



NEW STUDY RANKS US CITIES FOR RISK OF HAVING **SERIOUS PEST RODENT PROBLEMS**

Rodent pests are becoming an increasing problem in US cities as a result of deteriorating infrastructure, increasing congestion, urban sprawl, climate trends, and the economic downturn. A combination of these factors has resulted in frequent rodent sightings and media stories, as municipalities struggle to respond to public complaints. As city and state governments struggle economically, less money is available for capital improvement projects, maintenance of existing infrastructure and parks, and prevention of rodent population growth.

Children are being bitten, and rats are invading restaurants, neighborhoods, public buildings, and homes. Rodents spread disease; they damage structures and can disrupt power or start fires by gnawing on wiring. City sewer and storm water systems, subway tunnels, parks, vacant housing, overgrown lots, restaurant districts, and unkempt neighborhoods – all may have what rodents need to develop high numbers

In 2007, rodent experts Dr. Bruce Colvin and Dale Kaukeinen developed a predictive approach to assessing risk from rodent populations based on multiple environmental variables. In that peer-reviewed and published study, statistics from some 30 major U.S. cities were evaluated with regard to their potential to contribute to pest rodent problems. That study used data from the US Census Bureau and other national sources to compare the size, density and age of cities, their relative levels of disadvantaged residents, the amount of city revenue and money spent on infrastructure such as streets and highways, sewerage, solid waste management, structures, and utilities. Records of rodenticide sales also were considered, as were climatic factors such as rainfall and sunshine that can affect rodent populations.

In 2009, these same experts were funded by d-CON® (under the parent company Reckitt Benckiser Company) to conduct a similar survey, updated to reflect the serious economic downturn and its possible effect on urban residents and the conditions that might affect rodent populations. Colvin and Kaukeinen reprised their earlier survey work with newer census data on city populations, city revenue and expenditures, and with additional criteria including municipal rates of unemployment and foreclosure fillings as obtained from the US Bureau of Labor and other sources. This work also is intended to focus attention on the factors that need to be effectively managed to lower risk and reduce the problems of health, safety, and economic impacts associated with rodents. Through this predictive and impartial look at the relative conditions among US cities, major municipalities were ranked for their risk of having rodent problems and to identify where specific efforts could be targeted to help mitigate and solve underlying causes. Figure 1 shows the comparison of the top 25 cities ranked for potential rodent problems, with both the 2007 and the 2009 results.

Once again, New York City tops the list, due to its size, population density, and age. Clearly, the 'Big Apple' continues to have an innate challenge to overcome its risk factors. Population density also contributed to Boston and Chicago being in the top 10, but five of the top 10 cities were under a million persons in population, and four were below the group average in density. Clearly, other factors contributed to their ranking. Warm, wet weather was a factor for some cities because of the associated lush vegetation, deterioration of structures, and heavy sewer flows. Lower than average city revenue or spending on critical infrastructure factors also propelled some cities to higher positions and scores indicating greater risk.

Atlanta joins the 2009 list in the number 2 position. Comparable data was not available to allow for its inclusion in the earlier rating. Atlanta's high ranking in this latest evaluation stems from greater urban areas of poverty, a very high foreclosure rate (nearly five times the national survey average), and a much lower city spend on structures and highways.



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R I S K R E P O R T

Houston drops from second to third place in 2009 after Atlanta. Data from Houston reveal a lack of municipal revenue and reduced funds spent on structures, sewers, utilities and solid waste management. Louisville KY stayed in 4th place from 2007, with only half the per capita average city revenue and much lower spend than average on utilities, sewers and solid waste management.

Philadelphia remained in the fifth place this year, as in 2007, with greater population, density, city age and family poverty levels as contributing factors to its ranking. Chicago rose to sixth place (from 8th), with higher than average rates of poverty, unemployment and foreclosure filings, and reduced spending on sewers and utilities.

Boston comes in at seventh place, an improvement from its prior second place showing in 2007. Although an old and densely populated city, Boston has increased its spending on its infrastructure to improve its overall standing in the ranking. San Antonio TX is No. 8, up from 14th place in 2007, as other previously-higher rated cities dropped down, and with a continued reduction in city spend in most infrastructure maintenance categories. Milwaukee came in at ninth place (up one place). Detroit was ranked 10th (up from 12th), due to very high rates of family poverty (twice the municipal average), unemployment (40% over the average), nearly twice the foreclosure rate and below-average city revenues.

Cities that slipped below the top ten from 2007 include El Paso TX and Washington DC. While El Paso's family poverty rate remains high, foreclosures were below average, the unemployment rate and infrastructure spend were not above the city average. Washington DC had lower unemployment and higher expenditures in several infrastructure categories.

These studies of municipal statistics and risk factors have highlighted the importance of investing in municipal environments, infrastructure, sustainable development, and urban planning. Underlying all of these elements are effective public awareness, public and government partnership, and regulatory action to affect change and assure accountability. For example, refuse management is of central importance with allocation of resources necessary for proper containers, frequent pick-up, and code enforcement for infractions. Older neighborhoods with dilapidated and decaying structures need greater and sustained environmental improvement, including renovation and demolition of abandoned buildings. Extensive renovation and maintenance of older sewer and underground utility systems is widely needed in many US cities to prevent an underground reservoir of rat populations that can readily move about and emerge to surface areas and buildings to feed, do damage, and then escape back underground. Maintenance expenditures for buildings, streets, sidewalks and parkland, particularly in or near restaurant districts and older congested neighborhoods, is critical for lowering the risk of sustained rodent infestations. Overgrown vegetated areas tightly associated with such urban or suburban conditions are at high risk of having localized infestations.

The challenge for any city is to balance the variety of public services with proper land use planning, maintenance, economic realities, and active participation in environmental management by citizens and businesses. As cities age, they face accelerating rates of infrastructure disrepair at a time of reduced city income and economic hardships. Strategic planning and leadership will be required for effective environmental management, including the targeting, understanding, and resolution of risk factors contributing to the widespread rodent problems facing US cities today.

(By Dale Kaukeinen & Bruce Colvin, 17 August 2009)

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