PERSPECTIVE

General Liability Insurance & Crime Scores: Caution Advised for the Multifamily Property Industry

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Many insurance carriers purchase third-party crime scores to further evaluate an insurance portfolio's exposure to criminal risk.[1] However, crime scores represent another hurdle for multifamily owners and operators to overcome in the general liability underwriting process. Through interviews with insurance brokers and multifamily operators, they indicated that the use of crime scores in general liability risk modeling has detrimentally impacted the availability and price of insurance coverage for their multifamily property clients. Interviewees described situations where insurance carriers precluded multifamily property owners from obtaining insurance coverage since the property had a crime score above an arbitrary threshold. In less extreme situations, an elevated crime score resulted in higher general liability insurance premium costs. These underwriting practices should be of great interest to all multifamily property owners and operators since interviewees said that insurance companies will not alter a property's assigned crime score with crime mitigating improvements or operational enhancements.

At its most basic level, a crime score is a numeric representation of crime risk for a property. If crime scores are a reliable predictor of criminal activity at the site level and can accurately identify property-specific general liability risk, they should be used in the underwriting process. However, no studies conducted to date directly test whether this is the case and there are reasons to believe crime scores have notable limitations.[2] This article provides a critique of crime scores and argues against the use of arbitrary crime score thresholds. In addition, it offers evidence of crime score shortcomings to predict property-specific crime risk. Akin to the reliability and validity challenges raised with the Walk Score®, there are reasons why crime scores may not accurately depict the risk associated with criminal activity for a specific property.[3] While these limitations do not render crime scores valueless as an analytical tool, they do speak to the importance of using them cautiously in the general liability underwriting process, if accurately assessing general liability risk is the ultimate goal.

CRIME SCORE DATA CONCERNS

A risk assessment model is only as strong as its underlying data. Crime scores are calculated using the Federal Bureau of Investigation's Uniform Crime Reporting (UCR) database. At the most basic level, the UCR aggregates known crimes and applies them to a geographic point. Many academics have debated the limitations of UCR data.[4] The FBI has acknowledged these limitations and provides guidance for their proper use.[5]

The UCR database does not provide detailed crime data at the property level for the entire nation; thus, crime scores are estimates, often to the block group geography. Pooling crime estimates for all block groups based on their demographic attributes is a common technique, which allows for the distribution of crime equally across these block group pools. Ultimately, the crime score model estimates localized crime based on national sampling. The actual levels of crime and the subsequent risk surrounding an individual property may therefore differ from what the crime score indicates.

Different methods of identifying the location of crime are another potential source of inaccurate crime scores. A comparison of centerline and point geocoding illustrates this issue. In centerline geocoding, crimes are reported in the center of the roadway, whereas in point geocoding, crimes are reported in the center of the property address. When individual crimes are attributed to the wrong location, crime scores may under-report the actual level of crime risk in some locations while over-stating the crime risk in other regions. As a result, a multifamily property owner may be forced to pay higher insurance premiums because of an over-reporting of crime in the area.

CRIME AGGREGATION CONCERNS

Aggregation bias may obscure the location of criminal activity when crime scores are constructed. Individual crimes frequently aggregate to a single value for the geographic area of interest such as a block group. As a result, the threat of crime may appear to be equal across the geography regardless of whether this assumption is reasonable. Consider this modeling similar to elevation mapping, where each crime stacks on top of another to generate different heights. Simply, the higher the elevation, the higher the block group's crime score. There may be very little difference in the actual crime risk of the block group across the block group boundary lines.[6] Yet, there may be a difference in the crime score, which may lead to a higher general liability insurance premium.

The aggregate number of crimes in the area serves as the foundation for a crime score. Multifamily properties receive higher crime scores based on these aggregations and higher crime scores generally lead to higher general liability insurance premiums. In some cases, the aggregate number of crimes does not accurately reflect the true amount of crime in the area. Policing agencies located within multiple counties may attribute all crime to the county with the highest population.[7] In addition, duplicative reporting errors of the same crime from multiple agencies could artificially induce a higher crime score for the property.[8] Furthermore, there is ample evidence that some crimes are heavily under-reported in the UCR database, which could jeopardize the precision of such crime scores.[9]

Another problem with the count-based mechanics of crime scores is their equality weighting. Crime scores implicitly weigh all types of crimes, regardless of their severity, equally. For example, a geography with three purse-snatching crimes may have the same aggregate crime score value as the geography with three homicides. The decision to weigh crime equally avoids the controversial challenge of setting values to balance crime types. A crime severity weighting might require the data provider to state that a certain number of burglaries are equal to one murder, an arduous and imperfect science to say the least.

While count-based representations of crime are convenient, there is little reason to believe all crimes are equal from an insurance risk-of-loss standpoint. Some types of crime are likely to generate substantially higher insurance claims and settlements than others. Jury awards for a homicide can be in the millions of dollars, while jury awards for robberies without an injury may only be a few thousand.[10] Thus, failing to adjust for the

severity of crime may result in crime scores that do not accurately reflect risk-of-loss exposure for insurance companies underwriting general liability policies.

GEOGRAPHIC CONCERNS

The characteristics of a neighborhood influence the property-specific risk potential of the underlying properties. Crime is often concentrated in a small number of properties. Research indicates that nearly 50% of police calls originate from as few as 3-5% of addresses in a given geography.[11] In addition, crime may concentrate in urban environments and in areas with socioeconomic inequality.[12,13] When aggregated crime within a census block group serves as the basis for crime scores, a small number of properties with high concentrations of crime can make an entire neighborhood appear dangerous. These inaccuracies could mislabel multifamily properties as potentially high-risk properties, where, in reality, they are safer than the crime score indicates.

Failing to take into account the composition of an area and the existing land uses may also result in crime scores that over or understate the risk of crime. Crimes may be less prevalent in areas without "target and spatial attractiveness."[14] Target attractiveness relates to the perceived criminal vulnerability of an area, while spatial attractiveness links the physical development of the area to the probability of criminal success. Historically, large zones of commercial and industrial activity have been indicative of criminal risk. Yet, surveillance by commercial and industrial owners dampens crime.[15] Some crime score models attempt to account for the percentages of land use within each census block group, but sometimes the models fail to account for differing levels of surveillance. In situations where surveillance is stronger than average, the crime score would be overstated and the multifamily property owner would overpay for general liability insurance.

PROPERTY-SPECIFIC CONCERNS

Similar to geographic characteristics, property-specific traits may encourage or discourage crime. A crime score does not evaluate the property characteristics for the insured multifamily dwelling. It does not credit the multifamily dwelling for crime related traits such as architectural design, property-specific loss history, and operational practices of the property management company. Each of these characteristics may influence the relative risk of crime occurring. Academic literature indicates that four architectural features deter criminal activity: those that accommodate natural surveillance, those that develop a sense of resident-controlled territory, those that build community, and those that directly protect people from crime.[16] Multifamily property with ample lighting, visible common areas, and programming that promotes interpersonal engagement may therefore suffer far less crime than crime scores might indicate.[17] Furthermore, property management practices can prevent crime at the property level in ways crime scores cannot capture. Active property management programs have the greatest potential.[18] Investments in security systems, gates, lighting, and safety audits are but a few of the ways in which property managers can help create safer environments for their residents.[19]

CAUTION ADVISED

The use of crime scores for insurance modeling will only increase in the years to come as insurance companies seek to model all forms of risk. The entire multifamily industry should be cautious. A multifamily property cannot operate without access to adequate and affordable property insurance. Crime scores should be used as a part of a larger modeling framework. Efforts should be made to avoid the use of arbitrary crime score thresholds where insurance is provided only if the crime score is below an absolute cutoff value. Moreover, crime score ranges should be employed and property-specific characteristics, including management track record, must be credited to the property to create a property-specific crime score. Similar to the influence of property characteristics, the actions of the property management company and the property's history of loss should be used to modify the crime score as well. In a situation where the property characteristics or management oversight reduces crime, the crime risk may be lower than the conventional crime score indicates and this new risk profile could justify lower general liability insurance premiums. This modified crime score may be a more

accurate predictor of property-specific crime risk than an aggregate block group crime score.

Finally, there is a need for more empirical research on the influence of crime scores and general liability loss. At what level of accuracy and reliability do crime scores predict future crime-related insurance losses? How does the accuracy and reliability of that prediction change based on multifamily real estate type? What other factors and inputs could be used in combination with crime scores to provide more accurate and reliable property-specific crime risk models? Future research could help answer all of these questions and provide more knowledge for insurance companies and the multifamily property industry. •

ENDNOTES

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