BY SCOTT CORDES AND BOB WINTHROP

Making an Argument for Police Enforcement Costs

THE ST. PAUL FEE STUDY EXPERIENCE

The mortgage foreclosure crisis and the related downturn in tax revenues have forced city finance professionals to develop creative approaches to combat revenue shortages. Cities such as Baltimore, Buffalo, and Cleveland are suing mortgage companies for foreclosure-related costs arising from vacant and abandoned buildings. The lawsuits include both direct monitoring costs and associated public safety enforcement costs.

To prove their cases, these cities will need a rigorous determination of the actual costs they incur when a building becomes vacant. Direct costs for inspecting, boarding, and maintaining a building can be accounted for in a straightforward manner, but how does a city measure the police cost related to increased responses at an address that is vacant?

A lesson can be gleaned from the City of St. Paul's 2007 fee study, which measured the costs resulting from increased police response to certain types of addresses. The study conducted by St. Paul, Minnesota, determined the cost of police enforcement at specific addresses with a shared characteristic: a business license. The same methodology can be used if the relevant characteristic of the address is that the building is vacant. Working with its consultant, the city (population 285,000) developed a rigorous methodology for directly measuring the differential police response cost for certain types of licensed establishments — bars, restaurants, grocery stores — versus that for other non-residential addresses.

The catalyst for the St. Paul study was a practical problem similar to the challenges associated with measuring the full cost of vacant building monitoring and enforcement.

The study employed data mining and data fusion techniques, combining information from license, police call, and zoning databases to measure this cost differential. This analysis provided the city with a justification for raising license fees, and this increase is expected to generate an additional $135,000 in fiscal 2008 from the actual users of these police enforcement services.

ST. PAUL'S FEE STUDY

The catalyst for the St. Paul study was a practical problem similar to the challenges associated with measuring the full cost of vacant building monitoring and enforcement. In 1992 and 1994, St. Paul conducted a series of fee studies to review the cost structure for business licenses because city officials wanted to determine whether the direct enforcement agencies were recovering their direct costs. While that analysis addressed police enforcement costs that are the specific result of a license application (i.e., activities related to administration of the license), it did not address police enforcement costs generated during the course of activities at the actual business.

An additional challenge occurred when business license activities were shifted to a self-supporting special fund in 1996. Because policymakers decided to include police enforcement costs in the cost-recovery model, and since related police costs remained in the general fund, a decision needed to be made regarding the appropriate amount of business license revenue that should be dedicated to the general fund. Based on the 1994 study, policymakers and city staff reached an informal agreement to distribute 71 percent of license revenue to the business license enforcement fund and 29 percent to the general fund for police services.

Although that agreement generally held up over the ensuing years, many questions arose from both policymakers and city staff about whether the 71/29 split was appropriate and whether the 1994 study accurately reflected police enforcement costs specifically related to business licenses. As a result, the city explored the possibility of a new fee study to comprehensively analyze police enforcement costs and the appropriate distribution of revenue to each fund.

ANALYZING THE DATA

In 2007, the city hired a government strategic consulting firm to determine the full cost of service related to several of its licenses. License categories included in this group were entertainment, liquor, and retail food, which city officials knew from experience to generate significant police calls. They also suspected that businesses licensed in these categories generated far more police calls than non-licensed establishments.

A typical activity-based costing approach was used to determine the cost of service, including identifying all direct costs initiated when an establishment applied for a license. These direct costs included those related to reviewing applications and checking the background of applicants, conducting onsite inspections both for health and sanitation, and using underage inspectors (decoys) to check for compliance with age restrictions where appropriate (for cigarettes, liquor, etc.).

The consulting firm also examined the significant cost of service related to police enforcement when police were called to an establishment because of incidents such as disorderly disturbances, 911 hang-ups, theft, public drunkenness, etc. To determine this cost, a methodology was developed that included the following steps:

1. Determine the cost for that part of the police department responsible for responding to police calls at these licensed establishments.
2. Devise an allocation methodology for assigning costs to the establishments — in this case, costs were assigned based on responses to emergency assistance (911) calls.
3. Determine a base level of police enforcement service cost.
4. Compare the average cost associated with a license to the base level of service cost.

This analysis assumed that the full cost of service associated with responding to calls included the divisions of the police department where police officers, in the course of their normal routines, would respond to an emergency assistance call or the follow-up investigation. Several divisions of the police department were excluded from this cost —backgrounds, the employee assistance program, internal affairs, inspection, personnel, and traffic investigators — because they do not normally respond to such calls. The activities of the remaining divisions — those that did respond to calls — generated a total cost of $64 million in fiscal 2006.

The second step involved figuring out how to assign the costs to the establishments. This step depended on the available data, which were based on St. Paul Police Department calls in 2006. Fields of available data included an address, the time the call was placed, the time the call was cleared, and the number of officers who responded. This data provided the basis for calculating a measure called "officer minutes" — the number of officers who responded, multiplied by the time between when the call was placed and when it was cleared. There were 161,000 records that included approximately 17 million officer minutes. Dividing the $64 million in total by 17 million officer minutes yielded a cost of $3.77 per officer minute.

Once the value of an officer minute was determined, it was necessary to calculate the "base" level of officer minutes an address in St. Paul could expect. However, the base level would differ between addresses zoned for businesses and those zoned as residences. In addition, many of the calls were to intersections and not specific addresses: Of the 161,000 call records provided, 120,000 had addresses. Zoning data collected by the city, which included 84,000 addresses, were used to establish whether an address was a business or a residence. Of these addresses, 17,500 were zoned non-residential and were thus "license eligible."

Addresses were standardized by constructing a single unique numeric indicator for each address and segmenting them into four combined parts. This was necessary because the police data did not have a unique indicator for each address, and also because of data entry issues, such as one dispatcher noting an address as "Ave." and another noting it as "Avenue." The first section (the first five digits) of the new indicators included the numeric street number. The next three digits contained a street name indicator constructed from a list of all the street names in the city. The ninth digit was a number for direction (North, South, East, West, etc.), and the final digit indicated the address type (street, avenue, road, etc.). The consulting firm used off-the-shelf software to construct the indicators for the records involved.

The average number of officer minutes for addresses that did not hold licenses was 276 minutes. Regression analysis further refined that baseline to 266 minutes. The resulting cost above the baseline of 266 minutes is listed in Exhibit 1.

Exhibit1: Cost of Police Enforcement

Type of License	Number of Addresses with License	Additional Officer Minutes per Address	Additional Cost per Address	Aggregate Police Enforcement Cost
Entertainment (Night Club)	112	2,200	$8,250	$924,000
Liquor on Sale (Bar)	164	550	$2,050	$336,200
Small Restaurant	188	600	$2,200	$413,600
Large Restaurant	530	600	$2,300	$1,219,000
Retail Food — Small	235	1,150	$4,300	$1,010,500
Retail Food — Medium	169	2,050	$7,700	$1,301,300
Retail Food — Large	66	3,050	$11,550	$762,300
Total				**$5,966,900**

Regression analysis testing showed all of these values to be statistically significant at the 1 percent level. In other words, there is only one chance in 100 that these values could have occurred by chance. If this type of analysis were used on vacant and abandoned buildings, regression analysis could further be used to look at each address over time, based on when the buildings became vacant.

POTENTIAL CONCERNS

While city officials were satisfied with the analysis, critics could point to several weaknesses. First, it is difficult to determine whether or not the cause of the activity generating the police call at an establishment occurred because of the licensed activity. For instance, when a patron calls 911 and hangs up, is that action necessarily related to the licensed activity? Proximity creates another potential issue — determining the degree to which police calls are attributed to the address responsible for the police call. For instance, if a drunken patron leaves a bar and commits an assault one block away, a different address may be tagged for the assault, with little likelihood of tracing the behavior back to the bar. Determining the fraction of police activity related to these calls creates a third problem. The methodology used to determine the fraction of police activity is sound, but it requires good data inputs, which are not always readily available. Finally, this analysis looked at data from a limited time period — calendar-year 2006. One could argue that 2006 might not be representative of normal activity. For instance, licensed locations could have had an unusually small (or large) number of calls that year, deviating from their long-term average.

Other options for analysis could include city staff intuition and judgment, surveying police officers, or conducting a qualitative analysis with a group of licensed establishments and using a randomly selected control group of other addresses. The selected approach appears to be superior to these other approaches, however, since it uses a large amount of data, reducing the influence of outliers. It also provides direct measures and is relatively inexpensive to complete.

A typical activity-based costing approach was used to determine the cost of service, including identifying all direct costs initiated when an establishment applied for a license.

THE RESULTS

The fee study confirmed that the city was not receiving enough revenue from business licenses to fully cover direct enforcement costs. Although significant variation existed among different licenses, overall direct costs, before accounting for public safety expenses, were $120,000, or 7 percent greater than the revenue received. Police services related to licensed business regulation were estimated to cost the city nearly $6 million dollars, more than twice the amount of total license revenue. This information suggested that the city had considerable latitude for increasing fees and increasing the general fund transfer for police enforcement.

In addition to exploring the results of the fee study, the city also compared its existing fee structure with that of the City of Minneapolis and surrounding large suburbs. For nearly every comparable license, St. Paul's fees were considerably lower than those of Minneapolis and, in most cases, even those of the large suburban communities. City officials believed that this finding provided further support for a substantial fee increase.

With this supporting information in hand, the city's regulatory agency, the Department of Safety and Inspections, developed a multi-year fee increase proposal with the expectation of increasing revenue by 30 percent over 3 years. That included increases of 10-30 percent on each type of license in the first year, an across-the-board 10 percent increase in the second year, and a 5 percent increase in the third year.

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Licensed bars and restaurants were subject to the steepest proposed fee increases, given the significant police cost associated with them and the fact that license fees for these establishments had not been raised in more than five years. The survey showed that fees for bars and restaurants were considerably lower than those in comparable communities. Not surprisingly, bar owners rallied and lobbied the city council against the proposed increases, arguing that they were already coping with the adverse effects of certain regulatory and policy changes over the past several years. The most significant of the changes included a citywide smoking ban (which eventually became a statewide ban) and a change in state law reducing the blood alcohol limit for driving under the influence to .08 from .10. Because both of those changes tended to negatively affect small, neighborhood bar owners in particular, the political pressure to scale back the fee increase for those establishments increased dramatically as policymakers vetted the proposal.

In the end, the city council adopted a fee increase in 2008 of 5 percent, or $135,000. This increase was expected to bring in an additional $15,000 in revenue beyond the $120,000 in direct enforcement cost initiated by the license application. Additional increases may be considered in future budget cycles.

CONCLUSION

St. Paul's experience with identifying the cost of service related to police response provides a convincing methodology for establishing the full cost of business license fees and determining appropriate allocation of the revenue. The methodology of isolating the police response cost to specific addresses could also be used to determine similar costs when initiating litigation for vacant and abandon buildings. A data-driven argument can make a strong case both in the legal arena and in the court of public opinion.

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