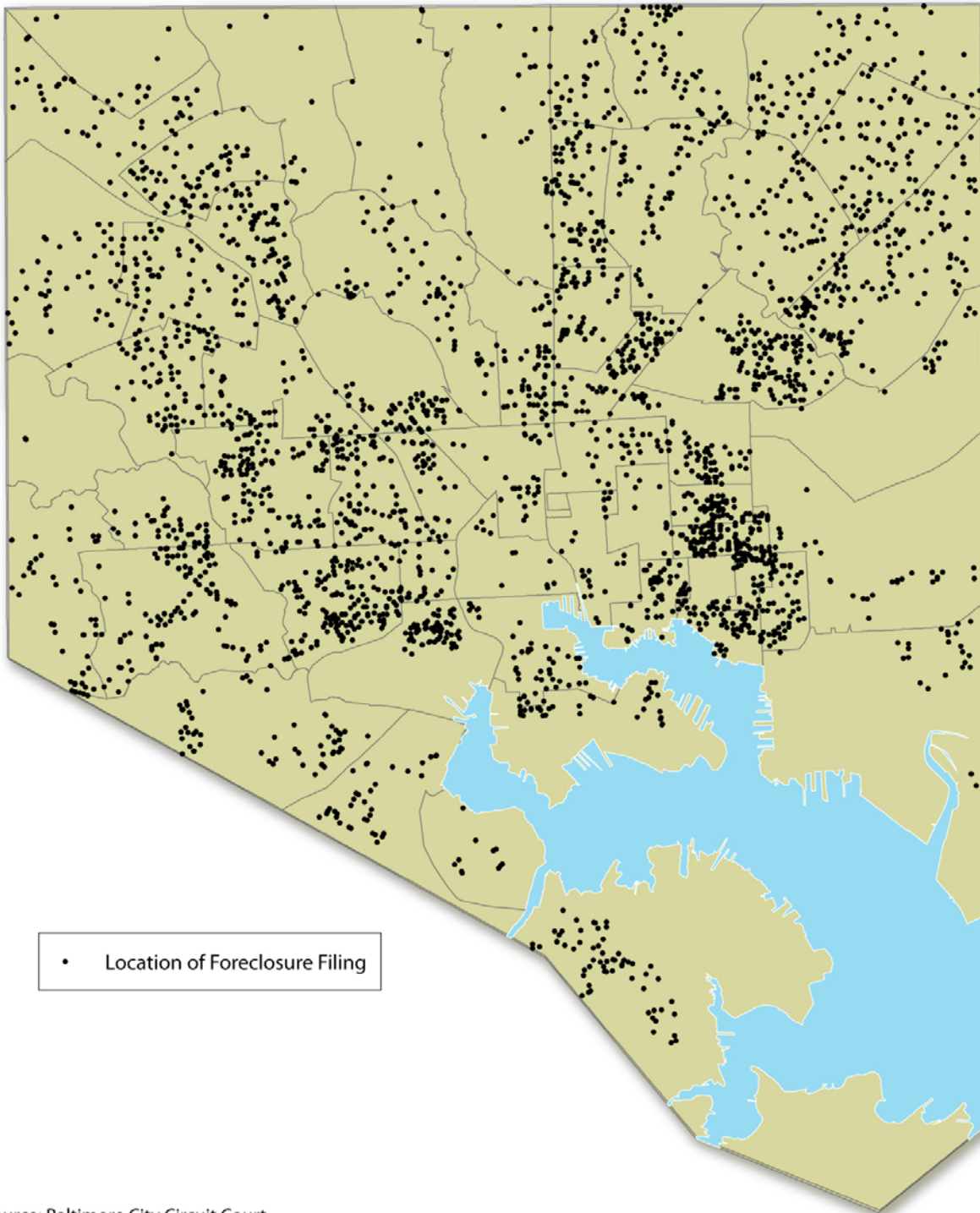


⁵ <http://www.ubalt.edu/bnia/maps.cfm>

Table 1			
Top 10 CSAs with Greatest Increases			
in Foreclosure Filings, 2005 - 2008*			
			Percent
		Change	Increase
Inner Harbor/Federal Hill		70	636%
Downtown/Seton Hill		14	350%
Highlandtown		67	291%
Canton		50	238%
Jonestown/Oldtown		24	200%
Fells Point		40	190%
South Baltimore		27	180%
Washington Village		61	179%
Poppleton/The Terraces		23	177%
Penn North/Reservoir Hill		58	141%
Source: Baltimore City Circuit Court			
* CSA - Community Statistical Area			

Map 1:

Baltimore City Foreclosures January 1 - November 2, 2009



Source: Baltimore City Circuit Court
Created by BNIA-JFI, 2009

Student Mobility

It is important to note that families and students move and it is known that urban and less affluent families and children are more likely to change address more frequently than suburban and more affluent households. Beyond mobility of families, it is also important to understand children moving between schools. Both types of movements can affect student performance, school conditions, and neighborhood stability.

There has been no in-depth analysis of the mobility of Baltimore City public school students. The only mobility study has been conducted by the Maryland State Department of Education which defined a school's mobility rate as the percent of students that enter or withdraw during the school year after the first day of school.⁶ This analysis found that the student mobility rates were higher for Baltimore City public school students than the State average from 2002 to 2007. Over this time period, the student mobility rate for Baltimore City Public School System students in grades 1-5 averaged 43%, students in grades 6-8 averaged 50%, and students in grades 9-12 averaged 53%. This seems to indicate that as students grow older they move more frequently but we do not have reasons as to why these students have such high mobility rates. Possible explanations include different catchment rules for different school grades, different numbers of schools (fewer high schools than middle schools, and fewer middle schools than elementary schools), and different household composition and stability issues. The average rate for the State was 25% for students in grades 1-5, 25% for students in grades 6-8, and 25% for students in grades 9-12.

It is a goal for this research to provide additional information as to the mobility of Baltimore City public school students both in terms of their residential mobility, school mobility, and the extent to which foreclosures affect their mobility.

The following sections of the memo describe the research questions and analysis plans for Phase I and II of the study.

Phase I

Research Questions

The research questions that will be answered in Phase I of this project are:

- How many public school children are affected by the foreclosure crisis in Baltimore City? Has this number changed over 2003-2004 to 2006-2007 school years?⁷
- What are the social and demographic characteristics of the school children being affected by foreclosure (race, gender, age, grade, special education, free/reduced price lunch)? Has this changed over time?
- Where do the children affected by foreclosure live? Are they clustered in specific neighborhoods? Has this changed over time?
- Are the students affected by foreclosure clustered in particular schools?

⁶ http://www.baltimorekidsdata.org/charts/CCS_MobBCMD.pdf

⁷ If time and resources are available, we will examine the 2007-2008 and 2008-2009 school years.

Analytic Work

Data Sets

In order to answer the Phase I research questions, BNIA-JFI will use the following data sets about public school students and foreclosures.

Public School Student Data

The student data were provided by the Baltimore City Public School System (BCPSS). Student data provided to BNIA-JFI includes the following information:

- Student file – student identification number, student home address, school number/name, grade level, gender, special education designation, race, days attended/absent, and free/reduced lunch qualification.
- Testing file – student number, gender, race, grade, testing scores for both HSA (High School Assessment exam) and MSA (Maryland School Assessment exam);
 - The MSA exam data is available for students in grades 3rd, 5th, 8th, and 10th from 2003 to the most recent year. The MSA was no longer given to 10th graders after 2005.
 - The HSA exam data is available for high school students' after 2005.
- Suspension and expulsion file – student number, number of days removed.

The student testing and suspension/expulsion files are provided to BNIA-JFI each December for the previous school year and the data are pulled from the end of the school year (July 31). The student addresses for each school year are inputted during registration period (typically in August at the start of the school year). However, if the student submits a change of address, the address field is updated throughout the school year. While this information provides the most current address, this address may have been entered at any time during the school year, and the date of change is not available on the database. If the address is changed during the school year, the previous address is deleted. However, from discussions with BCPSS, we believe that the majority of student addresses are from the time of registration, which is the beginning of the school year (August), and few addresses are updated through the school year.

BNIA-JFI will link each of the files provided by BCPSS by student number for each year. Since the student number is a unique identifier that follows the student throughout their entire school years and remains the same even if they leave the jurisdiction or move, BNIA-JFI will link all of the school years by student number to create a longitudinal data set that includes all information needed for this analysis. This will allow us to track both student mobility and changes in student performance over time.

Foreclosure Data

BNIA-JFI currently tracks foreclosure filings and ratified sales (currently only post April 2008) in Baltimore City. For this analysis, we will use the foreclosure filings from the Baltimore City Circuit Court, the Maryland Land Record Database (<http://www.mdlandrec.net>), and the Maryland Property View Database (Maryland Department of Planning) to assist BNIA-JFI in identifying properties in foreclosure, and to determine the type of property. Depending on

time and resources, BNIA-JFI may also attempt to establish outcomes for properties that receive a foreclosure filing by tracking sales and transfers of ownership.

By merging these data sets, BNIA-JFI will create unduplicated foreclosure notices and potentially outcomes for the following structure types (limited to residential properties) using the foreclosure filing case number:

- Residential, single-family home (owner-occupied or rental);
- Residential, apartment (buildings with more than five housing units, rental); ;
- Residential, multi-family dwelling (buildings with five or fewer housing units, either owner occupied or rental);
- Residential, condominium (owner occupied).

BNIA-JFI currently does not identify an outcome for foreclosure events but tracks all foreclosure filings that occur in Baltimore City. If there is sufficient time and resources, BNIA-JFI may attempt to link foreclosure filings to outcome dispositions. If BNIA-JFI were to link filings to outcomes, BNIA-JFI staff will work with the Community Law Center⁸ to define and identify foreclosure outcome dispositions. While we currently do not have established outcomes, we have identified several potential outcomes for foreclosure events. These include:

- In foreclosure
- Property sold (short sale)
- Property sold (REO)
- Property sold (arms-length sale)
- Other transfer
- No sale

The time that property owners take moving through the foreclosure process varies widely and changes made to the foreclosure regulations in the State of Maryland in April 2008 also impacted the length of the foreclosure process. Estimates range from 45 days to over 100 days. These estimates are from RealtyTrac, Foreclosurelaw, and the Maryland State Bar Association. Due to the changes to both Maryland regulations and the foreclosure crisis, we believe that setting the end of the foreclosure process at one year after the filing date captures most of the owners that have either escaped foreclosure or have been foreclosed upon.

BNIA-JFI will face the following challenges in developing foreclosure outcomes:

- Challenges to constructing and identifying an outcome disposition for filings;
- The foreclosure process can vary in the length of time between filing and final outcome. To address this problem, we will assume an outcome of “no sale” after one year from the filing date.

⁸ The Community Law Center is Baltimore's only legal services organization dedicated solely to strengthening neighborhoods. Their mission is to provide legal services and technical assistance to improve the quality of life and economic viability of communities.

- There is inconsistency in both the data sets and timing of property information as recorded by the Maryland Land Record Database and Maryland Property View. It is possible that not all properties with a foreclosure filing will have an identified actual outcome.

Merged Student and Foreclosure Dataset

In order to answer the research questions for Phase I, BNIA-JFI will match the foreclosure data to the student-level data following the steps listed below. A school year is defined from August 1 to July 31 the following year.

- 1) BNIA-JFI will match the foreclosure data to the student data by address. This will create a new student-level data set with corresponding information about whether the property has received a foreclosure filing. However, this is not sufficient to determine whether the student lived in the address during the foreclosure process.
- 2) To determine if the student lived in the property during the foreclosure period, we will flag the student as living in the foreclosed property using two sets of criterion:

Scenario 1 – Conservative Window (Figure 1A) – This scenario will set a limited time window for the first notice of foreclosure for students who moved between school years. Students who moved and have initial addresses that match properties with a notice of foreclosure whose date falls outside the time window will be excluded from the total count of affected students in this more conservative scenario.

- For students who did not report a new address for the following school year, we will assume they lived in the property the entire time. Thus, BNIA-JFI will identify a student as affected by foreclosure if their home received a foreclosure filing anytime during the school year.
- For students who did report a new address for the following school year, we cannot be sure of the exact date when the student moved. Thus, BNIA-JFI will identify a student as affected by foreclosure in the school year only if their home received a foreclosure filing between August 1 and December 15. We are limiting the window to approximately 135 days because that this is the shortest amount of time a lender can file a foreclosure notice (90 days for the family to be in default on their mortgage plus 45 days for the lender to send a Notice of Intent to Foreclose).

Scenario 2 – Wider Window (Figure 1B) – This scenario will set the time window for the first notice of foreclosure to the entire school year for any student, even if the student moves between school years. Students in addresses that match properties with a notice of foreclosure will be included in the total count of affected students, no matter when the notice is received in the school year.

- For students who did not report a new address for the following school year, BNIA-JFI will identify a student as affected by foreclosure in the school year if their home received a foreclosure filing during the entire school year (same as the first scenario); and

- For students who did report a new address for the following school year, BNIA-JFI will identify a student as affected by foreclosure in the school year if their home received a foreclosure filing during the entire school year (as opposed to the restricted time window in Scenario 1).

There are several limitations to this methodology and data. These limitations include:

- The student address could have been reported at any time during the school year and may or may not be where the student resided during the filing of foreclosure on a property. However, by identifying the students that lived at the same property between two years, we feel that we can confidently identify those students affected by foreclosure. The challenge is for students who did not live at the property between the two years. For those students, we believe applying a conservative and wider set of criterion and comparing the number of students affected will allow us to determine the possible range in the number of students who lived at a property during the foreclosure process. We believe the methodologies described are both conservative and reliable in order to understand the scope of the foreclosure problem.
- Students are required to provide proof that they have changed addresses but not all students provide change of address information to the Baltimore City Public Schools. As a result, students affected by foreclosure could be either over counted or undercounted since correct address information may not be available. We intend to ask our education stakeholders how they believe our methodology and results best represent the students affected.
- Finally, this methodology does not take into account the children that are affected during the period prior to a foreclosure filing in which the family is experiencing extreme financial pressures.

Figure 1A: BNIA-JFI Conservative Window for Identifying Children Facing Foreclosure																	
Date of Notice																	
	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	
Child at same address between SY 2006/2007 and SY 2007/2008	Address for SY 06/07												Address for SY 07/08	Counted in next school year			
Child NOT at same address between SY 2006/2007 and SY 2007/2008	Address for SY 06/07				ANY FILING at 06/07 address between 8/1/06 and 12/15/06 will count									Address for SY 07/08	Counted in next school year		
If a first notice is issued during the shaded window, we will assume the student's family has experienced a foreclosure in given school year.																	
*Even though the address is reported from the database as of 7/31/2007, school officials think that addresses are unlikely to be updated over the school year from the initial register and are more confident that the address reflects the early part of the year.																	
Figure 1B: BNIA-JFI Wider Window for Identifying Children Facing Foreclosure																	
Date of Notice																	
	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07
Child at same address between SY 2006/2007 and SY 2007/2008	Counted in previous school year			Address for SY 06/07										Addresses for SY 07/08 (Counted in next school year)			
Child NOT at same address between SY 2006/2007 and SY 2007/2008	Counted in previous school year			Address for SY 06/07										Addresses for SY 07/08 (Counted in next school year)			
If a first notice is issued during the shaded window, we will assume the student's family has experienced a foreclosure in given school year.																	

Analysis Plan

We will undertake the following plan in analyzing the results of Phase I:⁹

Analyze the basic descriptions of the public school students affected by foreclosure.

- Number/share of public school students affected by foreclosures for school years 2003-2004 through 2007-2008
 - Possible analysis of foreclosure outcomes
 - Identify trends
- Characteristics of affected students
 - Race, gender, grade, free/reduced priced lunch, special education, renter or owner occupied housing
 - Identify trends
 - Identify differences across foreclosure outcomes, if there is time/resources
 - Compare characteristics of students who received foreclosure filings and non-foreclosure filing students
- Geographic/neighborhood analysis of affected students
 - Identify trends
 - Identify differences across foreclosure outcomes, if time/resources allow
 - Compare characteristics by neighborhood (race, renter or owner occupied housing)
- School analysis of affected students
 - Are students concentrated in specific schools
 - If students are concentrated in specific schools, what are the characteristics of these schools
 - Examine if there are differences in types of schools (zoned, charter, choice – Title 1, other)
 - Identify trends
 - Are there differences across foreclosure outcomes, if time/resources allow

Phase II

Research Questions

The research questions that will be answered in Phase II of this project are:

- Did the students affected by foreclosure change schools post foreclosure filing?
- Did the students affected by foreclosure move from their original property post foreclosure filing?
- Did the students affected by foreclosure and then moved remain in their same neighborhood post foreclosure filing?

⁹ The analysis for Phase 1 will be completed for school years 2003-2004 and 2007-2008. If time permits, the analysis will also be conducted for the school years 2004-2005 through 2006-2007.

- What neighborhoods did foreclosed students move to post foreclosure? What were the characteristics of these neighborhoods? How did they differ from their original pre-foreclosure neighborhood?
- What schools did foreclosed students enroll in post foreclosure filing? What are the characteristics of these schools? How did they differ from their previous school?
- Does the student test performance, attendance, or suspensions/expulsions of children affected by foreclosure change?

Analytic Work

Data Sets

In order to answer the Phase II research questions, we will use the following data sets about public school students, foreclosures, neighborhood, and school characteristics.

Public School Student Data

We are using the same student level data as described in Phase I.

Foreclosure Data

We will be using the same foreclosure data as described in Phase I.

Neighborhood Characteristics Data

We will use data compiled in BNIA-JFI's *Vital Signs* database to characterize the neighborhoods where students lived. We have both local administrative data, Census, and other data sets compiled at the Community Statistical Area (CSA) level over time. Some of the data in *Vital Signs* includes adult and juvenile crime, home sales and value, health data, sanitation data, and other data.

School Characteristics Data

To characterize the schools that students attend pre- and post-foreclosure, we will use available Maryland State Department of Education and Baltimore City Public School System data provided for each public school. This data will include the demographics of the school and location of the school (this will allow for distance from home to school to be calculated), and average test scores.

Merged Dataset

In order to answer the Phase II research questions, BNIA-JFI will use the same merged dataset as in Phase I. In addition, BNIA-JFI will take the CSA of the students and schools (pre- and post-foreclosure) and merge on the neighborhood and school characteristics data.

Analysis Plan

Relying on the longitudinal matched data set with foreclosure outcomes and student records, we will undertake the following plan in analyzing the results of Phase II:¹⁰

¹⁰ There are several challenges to this analysis including that this analysis will only capture students that remain within the public school system in Baltimore City, that over this time period several public schools have closed, and

- Create comparison groups
 - Foreclosed students who move post filing
 - Foreclosed student who do not move within one year after foreclosure filing (either owners that have presumably resolved their foreclosure, or renters that remained in the property despite change in owners).
 - Non-foreclosed students who move post filing
 - Non-foreclosed students who do not move between school years
- Analyze students
 - Compare the groups by demographics, foreclosure outcome, renter and owner-occupied, and neighborhood
 - Identify trends
- Analyze neighborhoods
 - Compare poverty levels, crime rates (both adult and juvenile), housing conditions (median sales price, rates of foreclosure), health outcomes
 - Identify trends

Stakeholders

Analysis Plan Review

We have identified and informed a number of City agency officials, foundation, and non-profit individuals of our analysis plan. We will periodically consult with these persons to keep them abreast of our findings. These individuals include:

- Stephen Plank – Baltimore Education Research Consortium, Johns Hopkins University;
- Sally Scott – Baltimore Homeownership Preservation Coalition;
- Robert Strupp – Community Law Center
- Benjamin Feldman – Baltimore City Public School System
- Treva Stack – Jacob France Institute, University of Baltimore

Stakeholder Review

We have already identified several individuals to participate in the review of the findings from Phase I and II. These individuals include:

- Stephen Plank – Baltimore Education Research Consortium, Johns Hopkins University;
- Lillian “Beadsie” Woo – Annie E. Casey Foundation;
- Rafael Lopez – The Family League of Baltimore City, Inc. (Baltimore City Data Collaborative);
- Steve Janes – Baltimore City Department of Housing and Community Development;
- Sally Scott – Baltimore Homeownership Preservation Coalition;
- Robert Strupp – Community Law Center
- Benjamin Feldman – Baltimore City Public School System

students who reach the final grade in a school are required to switch schools. The analysis will seek to provide an analysis of students that could not be matched and/or switch schools due to natural progression of grade.

In addition to reviewing the findings, these individuals will assist in identifying policy implications.

Data Approval

BNIA-JFI has approval from the Baltimore City Public School System to use their student-level data to be used for inclusion in *Vital Signs* and other analyses. We are currently working with the Baltimore City Public School System to receive approval for the use of the data specifically for use in the OSI study. In addition, BNIA-JFI has submitted an application for approval for research involving human subjects to the University of Baltimore's Institutional Review Board (IRB) and has received approval to conduct this analysis.

Foreclosure and Public School Students

Baltimore City Data Diagnostic Memo

School Data

The school dataset to be used for this analysis consists of student-level enrollment data obtained from the Baltimore City Public School System (BCPSS). These files are for the school years starting in the 2003-2004 school year and tracked currently through the 2007-2008 school year. Data at the student level is provided in two separate files: an enrollment file and an address file.

- 1) The enrollment file contains general information (i.e. race/ethnicity, grade level, entrance/withdrawal dates, school attended, student identification number, and free/reduced lunch). Data are as of the end of the school year (July 31).
- 2) The address file contains the mailing address listed for the given student as of the end of the school year and the student identification number.

Individual student records are often duplicated due to timing of entrance, student transfer, student withdraw, and human error. Cases of duplicated records are removed leaving only one data entry for each student ID number. Other files obtained from BCPSS, such as Maryland State Assessment test scores, expulsions, and suspensions can also be joined to the student level data allowing for analysis of student success for a given school year.

In order to geocode individual records of enrolled students, the two files were merged based on the unique student id code provided in each file. After merging the enrollment and address files together, the single file of student records was geocoded based on each students mailing address. In the geocoding process, unit numbers are removed from each student address, meaning that students who live in different units of multifamily buildings (either rental or condominium) are assigned the same location representing a single property. We accomplished this through the industry standard ESRI product (ArcGIS) using an address locator provided by ESRI. Addresses were assigned a geographic location (latitude and longitude) by the address locator for addresses found only within the Baltimore City limits and projected into ArcGIS (Maryland State Plane Coordinate System, North American Datum 1983). Any addresses not geocoded, within the City boundaries, were removed from the analysis. Geocoding rates were consistent across the school years analyzed with failures to geocode addresses resulting from addresses found outside of the city limits, mistyped, or otherwise unable to be geocoded, or the student record contained no mailing address in the BCPSS file. The table below shows the final number of students and geocoded success rates for each school year being tracked.

Table 1					
Baltimore City Public School System Student Data					
	SY 2003-2004	SY 2004-2005	SY 2005-2006	SY 2006-2007	SY 2007-2008
Total Students	81,323	97,907	94,549	92,135	90,488
Number Geocoded	79,522	95,553	92,356	90,174	88,524
Match Rate	98.0%	98.0%	98.0%	98.0%	98.0%
Number of students reporting no address	1,196	1,243	982	1,673	744
Percentage of students reporting no address	1.5%	1.3%	1.0%	1.8%	0.8%

Foreclosure Data

We currently use publicly available data from the Maryland Judiciary Case Search System (<http://casesearch.courts.state.md.us/inquiry/inquiry-index.jsp>) and the Baltimore City Court System. The Maryland Judiciary Case Search System contains all dockets for each case that enters mortgage foreclosure each year. Docket information contains all proceedings that occur during the time of the case including date of notice, address of foreclosure, amount of foreclosure, and all defendants and bonding agents. Data is updated by the Court system weekly and are updated in BNIA-JFI's database accordingly. The dataset contains date of filing, amount of filing, case number, and case title. The Baltimore City Court System also supplies foreclosure cases each quarter with information regarding date of filing, case number, case title, and the balance of the mortgage. The two files are then joined in order to ensure that all foreclosure filings are captured for the giving year.

On April 3, 2008 Maryland passed and put into effect, Senate Bill 218 and its companion bill House Bill 361 on an emergency basis. The law regulates Foreclosure Consultants, Foreclosure Purchasers and Foreclosure Reconveyance. This ruling changed the foreclosure process in the State of Maryland in 2008 by lengthening the time before and after a foreclosure notice is filed. This change affected the number of foreclosures in the 2007-2008 school year. (http://mlis.state.md.us/2008rs/chapters_noln/Ch_6_hb0361T.pdf)

In order to provide property specific information not contained within the foreclosure file, BNIA-JFI matched the foreclosure data to the Maryland Property View database. This database, updated annually, provides information on the type of property (i.e. condominium, apartment, etc.), owner name, sales history, and if the property is owner-occupied or renter-occupied. By merging this file with the final foreclosure file, we can determine what type of property was under foreclosure and if the unit was owner-occupied or renter-occupied.

Depending on time and resources, we may attempt to assign foreclosure outcomes to those properties that received foreclosure notices. In our analysis, each filing for a foreclosure would have some outcome associated with it as well as the date of that outcome. Outcomes can range from dismissal by plaintiff, actual foreclosure and sale of property, and cases that are still classified open but were assigned an end date 365 days from the filing date. All properties under foreclosure currently have the date of the actual filing. However, outcomes for every filing are not available yet. Depending on our schedule, we may attempt to determine

outcomes for foreclosures for each year tracked by using Maryland Land records (<http://www.mdlandrec.net/msa/stagser/s1700/s1741/cfm/index.cfm?CFID=30288567&CFTOKEN=86699624>). The total number of foreclosure filings in Baltimore City can be found in the table below.

Table 2							
Baltimore City Foreclosure Filings, 2003-2009							
	2003	2004	2005	2006	2007	2008	2009*
Foreclosures	4,446	4,032	3,190	3,213	3,671	3,909	5,369
Match Rate	98.0%	97.0%	98.0%	97.0%	98.0%	99.0%	99.0%
*Data current through November 9. Match rate for this year is preliminary as not all data has been collected.							

Matching Students to Residential Addresses in Foreclosure

Matching foreclosure records to students in the final school file is done by connecting the address listed in the foreclosure filing to the mailing address provided for each student during a school year. The total number of students with geocoded addresses exceeds the number of geocoded properties for two reasons. First, there may be multiple students living together in one home, such as siblings or extended family. Second, because our geocoding process does not identify unit numbers, there may be multiple students living in one multifamily building (either rental or owner).

The table below shows the total number of geocoded students, the number of geocoded properties containing students, and the number of all residential properties in Baltimore City for comparison.

Table 3					
Comparison of Student Addresses and Properties					
	SY 2003-2004	SY 2004-2005	SY 2005-2006	SY 2006-2007	SY 2007-2008
Total Number of Students	81,324	97,907	97,661	92,135	90,488
Number of Students with Geocoded Addresses	79,522	95,553	92,356	90,174	88,524
Number of Geocoded Properties with Students	27,528	37,901	36,875	36,008	35,062
Number of Residential Properties in Baltimore City	198,497	198,701	197,375	205,911	205,938

Student addresses for each school year are entered in August when students register for school. We have defined each school year as being from August 1st – July 31st. To provide an initial sense of the number of children affected by foreclosure in Baltimore City for purposes of this data memo, we have estimated the total number of students impacted by foreclosures by multiplying the total number of foreclosures in a school year with a student address by the ratio of number of geocoded students to number of geocoded student parcels (Table 4). This ratio is used to estimate how many students are associated with each parcel. The table below shows

total number of foreclosures and estimated number of students affected by a foreclosure for each school year using this rough methodology. Through the research conducted in Phase I and Phase II of this project, we will refine this process and report a more precise range for the number of children in public school that are affected by foreclosures.

Table 4					
Estimate of the Number of Students Affected by Foreclosure in Baltimore City					
	SY 2003-2004	SY 2004-2005	SY 2005-2006	SY 2006-2007	SY 2007-2008
Total Number of Foreclosures during the SY	4,238	3,459	3,111	3,645	3,832
Total Number of Foreclosure at a Student address in a SY	660	507	865	964	908
Estimate of Total Students Affected by Foreclosure	1,907	1,278	2,166	2,414	2,342

Note: BCPSS began using a new student record system in the 2003-2004 school year. The potential under-reporting of students that first year can be attributed to adjusting to this new system. Data for the most current school year (2008-2009) has not been completed.

From the 2003-2004 to 2007-2008 school years, it is estimated that approximately 1,800 Baltimore City Public School System students were affected by foreclosure. Since the 2008 change in foreclosure regulation temporarily decreased the number of filings and that filings have accelerated in 2009, we believe that the number of children affected will be much greater in the 2008-2009 school year.

This preliminary analysis potentially overstates the number of children affected that live in condominiums. As part of the analysis, we will work to reduce this source of error by matching housing unit type to the student address allowing only students who live in a condo unit that has a foreclosure filing to be captured as part of the analysis. We also believe that the overstating of the number of students affected is low due to the facts that only **5%** of the properties in Baltimore City are condominiums.