

An Evaluation of the City of Rochester's Lead Law: 2006-2008

November, 2008

Prepared for:
Greater Rochester Health Foundation
Sarah Boyce, MSPH
Rochelle Ruffer, PhD
Maria Ayoob, MPH, CPH
Project Directors

1 South Washington Street
Suite 400
Rochester, NY 14614
585.325.6360

100 State Street
Suite 330
Albany, NY 12207
518.432.9428

www.cgr.org

An Evaluation of the City of Rochester's Lead Law 2006-2008

November, 2008

SUMMARY

Children with lead poisoning face decreased IQ levels and a higher likelihood of learning disabilities, behavioral problems, juvenile delinquency and higher high school dropout rates. In 2006, nearly four percent of all 14,561 children under age 6 who were tested in Monroe County had blood lead levels of 10 µg/dL or higher, the Centers for Disease Control and Prevention's "level of concern." This represented 571 children countywide, most of whom lived in the City of Rochester. The number of children with lead poisoning has declined in recent years, but still hundreds of children in our community are newly poisoned each year, with devastating impacts on their health, behavior, and ability to learn.

The City of Rochester adopted a local "Lead Based Paint Poisoning Prevention" law, which took effect July 1, 2006, and requires inspections for lead paint hazards as part of the City's existing housing inspection process. This evaluation covers the period from July 1, 2006 through June 30, 2008.

The main objectives of this evaluation of the new city ordinance are (1) to inform City Council of the law's impact; (2) to monitor the number of children with lead poisoning; and (3) to identify any consequences for the city housing stock and property owners, including barriers to compliance.

The study included five primary components:

- Analysis of the City's lead inspection data;
- Analysis of the County's blood lead data and environmental inspection data for properties associated with children with elevated blood lead levels;
- Analysis of selected housing data;

- A telephone survey of 200 landlords who experienced an inspection during the first year of the ordinance; and
- A focus group of landlords to augment the survey findings.

Findings

Some of the highlights of the two year evaluation include:

Inspections

Interior Inspections

- Between July 2006 and June 2008, more than 28,000 housing units were inspected for interior lead hazards. Nearly 3,440 housing units – about 12 of every 100 houses inspected by the city during the two years – failed either a visual or dust wipe test for interior lead hazards.
- Of the units inspected for interior hazards, 92% passed the inspections. Those units located in high risk areas that passed the visual inspections were referred for dust wipe tests. Over the two year period, more than 9,600 units were referred for dust wipe testing; of these 85% passed.
- Over the course of the two year period, approximately 36% of units failing the visual inspections (845) had been cleared of lead violations. More than 75% of failing dust wipe violations found in the two year evaluation period had been cleared by the end of Year Two.

Exterior Inspections

- More than 21,000 properties were inspected for exterior hazards. Of these, 3,188 did not pass inspection.
- About half of all exterior violations found in Years One and Two (1,585 of 3,188) were cleared by the end of Year Two.

Overall

- In Year One, 56% (960 of 1,204) of all types of violations (including those found in properties with multiple violations) were cleared within 90 days; in Year Two 75% (908 of 1,204) were cleared within 90 days.

Blood Lead Levels

- In the two years preceding the implementation of the lead law, 1,094 of 14,676 (7.5%) children under the age of 6 in the City of Rochester who were tested had elevated blood lead levels (10 µg/dL or above); in the two years following implementation of the law, this proportion dropped to 5% (687 of 13,674). The number of children with elevated blood lead

levels in July 2004-June 2005 (604) decreased by more than 50% to 284 July 2007-June 2008.

- The odds that a child with elevated blood lead levels lived in rental housing decreased from the period before the law went into effect to the two years after.

County Inspections

- The Monroe County Department of Public Health identified 203 properties with lead violations through inspections triggered by a child's blood lead level of 15 µg/dL or greater during the two years preceding the law, and 246 in the two years following passage of the law.

Housing Issues

- Lead related emergency placements by the Monroe County Department of Human Services increased from six in the year before the law passed to 13 in the second year of the evaluation. These placements represent a very small percentage of the average annual placements of more than 9,000 individuals and families.
- In the first year of the evaluation, 21% of vacate orders issued by the City of Rochester included lead related causes. In Year Two, this rose to 54%.

Related Costs

- The average cost for clearing a lead violation, as specified by the law, has been approximately \$150 – half of the cost estimated when the law was passed.
- During the two years of the evaluation, 752 property owners have received grant-funded reimbursements for clearance costs.
- The City of Rochester has incurred an average of \$600,000 annually in expenses related to the lead law. Costs include salaries and benefits for inspectors, a program coordinator and clerks, and also dust wipe testing and clearance reimbursements to landlords.
- During the study period, Monroe County received a State grant of about \$246,000, and in turn contracted with the City for services, which helped defray some costs.

Landlord Survey

- Twelve percent of respondents said they were cited for lead hazards, while a review of the City's inspection database shows that actually 29% were cited—indicating confusion over what constitutes a violation.

- One-third of all respondents said they did not spend any money on repairs in preparing for or responding to an inspection, while about one-third (37%) spent between \$1 and \$1,000, and the remaining 30% spent more than \$1,000.
- Forty-four percent of respondents spending money on repairs replaced windows, with nearly half (48%) of those respondents replacing 10 or more windows. Seventy-seven percent of respondents who spent money on repairs said they repaired or painted windows.
- Seventy-two percent of respondents who spent money on repairs said they painted or repaired trim, 41% repaired or replaced porches, and 19% replaced exterior siding.
- Fifty-eight percent of respondents conducting repairs stated they did the lead hazard control work themselves.
- Seventy-two percent of respondents with repairs indicated that the person who completed the work had received Lead Safe Work Practices training (required by law if repairs conducted after the inspection, but not required if repairs conducted before).
- Eight percent of those with repairs used a grant to help finance the costs. One in three respondents stated they will cover increased costs by not making other improvements, 23% say they will sell the property, and 17% say they will increase the rent.
- Nearly one-third of respondents stated that they hope to sell the property in the next two years. Among them, the most prevalent reason given was the ‘ordinance’ or ‘city policy.’ Many said they will sell because of ‘bad tenants.’
- Survey respondents were asked about their position on the law when enacted, and at the time of the survey. The proportion that were favorable increased from 41% to 46%.

Landlord Focus Groups

- Focus group participants were enthusiastic about the law and felt that it will help children in the City.
- Participants expressed frustration at the lack of responsibility given to tenants and cited examples of doing work to clear a lead violation and having tenants ‘undo’ the work.
- The majority of participants were aware of the Lead Safe Work Practices training but noted that awareness needs to be raised.

- Participants felt that there is a lack of clarity and information around funding sources available for the costs of remediation and that the cost of remediation is a concern for landlords.

Recommendations

The research team has a number of recommendations in response to analysis of evaluation data from the city inspections, county blood lead tests and positive investigations, housing data, the landlord survey, and the landlord focus group.

Landlord Issues

- With such a high proportion of property owners doing their own lead repair work, the city and county should ensure that sufficient training is available for them to learn to do the repairs safely and that they are aware of the need for such training.
- More than one quarter of those doing the work may not have received training—this is another reason to ensure training is available and that landlords are made aware of it. The law does not include a mechanism for enforcement of this provision; however, spot checks to insure that workers are trained might increase awareness and compliance.
- Since cost data from the landlord survey suggests a wide range of lead safety measures being used, and because interim controls are not long-term fixes, training and education regarding ongoing maintenance is critical.

Policy

- The City’s expansion of dust wipe tests in Year Two of the ordinance is likely to increase the impact of the law, given that 15% of dust wipe tests conducted resulted in identification of a lead hazard that would otherwise have gone undetected (a total of 1,100 units in two years).
- Evaluation findings (e.g. the 15% failure rate of dust wipe tests in units passing visual inspections) suggest that it is important to explore whether the *de minimis*¹ provision of the ordinance is preventing identification of significant hazards in visual inspections. The City may

¹The *de minimis* provision refers to an exemption to the definition of an interior deteriorated paint violation. A violation will not be cited if the deteriorated paint surfaces total “no more than (1) 20 square feet on exterior surfaces; (2) 2 square feet in any one interior room or space; or (3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area.” (Lead-Based Paint Poisoning Prevention Ordinance, 2005).

want to create a pilot program in which *inspections* are conducted without the *de minimis* provision to determine whether additional hazards would be identified.

- Given that a number of property owners delay scheduling dust wipe tests, and some with failed dust wipes are taking longer than expected to achieve clearance, the City should take advantage of its newly granted enforcement opportunity under an amendment to the lead paint ordinance passed by City Council in September 2007 that allows the City to cite owners with a violation if they do not complete dust wipe tests within 60 days.
- With so many landlords asking for financial relief to help with repair costs, we recommend that additional grant programs or tax credits be established for costlier, long-lasting repairs, such as window replacement. Further, access to existing grant programs should be facilitated.
- There is an ongoing need for education of both property owners and tenants. Local resources for outreach and education should be coordinated to make sure these messages are being delivered clearly, consistently, and effectively.

Operating Issues

- Resolution 23 calls for a review at the end of the second year to determine how many units have not received a lead inspection and target them for accelerated inspection. Because one- and two-family rentals are now being inspected only every 6 years, it is particularly important to identify and inspect those homes that have not yet been inspected in order to help meet the goal of inspecting all units by 2010.
- Since units will be inspected less frequently, the City should emphasize education of tenants and property owners about essential maintenance practices and the availability of on-demand inspections if concerns arise.
- Given the lower than expected rates of lead hazard identification on both visual survey and dust wipe testing, we recommend that a risk assessment be conducted in a random sample of properties that passed city inspection to determine effectiveness of the visual survey and dust wipe test protocol. The assessment should occur as soon as possible following the inspection to reduce the chance of surface disturbances.
- Develop and implement a “Rochester module” to be incorporated in Lead Safe Work Practices trainings that explains requirements under the lead law, describes resources available to property owners, and encourages use of standard treatments.

- We recommend that the MCDPH begin coding children's blood lead level tests by city versus suburbs to allow internal ongoing tracking of trends by this geographic distinction, particularly with the City ordinance now in place. This information could also be of interest to the City School District.

Ongoing Evaluation

- Given that the goal of this ordinance is long-term lead safety, ongoing evaluation is important. This evaluation has identified issues that call for further exploration, and there are several questions that could not be addressed by this evaluation. These questions include the following:
 - Potential impacts of the lead law on families and the community. These impacts include the ability of high-risk families to find safe housing, the effects of hazard control work on families needing to relocate and the understanding of the law's provisions by families, physicians, community groups and others. A community-based evaluation of the law's impacts on affected families would be an ideal tool to help answer these questions.
- A follow-up landlord survey. The survey conducted in 2007 provides a snapshot of landlord perceptions and experiences during the early months of the implementation of the ordinance. This survey should be repeated in order to assess the ongoing impact of the ordinance on property owners.
- Ongoing data collection and reporting are critical to the City's ability to monitor progress made under the lead law. Effective monitoring may require greater coordination between the City and the County, as both entities are involved in hazard identification. Suggested data elements that should be collected include:
 - The number/proportion of units covered by the law that are inspected each year and the number of inspections that are repeat inspections, in order to ensure that the goal of inspecting all units by 2010 is reached.
 - The passing rate for all inspections (i.e. visual and dust wipes).
 - The number of clearances and the year in which the respective units were cited.
 - Properties inspected by the City and through the County's Lead Hazard Control Program or Positive Properties investigations, and any discrepancies in findings.

Acknowledgements

We are grateful to The Greater Rochester Health Foundation for their generosity in funding this evaluation project.

City of Rochester Manager of NET Code Enforcement Gary Kirkmire patiently provided numerous rounds of inspection data and answered many questions along the way. Without his help this project would simply not have been possible.

Dawn Hyde and Susan Painting from the Monroe County Department of Public Health were very helpful in providing and explaining blood lead test data, which were a critical piece of the analysis.

Dan Condello provided helpful housing data from the Monroe County Department of Human Services.

Finally we are grateful to all members of our Advisory Committee who provided important input to the design of the landlord survey and other aspects of the study design. We are also grateful to Mary d'Alessandro of the New York State Coalition of Property Owners and Businesses, and to Alex Castro, Executive Director of the Housing Council, for reviewing the landlord survey prior to its release

Staff Team

CGR worked with a project team to complete this evaluation. Team members provided expertise and guidance, and contributed to the data collection, analysis and presentation of findings.

Rebecca Morley, Executive Director of the National Center for Healthy Housing (NCHH), provided excellent input and guidance throughout the project, from conception to final report. Her knowledge and expertise were critical to the study design and execution. NCHH biostatistician Dr. Sherry Dixon provided important data analyses for which we are grateful.

Katrina Korfmacher, PhD, Assistant Professor at the Environmental Medicine and Health Sciences at the University of Rochester played an important role from the initial concept of an ordinance evaluation, through the completion of this report. Her knowledge of Rochester-area lead paint issues and the city ordinance were invaluable.

Many members of the CGR staff contributed to this project. Joseph Stefko, Kathiann Willis, Hung Dang, Karen Yorks, Katherine Bell, Sam Osoro, Matthew Rubinstein and Scott Sobolewski all provided helpful input, guidance, data analysis assistance, and other technical support throughout the course of this project.

TABLE OF CONTENTS

Summary	ii
Findings	iii
Inspections	iii
Interior Inspections	iii
Exterior Inspections	iii
Overall	iii
County Inspections	iv
Related Costs.....	iv
Landlord Survey	iv
Landlord Focus Groups	v
Recommendations.....	vi
Landlord Issues.....	vi
Policy.....	vi
Operating Issues	vii
Ongoing Evaluation.....	viii
Table of Contents	x
Introduction	1
Methodology	2
Description of the City of Rochester Lead Ordinance	2
Advisory Committee	3
Evaluation Findings	3
City Inspection Data Analysis	3
Inspections Completed	3
Interior Visual Inspections.....	5
Dust Wipe Testing.....	6
Exterior Visual Inspections.....	8
Time to Clearance.....	9
Blood Lead Data.....	10
Relationship between EBL and Residence in Rental or Owner-Occupied Unit ..	11
Children with EBL by NET Sector	13
County Positive Inspections	14
Positive Properties by Owner/Renter Status	15
Analysis of Selected Housing Issues	15

DHS Emergency Placements	16
Vacate Orders	17
Costs Related to the Ordinance	17
Costs of Clearance	17
Costs of City Inspections	18
Telephone Survey of Property Owners	18
Landlord Comments	26
Landlord Focus Groups	28
Overall Response to the Ordinance.....	28
Lead Safe Work Practice Training	28
Cost and Funding Concerns	28
Other Issues.....	29
Recommendations	29
Landlord Issues	29
Policy	29
Operating Issues	30
Ongoing Evaluation	31
References	33
Appendix A: Ordinance and Resolutions	
Appendix B: Advisory Committee Members	
Appendix C: Property Owners Survey	

INTRODUCTION

Children with lead poisoning face decreased IQ levels and a higher likelihood of learning disabilities, behavioral problems, juvenile delinquency and increased high school dropout rates (Meyer et al., 2003). These outcomes translate into higher costs for special education, health care, and juvenile justice systems, as well as lost wage-earning potential (Grosse et al., 2002; Landrigan, 2002; Korfmacher, 2003). On July 1, 2006 the City of Rochester's "Lead-Based Paint Poisoning Prevention" law ("the lead law," Municipal Code of the City of Rochester Ordinance 2006-37) went into effect. Rochester's ordinance is being carefully watched by other cities nationwide, as it is considered a breakthrough in legislative approaches to dealing with a significant health and housing problem in the nation's oldest cities (Korfmacher, 2006).

In 2006, nearly four percent of all 14,561 children under age 6 who were tested in Monroe County had blood lead levels of 10 $\mu\text{g}/\text{dL}$ or higher, the Centers for Disease Control and Prevention's "level of concern." This represented 571 children countywide, most of whom lived in the City of Rochester. The number of children with lead poisoning has declined in recent years, but still hundreds of children in our community are newly poisoned each year, with devastating impacts on their health, behavior, and ability to learn.

By way of comparison, approximately 33,707 children were tested in Baltimore County in 2006 and 928 (2.7%) were found to have blood lead levels above 10 $\mu\text{g}/\text{dL}$. In Cuyahoga County (including Cleveland), Ohio, 22,312 children were tested in 2006 and 1,318 (5.9%) had blood lead levels above 10 $\mu\text{g}/\text{dL}$.

The majority of this lead poisoning burden is attributed to lead in paint, dust, and soil. The distribution of lead poisoning in Rochester closely mirrors the location of high-risk housing—in general, low-value rental housing built before 1950 (CGR, 2002). Thus, lead poisoning is a health problem with, in large part, a housing cause.

The City of Rochester's new law addresses the need for a housing solution to address and help prevent lead poisoning. The law requires inspections for lead paint hazards as part of the City's existing housing inspection process, including Certificate of Occupancy (C of O) inspections. It applies to most of the rental properties in the City of Rochester that were constructed prior to 1978.

Methodology

The main objectives of this evaluation of the new city ordinance are 1) to inform City Council of the law's impact; (2) to monitor the number of children with lead poisoning; and (3) to identify any consequences for the city housing stock and property owners, including barriers to compliance.

The evaluation covered the first two years of implementation of the law, July 2006-June 2008, and included five primary components:

- Analysis of the City's lead inspection data;
- Analysis of the County's blood lead data and environmental inspection data for properties associated with children with elevated blood lead levels;
- Analysis of selected housing data;
- A telephone survey of 200 landlords who experienced an inspection during the first year of the ordinance; and
- A focus group of landlords to augment the survey findings.

Description of the City of Rochester Lead Ordinance

Under the new ordinance, inspectors visually inspect properties for deteriorated paint or bare soil. These inspections occur at the time of a City housing inspection triggered by a new or renewal Certificate of Occupancy (C of O), a County Department of Human Services Quality Housing Inspection (QHI), a Neighborhood Empowerment Team (NET) survey, or a tenant or neighborhood group complaint.

Housing units are exempt if (1) they are already required to be safe from lead paint hazards under federal law, or (2) an EPA-certified risk assessor deems the unit has no lead-based paint. A copy of the ordinance and its three accompanying Resolutions (#23, #24, and #25) can be found in Appendix A or at <http://lead.cityofrochester.gov>.

All deteriorated paint in pre-1978 housing is assumed to contain lead, unless additional testing at the owner's expense proves otherwise. Deteriorated paint must be fixed using defined Lead Safe Work Practices.

Properties in high risk areas that pass the visual inspection also undergo a dust wipe test, designed to find lead paint hazards unseen by the naked eye. A dust wipe test conducted in accordance with established federal protocols (a "clearance test") is also required to check units after any lead

hazard repairs have been completed. Taking into account the need for sufficient staffing to carry out dust wipe testing, the city implemented the dust wipe provision in high risk areas in two NET sectors, B and F, in Year One. In Year Two of the implementation plan, the dust wipe provision was expanded to include high risk areas in the entire City of Rochester.

Although these procedures are informed by extensive local and national research as well as federal agencies' protocols, incorporation of these features into a local housing law is unique in the U.S. Therefore, it is essential to evaluate whether or not this policy is effectively preventing lead poisoning.

Advisory Committee

The project team established an advisory committee to provide input over the course of the project. A list of members can be found in Appendix B. The committee met in May 2007 to review study objectives, study design, and the landlord survey design. The committee met again in October 2007 to discuss Year One results, and in September 2008 to discuss Year Two findings.

EVALUATION FINDINGS

This report presents findings from the five key components of the evaluation: (1) City inspection data analysis, (2) County blood lead data and environmental investigations, (3) housing issues, (4) a landlord survey and (5) a landlord focus group. The evaluation period spanned Years One (July 1, 2006 to June 30, 2007) and Two (July 1, 2007 to June 30, 2008) of implementation of the lead law and includes comparison data, where available, from the two years prior to passage of the lead law. The interim report (covering the period from July 1, 2006 to June 30, 2007) was reviewed by the Advisory Committee and released in December 2007 (see www.cgr.org)

City Inspection Data Analysis

Inspections Completed

A total of more than 28,000 housing units were inspected by the City of Rochester for lead hazards between July 2006 and June 2008. Table 1 details the units inspected in the two years following implementation of the Lead Ordinance. Because of the possibility that some units have been inspected more than once, it is not clear how many units have not yet been inspected.

When the ordinance passed, Rochester City Council predicted (see Resolution 23) that a total of between 14,500 and 18,500 inspections would occur each year: 4,500 related to Certificate of Occupancy (C of O) inspections; 8,000 to 10,000 related to Quality Housing Inspections (QHI); and 2,000 to 4,000 triggered by complaints². The City's initial Implementation Plan (2006) included a lower estimate of around 10,000 total units (2,043 C of O's, 5,783 QHI inspections and 953 complaints). The Resolution 23 predictions were fairly accurate in Year 1 (16,449 inspections), although the number of inspections based on complaints (1,481) and QHI were both much lower (5,537) and the C of O inspections (8,264) much higher than estimated. Year 2 inspections were markedly lower (11,607), mostly because of lower numbers of C of O (4,536) and complaint (810) triggered inspections. Several factors account for the differences between the number of inspections completed in Year 1 and Year 2. The city reports that cases that were open as of July 1, 2006, when the ordinance went into effect were subject to the ordinance and are part of the total for Year 1. Certificate of Occupancy requirements changed the same year the ordinance passed, due to the City's need to address several other inspection requirements. C of O inspections may now be less frequent than previously, depending on the type of property. Complaint cases have gone down due to a policy change allowing owners to address tenant concerns before an inspector is dispatched as long as the concern is not lead or hazard related and is addressed in a timely fashion. In terms of QHI's, the city continues to monitor these numbers and is in contact with the County, but is projecting that the number will be closer to 6,200 annually instead of the 8,000 to 10,000 estimated when the ordinance passed. It is also important to note that these changes mean that one- and two-family rentals are now being inspected only every 6 years, whereas multi-unit properties will be inspected every three years.

² Inspections triggered by a "complaint" may have been triggered by any kind of complaint, not necessarily related to lead.

Table 1: Units Inspected By Case Type: Visual Inspection Outcome

July 2006-June 2007										
	C of O		Quality Housing Inspections		Tenant Complaint		Other		TOTAL	
	#	%	#	%	#	%	#	%	#	%
Total Units Inspected	8,264	100%	5,537	100%	1,481	100%	1,167	100%	16,449	100%
Failed Visual: Interior Deteriorated Paint Violations Found	609	7%	152	3%	160	11%	37	3%	958	6%
Passed Visual	7,655	93%	5,385	97%	1,321	89%	1,130	97%	15,491	94%
High Risk Area, Referred for Dust Wipe*	1,554	19%	1,860	34%	195	13%	241	21%	3,850	23%
July 2007-June 2008										
	C of O		Quality Housing Inspections		Tenant Complaint		Other		TOTAL	
	#	%	#	%	#	%	#	%	#	%
Total Units Inspected	4,536	100%	5,295	100%	810	100%	966	100%	11,607	100%
Failed Visual: Interior Deteriorated Paint Violations Found	825	18%	115	2%	217	27%	223	23%	1,380	12%
Passed Visual	3,711	82%	5,180	98%	593	73%	743	77%	10,227	88%
High Risk Area, Referred for Dust Wipe*	2,948	65%	2,411	46%	237	29%	182	19%	5,778	50%

*High Risk Areas are defined by matching blood lead screening data to census block groups. In Year One, the high risk area included census block groups in NET areas B and F; in Year Two, the high risk area was expanded to include census block groups in all NET sectors.

Source: CGR Calculations Based on City of Rochester Year Two Report.

Interior Visual Inspections

Of the more than 28,000 inspections completed in the first two years of implementation of the lead law, about 92% (25,718 units) passed a visual inspection for interior deteriorated paint. The proportion of units passing this inspection dropped from 94% in Year One to 88% in Year Two.

Given data from other lead-inspection projects in Rochester and elsewhere (Korfmacher, 2005), the high passing rate in Year One was surprising. The lower passing rate in Year Two may reflect a change in the percentage of owners who were unaware of the Ordinance (and as a result did not prepare their units for inspection), a higher proportion of high risk housing inspected that year (due, for example, to a lower proportion of inspections for C of Os relative to other case types in Year 2), improved training and increased experience of inspectors in Year 2, or some combination of factors. One would expect the rate of passage to increase over time as property owners' awareness of the law and the lead safety of housing increases. Therefore, the overall visual inspection passage rate should be tracked over time and explanations sought for unexpected drops in the passage rate.

The pass/fail rate varied somewhat among the different case types. In Year One, failure rates were no higher than 11% among any case type, but in Year Two, they were as high as 27%, in inspections triggered by tenant complaints. It is important to remember that 'complaint' driven inspections may have originated from any kind of tenant-initiated complaint (plumbing, electricity, etc.), but since these units are more

likely to be in poor condition, it is not surprising that they would have a higher failure rate for lead.

Owners of units that fail the visual inspection must address the hazards and then contract with a private firm for clearance testing services to check that hazards were adequately addressed and that no hazardous levels of lead dust remain. Among the 958 units that failed the interior visual inspection at some point during Year One and were subject to contracted clearance testing services according to the lead law, 255 had cleared the violations by the end of Year One (27%). In Year Two, 1,380 units failed the interior visual inspection and were subject to contracted clearance testing services. By the end of Year Two a total of 590 interior violations based on visual inspection had been cleared, including violations cited in both Years One and Two.

The time to clear a case varies and explains why a number of cases remain open (See Table 3, Time to Clearance) at the end of the year. Presumably the number of cases held over from year to year will decrease as time to clearance continues to decline.

Dust Wipe Testing

Units that pass a visual inspection but are located in a high risk area are referred for a dust wipe test. High risk areas are defined by the ordinance to “consist of those census block groups which cumulatively encompass an area in which no fewer than 90% of the units identified by the County Health Department for inspections in conjunction with its elevated blood-lead level inspections for the period of the preceding five years are located.” In Year One, due to resource constraints, only units located in high risk areas in NET³ sectors B and F were subject to referral for a dust wipe test if they passed the visual interior inspection. In Year Two, this provision was expanded to include high risk areas in NET sectors C and E (starting in July 2007) and D and A (starting in October 2007.)

Units are cited with a dust hazard violation if either (1) more than 50% of wipes are positive or (2) any one wipe has a lead level greater than twice the EPA accepted standard. If the initial dust wipe does not pass but the lead levels are below these thresholds, the property owner may schedule a

³ When the ordinance was implemented, the City was divided into Neighborhood Empowerment Teams (NET). These teams were developed to assist and empower neighborhoods in the identification and resolution of quality of life issues. In 2008, the City adopted the term Neighborhood Service Centers (NSC) in anticipation of the newly developed service based model that will be coming in July 2009, and will provide enhanced services directly to neighborhoods.

second dust wipe test by City inspectors, preferably within one week, for the areas that failed.

During the evaluation period, a total of 9,628 units were referred for dust wipe tests (Table 1); of these, 7,456 (77%) had in fact been tested by the end of Year 2 (Table 2). In Year One, 3,850 (25%) units of the 15,491 that passed visual inspections were located in a high risk area in NET sectors B or F and were therefore referred for a dust wipe test under the ordinance. Of those, 2,850 (74%) had received a lead dust wipe test by the end of Year One. The remaining 1,000 were either scheduled but not yet completed, were vacant units that had not been scheduled, or had owners or tenants who were non-compliant with the process.

In Year Two, 5,778 (57%) of the 10,227 units that passed the visual inspection were referred for dust wipe tests. 4,606 units (80%) received a lead dust wipe test during Year Two. It is not possible at this time to estimate how many of these were units cited in Year One and which were both cited and tested in Year Two. Nonetheless, it is clear that 2,172 units that were referred for dust wipes during the evaluation period had not been tested by June 30, 2008. Overall, 85% of the 7,456 units that received a dust wipe test during both years of the evaluation passed on either the first or second try. Thus, during the first two years of implementation, 1,100 (15% of 7,456) units with lead hazards were found by the dust wipe provision of the law that would have been missed by visual inspections alone.

As with units failing the visual inspection, owners of units that fail the dust wipe test are cited for a lead dust hazard and must eliminate the hazard and contract for clearance testing services. Of the 430 units that failed the dust wipe test in Year One, 251 had received clearance for the violation by the end of the year (58%). A total of 583 dust wipe violations were cleared in Year Two, representing both violations cited in Year One and cleared in Year Two, and those both cited and cleared in Year Two. In total, 834 dust wipe violations (78%) cited during Years One and Two were cleared by June 30, 2008.

The EPA standards for lead in dust are 40 $\mu\text{g}/\text{sq ft}$ for floors, 250 $\mu\text{g}/\text{sq ft}$ for sills, and 400 $\mu\text{g}/\text{sq ft}$ for wells. New guidelines have recently been released by the National Center for Healthy Housing, which suggest that to protect 95% of children from a blood lead level of 10 $\mu\text{g}/\text{dL}$ or greater, floors must be kept to 10 $\mu\text{g}/\text{sq ft}$ and sills must be kept to 100 $\mu\text{g}/\text{sq ft}$ (NCHH, forthcoming).

In Year Two, CGR obtained a database of the lead levels found in failed dust wipe tests. Dust wipe values were obtained for 1,127 dust wipe tests, representing tests performed in 748 housing units. This database showed that the dust wipe tests yielded values as high as 12,000 $\mu\text{g}/\text{sq ft}$ on

window sills, as high as 29,000 $\mu\text{g}/\text{sq ft}$ in window troughs (i.e. wells), and as high as 27,000 $\mu\text{g}/\text{sq ft}$ in tests performed on floors. Such high levels in all probability reflect the presence of paint chips in the sample and likely would not have passed a visual inspection with no *de minimis* provision. Thus, in addition to finding a large *number* of units (1,100 over two years) in which hazards existed, some of these units had extremely high *levels* of lead in dust.

Nonetheless, the rate of passing dust wipe tests in homes with no visual hazards is surprisingly high in Rochester. A nationally representative sample of 831 housing units evaluated for lead hazards under the National Survey of Lead and Allergens in Housing found that 33% of the homes with interior lead-based paint in good condition had interior dust hazards

Table 2: Lead Dust Wipe Test Results, Vacant and Occupied Units

	July 2006 to June 2007			July 2007 to June 2008			Total		
	Total	Vacant	Occupied	Total	Vacant	Occupied	Total	Vacant	Occupied
Lead Dust Wipe Test	2,850	1,326	1,524	4,606	2,125	2,481	7,456	3,451	4,005
2nd Test	323	156	167	419	132	287	742	288	454
Passed	2,420	1,103	1,317	3,936	1,852	2,084	6,356	2,955	3,401
% passed	85%	83%	86%	85%	87%	84%	85%	86%	85%
Failed	430	223	207	670	273	397	1,100	496	604
% failed	15%	17%	14%	15%	13%	16%	15%	14%	15%

Source: City of Rochester Year One and Year Two Reports

(Jacobs, 2002). Given that not all of the Rochester homes tested for dust hazards were known to have lead-based paint, we might expect a slightly lower failure rate; however, finding that only 15% had lead hazards suggests that either Rochester houses are in fact less likely to have dust hazards when leaded paint is intact or that the City's dust wipe inspection protocol is less effective in finding lead hazards than that used in the National Survey.

Exterior Visual Inspections

Exterior inspections apply to an entire building or structure, rather than to individual units. Of 10,548 properties inspected for exterior hazards in Year One, 19% (1,960) were found to have either exterior deteriorated paint or bare soil upon visual inspection (327 had bare soil violations and 1,763 had exterior soil violations; note that a number of these properties may have had both). It is important to remember that this number is lower than the number of interior visual inspections because of multi-unit properties, and also because it includes a number of both investor-owned and owner-occupied properties that were cited during 'drive by' inspections and for which interior inspections may not have been conducted. By the end of Year One, 730 (37%) of these had been cleared by the City.

In Year Two, 10,619 properties were inspected and 1,228, or 12%, were found to have exterior deteriorated paint or bare soil upon visual inspection (320 bare soil violations and 1,073 exterior paint violations; note that some of these units may have had both types of violations). In Year Two, 855 exterior deteriorated paint or bare soil violations were cleared; this number includes both properties cited in Year One and cleared in Year Two, as well as those cited and cleared in Year Two. In total, only 50% (1,603) of these exterior violations have been cleared as of the end of Year Two.

Many units with interior violations had exterior violations and vice versa. However, we do not have the data to identify the overlap between these two kinds of inspections. For example, a unit may be referred for dust wipe inspections because it passed the interior inspection, even though the property failed an exterior visual inspection. Or, a unit might fail an interior visual inspection even though the exterior passed. Further exploration of the relationship between these types of violations might yield insights into how best to target educational and financial resources for lead hazard repairs.

Time to Clearance

Units inspected by the city may be found to have multiple violations, at times both exterior and interior. Table 3 includes total violations cleared. Since multiple violations may have been found, these numbers will not correspond to the sum of the numbers cited above, which are categorized as either interior or exterior violations.

In Year One, a total of 1,698 lead violations, both interior and exterior, were cleared. Among these, one quarter were cleared within a month of the citation, and over half (57%) were cleared within three months, as shown in Table 3. In Year Two, 1,204 violations of all types were both cited and cleared. Of these, 45% were cleared within a month of the citation. Seventy-five percent were cleared within three months. This represents 30% more clearances made within three months than in the previous year (see Table 3).

Table 3: Time From Citation to Clearance, In Days, Among Those Cleared By June 30, 2008

	Year 1		Year 2	
	Violations		Violations	
	Cleared	%	Cleared	%
Total Violations	1,698	100%	1,204	100%
<=30 days	412	24%	547	45%
31 to 60 days	358	21%	228	19%
61 to 90 days	196	12%	133	11%
91 to 120 days	171	10%	83	7%
121 to 180 days	209	12%	84	7%
181 or more	352	21%	129	11%

Source: CGR analysis of City of Rochester Violation data.

Blood Lead Data

A key contribution of this evaluation project is to link the City's housing inspection data with the County's data on elevated blood lead levels (EBLs) among children under age 6. The project team partnered with the Monroe County Department of Public Health (MCDPH) to conduct an analysis of blood lead levels among children tested within the City of Rochester.

The MCDPH provided CGR and NCHH with data for four years: July 1, 2004-June 30, 2005; July 1, 2005-June 30, 2006; July 1, 2006-June 30, 2007; and July 1, 2007-June 30, 2008 for all finger-stick and venous blood lead tests of children under six with a zip code wholly or partly in the City of Rochester. CGR geo-coded the addresses and assigned each test result a 'city' or 'suburban' status. A small number of observations were left out because they had no address, or only a PO Box.

NCHH then identified a single test result for each child in the database whose address was within the City of Rochester. Venous test results were given preference over finger-sticks when available. If multiple venous results were recorded, the highest was used; if only capillary tests were available, the highest capillary value was used.

As shown in Table 4, the number of children with elevated blood lead levels (defined as greater than or equal to 10 µg/dl) dropped from 604 in 2004-2005 (8.3% of a total of 7,256 children tested) to 403 during Year One of the ordinance (5.6% of 7,146 children tested). This mirrored a countywide downward trend. In Year Two, the number of children tested who had elevated blood lead levels dropped further to 284 (4.4% of 6,528 children tested).

In other cities, there has also been a downward trend. For instance, in Cuyahoga County, the number of children with blood lead levels greater than 10 µg/dL dropped from 1,589 in 2005 (6.9% of 23,105 children tested) to 1,318 in 2006 (5.9% of 22,312 children tested). In Baltimore City and County, 964 of the 32,488 children tested had elevated blood lead levels in 2005 (3%), compared with 928 in 2006 (2.75% of 33,707 children tested.)

Table 5: Elevated Blood Lead Results, City of Rochester, July 2004 - June 2008

	July 2004-June 2005		July 2005-June 2006		July 2006-June 2007		July 2007-June 2008	
	#	%	#	%	#	%	#	%
Total Children	604	100%	490	100%	403	100%	284	100%
10-14 ug/dL	451	75%	371	76%	288	71%	202	71%
15-19 ug/dL	97	16%	71	14%	77	19%	51	18%
20+ ug/dL	56	9%	48	10%	38	9%	31	11%
Mean ug/dL	13.7		13.7		13.6		14.4	
Max ug/dL	52		51		43		98	

The proportion of children with elevated blood levels whose levels were between 10 and 14 µg/dL decreased slightly from the two years before the ordinance to the two years following the ordinance (from 75% to 71%) (Table 5). In absolute numbers, 202 children had levels in this range in 2007-2008, compared to 451 in 2004-2005. Despite some variation in distribution, the total number of children with EBLs greater than 10 µg/dL

Table 4: Blood Lead Results, City of Rochester, July 2004 - June 2008

	Children Screened	Mean Blood Lead Level	Median Blood Lead Level	Children >= 10 ug/dL	% of Children >=10 ug/dL*
July 2004-June 2005	7,256	4.73 ug/dl	4.00 ug/dl	604	8.3%
July 2005-June 2006	7,420	4.21 ug/dl	3.00 ug/dl	490	6.6%
July 2006-June 2007	7,146	4.00 ug/dl	3.00 ug/dl	403	5.6%
July 2007-June 2008	6,528	3.73 ug/dl	3.00 ug/dl	284	4.4%

Change is statistically significant (p<.001)

Source: NCHH and CGR analysis of MCHD blood lead data tests.

continued to decline.

Relationship between EBL and Residence in Rental or Owner-Occupied Unit

One of the hypotheses to be tested in the evaluation was that promulgation of the lead ordinance would lower the prevalence of elevated blood lead levels (EBLs) in children residing in rental housing in the City of Rochester compared to owner-occupied housing, which is not directly impacted by the ordinance (with some minor exceptions such as drive-by

exterior citations by NET and voluntary requests for inspection). There are several factors that influence the prevalence of EBLs. First, EBL rates are dropping across the country so we would expect a similar drop in the EBL rates in Rochester's rental housing. As noted above, the percent of EBL children in Rochester were 8.3%, 6.6%, 5.6%, and 4.4% for 2004-5, 2005-6, 2006-7, and 2007-8, respectively.

Second, the percent of properties that are rentals (versus owner-occupied) in Rochester may have changed over time. Both these factors make it difficult to separate the effects of the ordinance from the effects of dropping EBL rates and possible shifts in home ownership. However, using data available, CGR and NCHH were able to consider an alternative hypothesis: that the odds of an EBL child residing in a rental property relative to the odds of an EBL child residing in an owner-occupied property were higher before promulgation of the lead ordinance than after. This alternative hypothesis controls for both of the factors of concern.

The blood lead monitoring data collection system in Rochester does not capture whether a child resides in a rental or owner-occupied unit. Therefore, it was not possible to pull a sample of EBL children by type of residence. However, the City's housing assessor's database can be used to determine whether a particular property is a rental or owner-occupied. Due to these data limitations, a case control design was used to test the hypothesis. For each year of available blood lead level data CGR and NCHH randomly selected 100 EBL children and 100 non-EBL children from the database. The housing assessor's database was used to determine whether the residence of each of the randomly selected cases was rental or owner-occupied. Using the resulting data, CGR and NCHH calculated the odds that a child with EBL lived in a rental property as opposed to an owner occupied property.

The results are presented in Tables 6 and 7. The odds ratios, in each of the four years analyzed, are 3.00, 3.93, 3.49 and 1.92, respectively. In other words, in 2004-2005, the odds that an EBL child lived in rental housing was 3 times greater than the odds that a non-EBL child lived in rental housing, while in 2007-2008, the odds that an EBL child lived in rental housing was 1.92 times greater than the odds that a non-EBL child lived in rental housing. Although the odds-ratio for the years before the ordinance (2004-6) is not significantly different from 2007-8, it is approaching significance (OR=3.45 and 1.92, respectively; $p=0.15$), indicating that the ordinance may be having the expected effect of improving the safety of rental housing more quickly than owner-occupied housing.

Children with EBL by NET Sector

It is well known that EBL cases are concentrated in certain areas of the City. For each of the two years of the evaluation, CGR determined the proportion of children with elevated blood lead levels by NET sector (Table 8).

Table 6: Proportion of Children With and Without Elevated Blood Levels, By Residence Type

Year	EBL			Non-EBL		
	Total #	% Owner-Occupied	% Rental	Total #	% Owner-Occupied	% Rental
July 2004-June 2005	100	12%	88%	100	29%	71%
July 2005-June 2006	100	13%	87%	100	37%	63%
July 2006-June 2007	100	19%	81%	100	45%	55%
July 2007-June 2008	100	25%	75%	100	61%	39%

Source: NCHH analysis of data from the Monroe County Department of Public Health and the City of Rochester

Table 7: Odds Ratios of EBL Children for Rental to Owner-Occupied Residence

Year	Odds Ratio (95% Confidence Level)
July 2004-June 2005	3.00 (1.43, 6.29)
July 2005-June 2006	3.93 (1.93, 8.00)
July 2006-June 2007	3.49 (1.85, 6.59)
July 2007-June 2008	1.92 (1.05, 3.51)

Source: NCHH analysis of data from the Monroe County Department of Public Health and the City of Rochester

While absolute numbers have dropped across NET sectors, the proportions are similar over time. NET sector F continues to have the largest proportion of EBL cases. In 2007-2008, sector C had the second largest proportion of EBL cases, as compared with 2004-2005, when sector B had the second largest proportion of EBL cases.

County Positive Inspections

When a child in Monroe County is found to have a confirmed (venous) blood lead level of 15 µg/dL or higher, the County conducts an environmental investigation of the child's home, as well as any other address where the child spends significant amounts of time (such as another relative's home or a day care provider's home) as it is nearly

Table 8: Children With Elevated Blood Lead Levels (10 ug/dL +) by NET Sector and Year

	2004-2005		2005-2006		2006-2007		2007-2008	
	Children	%	Children	%	Children	%	Children	%
NET Sector	597	100%	480	100%	399	100%	284	100%
A	43	7%	45	9%	38	10%	20	7%
B	122	20%	82	17%	76	19%	51	18%
C	96	16%	96	20%	89	22%	64	23%
D	28	5%	34	7%	17	4%	12	4%
E	94	16%	58	12%	60	15%	33	12%
F	214	36%	165	34%	119	30%	104	37%

Source: CGR analysis of MCDPH data

impossible to definitively link a particular source of lead with the child's elevated blood lead level. Positive properties are investigated in accordance with state regulations under Part 67 of the State Sanitary Code. If the property is determined to be a "positive property" for a lead hazard, the County presents the owner with a "Notice and Demand to Abate Lead Poisoning Condition" and also notifies the City. The City then presents a Notice and Order of its own, but the County remains the priority agency until the hazards are addressed.

The MCDPH provided CGR with a list of properties that tested positive for a lead hazard as a result of an environmental investigation over the two year period prior to the ordinance, and for the two year period following the start of the ordinance. CGR attempted to compare this list to properties inspected by the City in the two years following the ordinance, in order to draw a comparison between the results of County and City-initiated inspections. This comparison could have assisted the City and the County in coordinating their efforts to ensure that lead hazards are identified.

CGR received data, and analyzed it, but due to data characteristics were unable to draw any significant conclusions from this analysis. We found that there were some properties inspected during the two-year study period both by the County and City, however, the available data did not allow for

accurate comparisons. In the absence of compatible data systems, we recommend the City and County continue to communicate closely about the results of positive property investigations and City lead inspections to ensure high risk properties are identified.

Positive Properties by Owner/Renter Status

In line with the hypothesis described earlier, that the odds of an EBL child living in a rental (“investor-owned”) unit as opposed to an owner occupied unit were greater before the ordinance was implemented than after, CGR examined the distribution of positive properties by renter or owner occupied status.

Census data show that 60% of occupied housing units in the City of Rochester were rented in 2000, and that proportion decreased slightly to 56% by 2006 (Census Bureau, 2000; American Community Survey, 2006). An examination of the renter/owner status of “positive properties” over the last four years shows a different distribution. The proportion of positive properties occupied by a renter (“investor-owned,”) ranged from 71% to 84% between July 2004 and June 2007 as shown in Table 9. In 2007-2008, 74% of positive properties were rental properties. While the owner/investor status is as of September 2008, and could have changed during the four year period, it is still apparent that positive properties are disproportionately rentals. Since occupant care of a property plays a role in the prevalence of lead hazards, this finding could be due to a lack of tenant care of properties (e.g. causing damage to treated surfaces), or it could be due to a lack of property care by the investor-owner, or lack of funds on the part of the investor-owner to replace windows, porches, and other hazardous surfaces. However, the proportion of positive properties that were rentals did decrease from 2004-2005 to 2007-2008, although the data shows a fluctuation from year to year rather than a consistent downward trend.

Analysis of Selected Housing Issues

During Year One of the evaluation, the evaluation team met with the Monroe County Department of Human Services (DHS) to discuss the impact of the lead ordinance on the number and duration of emergency housing placements in that year. A DHS representative stated that while they had anticipated a potential increase in the need for emergency

	July 2004- June 2005		July 2005- June 2006		July 2006- June 2007		July 2007- June 2008	
	#	%	#	%	#	%	#	%
Positive Properties	114		89		132		114	
Owner/Investor Status as of 9/08*	108	100%	88	100%	129	100%	104	100%
Owner-Occupied	23	21%	25	28%	21	16%	27	26%
Investor-Owned	85	79%	63	71%	108	84%	77	74%

Source: CGR analysis of MCDPH data and City of Rochester online property information data.

*These figures are a subset of the total for which owner/investor status could be determined

housing, or perhaps increased lengths of stay, that does not appear to have been the case, based on available data. Anecdotally, DHS staff do not sense any reluctance by landlords to accept DHS clients, which was another potential unintended consequence of the ordinance. DHS feels that landlords appear to have been well prepared in anticipation of the ordinance.

When a client is in need of emergency housing assistance, DHS first determines whether alternatives to emergency care are available, such as staying with a neighbor, friend, or family member. If no such alternative is available, the person or family is then placed in a shelter, or if a shelter option is not available, then in a hotel. Some leased housing is available for emergency placement of large families. Clients are then provided with a short list of five to ten addresses by a case worker, and are given ten days to locate housing (time can be extended). If the client does not attempt to find permanent housing, they can be denied further assistance.

DHS Emergency Placements

CGR requested emergency placement data from DHS for the one-year period immediately before the ordinance went into effect and for the two-year period following. More than half (55%) of emergency placements for families and individuals, both pre- and post-ordinance, were due to eviction by the primary tenant (family or friend/roommate) (Table 10). Other primary reasons for emergency placement included release from an institution, domestic violence, and eviction by landlord.

Six emergency placements were made as a result of lead paint in the year before the ordinance; three in the first year post-ordinance, and 13 in Year Two. While the number doubled from 2005-2006 to 2007-2008 it is important to note that these placements are a very small portion of the overall number of placements (1.5% or less of the approximately 9,000 cases handled by DHS each year), which makes it nearly impossible to draw any valid conclusions about the data. However, County staff noted that the increase may be due to the lead ordinance and that more placements are being made as a result of tenant complaints and the need for tenants to be placed elsewhere while their housing is made lead-safe.

**Table 10: Monroe County DHS Emergency Placements,
Pre- and Post-Ordinance**

Reason	7/01/05 to 6/30/06	7/01/06 to 6/30/07	7/01/07 to 6/30/08
Eviction by primary tenant	5,671	5,171	4,836
Released from institution	1,844	1,599	1,668
Domestic violence	1,014	796	869
Eviction by landlord	891	819	649
Out of county	479	535	503
Sweep (to locate those needing emergency placement)	52	25	13
Fire	118	140	84
Vacate order (property deemed unsafe)	104	76	86
Bldg or utility problem (furnace malfunction, etc.)	50	87	64
SSI check problem	5	2	4
Lead paint	6	3	13
Total	10,234	9,253	8,789

Source: Monroe County Department of Human Services

Vacate Orders

Vacate orders are issued when a house is considered a serious health or safety hazard and is not habitable, which can include reasons such as raw sewage, or, as of the date of the lead ordinance, a lead hazard. During the year prior to the ordinance, July 2005 to June 2006, the city had 171 vacate orders. In the first year of the ordinance (July 2006 through June 2007) this rose to 203, a 19% increase. The number increased further between July 2007 and June 2008, to 220, an 8% increase from the prior year. In a case review of vacate orders issued between July 2006 and June 2007, City staff found that an estimated 43 of the 203 vacate orders made in that time period included peeling paint or a lead dust hazard as a cause. In Year Two, 120 of the 220 vacate orders issued included lead violations as a cause; 16 had lead dust hazard violations and the remaining 104 had interior deteriorated paint violations. City staff note that this increase is presumably related to more stringent enforcement of the ordinance in Year Two.

Costs Related to the Ordinance

Costs of Clearance

Prior to passage of the lead law, property owners were concerned about the costs of private clearance, which at the time were estimated to be as much as \$300. With an increased number of firms offering clearance services (17 currently provide services), the average cost for a clearance has dropped to around \$150.

In addition, the City of Rochester has offered partial reimbursement of clearance fees (\$100) to any owner who was cited for a lead dust or interior deteriorated paint violation. During the first two years of implementation, 781 reimbursements were issued with no one owner qualifying for more than three (a total of 752 owners received reimbursement). These reimbursements were provided from the city's \$100,000 CUSP (Cities United for Science Progress/Dupont) Grant. The City estimates that funds will be available through the end of 2008, based on the average monthly clearance reports that have been received, and may last longer if that number goes down.

Costs of City Inspections

In the two years since the law took effect, lead inspection related costs for the City have totaled \$1.2 million, or about \$600,000 annually. During the two year study period, Monroe County received a state grant of about \$246,000, and in turn contracted with the City for services, which helped defray some costs. These costs included salaries and benefits for inspectors, a program coordinator and clerks, as well as dust wipe testing and clearance reimbursements to landlords.

TELEPHONE SURVEY OF PROPERTY OWNERS

The objective of the ordinance is to increase the number of homes inspected for lead paint hazards and to ensure those found to be at risk are made lead-safe. This can only happen successfully if the process used to engage property owners, both owner-occupants and investors, is manageable and as streamlined as possible.

To measure investor experience with the lead ordinance the evaluation team designed a telephone survey for property owners whose two-family housing units were inspected under the new ordinance in Year One. Only two-family structures were included in order to keep the questions about units and costs for repairs consistent across survey respondents. The survey was reviewed by the Advisory Council as well as the president of the New York State Coalition of Property Owners and Businesses, and the president of the Housing Council. A copy of the survey can be found in Appendix C.

The City of Rochester generated a list of property owners who had undergone a City inspection on their property during the first year of the ordinance. The database provided by the City included the owners' name, phone number, and selected property information. CGR provided a phone survey firm, Metrix Matrix, with over 1,000 names and numbers, in random order. Some phone numbers were not current, and some were

called three times with no answer. However, of the 373 landlords that were reached by phone, 200 completed the survey, for a response rate of 54%.

Respondents were split nearly evenly between smaller landlords—those who own five or fewer properties (54%)—and larger landlords who own six or more (47%) (Table 11). Respondents who own or operate multiple properties were asked to answer questions for a single property that underwent inspection during year one of the ordinance. In reference to these properties, respondents were well distributed across the six NET areas, with a somewhat higher proportion in NET areas B (Lyell) and F (Norton), but very similar to the distribution among all 2-family properties inspected during Year One. The primary reason for an inspection was a C of O process, or a DHS QHI. The value of the reference properties were also well distributed by housing value, with 50% reporting a value of less than \$40,000, compared to 52% of all those 2-families inspected in year one.

Table 11: Landlord Respondent Property Characteristics, Compared to All 2-Family Inspections in Year One

	Respondents		All 2-family inspections
	N	%	
Total	200	100%	100%
Properties Owned/Operated			
1 to 5	107	54%	NA
6 or more	93	47%	NA
NET Area			
A- Charlotte/Maplewood	19	10%	9%
B- Lyell Ave	44	22%	21%
C- Genesee St	33	17%	17%
D- Highland Ave/ South Wedge	17	9%	9%
E- Webster Ave	20	10%	12%
F- Norton St	67	34%	32%
Reason for Inspection			
C of O inspection	92	46%	51%
DHS QHI	83	42%	32%
Complaint from tenant	14	7%	10%
Referral	7	4%	4%
Vacate Notice	4	2%	2%
NET Survey	0	0%	1%
Property Value			
Less than \$30,000	42	21%	25%
\$30,000 - \$39,999	57	29%	27%
\$40,000 - \$59,999	60	30%	27%
\$60,000 +	41	21%	20%

Of the 200 respondents, 24 landlords reported that the reference property had been cited for a lead violation (Table 12), a lower proportion than those in the entire city database of inspections (8% of units inspected citywide had interior violations due to a failed visual inspection or dust wipe test, and 19% had exterior violations. Some have both types, so the total with violations is somewhat less than 27%). CGR compared the list of landlords completing the survey to the City's list of inspected properties, and found that in fact 57 (29%) of the surveyed landlords had been cited for lead hazards, similar to the citywide rate. Some who self-reported lead hazards were not actually cited, while several who did not self-report a lead hazard were cited by the City. It is possible that landlords are confused about the differences between a code violation and a lead-related violation in some cases.

Table 12: Respondents Who Reported Their Property Was Cited for a Lead Hazard

	Respondents	%
Total	24	100%
Monthly Rental Rate of Cited Properties (n=22)		
Less than \$450	11	52%
\$450 or more	10	48%
Property Occupied When Cited? (n=24)		
Yes	17	71%
No	7	29%
Tenants Relocated During Repairs? (n=16)		
Yes	0	0%
No	16	100%

Among the self-reported cited properties 71% (17) were occupied at the time they were cited, but none of the tenants relocated during repairs (one person with tenants did not answer the question).

The survey asked respondents about the total cost of repairs made in response to the lead law, as well as the extent of repairs made in response to the law (either in anticipation of an inspection or in response to a violation). Among the 183 respondents who answered the question about cost, one-third said they did not spend any money on repairs, while about one-third (37%) spent between \$1 and \$1,000, and the remaining 30% spent more than \$1,000 (Table 13). Respondents whose reference property was valued at less than \$40,000 spent more on repairs than those with higher values; this is likely because the lower valued properties were in poorer condition and more in need of updates such as windows, paint, and porch repair or replacement; this is consistent with national evaluation data (Wilson et al., 2006).

Table 13: Total Cost of Repairs by Property Value

	All		Property Value			
	Respondents		<\$40,000		≥\$40,000	
	N	%	N	%	N	%
Total Respondents	183	100%	89	100%	94	100%
Total Cost of Repairs*						
\$0	63	34%	21	24%	42	45%
\$1 to \$250	25	14%	16	18%	9	10%
\$251 to \$1000	42	23%	24	27%	18	19%
\$1001 to \$2500	25	14%	15	17%	10	11%
\$2501 to \$5000	16	9%	7	8%	9	10%
\$5001+	12	7%	6	7%	6	6%
Median Cost	\$300		\$400		\$120	
Mean Cost	\$1,726		\$2,265		\$1,211	
Respondents with costs \$1+ (n=120)			(n=68)		(n=52)	
Median Cost	\$950		\$800		\$1,000	
Mean Cost	\$2,618		\$2,964		\$2,165	

*Difference between property value categories statistically significant, $p < .10$.

Compared to the national evaluation, repair costs in Rochester appear to be lower (Table 14). In the national study, all landlords used certified contractors for their lead hazard repair work, and all repairs were in compliance with EPA standards. Comparing the Rochester landlords who used a contractor to the national figures shows that Rochester landlords spent a median of \$1,500 compared to the national median of \$5,635. An important note, however, is that the landlords on the national level were often conducting more major rehabilitation, such as window replacements, and were required by their funding source (HUD) to address all lead hazards using standard treatments. In the Rochester survey, more landlords were repairing or repainting windows, for example, than replacing them. The costs are more in line with HUD's estimates for compliance with its Lead-Safe Housing Rule, which requires lead-safe maintenance in privately owned housing receiving Housing Choice Voucher assistance. HUD estimated that the incremental annual cost of compliance with its rule was an average of \$511/unit.

Six variables significantly influence costs:

- Treatment intensity
- Size of building (in square feet)—An 800 square foot home costs 10% less than a 1,000 square foot home, the median in the study

- Type of building (single unit v. multiple unit) – homes in single unit buildings cost 23% more than homes in multi-unit buildings
- Percent of leaded interior paint in poor condition—Units with double the median level of lead-based paint in poor condition incurred costs six times the median
- Number of dwellings treated by a contractor
- Whether hazardous waste requirements are placed on the contractor (not applicable in Rochester)

**Table 14: Total Cost of Lead Repairs In
Rochester, Among Landlords Spending Money on Repairs,
Versus Nationally**

	<u>Rochester</u>			<u>Nationally</u>
	All with Costs \$1+	Hired a Contractor	Did Work Themselves	
	(n=120)	(n=33)	(n=82)	(n=1,223)
Median Cost	\$950	\$1,500	\$800	\$5,635
Mean Cost	\$2,618	\$3,623	\$2,316	NA
5th Percentile	\$50	\$93	\$29	\$360
95th Percentile	\$9,900	\$21,100	\$7,425	\$12,060

Source: CGR survey of Rochester landlords; NCHH, 2004

The survey asked about the type of repairs made to properties specifically in response to the new lead law. Among all respondents answering this question, 40% replaced windows, with nearly half (46%) of those replacing 10 or more windows (Table 15). Among those respondents who said they spent money on repairs, 44% said they replaced windows.

Replacing windows clearly increased the cost of repairs. While the overall median cost of repairs was \$300 (Table 13), the median was \$2,500 among those who replaced windows. It should be noted that cost estimates might be overestimates for single-unit repairs; while the survey asked respondents to answer for a single unit, they may have responded for the full structure. It should also be noted that new windows can increase the appraised value of the property (Nevin and Jacobs 2006).

A higher proportion of respondents indicated they repaired or painted windows, 70% of those responding to this question. This includes 77% of respondents who said they spent money on repairs.

Table 15: Window Repairs or Replacements

	All Respondents		Respondents Spending >\$0 on Repairs	
Window(s) Replaced?				
Yes*	54	40%	52	44%
No	82	60%	66	56%
If 'Yes', how many?				
<5	18	35%	18	35%
5 to 9	10	19%	9	18%
10 to 14	12	23%	12	24%
15+	12	23%	12	24%
Median	9		8	
Window(s) Repaired/Painted?				
Yes	94	70%	90	77%
No	40	30%	27	23%
If 'Yes', how many?				
<5	16	17%	15	17%
5 to 9	25	27%	24	27%
10 to 14	25	27%	23	26%
15+	27	29%	27	30%
Median	10		10	

**One respondent who replaced windows did not provide cost information, and one indicated costs of \$0.*

Two-thirds of respondents said that they repaired or painted interior trim, including 72% of those who spent money on repairs (Table 16). More than one-third replaced or repaired porches, and nearly one in five replaced exterior siding on the reference property. Clearly many landlords made repairs to surfaces typically associated with lead hazards both on the interior and exterior of their properties.

**Table 16: Interior Trim, Porches, Siding
Repairs or Replacements**

	All Respondents		Respondents Spending >\$0 on Repairs	
Interior Trim Repaired/Painted?				
Yes	90	66%	86	72%
No	46	34%	33	28%
Porch(es) Replaced/Repaired?				
Yes	51	38%	48	41%
No	84	62%	70	59%
If 'Yes', how many?				
1	31	62%	29	62%
2	14	28%	14	30%
3+	5	10%	4	9%
Exterior Siding Replaced?				
Yes	23	17%	23	19%
No	112	83%	95	81%

Respondents were asked if they did any other lead-related work, and 53 respondents said they had. Respondents mentioned planting grass or putting mulch over bare soil; tearing out or cleaning the carpets; refinishing hardwood floors; painting interior walls or exterior siding or trim; scraping and painting garage exteriors; and cleaning and mopping.

Respondents were asked who conducted the lead hazard control work, and whether that person had received Lead Safe Work Practices training. Overall 58% of respondents stated that they did the work themselves, while 26% hired a private contractor (Table 17). Others used a property manager or employee, friends or family. Respondents with more than five units were more likely to indicate they did the work themselves.

A high proportion of respondents indicated that the person who completed the work had received proper training (72%), while an additional 8% did not know. Larger landlords (more than 5 units owned) were more likely than smaller landlords to indicate that the person completing the work had received Lead Safe Work Practices training. Owners completing the work prior to citation would not have been legally required to use Lead Safe Work Practices-trained workers.

Table 17: Person Conducting Lead Hazard Work and Safe Work Practices Training

	All Respondents		<=5 Units Owned		>5 Units Owned	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Who did the lead hazard control-related work?*	127	100%	63	100%	64	100%
Self (property owner)	74	58%	31	49%	43	67%
Property manager/employee	10	8%	4	6%	6	9%
Private contractor	33	26%	23	37%	10	16%
Other	10	8%	5	8%	5	8%
Did the person who did this work receive Lead Safe Work Practices training?*	130	100%	65	100%	65	100%
Yes	94	72%	41	63%	53	82%
No	25	19%	14	22%	11	17%
Don't know	11	8%	10	15%	1	2%

* Statistically significant difference between # of units ($p < 0.10$); ** Statistically significant ($p < 0.05$).

Lead Safe Work Practices training is available from several entities in the Rochester area, including the Housing Council (which provided training to 444 individuals during Year One of the ordinance), Cornell University, through its School of Industrial Labor Relations (451 individuals), Lead Connections (871 individuals), and Atrium Environmental Health & Safety Services, LLC (43 individuals).

Most respondents reported using private funds or a bank loan to conduct the lead hazard control work (93% of respondents who reported spending \$1 or more on repairs) (Table 18). Landlords with more than 5 units were somewhat more likely to report they received grant funding, but the sample size is very small and no conclusions should be drawn from this point. When asked how they will offset the cost of repairs, about one in three respondents stated they will not make other improvements, 23% say they will sell the property, and 17% say they will increase the rent.

About one-half of respondents say the improvements they have made will increase the value of the property; smaller landlords were more likely than larger landlords to feel this way (58% and 41%, respectively).

Nearly one-third of respondents stated that they hope to sell the property in the next two years, but this response did not vary substantially among those who were and were not cited, nor by the size of the landlord's holdings. Those with lower valued properties were seven percentage points more likely than those with higher valued properties to say they would like to sell, but this difference was not statistically significant.

Among those who say they will sell, 56 provided comments on their reasons. The most prevalent reason, stated by thirteen respondents was either the 'ordinance' or 'city policy.' Eleven respondents said they will sell because of 'bad tenants.'

Table 18: Financing of Lead Hazard Work and Impact on Property Value

	All Respondents		<=5 Units Owned		>5 Units Owned	
	N	%	N	%	N	%
Total Respondents	120	100%	57	100%	63	100%
How did you pay for the lead hazard control work?						
Grant program	9	8%	3	5%	6	10%
Bank loan/private funds	111	93%	54	95%	57	90%
Other	7	6%	1	2%	6	10%
How will you offset the cost of the repairs?						
Increase rent	20	17%	8	14%	12	19%
Not making other improvements*	35	29%	12	21%	23	37%
Sell the property*	28	23%	9	16%	19	30%
Other	12	10%	5	9%	7	11%
Don't know	2	2%	0	0%	2	3%
Do you think the investment you made in the property will improve the value of the property?***						
Yes	59	49%	33	58%	26	41%
No	50	42%	18	32%	32	51%
Don't know	9	8%	6	11%	3	5%

Note: Categories may total to more than 100% because respondents could select more than one option.

* Statistically significant difference (p<.10); **Statistically significant difference (p<.05)

Nearly half the respondents heard about the lead law through the media, while the remainder heard about it either through NET and the C of O process, or through fellow property owners and landlord associations.

Survey respondents were asked to describe their position on the law before it was implemented and after. Of 178 respondents who reported that they knew about the law before it was implemented, 36% said their position on it was unfavorable; 41% said their reaction favorable. Of those who reported their position on the law at the time of the survey, 35% had an unfavorable position and 46% had a favorable position, showing a slight increase in positive feelings about the ordinance (statistically significant at the p<.05 level). It is interesting though that while 9% of respondents started out unfavorable and became either neutral or favorable over time, 3% started out favorable and became unfavorable or neutral.

On balance it appears that experience with the law is more likely to improve landlords' perceptions of the law than to increase opposition.

Landlord Comments

At the conclusion of the survey, landlords were asked if they had any additional comments, and 117 of the 200 provided some (59%). Of those providing comments, 26% indicated a need for more financial aid or tax incentives for the landlords. Many refer to a need for more grants, and easier pathways to secure grants. Some state that they are not making

much money on the properties, and simply don't have the resources to make substantial repairs.

"I think if the city is going to enforce they should back it up with grants or something. Just to make it fair."

"Have a lot more funds and grants and loans and no pay back if I kept the property for a period of time for investor purposes."

Nearly one-quarter (23%) said it is important to educate tenants and hold them responsible for the condition of the properties. Others referred to a need for increased owner/investor education.

"I think the city just needs to have almost a one-stop resource center for landlords, to learn about the law and how to take care of remediating any problems."

"Most landlords don't know exactly what's required. The carpet has to be perfectly clean. You can't sweep it. You can't vacuum it. You have to clean it in a certain order. You have to clean the windows first and then the carpet. You have to know which order to clean."

"Education classes for the low income to keep on eye on things so they can let the landlord know if there is a problem."

"Educate tenants on how to keep property. The Lead law is not a permanent solution."

Twenty percent of those with comments said the law is not fair to landlords, and 9% (11 respondents) said the law should be abolished. Some of those who feel it is unfair point out that the lead was in the paint decades ago, and now landlords are being held responsible for that. Some also point out that tenants need to be responsible for their children and need to clean their homes more thoroughly and be more watchful of what their children put in their mouths.

"I know one thing they blew it out of proportion, the lead is in the paint when we buy it. The landlords are getting the rough end of the stick."

"I think it's unfair to landlords who have tenants who destroy properties and then hold the landlord responsible for it. It's not my fault tenants let their kids eat paint chips. I can't stand outside of their house twenty four hours a day, seven days a week."

The survey also generated some positive comments, or acknowledgement of the dangers of lead paint.

“I think everything is just the way it should be as far as them inspecting homes. They need to check them and make the landlords get rid of the lead paint.”

“As long as you maintain your property you won’t have a problem.”

“I somewhat think it's unfair but I understand the big picture.”

The Greater Rochester Health Foundation funded a one-stop center in Rochester to serve many of the needs noted by respondents, particularly those regarding additional information and resources for both tenants and landlords.

Landlord Focus Groups

In early 2008, CGR held a focus group of City of Rochester landlords to gather qualitative data about the impact of the ordinance. Six landlords attended and another two were contacted by phone. Two of the six attendees were full time landlords. Two participants together own several properties; three participants own two properties each; and another owns six single family homes and manages another three properties.

Overall Response to the Ordinance

Focus group participants were enthusiastic about the law and felt that it will help children in the City. However, they expressed frustration at the lack of responsibility given to tenants and cited examples of doing work to clear a lead violation and having tenants ‘undo’ the work. There was also frustration that work on neighboring properties can result in lead dust hazards on the landlords’ property. While the participants were in support of the ordinance, they felt they should not bear the sole responsibility.

Lead Safe Work Practice Training

In terms of Lead Safe Work Practices, 6 of the 8 participants were aware of the program. Overall, participants felt that the training was positive but that awareness needs to be raised. Those who had participated in the training reacted positively to it, although one felt there was a sense of ‘teaching to the test.’ The same person, however, felt the training was ‘wonderful’ overall and would recommend it to others.

Cost and Funding Concerns

Overall, participants felt that there is a lack of clarity around funding sources available for the costs of remediation and also a lack of information. Another concerns related to the cost of clearing violations; participants noted that they had not received a \$100 grant that had been promised for clearing a dust wipe violation. One landlord felt that

contracting for remediation is cost prohibitive and had undergone training and now does all of his own work. Participants did not understand why contracting the work is a requirement of receiving grant funds and felt it would still be cheaper to do their own work. Others felt that it is unfair to landlords who may not stay in the business for five years to be denied grants. One landlord commented that the cost of clearing lead hazards was a disincentive for many to purchase properties in the city and wondered if this could be remedied.

Other Issues

Focus group participants were not surprised that city data indicated that a high proportion of units passed inspection, as most of them do the work needed when anticipating an inspection. In addition, participants felt that the ordinance is being enforced more stringently in certain parts of the city than in other areas.

RECOMMENDATIONS

The research team has a number of recommendations in response to analysis of evaluation data from the city inspections, county blood lead tests and positive investigations, housing data, the landlord survey, and the landlord focus group.

Landlord Issues

- With such a high proportion of property owners doing their own lead repair work, the city and county should ensure that sufficient training is available for them to learn to do the repairs safely and that they are aware of the need for such training.
- More than one quarter of those doing the work may not have received training—this is another reason to be sure training is available and that landlords are made aware of it. The law does not include a mechanism for enforcement of this provision; however, spot checks to insure that workers are trained might increase awareness and compliance.
- Since cost data from the landlord survey suggests a wide range of lead safety measures being used, and because interim controls are not long-term fixes, training and education regarding ongoing maintenance is critical.

Policy

- The City's expansion of dust wipe tests in Year Two of the ordinance is likely to improve the impact of the law, given that 15% of dust wipe

tests conducted resulted in identification of a lead hazard that would otherwise have gone undetected (total of 1,100 units in two years).

- Evaluation findings (e.g. the 15% failure rate of dust wipe tests in units passing visual inspections) suggest that it is important to explore whether the *de minimis* provision of the ordinance is preventing identification of significant hazards in visual inspections. The City may want to create a pilot program in which inspections are conducted without the *de minimis* provision to determine whether additional hazards would be identified.
- Given that a number of property owners delay scheduling dust wipe tests, and some with failed dust wipes are taking longer than expected to achieve clearance, the City should take advantage of its newly granted enforcement opportunity under an amendment to the lead paint ordinance passed by City Council in September 2007 that allows the City to cite owners with a lead violation if they do not complete dust wipe tests within 60 days.
- With so many landlords asking for financial relief to help with repair costs, we recommend that additional grant programs or tax credits be established for costlier, long-lasting repairs, such as window replacement. Further, access to existing grant programs should be facilitated.
- There is an ongoing need for education of both property owners and tenants. Local resources for outreach and education should be coordinated to make sure these messages are being delivered clearly, consistently, and effectively.

Operating Issues

- Resolution 23 calls for a review at the end of the second year to determine how many units have not received a lead inspection and target them for accelerated inspection. Because one- and two-family rentals are now being inspected only every 6 years, it is particularly important to identify and inspect those homes that have not yet been inspected in order to help meet the goal of inspecting all units by 2010.
- Since units will be inspected less frequently, the City should emphasize education of tenants and property owners about essential maintenance practices and the availability of on-demand inspections if concerns arise.
- Given the lower than expected rates of lead hazard identification on both visual survey and dust wipe testing, we recommend that a risk assessment be conducted in a random sample of properties that passed city inspection to determine effectiveness of the visual survey and dust

wipe test protocol. The assessment should occur as soon as possible following the inspection to reduce the chance of surface disturbances.

- Develop and implement a “Rochester module” to be incorporated in Lead Safe Work Practices trainings that explains requirements under the lead law, describes resources available to property owners, and encourages use of standard treatments.
- We recommend that the MCDPH begin coding children’s blood lead level tests by city versus suburbs to allow internal ongoing tracking of trends by this geographic distinction, particularly with the City ordinance now in place. This information could also be of interest to the City School District.

Ongoing Evaluation

- Given that the goal of this ordinance is long-term lead safety, ongoing evaluation is important. This evaluation has identified issues that call for further exploration, and there are several questions that could not be addressed by this evaluation. These questions include the following:
 - Potential impacts of the lead law on families and the community. These impacts include the ability of high-risk families to find safe housing, the effects of hazard control work on families needing to relocate and the understanding of the law’s provision by families, physicians, community groups and others. A community-based evaluation of the law’s impacts on affected families would be an ideal tool to help answer these questions.
 - A follow-up landlord survey. The survey conducted in 2007 provides a snapshot of landlord perceptions and experiences during the early months of the implementation of the ordinance. This survey should be repeated in order to assess the ongoing impact of the ordinance on property owners.
 - Ongoing data collection and reporting are critical to the City’s ability to monitor progress made under the lead law. Effective monitoring may require greater coordination between the City and the County, as both entities are involved in hazard identification. Suggested data elements that should be collected include:
 - The number/proportion of units covered by the law that are inspected each year and the number of inspections that are repeat inspections, in order to ensure that the goal of inspecting all units by 2010 is reached.
 - The passing rate for all inspections (i.e. visual and dust wipes).

- The number of clearances and the year in which the respective units were cited.
- Properties inspected by the City and through the County's Lead Hazard Control Program or Positive Properties investigations, and any discrepancies in findings.

REFERENCES

- Center for Governmental Research (CGR). “Lead Poisoning Among Young Children in Monroe County.” Report for the Monroe County Health Department, May 2002.
- Centers for Disease Control (CDC). Blood Lead Levels—United States, 1999-2002. *MMWR—Morbidity & Mortality Weekly Report*. 2005 May 27; 54 (20): 513-516.
- City of Rochester. “Year One Implementation Plan, Lead-Based Paint Poisoning Prevention.” July 2006.
- Grosse, S.D., T.D. Matte, J. Schwartz, and R.J. Jackson. 2002. “Economic gains resulting from the reduction in children’s exposure to lead in the United States.” *Environmental Health Perspectives*. 110(6): 563-569.
- Jacobs, D.E. et al. 2002. The prevalence of lead-based paint hazards in U.S. Housing. *Environmental Health Perspectives* 111(10):599.
- Korfmacher, K.S. How much does lead poisoning cost? *Your Health and the Environment* (newsletter, University of Rochester Medical Center, Environmental Health Sciences Center). 2003; Spring: 7.
- Korfmacher, K.S. 2005. Personal communication (Testimony to Rochester City Council, November 8, 2005).
- Korfmacher, K.S. Rochester moves to make lead history. *Lead and Environmental Health Solutions*. March 2006.
- Korfmacher, K.S. 2008. Collaborating for primary prevention: Rochester’s new lead law. *Journal of Public Health Management and Practice*. 14(4): 400-406.
- Landrigan, P.J., C.B. Schechter, J.M. Lipton, M.C. Fahs, and J. Schwartz. 2002. Environmental pollutants and disease in American children: Estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities. *Environmental Health Perspectives*. 110(7): 721-728.
- Meyer PA, Pivetz T, Dignam TA, Homa DM, Schoonover J, Brody D. Surveillance for elevated blood lead levels among children—United States, 1997–2001. *MMWR Surveill Summ* 2003;52:1–21.

- National Center for Healthy Housing and University of Cincinnati.
Evaluation of the HUD Lead Hazard Control Grant Program. May
1, 2004.
[http://www.nchh.org/HUD_National__Evaluation_Final_Report.p
df](http://www.nchh.org/HUD_National__Evaluation_Final_Report.pdf)
- Nevin, R & Jacobs, DE. 2006. Windows of opportunity: Lead poisoning
prevention, housing affordability and energy conservation.
Housing Policy Debate 17(1).
- O'Fallon, Liam. 2004. Go for the GLO. Environmental Health
Perspectives. 112(6).
- Wilson J, Pivetz T, Ashley P, et al. Evaluation of HUD-funded lead hazard
control treatments at 6 years post-intervention. Environ Res. 2006;
102 (2): 237-248.

APPENDIX A: ORDINANCE AND RESOLUTIONS

Chapter 90, Property Code

Article III. Lead-Based Paint Poisoning Prevention.

§90-50. Policy and intent.

It is the policy of the City of Rochester to help prevent the poisoning of its residents by requiring that the presence of deteriorated lead-based paint on the interior and exterior of pre-1978 residential structures and on the exterior of pre-1978 non-residential structures be identified and be correctly addressed by reducing and controlling lead-based paint hazards which may be present in order to prevent human exposure to such hazards.

§90-51. Legislative findings.

- A. Lead poisoning poses a serious public health threat to children and adults in the City of Rochester.
- B. Younger children are particularly susceptible to the hazards of lead-based paint since their bodies are still developing. Fetuses are also vulnerable to the effects of lead-based paint because pregnant women can transfer lead to their fetuses, which can result in adverse developmental effects.
- C. A small amount of lead can cause elevated blood lead levels resulting in serious and irreversible developmental damage, particularly in children under the age of six years.
- D. Exposure to lead hazards from deteriorated lead-based paint is a primary cause of elevated blood lead levels in humans.
- E. Structures built before 1978 are the most likely to contain lead-based paint hazards.
- F. Residential properties are more likely than are non-residential properties to be a source of exposure to lead-based paint hazards by children.
- G. Children living in older, poorly maintained homes are disproportionately at risk for lead-based paint hazards.
- H. The exposure to lead-based paint hazards in the City of Rochester is most common, and presents the most serious risk, to young children residing in rental housing built before 1978.

- I. It is essential to the overall public health of persons in the City of Rochester, and particularly for children younger than six years of age, that they be protected from exposure to lead-based paint hazards.
- J. According to the environmental impact statement, proposed lead-based paint poisoning prevention legislation could have a cost impact on the rental housing market as high as \$540 million, depending on the alternative chosen.
- K. The application of lead-based paint poisoning prevention legislation to the owner-occupied housing market could cause extensive housing abandonment in at least nine distinct neighborhoods.
- L. Although unquestionably positive, the potential health benefits of lead-based paint poisoning prevention legislation are difficult to quantify since the number of people at-risk is undetermined, the transient nature of tenants makes targeting difficult, the mere presence of lead in a structure does not necessarily lead to human exposure to lead-based paint hazards, and the generally agreed-upon group at greatest risk, children from 0-6 years of age, are significantly transient.

§90-52. Definitions.

ABATEMENT means any set of measures designed to permanently eliminate lead-based paint or lead-based paint hazards (see definition of "PERMANENT"). Abatement includes: (1) The removal of lead-based paint and dust-lead hazards, the permanent enclosure or encapsulation of lead-based paint, the replacement of components or fixtures painted with lead-based paint, and the removal or permanent covering of soil-lead hazards; and (2) All preparation, cleanup, disposal, and post abatement clearance testing activities associated with such measures.

CERTIFIED means licensed or certified to perform such activities as risk assessment, lead-based paint inspection, or abatement supervision by the United States Environmental Protection Agency (EPA) in accordance with 40 CFR Part 745, Subpart L.

CERTIFIED LEAD-BASED PAINT INSPECTOR means an individual who has been trained by an accredited training program, as defined by 40 CFR §745.223, and certified by EPA pursuant to 40 CFR §745.226 to conduct lead-based paint inspections. A certified lead-based paint inspector also samples for the presence of lead in dust and soil for the purposes of clearance testing.

CERTIFIED RISK ASSESSOR means an individual who has been trained by an accredited training program, as defined by 40 CFR §745.223, and certified by EPA pursuant to 40 CFR §745.226 to conduct risk assessments. A certified risk assessor also samples for the presence of lead in dust and soil for the purposes of clearance testing.

CHEWABLE SURFACE means an interior or exterior surface painted with lead-based paint that a young child can mouth or chew. A chewable surface is the same as an "accessible surface" as defined in 42 U.S.C. 4851b(2). Hard metal substrates and other materials that cannot be dented by the bite of a young child are not considered chewable.

CLEARANCE EXAMINATION means an activity conducted following lead-based paint hazard reduction activities to determine that the hazard reduction activities are complete and that no soil-lead hazards or settled dust-lead hazards, as defined in this Article, exist in the dwelling unit or worksite.

COMMON AREA means a portion of a residential property that is available for use by occupants of more than one dwelling unit. Such an area may include, but is not limited to, hallways, stairways, laundry and recreational rooms, playgrounds, community centers, on-site day care facilities, porches, basements, attics, garages and boundary fences.

COMPONENT means an architectural element of a dwelling unit or common area identified by type and location, such as a bedroom wall, an exterior window sill, a baseboard in a living room, a kitchen floor, an interior window sill in a bathroom, a porch floor, stair treads in a common stairwell, or an exterior wall.

CONTAINMENT means the physical measures taken to ensure that dust and debris created or released during lead-based paint hazard reduction are not spread, blown or tracked from inside to outside of the worksite.

DETERIORATED PAINT means any interior or exterior paint or other coating that, through a visual assessment, is found to be peeling, chipping, crazing, flaking, abrading, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate, or a chewable surface that contains visual signs of chewing.

DRIPLINE means the area within 3 feet surrounding the perimeter of a building.

DRY SANDING means sanding without moisture and includes both hand and machine sanding.

DUST-LEAD HAZARD means surface dust that contains a dust-lead loading (area concentration of lead) at or exceeding the levels promulgated by the EPA pursuant to section 403 of the Toxic Substances Control Act.

DWELLING UNIT means a: (1) Single-family dwelling, including attached structures such as porches and stoops; or (2) Housing unit in a structure that contains more than 1 separate housing unit, and in which each such unit is used or occupied, or intended to be used or occupied, in whole or in part, as the home or separate living quarters of 1 or more persons.

ENCAPSULATION means the application of a covering or coating that acts as a barrier between the lead-based paint and the environment and that relies for its durability on adhesion between the encapsulant and the painted surface, and on the integrity of the existing bonds between paint layers and between the paint and the substrate. Encapsulation may be used as a method of abatement if it is designed and performed so as to be permanent (see definition of "PERMANENT").

ENCLOSURE means the use of rigid, durable construction materials that are mechanically fastened to the substrate in order to act as a barrier between lead-based paint and the environment. Enclosure may be used as a method of abatement if it is designed to be permanent (see definition of "PERMANENT").

EVALUATION means a risk assessment, a lead hazard screen, a lead-based paint inspection, paint testing, or a combination of these to determine the presence of lead-based paint hazards or lead-based paint.

FRICTION SURFACE means an interior or exterior surface that is subject to abrasion or friction, including, but not limited to, certain window, floor, and stair surfaces.

g means gram, mg means milligram (thousandth of a gram), and ug means microgram (millionth of a gram).

HAZARD REDUCTION means measures designed to reduce or eliminate human exposure to lead-based paint hazards through methods including interim controls or abatement or a combination of the two.

HEPA VACUUM means a vacuum cleaner device with an included high- efficiency particulate air (HEPA) filter through which the contaminated air flows, operated in accordance with the instructions of its manufacturer. A HEPA filter is one that captures at least 99.97 percent of airborne particles of at least 0.3 micrometers in diameter.

IMPACT SURFACE means an interior or exterior surface that is subject to damage by repeated sudden force, such as certain parts of door frames.

INTERIM CONTROLS means a set of measures designed to reduce temporarily human exposure or likely exposure to lead-based paint hazards. Interim controls include, but are not limited to, repairs, painting, temporary containment, specialized cleaning, clearance, ongoing lead-based paint maintenance activities, and the establishment and operation of management and resident education programs.

LEAD-BASED PAINT means paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight.

LEAD-BASED PAINT HAZARD means any condition that causes exposure to lead from dust-lead hazards, soil-lead hazards, or lead-based paint that is deteriorated or present

in chewable surfaces, friction surfaces, or impact surfaces, and that would result in adverse human health effects.

LEAD-BASED PAINT INSPECTION means a surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report explaining the results of the investigation.

LEAD HAZARD INFORMATION PAMPHLET means the most recent publication of the LEAD HAZARD INFORMATION PAMPHLET means the pamphlet developed by the EPA, the United States Department of Housing and Urban Development and the Consumer Product Safety Commission pursuant to Section 403 of the Toxic Substances Control Act (15 U.S.C. 2686), entitled "Protect Your Family From Lead in Your Home."

OCCUPANT means a person who inhabits a dwelling unit.

OWNER means a person, firm, corporation, nonprofit organization, partnership, government, guardian, conservator, receiver, trustee, executor, or other judicial officer, or other entity which, alone or with others, owns, holds, or controls the freehold or leasehold title or part of the title to property, with or without actually possessing it. The definition includes a vendee who possesses the title, but does not include a mortgagee or an owner of a reversionary interest under a ground rent lease.

PAINT STABILIZATION means repairing any physical defect in the substrate of a painted surface that is causing paint deterioration, removing loose paint and other material from the surface to be treated, and applying a new protective coating or paint.

PAINT TESTING means the process of determining, by a certified lead-based paint inspector or risk assessor, the presence or the absence of lead-based paint on deteriorated paint surfaces or painted surfaces to be disturbed or replaced.

PAINT REMOVAL means a method of abatement that permanently eliminates lead-based paint from surfaces.

PAINTED SURFACE TO BE DISTURBED means a paint surface that is to be scraped, sanded, cut, penetrated or otherwise affected by rehabilitation work in a manner that could potentially create a lead-based paint hazard by generating dust, fumes, or paint chips.

PERMANENT means an expected design life of at least 20 years.

REDUCTION means measures designed to reduce or eliminate human exposure to lead-based paint hazards through methods including interim controls and abatement.

REHABILITATION means the improvement of an existing structure through alterations, incidental additions or enhancements. Rehabilitation includes repairs necessary to

correct the results of deferred maintenance, the replacement of principal fixtures and components, improvements to increase the efficient use of energy, and installation of security devices.

REPLACEMENT means a strategy of abatement that entails the removal of building components that have surfaces coated with lead-based paint and the installation of new components free of lead-based paint.

RESIDENTIAL PROPERTY means a dwelling unit, common areas, building exterior surfaces, and any surrounding land, including outbuildings, fences and play equipment affixed to the land, belonging to an owner and available for use by residents, but not including land used for agricultural, commercial, industrial or other non-residential purposes, and not including paint on the pavement of parking lots, garages, or roadways.

RISK ASSESSMENT means: (1) An on-site investigation to determine the existence, nature, severity, and location of lead-based paint hazards; and (2) The provision of a report by the individual or firm conducting the risk assessment explaining the results of the investigation and options for reducing lead-based paint hazards.

SOIL-LEAD HAZARD means bare soil on residential property that contains lead equal to or exceeding levels promulgated by the U.S. Environmental Protection Agency pursuant to section 403 of the Toxic Substances Control Act.

TENANT means the individual named as the lessee in a lease, rental agreement or occupancy agreement for a dwelling unit.

VISUAL ASSESSMENT means a visual examination for, as applicable: (1) Deteriorated paint; (2) Visible surface dust, debris and residue found as part of an inspection pursuant to Section 90-55, a risk assessment or clearance examination; or (3) The completion or failure of a lead-based paint hazard reduction measure as part of a clearance examination.

WET SANDING or WET SCRAPING means a process of removing loose paint in which the painted surface to be sanded or scraped is kept wet to minimize the dispersal of paint chips and airborne dust.

WINDOW TROUGH means the area between the interior window sill (stool) and the storm window frame. If there is no storm window, the window trough is the area that receives both the upper and lower window sashes when they are both lowered.

WIPE SAMPLE means a sample collected by wiping a representative surface of known area, as determined by ASTM E1728, "Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques," or equivalent method, with an acceptable wipe material as defined in ASTM E 1792, "Standard Specification for Wipe Sampling Materials for Lead

in Surface Dust."

WORKSITE means an interior or exterior area where lead-based paint hazard reduction activity takes place. There may be more than one worksite in a dwelling unit or at a residential property.

§90-53. Presumptions and obligations.

- A. For purposes of this article, all paint on the interior or exterior of any residential building on which the original construction was completed prior to January 1, 1978, shall be presumed to be lead-based. [Amended 7-18-2006 by Ord. No. 2006-224]
- B. For purposes of this article, all paint on the exterior of any non-residential structure on which the original construction was completed prior to January 1, 1978 shall be presumed to be lead-based.
- C. Any person seeking to rebut these presumptions shall establish through the means set forth in Section 90-56 that the paint on the building or structure in question is not lead-based paint.
- D. Residential buildings shall be maintained free of lead-based paint hazards. [Amended 7-18-2006 by Ord. No. 2006-224]

§90-54. Violations.

- A. Deteriorated paint violation.

The interior and exterior of any residential building on which the original construction was completed prior to January 1, 1978, and the exterior of any nonresidential structure on which the original construction was completed prior to January 1, 1978, shall be maintained in a condition such that the paint thereon does not become deteriorated paint, unless the deteriorated paint surfaces total no more than: [Amended 7-18-2006 by Ord. No. 2006-224]

- (1) 20 square feet on exterior surfaces;
 - (2) 2 square feet in any one interior room or space; or
 - (3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area. Examples include windowsills, baseboards, and trim.
- B. Bare soil violation.

Bare soil shall not be present within the dripline of any residential building on which the original construction was completed prior to January 1, 1978. [Amended 7-18-2006 by Ord. No. 2006-224]

C. Dust-lead hazard violation.

A dust-lead hazard shall be identified and cited in accordance with the procedures set forth in § 90-55, Inspection for violations. [Added 3-14-2006 by Ord. No. 2006-37]

D. Dust sample violation.

A dust sample violation shall be cited upon a failure by an owner of a property to timely cause dust samples to be taken and certified test results to be submitted to the NET Lead Inspection Unit in accordance with the procedures set forth in § 90-55, Inspection for violations. [Added 8-21-2007 by Ord. No. 2007-305]

§90-55. Inspection for violations.

All inspections, including, but not limited to, inspections performed as part of an application for a certificate of occupancy pursuant to § 90-16 of the City Code, a renewal of a certificate of occupancy, or based upon the filing of a complaint, shall include a visual assessment for deteriorated paint and bare soil violations. With respect to units located in the high-risk area identified by the Mayor or the Mayor's designee, when the visual assessment identifies no deteriorated paint violation, the owner shall cause dust samples to be taken and certified test results to be obtained in accordance with the protocols established in 40 CFR 745.227(e)(8)(v)(B) to determine whether a dust-lead hazard exists. The owner shall be given 60 days to cause the dust samples to be taken and to submit all certified test results to the NET Lead Inspection Unit. If all certified test results are not submitted within the specified time, a dust sample violation shall be cited. When a dust-lead hazard is identified and not cleared, a dust-lead hazard violation shall be cited. A certification of clearance as described in § 90-57 shall be required in order to clear a dust-lead hazard violation. The high-risk area to be identified by the Mayor or the Mayor's designee shall, at a minimum, consist of those census block groups which cumulatively encompass an area in which no fewer than 90% of the units identified by the County Health Department for inspections in conjunction with its elevated blood-lead level inspections for the period of the preceding five years are located. Where the filing of a complaint leads to an inspection, the inspection shall include the unit which is the focus of the complaint and all common areas.

§90-56. Remedy for violations.

Following a visual assessment which results in the citation of a deteriorated paint violation, the violation may be removed only by one of the following methods:

- A. Certification by a lead-based paint inspector or risk assessor that the property has been determined through a lead-based paint inspection conducted in accordance with the federal regulations at 40 CFR §745.227(b) not to contain lead-based paint.
- B. Certification by a lead-based paint inspector or risk assessor that all cited violations of § 90-54, Violations, have been abated, or interim controls implemented, and clearance has been achieved in accordance with standards found at 40 CFR 745.227(e), regardless of whether abatement has been achieved or interim controls implemented, and provided, however, that the property has been inspected pursuant to those standards since the deteriorated paint or dust-lead hazard violation was last cited. [Amended 3-14-2006 by Ord. No. 2006-37]
- C. Certification by the Rochester Housing Authority or other state or federal supervising agency which regulates an assisted housing program stating that the property is in compliance with the inspection and clearance requirements of the housing program or, with respect to federally assisted housing, the requirements of 24 CFR Part 35, provided, however, that with respect to the Federal Housing Choice Voucher program, the property has been inspected pursuant to those requirements since the deteriorated paint was last detected.
- D. Where only exterior deteriorated paint violations, including deteriorated paint violations on an open porch, and/or bare soil violations are cited, clearance may be established through a visual assessment by a City inspector after reduction measures have been implemented. [Amended 3-14-2006 by Ord. No. 2006-37]

§90-57. Standards for clearance examination and report.

The remedy available through Section 90-56B shall require that a clearance examination be completed for a property upon which a deteriorated paint violation has been cited in accordance with the following requirements:

- A. Qualified personnel. Certification of clearance shall be issued by:
 - (1) A certified risk assessor; or

- (2) A certified lead-based paint inspector.

B. Required activities.

- (1) A clearance examination shall include a visual assessment, dust sampling, submission of samples for analysis for lead, interpretation of sampling results, and preparation of a report. Examinations shall be performed in dwelling units, common areas and exterior areas in accordance with this section and the steps set forth at 40 CFR 745.227(e)(8) and (9).
- (2) A visual assessment shall be performed to determine if deteriorated paint surfaces and/or visible amounts of dust, debris, paint chips or other residue are present. Both exterior and interior painted surfaces shall be examined for the presence of deteriorated paint. If deteriorated paint and visible dust, debris or residue are present in areas subject to dust sampling, they must be eliminated prior to the continuation of the clearance examination. If exterior painted surfaces have been disturbed by the hazard reduction, maintenance or rehabilitation activity, the visual assessment shall include an inspection of the ground and any outdoor living areas close to the affected exterior painted surfaces. Visible dust or debris in such outdoor living areas shall be cleaned up and visible paint chips on the ground shall be removed.
- (3) Dust samples shall be wipe samples and shall be taken on floors, excluding open porches, and, where practicable, interior windowsills and window troughs. Dust samples shall be collected and analyzed in accordance with 40 CFR 745.227(f) and (g). [Amended 3-14-2006 by Ord. No. 2006-37]

C. Report.

The clearance examiner shall ensure that an examination report is prepared that provides documentation of the examination.

- (1) The report shall include the following information:
 - (a) The address of the residential property and, if only part of a multi-family property is affected, the specific dwelling units and common areas affected.

- (b) The date(s) of the examination;
 - (c) The name, address, and signature of each person performing the examination, including their EPA certification number;
 - (d) The results of the visual assessment for the presence of deteriorated paint and visible dust, debris, residue or paint chips;
 - (e) The results of the analysis of dust samples, in ug/sq.ft., by location of sample; and
 - (f) The name and address of each laboratory that conducted the analysis of the dust samples, including the identification number for each such laboratory recognized by EPA under section 405(b) of the Toxic Substances Control Act (15 U.S.C. 2685(b)).
- (2) When abatement is performed, the report shall be an abatement report in accordance with 40 CFR §745.227(e)(10).

D. Clearance standards.

Where a deteriorated paint or dust-lead hazard violation has been cited, the dust-lead standards in 40 CFR 745.65(b) shall be met before a Certificate of Occupancy may be issued or a violation removed. [Amended 3-14-2006 by Ord. No. 2006-37]

E. Requirement to avoid conflict of interest regarding clearance inspection.

All examinations shall be performed by persons or entities independent of those performing hazard reduction or maintenance activities.

F. This Section shall not apply to the situations set forth in Section 90-56D.

§90-58. Lead-safe hazard reduction and control.

A. No person shall disturb or remove lead-based paint, or in any other way generate excessive dust or debris during work on the interior or exterior of any existing

building or structure except in accordance with the requirements of this section and §§ 90-59 and 90-60. If a residential building is not owner occupied and is in the high-risk area, then the owner or the owner's agent will be required to complete certified Lead Safe Work Practices training prior to conducting any lead paint reduction activity, provided that such training is available to the public for free or at a nominal cost, and except that such training shall not be required with respect to paint hazards below the de minimis levels identified in § 90-60E. [Amended 3-14-2006 by Ord. No. 2006-37

B. Exemptions.

This Section shall not apply to activities that disturb or remove paint where the activities are being performed on buildings on which construction was completed on or after January 1, 1978.

C. Sign required when exterior lead-based paint (or presumed lead-based paint) is disturbed:

- (1) Not later than the commencement date of any lead-based paint hazard reduction work, the owner, or the contractor when the owner has entered into a contract with a contractor to perform such work on the exterior of a building or structure, shall post signs in a location or locations clearly visible to the adjacent properties stating the following:

LEAD-BASED PAINT HAZARD REDUCTION WORK IN PROGRESS

PUBLIC ACCESS TO
WORK AREA
PROHIBITED

POSTED IN ACCORDANCE WITH CHAPTER 90
OF THE CITY OF ROCHESTER CODE

FOR FURTHER INFORMATION, PHONE -----

- (2) The sign required by this subsection shall be not less than 24 inches square and shall be in large boldface capital letters no less than one-half inch in size, and shall contain the notification in both English and Spanish. The sign required by this subsection shall remain in place until the lead-

based paint hazard reduction work has been completed.

- (3) Where it is not possible to post signs in a conspicuous location or locations clearly visible to the adjacent properties, the owner, or where the owner has entered into a contract with a contractor to perform lead-based paint hazard reduction work, the contractor shall provide the notice in written form, such as a letter or memorandum, to the occupants of adjacent properties.

E. Notice to tenants.

Where lead-based paint hazard reduction work is to be performed on the interior or exterior of buildings occupied by one or more tenants, not less than three business days before any lead-based paint hazard reduction work is to commence, the owner shall provide the following information:

- (1) Contents of notice.

Provide written notice to tenants of the building on which the work is being performed that lead-based paint hazard reduction work is being performed. This notice, which shall be in both English and Spanish, shall be in compliance with the EPA pre-renovation notification rules set forth in 40 CFR Part 745, Subpart E, shall be in the form of a sign, letter or memorandum, and shall prominently state the following:

Work is scheduled to be performed beginning _____ (date) on this property that may disturb or remove lead-based paint. The persons performing this work are required to follow federal and local laws regulating work with lead-based paint. You may obtain information regarding these laws, or report any suspected violations of these laws, by calling the City of Rochester at _____ (a number to be designated by the City). The owner of this property is also required to provide tenants with a copy of the lead hazard information pamphlet. Retaliatory action against tenants is prohibited by Section 90-63 of the Municipal Code.

- (2) The owner shall provide all tenants in the building with a copy of the lead hazard information pamphlet.

F. Notice by contractor.

Where lead-based paint hazard reduction work is being performed by a contractor on residential property, the contractor shall at least three business days prior to the commencement of such work, notify the property owner of potential lead hazards during the project by delivering to the owner a copy of the lead hazard information pamphlet.

G. Early commencement of work by owner.

A property owner may commence, or may authorize a contractor to commence, lead-based paint hazard reduction work less than three business days after providing notices required above when such work must be commenced immediately to correct an emergency condition, such as work necessitated by non-routine failures of equipment, that were not planned but result from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, or threatens equipment and/or property with significant damage.

H. Early commencement of work requested by tenant.

Upon written request of a tenant, an owner may commence or authorize a contractor to commence, lead-based paint hazard reduction work on that tenant's unit less than three business days after providing notices required in subsection E above.

§90-59. Occupant protection and worksite preparation.

A. Occupant protection.

- (1) Occupants shall not be permitted to enter the worksite during hazard reduction activities (unless they are employed in the conduct of these activities at the worksite) until after hazard reduction work has been completed and clearance has been achieved.
- (2) Occupants shall be temporarily relocated during hazard reduction activities and until a clearance examination has been successfully completed on the occupant's unit, and occupants who relocate to a unit not owned by their landlord shall not be liable for rent accruing during that time, except relocation shall not be necessary if:
 - (a) Treatment will not disturb lead-based paint, dust-lead hazards or

soil-lead hazards;

- (b) Only the exterior of the dwelling unit is treated, and windows, doors, ventilation intakes and other openings in or near the worksite are sealed during hazard control work and cleaned afterward, and entry free of dust-lead hazards, soil-lead hazards and debris is provided;
 - (c) Treatment of the interior will be completed within one period of 8-daytime hours, the worksite is contained so as to prevent the release of leaded dust and debris into other areas, and treatment does not create other safety, health or environmental hazards (e.g., exposed live electrical wiring, release of toxic fumes, or on-site disposal of hazardous waste); or
 - (d) Treatment of the interior will be completed within 15 calendar days, the worksite is contained so as to prevent the release of leaded dust and debris into other areas, treatment does not create other safety, health or environmental hazards; and, at the end of work on each day, the worksite and the area within at least 10 feet of the containment area is cleaned to remove any visible dust or debris, and occupants have safe daily access to sleeping areas, and bathroom and kitchen facilities.
- (3) The dwelling unit and the worksite shall be secured against unauthorized entry, and occupants' belongings protected from contamination by dust-lead hazards and debris during hazard reduction activities. Occupants' belongings in the containment area shall be relocated to a safe and secure area outside the containment area, or covered with an impermeable covering with all seams and edges taped or otherwise sealed.
- (4) In addition to protections afforded elsewhere by law, if interior hazard reduction activities will not be or are not completed within sixty calendar days, occupants shall have the right to terminate their lease and shall have no further obligation to pay rent under that rental agreement, provided, however, that this subsection shall not relieve the occupant of the obligation to pay any previously accrued rent for which he or she is otherwise liable.

B. Worksite preparation.

- (1) The worksite shall be prepared, including the placement of containment barriers, to prevent the release of leaded dust, and contain lead-based

paint chips and other debris from hazard reduction activities within the worksite until they can be safely removed. Practices that minimize the spread of leaded dust, paint chips, soil and debris shall be used during worksite preparation.

- (2) A warning sign shall be posted at each entry to a room where hazard reduction activities are conducted when occupants are present; or at each main and secondary entryway to a building from which occupants have been relocated. Each warning sign shall be as described in 29 CFR §1926.62(m), except that it shall be posted irrespective of employees' lead exposure and, to the extent practicable, provided in the occupants' primary language.

§90-60. Safe work practices.

- A. Lead-based paint shall not be applied to any exterior or interior surface.
- B. Prohibited methods.

The following methods of paint removal shall not be used:

- (1) Open flame burning or torching.
- (2) Machine sanding or grinding without a high-efficiency particulate air (HEPA) local exhaust control.
- (3) Abrasive blasting or sandblasting without HEPA local exhaust control.
- (4) Heat guns operating above 1100 degrees Fahrenheit or charring the paint.
- (5) Dry sanding or dry scraping, except dry scraping in conjunction with heat guns or within 1.0 foot of electrical outlets, or when treating defective paint spots totaling no more than 2 square feet in any one interior room or space, or totaling no more than 20 square feet on exterior surfaces.
- (6) Paint stripping in a poorly ventilated space using a volatile stripper that is a hazardous substance in accordance with regulations of the Consumer Product Safety Commission at 16 CFR §1500.3, and/or a hazardous chemical in accordance with the Occupational Safety and Health

Administration regulations at 29 CFR §§1910.1200 or 1926.59, as applicable to the work.

C. Worksite preparation.

The worksite shall be prepared in accordance with Section 90-59B.

D. Specialized cleaning.

After hazard reduction activities have been completed, the worksite shall be cleaned using cleaning methods, products and devices that are successful in cleaning up dust-lead hazards, such as a HEPA vacuum or other method of equivalent efficacy, and lead-specific detergents or equivalent.

E. *De minimis* levels.

Safe work practices are not required when maintenance or hazard reduction activities do not disturb painted surfaces that total more than:

- (1) 20 square feet on exterior surfaces;
- (2) 2 square feet in any one interior room or space; or
- (3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area. Examples include windowsills, baseboards, and trim.

§90-61. Emergency actions, weather conditions.

- A. For emergency actions necessary to safeguard against imminent or immediate danger to human life, health or safety, or to protect property from further structural damage, including demolitions ordered pursuant to Sections 47A-16B & C of the Municipal Code, occupants shall be protected from exposure to lead in dust and debris generated by such emergency actions to the extent practicable. This exemption does not apply to any work undertaken subsequent to, or above and beyond such emergency actions, other than the demolitions noted above.
- B. Performance of lead-based paint hazard reduction or lead-based paint abatement on an exterior painted surface as required under this Article may be

delayed for a reasonable time during a period when weather conditions render impossible the completion of conventional construction activities, provided however, that this limitation shall continue only for the period in which work cannot be performed in the work safe manner as provided for herein.

§90-62. Exemptions.

- A. This Article shall not apply to properties taken by a governmental entity in a foreclosure proceeding which are vacant and secured and: (1) scheduled for demolition, or (2) scheduled for sale within twelve months.

- B. The requirements of §§ 90-54 through 90-57 which are applicable to residential buildings shall not include single-family owner-occupied dwellings. [Amended 7-18-2006 by Ord. No. 2006-224]

§90-63. Prohibition of retaliatory action.

- A. It is unlawful for an owner, or any person acting on his or her behalf, to take any retaliatory action toward a tenant who reports a suspected lead-based paint hazard to the owner or to the City. Retaliatory actions include but are not limited to any actions that materially alter the terms of the tenancy (including rent increases and non-renewals) or interfere with the occupants' use of the property.

- B. There shall be a rebuttable presumption that any attempt by the owner to raise rents, curtail services, refuse to renew or attempt to evict a tenant within six months after any report to the City or the owner or any enforcement action in connection with a suspected lead hazard is a retaliatory action in violation of this section, except that in instances of nonpayment of rent or commission of waste upon the premises by the tenant no such presumption shall apply. After six months from the date of the reporting of a suspected lead hazard, or the most recent activity related to any enforcement action, the defense of retaliatory eviction shall remain available to the tenant, but without the benefit of the presumption created by this section.

- C. The provisions of this section shall not be given effect in any case in which it is established that the condition from which the complaint or action arose was caused by the tenant, a member of the tenant's household, or a guest of the tenant. Nor shall it apply in a case where a tenancy was terminated pursuant to the terms of a lease as a result of a bona fide transfer of ownership.

§90-64. Notification to County of violations.

The City shall continue to send notices to the County of Monroe listing any health and safety violations found in properties inspected by the City. Any violation of Section 90-54 shall be included on that list.

§90-65. Database for properties.

- A. The City shall maintain a database, accessible to the public, of all residential properties where lead hazards have been identified, reduced and controlled with funds received by the City from the United States Department of Housing and Urban Development which require that such a database be maintained. The City shall further maintain a database of all residential properties granted a Certificate of Occupancy after the effective date of this ordinance.
- B. The databases created pursuant to this section shall be kept available for “walk-in” inspection by the public. No person requesting access shall be required to complete a Freedom of Information request in order to view this database.



City of Rochester

City Clerks Office

Certified Resolution

Rochester, N.Y., _____

TO WHOM IT MAY CONCERN:

I hereby certify that at a meeting of the Council of the City of Rochester, held in the City Hall, on **December 20, 2005** a resolution was **Adopted**, of which the following is a true copy; and at the time said resolution was adopted the Council consisted of nine (9) members.

Resolution No. 2005-23

Resolution Regarding Targeting Lead Enforcement, As Amended

WHEREAS, the City is enacting legislation to address the issue of lead paint poisoning in Rochester, and

WHEREAS, that legislation will utilize the Certificate of Occupancy (C of O) inspection process as the basic structure to enforce the new regulations, and

WHEREAS, the use of the C of O process ensures that every property subject to a C of O will be inspected every five years, with an estimated average of 4,500 structures certified annually, and

WHEREAS, there are [thirty-nine] identified census [tracts] blocks in the City in a list on file in the City Clerk's Office that have historically been the location of a disproportionately high number of cases of lead poisoning, making them an important area to target for early enforcement, and

WHEREAS, in addition to the C of O inspections, the City will undertake Quality Housing Initiative (QHI) inspections on behalf of Monroe County for units that house tenants subsidized by the Department of Human Services, with an estimated 8,000-10,000 such inspections annually, and the substantial majority of those units are located within the [thirty-nine] identified census [tracts] blocks that comprise the target area, and

WHEREAS, beyond the C of O and QHI inspections, the City will respond to individual complaints, yielding an additional 2,000-4,000 units inspected annually, and

WHEREAS, at the end of the second year of enforcement, it is anticipated that the vast majority of the units in the target area will have been inspected through one of the City's inspection processes, and

WHEREAS, it is the intention of the Council that the units in the target area, as the source of a substantial number of the cases of lead poisoning, should be completed the earliest possible time within the financial and programmatic constraints that exist,

BE IT THEREFORE RESOLVED, by the Council of the City of Rochester as follows:

Section 1. [Following the end of the second year of this inspection process, the City shall create a list of the properties within the target area that have not yet been inspected and will schedule inspections on those properties during the third year.] By July 1, 2006 the City shall create a list of all of the properties within the target area that should be subject to lead-based paint inspection.

Section 2. [A report shall be submitted to Council during the first quarter of the third year to document the list of remaining properties and a projected schedule to address them.] By the end of the 1st quarter of the second, third and fourth years following the effective date of this inspection process a report shall be submitted to Council showing the number of properties in the target area that have not yet been inspected.

- A. The report submitted in the third year shall also contain a list of the remaining properties and the City will schedule inspections on those properties during the third year.
- B. If any properties subject to inspection have not been addressed by the time the report is submitted in the fourth year the report shall contain a list of those properties and specify the reasons therefore.

Section 3. The boundaries of the target area shall be adjusted as necessary to reflect the recommendations of the Monroe County Health Department and shall, at a minimum, cover the areas in which 90% of children in the City historically found to have Elevated Blood Lead levels reside..

Section 4. This resolution shall take effect immediately.

Bracketed material deleted; underlined material added.

Passed by the following vote:

Ayes - President Giess, Councilmembers Curran, Douglas, Mains, McFadden, Norwood, Pritchard, Santiago, Stevenson - 9.

Nays - None - 0.

Attest Carolee A. Conklin
City Clerk



City of Rochester

City Clerks Office

Certified Resolution

Rochester, N.Y., _____

TO WHOM IT MAY CONCERN:

I hereby certify that at a meeting of the Council of the City of Rochester, held in the City Hall, on **December 20, 2005** a resolution was **Adopted**, of which the following is a true copy; and at the time said resolution was adopted the Council consisted of nine (9) members.

Resolution No. 2005-24

Resolution Regarding Public Education On Lead, As Amended

WHEREAS, the City is enacting legislation to address the issue of lead paint poisoning in Rochester, and

WHEREAS, that legislation will address many of the structural issues that are involved in the dispersion of lead dust into housing units, and

WHEREAS, it will be critically important that the citizens of Rochester understand the potential public health hazards of lead exposure and how to prevent them, and

WHEREAS, in addition to the new City Code requirements, lead poisoning can be prevented through the use of different house cleaning techniques such as wet mopping instead of sweeping, and through the practice of leaving shoes outside the home, as well as through improved nutritional practices in children, and

WHEREAS, the responsibility of providing such information falls not only on the City, but also on the Monroe County Health Department and the Coalition to Prevent Lead Poisoning,

BE IT THEREFORE RESOLVED, by the Council of the City of Rochester as follows:

Section 1. The City shall encourage Monroe County and Coalition to Prevent Lead Poisoning to create and fund a campaign to educate the public on the benefits of specific cleaning, hygiene, and nutritional practices in preventing lead poisoning, especially among children.

Section 2. The City shall include information about the new regulations and about health issues involving lead in a water bill insert at the earliest opportunity in 2006.

Section 3. The Mayor is requested to appoint members to a Citizen Advisory Group to provide appropriate advice to the Administration as the new City ordinance are implemented. The membership of said Group shall contain a majority of persons who live in the designated target area.

Section 4. This resolution shall take effect immediately.

Underlined material added.

Adopted by the following vote:

Ayes - President Giess, Councilmembers Curran, Douglas, Mains, McFadden, Norwood, Pritchard, Santiago, Stevenson - 9.

Nays - None - 0.

Attest Jarilee A. Conkern
City Clerk



City of Rochester

City Clerks Office

Certified Resolution

Rochester, N.Y., _____

TO WHOM IT MAY CONCERN:

I hereby certify that at a meeting of the Council of the City of Rochester, held in the City Hall, on **December 20, 2005** a resolution was **Adopted**, of which the following is a true copy; and at the time said resolution was adopted the Council consisted of nine (9) members.

Resolution No. 2005-25

Resolution Regarding A Voluntary Lead Program

WHEREAS, the City is enacting legislation to address the issue of lead paint poisoning in Rochester, and

WHEREAS, that legislation will utilize the Certificate of Occupancy (C of O) inspection process as the basic structure to enforce the new regulations, and

WHEREAS, single-family owner-occupied homes are not covered by the C of O process, and

WHEREAS, it will be important to create a mechanism for the owners of such properties to become familiar with the potential hazards of lead poisoning and to take steps to prevent them, and

WHEREAS, the establishment of a voluntary program for such properties would be an appropriate and effective means of addressing this significant segment of the City's housing market, and

WHEREAS, funds are currently available through the Federal government to address lead paint issues in such homes where the owner is income eligible, and

WHEREAS, establishing a database of such properties that have been treated to remediate or abate lead paint would be a useful tool to potential homebuyers,

BE IT THEREFORE RESOLVED, by the Council of the City of Rochester as follows:

Section 1. The Mayor is hereby requested to establish, during 2006, a voluntary program for single-family owner-occupied properties to encourage the remediation or abatement of lead hazards in those properties.

Section 2. The program shall include a database that will be available through the City's Web Site to catalog the properties that have been made lead safe or lead free.

Section 3. A report shall be submitted to Council by the first quarter of 2007 to describe the program and to detail an implementation schedule.

Section 4. This resolution shall take effect immediately.

Adopted by the following vote:

Ayes - President Giess, Councilmembers Curran, Douglas, Mains, McFadden, Norwood, Pritchard, Santiago, Stevenson - 9.

Nays - None - 0.

Attest Carolee A. Conklein
City Clerk

APPENDIX B: ADVISORY COMMITTEE MEMBERS

Alma Balonon-Rosen

Local Office Director
Enterprise Community Partners

Molly Clifford

NET Director
City of Rochester

Dan Condello

Financial Assistance Coordinator
Monroe County Department of Human Services

Bret Garwood

Director of Development Services
City of Rochester Bureau of Housing and Project Development

James Graham

Executive Director
Genesis REI, LLC

Irene Coveney

Associate Director
Finger Lakes Health Systems Agency

Dawn Hyde

Program Coordinator
Monroe County Dept of Public Health

Wade Norwood

Director
Department of Community Engagement
Finger Lakes Health Systems Agency

Joan Roby-Davison

Executive Director
Empire State Housing Alliance

Karen Wingender

CEO
Greater Rochester Association of REALTORS®, Inc.

APPENDIX C: PROPERTY OWNERS SURVEY

Intro: Hello, this is [name] calling on behalf of CGR, a nonprofit research organization located here in Rochester. We are calling in regards to the City of Rochester's one-year-old lead law. That law is being evaluated now and we need your help as a property owner to provide feedback. Your name was selected at random from the list of all properties that have been inspected within the past year. No personal identification information is required and only summary group results will be reported. Would you be willing to participate in this short phone survey?

Section A

A1. What is the total number of apartment units that you operate in the City of Rochester: _____

We understand that a property located at [address] underwent a city inspection in [month/year]. Are you the owner/operator of that property? [If yes, continue with survey. If no, thank and discontinue.]

A2. During the most recent city inspection, was this property cited for any lead hazard violation?
 Yes No (Skip to C1) Don't know yet (Skip to C1)

Section B: Tenant issues (cited units only)

Please answer the following questions for the property at [address]. If both units were inspected and cited at the same time, please answer for just the downstairs unit, or pick one if they are side-by-side.

B1. What is the current monthly rental rate for this unit? \$_____/month

B2. When the unit was cited for a lead hazard, was it occupied? Yes No (Skip to C1)

B3. What happened to the tenants while the work was being done? Did they
 Stay in the property (skip to C1)
 Relocate to relatives/friends at their own expense while work was done
 Relocate at your expense (estimated cost: _____)
 Don't know (skip to C1)

B4. How long were the tenants relocated? ___days [If response is in weeks, convert to days]

Section C: Property Repairs (all respondents)

In preparing for the inspection, or in responding to a lead violation, you may have made repairs to the property. We would like to document just those costs associated with repairs made because of the lead law.

C1. Please tell me the total cost of repairs just in response to the lead law: \$_____ (estimate or range is OK)

C2. I'd like to ask you about the types of repairs you made. Again, please focus *only on the work that was done specifically related to the lead law.*

Component	Details
A. Did you replace any windows?	<input type="checkbox"/> Yes. If so, how many? _____ <input type="checkbox"/> No <input type="checkbox"/> Don't know
B. Did you repair or paint any windows?	<input type="checkbox"/> Yes. If so, how many? _____ <input type="checkbox"/> No

	<input type="checkbox"/> Don't know
C. Did you repair or paint any interior trim?	<input type="checkbox"/> Yes <input type="checkbox"/> No
D. Did you replace or repair any porches?	<input type="checkbox"/> Yes. If so, how many? _____ <input type="checkbox"/> No <input type="checkbox"/> Don't know
E. Did you replace any exterior siding?	<input type="checkbox"/> Yes, all siding <input type="checkbox"/> Yes, some siding <input type="checkbox"/> No <input type="checkbox"/> Don't know
F. Did you do any other lead-related work?	Briefly Describe:

C3. Who did the lead hazard control-related work? Was it

- Yourself (Property owner)
- A Property manager/employee
- A Private Contractor
- Or some Other person (Describe: _____)
- Don't know

C4. Did the person who did this work receive Lead Safe Work Practices Training?

- Yes
- No
- Don't know

C5. How did you pay for the lead hazard control work? (Check all that apply)

- Grant program
- Bank loan/myself/private funds
- Other (Describe: _____)
- Don't know

C6. How will you offset costs associated with the repairs?(Check all that apply)

- Rent will be increased
- By not making other improvements
- Will sell the property
- Other (Describe: _____)
- Don't know

C7. Do you think the investment you made in the property will improve the value of the property?

- Yes
- No
- Don't Know

Section D: Intent to sell, Perceptions of Law, Comments (all respondents)

D1. Do you hope to sell this property within the next one to two years? Yes No (Skip to D3) Don't know (Skip to D3)

D2. If so, why? _____

D3. What was your position on the lead law when it was initially considered by City Council?

- Unfavorable Neutral Favorable Didn't know about it

D4. Now that the law is in place, what is your position on the law?

- Unfavorable Neutral Favorable Don't know about it

D5. How did you learn about the lead law?

- Media (news/TV)

-
- Other property owners/professional associates
 - NET inspector/ C of O process

D6. Do you have any comments or suggestions for changes to the lead law?

D7. If you would like a copy of the final report when it is available, please give us your email address or mailing address. This contact information will be kept separate from the survey data.

NAME: _____
ADDRESS: _____
EMAIL: _____