



THE CITY OF NEW YORK
INDEPENDENT BUDGET OFFICE

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March 9, 2010

Council Member Rosie Mendez
Council of the City of New York
250 Broadway
Room 1734
New York, NY 10007

Dear Council Member Mendez:

At your request, the Independent Budget Office (IBO) has completed an analysis of the cost to the city of adopting Intro 750. This legislation would set new guidelines for violations of the city's housing maintenance code regarding indoor allergens—pests (insect or rodent) or indoor mold, especially in housing units where individuals with respiratory illness reside.

Passage of Intro 750 would increase the expenses of the Department of Housing Preservation and Development (HPD) and the Department of Health and Mental Hygiene (DOHMH). HPD will be required to conduct more emergency repairs and will need to hire more inspectors to conduct inspections that will require the use of diagnostic equipment not currently in use by the department, as well as face higher administrative costs. The extent of the increase to HPD's budget will depend heavily on two key factors. First, by how much, if at all, indoor allergen complaints and violations rise in response to increased public awareness about indoor allergens. Second, the bill specifies different responses to indoor allergen conditions depending on whether or not a resident has a respiratory illness. HPD and DOHMH have both objected to this provision in the bill due to privacy requirements and the sensitivity of the information and HPD has indicated that rather than inquire about medical conditions, inspectors would treat all instances of indoor allergen violations as if a susceptible tenant were in residence. If implemented in this manner, the bill would be substantially more costly. In addition to costs borne by HPD, DOHMH would incur expenses for preparing forms, pamphlets, training materials, and possibly conducting inspections that do not fall under HPD's jurisdiction.

Although an increase in complaint volume is likely, there is no relevant precedent that would allow us to determine a reasonable estimate for the increase in complaint volume. Instead we present estimates for additional costs associated with a 10 percentage point increase in complaints to allow readers to estimate the costs under various scenarios.

In summary:

- IBO found that if complaints remain at current levels and HPD's response to violations depends on whether a unit is occupied by a susceptible tenant, HPD's annual costs would increase by \$1.8 million. Every 10 percent increase in complaints under the preceding assumptions would increase costs by an additional \$392,000 a year.
- If complaints remain at current levels and HPD treats all violations as though the unit is occupied by a susceptible tenant, HPD's annual costs would increase by \$4.7 million. Every 10 percent

increase in complaints under the preceding assumptions would increase costs by an additional \$684,000.

- Using the incremental costs of \$392,000 and \$684,000 for each additional 10 percentage point increase in complaints, a 50 percent increase would increase the estimate by \$2.0 million if health status of tenants is ascertained or \$3.4 million if all violations are treated as if a susceptible person were in residence. Added to the baseline costs, the total annual cost under these scenarios would be about \$3.8 million or \$8.1 million, respectively.
- DOHMH estimates expenses of about \$600,000 in the first year, and \$230,000 annually in subsequent years.

Inspections at the Department of Housing Preservation and Development. Under the city's Housing Maintenance Code, the city's Department of Housing Preservation and Development (HPD) is charged with responding to tenant complaints regarding housing conditions by inspecting housing, issuing violations, and, in certain instances, conducting emergency repairs.

HPD assigns violations to one of three classes—A, B, or C. Class A violations are non-hazardous (e.g. not posting signs indicating floor number); owners are given 90 days to correct these violations and two weeks to certify repair to remove the violation. Class B violations are considered hazardous; owners have 30 days to correct a B violation and two weeks to certify the correction to remove the violation. Class C violations are the most severe and are considered immediately hazardous or emergency. Typically, an owner has 24 hours to correct a Class C violation and five days to certify the correction to remove the violation. If a landlord fails to rectify an emergency Class C violation, HPD may conduct emergency repairs through its Emergency Repair Program (ERP). Lead paint violations in homes with small children are Class C, but owners have 21 days to correct the violation.

Intro 750 would make indoor allergens in units with susceptible tenants Class C violations, but give landlords 21 days rather than 24 hours, to correct the violation.

In 2008 HPD received 597,201 complaints, completed 621,503 inspections, and issued 483,578 violations. Of these violations, 88,997 (18 percent) were emergency violations. HPD corrected 16 percent of all emergency violations at an average cost of \$901 per repair.

Health Status of Tenants Under Intro 750. A key element of Intro 750 is that the law would tie the classification of certain violations, and in turn code enforcement, to the health status of the tenants. This provision of the law is opposed by both the HPD and DOHMH due to concerns about privacy and the sensitivity of the information. How the administration decides to implement this provision will have a great impact on the ultimate cost of the legislation.

In many ways the legislation is modeled after Local Law 1, which requires different levels of response to the presence of lead paint depending on the presence of young children. In the proposed legislation, allergens are defined as indoor infestations of pests (insect or rodent) or indoor mold hazard (mold growth on indoor surface). The presence of indoor allergens in units where susceptible tenants— those diagnosed with asthma, chronic obstructive pulmonary disease (COPD), or lung cancer—live will require an elevated response from the landlord and HPD. Landlords will be responsible for inquiring annually whether or not their tenants suffer from asthma, COPD, or lung cancer. Landlords would need to provide all tenants with information about indoor allergens.

Currently, infestations of vermin (e.g. mice and roaches) are Class B violations. Infestations of rodents (e.g. rats) are Class C violations. Mold may be a Class B or a Class C violation depending on the size and type. Under present law, an immediately hazardous mold violation exists when mold is in excess of 25 square feet in one room or 100 square feet in the apartment.

Under Intro 750, the size threshold for a Class C immediately hazardous violation would be decreased to mold covering more than 10 square feet in any one room or single common area or 50 square feet total in any apartment or all common areas. Furthermore, under the bill, *all* allergen conditions (vermin, rodent, or mold) in an apartment where a susceptible person resides would result in a Class C immediately hazardous violation. Thus, the landlord would be required to rapidly remediate such violations and, if the landlord fails to do so, HPD would be required to complete the necessary work.

Under the proposed law, the landlord would have 21 days to correct the violation and HPD would be required to re-inspect 14 days after the deadline to remediate. If the landlord does not remediate the condition, HPD would be required to correct the violations. The landlord would be billed for the cost of the work incurred by HPD and, if the landlord fails to pay, the city would place a lien against the property for the amount due.

Fiscal Impact of Intro 750. This legislation is expected to increase expenses for HPD in two ways:

- (1) The new law will draw increased attention to the fact that mold and indoor allergens are potentially hazardous housing code violations, especially for individuals with respiratory illness. Thus, HPD will experience an increase in the volume of complaints, which could require more inspectors. Inspections may also increase due to the provision of the law that allows health professionals to request investigations by HPD of their asthmatic patients' apartments.
- (2) By classifying more violations as Class C emergency violations, the law would result in more emergency repair work being performed by HPD. Furthermore, an increase in complaints is likely to result in an increase in violations, further driving up the number of emergency repair jobs for HPD. While the city may impose a lien against a property to recoup the costs associated with the increase in work, collection of these charges is not 100 percent.

Methodology and Assumptions. IBO separated the analysis into two parts—increased costs based on existing levels of indoor allergen complaints and violations, and additional costs that would result from an increase in complaints by tenants. For the first part, IBO made informed assumptions about the number of susceptible tenants, repair costs, and the need for HPD to intervene and complete repairs. This estimate represents a baseline cost to HPD for implementing Intro 750 under current complaint levels.

The second part estimates how much additional cost the city would bear for each 10 percent increase in the number of complaints (roughly 7,700 additional complaints). This approach allows for comparison of costs at different complaint levels, rather than selecting an arbitrary projected complaint level.

The increase in complaints that could result from Intro 750 is very difficult to estimate because there is no precedent to provide a starting point for developing a model. Local Law 1, the lead paint law, was considered but deemed too dissimilar because of an extensive level of screening for possible violations by HPD inspectors in the field and by 311 operators. However, there is evidence that many more tenants have indoor allergens in their apartments than complain to HPD, suggesting that increased publicity and education about indoor allergens are likely to lead to an increase in complaints. According to the 2008 Housing Vacancy Survey, about 645,000 rental households in buildings with four or more units reported conditions that are linked to indoor allergens (e.g. the presence of mice, rats, roaches or leaks that may cause mold). But, in 2008 HPD received only 76,809 complaints about mice, vermin and mold, suggesting that many households never complain to HPD about indoor allergens in their homes.

The assumptions of our analysis are presented in the table and detailed below.

Underlying Assumptions in IBO's Analysis	
Cost per Housing Preservation and Development mold repair:	\$850
Cost per Housing Preservation and Development Integrated Pest Management treatment:	\$500
Percent of rental households* reporting asthma:	21.5%
Percent of emergency violations that are corrected by HPD:	16%
Increase in Class C mold violations due to stricter size limits in Intro. 750:	50%
Share of cost of repairs collected by DOF:	60%
Number of inspections per team per day:	11.8
SOURCES: IBO; NYC Housing and Vacancy Survey; Department of Finance Open Balance File; Department of Housing Preservation and Development; Mayor's Management Report	
*For the purposes of this analysis, IBO used the asthma rate among rental Households reporting vermin, rodents, or leaks, reported in this table.	

To determine the baseline number of allergen violations prior to Intro 750, IBO reviewed administrative data of all open and closed violations starting in 2005, excluding administratively removed violations. We began our analysis with data from 2005 for several reasons. First, because the introduction of 311 in March 2003 resulted in an increase in complaints and HPD inspections (and thereby, violations), we have restricted the analysis to the period when the use of 311 had stabilized, from 2005 on. Second, the housing code enforcement policy was updated in November 2004; new guidelines dictated how to classify a mold violation (e.g. Class B or Class C) based on the square footage. Prior to these guidelines, all mold violations were Class C.

According to Intro 750, violations in a household with a susceptible person would be considered Class C. To estimate the prevalence of renter households with a susceptible person in residence, IBO used data from the Housing Vacancy Survey (HVS) from 2002 (in 2005 and 2008 the HVS did not collect data on asthma; therefore, 2002 is the only available year). According to the HVS, overall, 14 percent of renter households answered yes to the question: "Has anyone in this household been told by a doctor or other health professional that he/she has asthma?" Among households reporting the presence of mice, rats, or leaks, the prevalence of asthma was significantly higher—21.5 percent. Given that violations are among households with these conditions, IBO used the latter rate to estimate how many indoor allergen violations are in households with susceptible tenants and how many new repairs HPD would perform. There were no comparable HVS questions to identify households with conditions such as COPD and lung cancer, but the prevalence of those conditions is far lower than asthma. Therefore, our estimate may understate the prevalence of households with susceptible persons.

HPD and DOHMH have expressed concern that in practice it would not be feasible for HPD or landlords to inquire into the health status of tenants or to change the classification of a violation based on the health status of a tenant. Therefore, they have argued that Intro 750 would, in practice, lead to all indoor allergen violations becoming Class C violations, thus requiring remediation by HPD in the event that the landlord fails to correct the violation. If the administration responds to the law by treating all apartments as though a susceptible tenant resides in the apartment, then the repair costs and extermination costs will be significantly higher. IBO prepared separate estimates under both scenarios: all allergen violations are Class C (i.e. no distinction is made based on the health status of tenants) and only those allergen violations in units with susceptible tenants are Class C (21.5 percent).

Additionally, Intro 750 would decrease the size threshold for a Class C mold violation. HPD currently does not track the size of mold violations and could not provide IBO with information on how many current Class B violations would be classified as Class C violations based solely on the size of the mold growth. We simply assumed that 50 percent of current Class B violations would become Class C violations under the new law.

Even under current complaint levels, HPD may need to hire additional inspectors for mold inspections. The bill states that, where appropriate, inspectors use diagnostic devices, such as a moisture meter or borescope, which HPD contends would require a two-person inspection team. IBO has assumed that in 50 percent of all mold inspections, such diagnostic devices and a second inspector would be required.

According to the 2009 *Mayor's Management Report*, from 2005 through 2008, an average of 16 percent of all Class C violations resulted in emergency repairs by the city. HPD indicated that the average cost of an emergency repair for a mold violation was \$850 in 2008.

Because remediating vermin and rodent violations would require frequent and repeated access to private buildings, HPD does not currently correct any rodent violations in privately owned buildings (even though rats are a Class C violation). It is unclear whether or not Intro 750 would change this policy and result in HPD remediating rodent and vermin violations in all units or just those units with susceptible tenants. IBO has assumed that, at a minimum, HPD would be responsible for a one-time Integrated Pest Management (IPM) treatment of a unit at a cost of \$500 per unit. IPM involves professionally cleaning a unit to remove food sources for pests, caulking and sealing points of entry for pests, baiting for pests, and encouraging the use of garbage cans with lids, food storage containers and appropriate cleaning supplies. IPM does not involve the use of commercial sprays or pesticides. HPD notes that treating infestations on a unit basis may not be effective because conditions in the building may contribute to pest infestations and repeated treatments may be necessary, thus driving up the cost associated with the bill. The city contends that it should not be in the role of managing the maintenance of privately owned buildings and that tenant and owner education may be a more appropriate and long-term solution to pests.

Based on historical data on the collection for emergency repairs from the Department of Finance Open Balance file, IBO estimated that 60 percent of the costs for repairs by HPD would be collected within two years of the lien being placed on the property. Therefore, IBO has assumed that HPD will recoup 60 percent of the cost of repairs, though collections would be lower in the first year of implementation.

Rather than estimate an increase in complaint volume, IBO modeled the additional costs to the city stemming from each ten percent increase in complaints (roughly 7,700 complaints). An increase in complaints would require additional inspectors. According to HPD, an inspection "team" (generally one inspector) can conduct 11.8 inspections per day. IBO assumed that an inspector works, on average, 228 days per year. We assigned a cost of \$77,868 to each inspector. The cost is based on the average inspector's salary, which is reflected in HPD's budget, and centrally budgeted fringe costs (e.g. health insurance, social security, and pension). As noted above, for half of the mold inspections, IBO's estimate was based on a two-person inspection team.

Lastly, IBO estimated the increase in administrative costs relating to the ordering, monitoring, and payment collection of emergency repairs. In order to model an increase in administrative costs, we calculated the average annual number of non-lead and non-utility emergency violations from 2005 through 2009 and the average number of non-lead and non-utility emergency repairs completed in 2008 and 2009. We then increased the non-lead-related support budgets for the Emergency Services Bureau, which notifies owners of emergency violations, by the projected increase in emergency violations. We

increased the non-lead-related support budget for the Emergency Repair Program, and the relevant fiscal units, which collect the cost of the repairs from the owners, by the projected increase in the number of emergency repairs completed.

Baseline Complaints and Violations. In 2008 there were 76,809 complaints related to mold, rodents, and vermin. Only a fraction of these complaints led to violations.

2008 Indoor Allergen Complaints	
Mold	22,304
Rodents	9,030
Vermin	45,475
Total	76,809
SOURCES: IBO; Department of Housing Preservation and Development	

All rodent violations are Class C violations and on average from 2005 through 2008 there were 1,249 rodent violations. Currently, all vermin violations are Class B. On average from 2005 through 2008 there were 25,805 vermin violations per fiscal year. The majority of mold violations are currently classified as Class B violations. From 2005 through 2008, there was an average of 11,489 mold violations; with an average of 2,012 Class C violations. In total there was an average of 38,542 indoor-allergen-related violations per year.

Average Number of Open And Closed Violations	
<i>2005 through 2008 (excluding administratively removed)</i>	
Mold-A	7
Mold-B	9,471
Mold-C	2,012
Mold Total	<u>11,489</u>
Vermin-B	25,805
Rodents-C	1,249
All Allergen Violations	38,542
SOURCES: IBO; Department of Housing Preservation and Development	

Results. In IBO’s baseline scenario, which assumes that the level of complaints remains flat, we estimated that Intro 750 would increase HPD expenses from \$1.8 million up to \$4.7 million in response to the increased number of emergency repairs and more complex inspections. The low estimate is based on the assumption that HPD will classify violations as Class C only when a susceptible person is in residence, while under the high estimate, HPD treats *all* violations as though a susceptible person is in residence. We then estimated the cost of a 10 percent increase (7,700 complaints) in inspections and violations over the baseline. If there is an increase in the number of inspections due to higher complaint volume, costs would increase from \$392,000 to \$684,000 for each additional 7,700 complaints; here again, the difference is attributable to whether or not HPD classifies all violations as Class C, regardless

of whether a susceptible person is in residence. The ultimate cost of the bill will depend heavily on how the public responds and how the city implements the legislation.

Emergency Repair of Mold. Most emergency violations are corrected by the owner; in 2008, HPD corrected 16 percent of all emergency violations at an average cost of \$734 per non-lead repair. Under Intro 750, the cost of emergency repairs will rise as more mold violations are classified as Class C. In 2008, HPD completed emergency repairs for 242 mold violations at an average cost of \$850. Based on our estimate that 21.5 percent of renter households with mold, vermin and rodent complaints have a susceptible person in residence, an additional 2,057 violations that are considered Class B under the current housing code would become Class C violations. In addition, based on our assumption that 50 percent of violations currently classified as Class B in units without susceptible tenants would become Class C due to their size, an additional 3,707 Class C mold violations would result from the lower size threshold. We estimate that there will be a total of 5,764 new Class C mold violations, of which HPD would remediate 922 (16 percent). Thus, we project that the new law will result in between \$313,000 and \$515,000 in uncollected repair costs, depending on whether or not HPD classifies violations based on the health of the tenant.

Since inspections for mold may require the use of diagnostic devices, such as a borescope, to look for leaks and moisture beneath walls, teams of two inspectors would be needed in certain mold inspections. Assuming an inspection team can conduct an average of 11.8 inspections per day and that 50 percent of mold inspections require two inspectors, we project that four additional inspectors would need to be hired at an annual cost of \$311,471.

Emergency Repairs for Vermin and Rodents. If we assume that HPD will need to complete 16 percent of emergency repairs for Class C violations, consisting of a one-time IPM repair at a cost of \$500 per unit, then emergency repair costs for vermin and rodents associated with this legislation will be between \$470,000 and \$2.2 million, depending on whether or not HPD classifies violations based on health status. Since we have assumed that the city recoups emergency repair costs for 60 percent of repairs, the total spent on emergency extermination would be between \$188,000 and \$866,000. The higher cost estimates reflect the costs if we assume that HPD would now conduct one-time IPM visits in all instances of vermin or rodent violations that the landlord fails to correct, regardless of whether or not a susceptible tenant lives in the unit.

Baseline Annual Costs to HPD of Intro 750 Assuming No Increase in Complaint Volume		
<i>Dollars in thousands</i>		
	Distinction between violation class based on health status?	
	Yes	No
Estimated Costs		
Cost of Emergency Repairs	\$1,254	\$3,452
Costs recouped by Department of Finance	(752)	(2,071)
Administrative Costs	969	3,008
Cost of New Inspectors for Borescope Teams	311	311
TOTAL Cost	\$1,782	\$4,700
SOURCE: IBO		

Administrative Costs. An increase in the number of emergency Class C violations and emergency repairs will increase administrative costs to the Emergency Services Bureau (ESB), which notifies owners of emergency repairs, and the Emergency Repair Program (ERP). With no new complaints and HPD making a distinction between susceptible tenants and non-susceptible tenants, the bill would result in 11,369 new emergency violations and roughly 1,800 new emergency repairs, a 15 percent increase in the average number of non-lead and non-utility emergency repairs completed in 2008 and 2009. If HPD were to treat all units as though a susceptible tenant resides there, then the number of emergency violations would increase by 35,276 and the number of emergency repairs would increase by 5,644 repairs (a 46 percent increase). This would result in the need for additional staff in both the ESB and the ERP units at HPD. We estimate that the increase in the workload for these two units and HPD’s fiscal unit, which assists in the recoupment of ERP charges, will cost between \$969,000 and \$3 million depending on whether or not a distinction is made between apartments with susceptible tenants or not.

Increase in Inspectors and Emergency Repairs if Complaints Increase. HPD would need to hire additional inspectors if the number of complaints and subsequent inspections increases substantially. We modeled the impact of a 10 percent increase in the number of complaints over the baseline, assuming each complaint leads to an inspection, that the ratio of complaints to violations remains the same, and that the distribution across the types of indoor allergens remains constant. Additionally, the new violations would lead to further emergency repairs, estimated under the two scenarios: 1) that HPD classifies violations based on the health status of the tenant and 2) that HPD treats all violations as though a susceptible tenant were present. Assuming an inspection team of one can conduct an average of 11.8 inspections per day we project that a 10 percent increase in complaints will result in the need for approximately three new inspectors at an annual cost of \$233,600 to HPD (this estimate includes an increase in inspectors due to the requirement that borescopes and moisture meters be used in certain inspections). Since all the additional complaints would require inspection, the same three new inspectors would be needed under both scenarios.

Cost of Each 10 Percent Increase in Complaints and Violations		
<i>Dollars in thousands</i>		
	Distinction between violation class based on health status?	
	Yes	No
Estimated Costs		
Costs of additional inspectors per 10 percent increase in complaints	\$234	\$234
Cost of additional ERP per 10 percent increase in violations	61	149
Additional Administrative Costs	97	301
TOTAL Cost	\$392	\$684
SOURCE: IBO		

The cost of emergency repair work would increase if complaints and subsequent violations increased. We found that a ten percent increase in the number of violations would increase the cost of the bill by between \$61,000 and \$149,000, the cost being greater if the department treated all violations as though a susceptible tenant lived in the unit. Administrative costs would increase by between \$97,000 and

\$301,000. In total, each additional ten percent increase in complaints and violations would add from \$392,000 to \$684,000 depending on how HPD implements the legislation.

Other Considerations. The NYC Department of Health and Mental Hygiene (DOHMH) will also incur costs that are not included in the above analysis. The bill requires DOHMH to:

- Develop and translate the form that would be used by property owners to determine if tenants have asthma, COPD, or lung cancer;
- Develop and translate a pamphlet on indoor allergens and asthma to be left after every inspection for indoor allergens;
- Develop curriculum and train HPD personnel on written procedures for inspecting indoor allergen violations, implementing, and enforcing the law; and
- Prepare annual statistical profiles of asthma rates by community district and other geographic boundaries.

In addition, DOHMH anticipates that, while not explicit in the law, it will lead to a role for DOHMH in inspecting indoor allergens hazards that are not otherwise subject to HPD enforcement, such as hidden mold. DOHMH estimates that the first year costs associated with these responsibilities would be \$598,300 and \$227,850 annually after the first year. IBO did not estimate the costs associated with an increase in housing litigation. If this bill increases the number of violations, it may also increase the costs to the Housing Litigation Division.

If you have any further questions, please feel free to contact me at (212)442-0225 or Kerry Spitzer (kerryws@ibo.nyc.ny.us or (212)442-8681) who conducted this analysis.

Sincerely,

Ronnie Lowenstein