

## AN EMPIRICAL STUDY OF THE SCHOOL ZONE ANTI-DRUG LAW IN THREE CITIES IN MASSACHUSETTS

**WILLIAM N. BROWNSBERGER, SUSAN E. AROMAA, CARL N. BROWNSBERGER, SUSAN C. BROWNSBERGER**

*This study reviewed the role of a law providing enhanced penalties for drug dealing within 1,000 feet of a school in 443 drug-dealing cases in three cities in Massachusetts: Fall River, New Bedford, and Springfield. We reviewed district attorneys' case files and mapped drug-dealing incidents using a combination of geographic information systems and location visits with a hand-held geographic positioning system. School zones – the areas within 1,000 feet of schools – cover 29% of the areas of the study cities and 56% of the high-poverty areas within the cities. Although less than 1% of the drug-dealing cases involved sales to minors, approximately 80% of the cases occurred within school zones, apparently because of the density of schools in high-poverty/high-drug-dealing areas. Most school zone cases are "broken down" – defendants plead to lesser charges and receive less than the two-year mandatory minimum sentence for dealing in a school zone. Decisions to "break down" charges are not influenced by proximity to schools or time of day. Most drug dealers commit their offenses close to home, and most dealers charged with dealing in school zones reside in school zones. Overlapping school zone boundaries are chaotic and confusing in the inner city areas studied. The school zone statute fails to push drug dealing away from schools: the density of dealing within 250 feet of schools is similar to the density of dealing at greater distances.*

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**William N. Brownsberger** is a defense attorney and a former Massachusetts Assistant Attorney General in Narcotics and Special Investigations. He is Associate Director for Public Policy of the Division on Addictions at Harvard Medical School and past chair of Harvard's interdisciplinary Working Group on Drugs and Addictions. He serves as senior criminal justice advisor to Join Together, a project of the Boston University School of Public Health. He teaches and writes on issues of drug policy and criminal justice. **Susan E. Aromaa** is the web content manager for Join Together, a project of the Boston University School of Public Health. She has a master's degree in communication research from the Boston University College of Communication. **Carl N. Brownsberger** is a Distinguished Life Fellow of the American Psychiatric Association. Before retirement he was a clinical psychiatrist and also served on the faculties of Harvard, Tufts, and the University of Washington medical schools. **Susan C. Brownsberger** is a translator and editor.

## INTRODUCTION

At the height of national concern about crack during the late 1980s and early 1990s, Massachusetts and many other states created an enhanced penalty for drug dealing in proximity to areas where children play (Bateman, 1995). In Massachusetts, the legislature provided for a minimum mandatory two-year incarceration for dealing within 1,000 feet of a primary, secondary, or vocational school.<sup>1</sup> The two years are additional to any other punishment imposed. The present study essentially focuses on two questions: (1) Are charging and sentencing in school zone cases shaped by the legislative goal of keeping drug dealing away from schools? (2) Is the law successful in moving drug dealing farther from schools?

## LITERATURE REVIEW

Much has been written about the expansion of incarceration for drug-related offenses in the United States over the past two decades. Some have questioned the use of prison resources to house low-level or nonviolent drug offenders (for example, Brownsberger, 1997; King & Mauer, 2002). Many have been troubled by the heavy overrepresentation of minorities among those incarcerated for drug offenses (for example, Brownsberger, 2000; Human Rights Watch, 2000; Tonry, 1995). However, these larger issues are beyond the scope of the present study.

Our study focuses empirically on the operation of the school zone law in Massachusetts. In Massachusetts, as quantified in this study, most retail drug-dealing cases are charged as school zone offenses. Over 20 states and the federal government have enacted similar statutes (Bateman, 1995). The Massachusetts Supreme Judicial Court has generally upheld the school zone law, stating in *Commonwealth v. Taylor*, 413 Mass. 243, 250, 596 N.E.2d 333 (1992), that the law "furthers a legitimate State interest of protecting children and adolescents by establishing a drug free school zone." Yet, we are unaware of any empirical research looking at how school zone laws have been implemented in the courts or whether they have been effective.

## METHODS

The basic steps of our study were (1) to select counties for study, and cities within them; (2) to define a set of drug-dealing cases for study in the selected cities; (3) to review district attorneys' case files for the selected cases and extract selected data items (primarily from the police reports); (4) to map schools, parks, and incident locations in the cities; (5) to compute distances from the locations of drug-dealing incidents to schools and parks; (6) to analyze geographic and time/date factors influencing case outcomes; and (7) to analyze the geography of drug dealing with reference to the school zone law.

We conducted our study in two Massachusetts counties: Bristol and Hampden. This was a "convenience sample." Although we approached all of the district attorneys in the eight largest counties in Massachusetts, only those from Bristol and Hampden counties were willing to participate. We selected the largest cities in each county: Fall River and New Bedford in Bristol County and Springfield in Hampden County. In each county, the selected cities included just over one third of the total population, most of the population in concentrated poverty areas, and roughly two thirds of the drug charges (see Table 1).

TABLE 1  
POPULATION AND POVERTY FOR CITIES IN BRISTOL AND HAMPDEN COUNTIES (SELECTED CITIES HIGHLIGHTED)

| City                   | Population in high-poverty areas (1990) | City high-poverty areas* as % of county | Total population (1990) | City total population as % of county | District court drug charges (FY1998)** | District court drug charges as % of county |
|------------------------|---|---|-------------------------|--------------------------------------|--|--|
| <b>Fall River</b>      | 19,667                                  | 44                                      | 92,703                  | 18                                   | 1,205                                  | 23   |
| <b>New Bedford</b>     | 24,848                                  | 56                                      | 99,922                  | 20                                   | 2,589                                  | 50   |
| Rest of Bristol County | 0                                       | 0                                       | 313,700                 | 62                                   | 1,410                                  | 27   |
| Total Bristol County   | 44,515                                  | 100                                     | 506,325                 | 100                                  | 5,204                                  | 100  |
| Holyoke                | 17,950                                  | 21                                      | 43,704                  | 10                                   | 1,630                                  | 24   |
| <b>Springfield</b>     | 65,692                                  | 79                                      | 156,983                 | 34                                   | 4,220                                  | 62   |
| Rest of Hampden County | 0                                       | 0                                       | 255,623                 | 56                                   | 910                                    | 13   |
| Total Hampden County   | 83,642                                  | 100                                     | 456,310                 | 100                                  | 6,760                                  | 100  |

\* Defined as areas in which more than 20% of the households have incomes below the poverty line (Brownsberger, 1997).

\*\*Including both possession and dealing charges – a larger universe than the one we defined for study.

We selected cases according to the following rules:

- Cases should involve charges that would create legal exposure to a school zone penalty if they occurred in a school zone—essentially, drug-dealing charges. Cases were included whether or not school zone violation was actually charged.
- Cases should have been entered in the courts in fiscal year 1999 (between July 1, 1998 and June 30, 1999). This time selection was based on three objectives: (1) to obtain a full year to avoid any seasonality effect, (2) to select a year whereby most cases would have been disposed of, and (3) to use a year recent enough that case files would not have been transferred to archival facilities.



- Cases should not include trafficking charges, charges of dealing under Chapter 94C, Section 32E – generally higher-weight dealing, which carries mandatory penalties. We expected that these mandatory penalties, frequently higher than the school zone mandatory penalties, would be the dominant factors in negotiating settlements in trafficking cases.
- Cases should involve adult defendants. Juvenile cases do not generally lead to incarceration, and the school zone charge is less relevant.
- Cases should originate in the district court as opposed to superior court. Cases originating in the superior court generally involve strategic activities directed against high priority dealer targets by the police and prosecutors. We did not exclude cases that originated in district court and were subsequently indicted to superior court.

Aside from geographic mapping data, our case data were entirely derived from review of district attorneys' case files (see Table 2). In Fall River and New Bedford, the district attorney allowed us to access archives directly, and we were able to screen 231 (90%) of 257 drug-dealing cases for fiscal year 1999. In Springfield, the district attorney provided what appears to have been a convenience sample consisting of approximately 40% of the school zone cases from fiscal year 1999. Dealing cases not related to school zones were not reviewed in Springfield. There did not appear to be any other study-relevant selection bias (seasonality or disposition) in the Springfield convenience sample (see Brownsberger & Aromaa, 2001).

We collected and compared geographic data from diverse sources. Our goal was to derive the best possible position estimates for drug-dealing incidents and school zone boundaries (short of interviewing arresting officers and retaining surveyors). In general, we believe that the mapping and measurement process did not introduce error sufficient to influence our conclusions. Our full project report provides a detailed discussion of our geographic measurement techniques and the limits on error in them (Brownsberger & Aromaa, 2001).

## RESULTS

### *CASES, CHARGING, AND DISPOSITION*

In fiscal year 1999, 78% of drug-dealing incidents in the selected cities occurred within school zones; 29% of incidents occurred in daytime hours on school days. Only a few (5%) occur in park zones. In reviewing Table 3, the reader should note that our sample in New Bedford and Fall River includes all drug-dealing incidents in the subject period, regardless of whether there was a school zone charge. By contrast,

**TABLE 2**  
**SUMMARY OF MAJOR DATA SOURCES FOR PARK/SCHOOL/CASE MAPPING**

| Mapping Target   | Public Address Lists | Aerial Photography  | Geographic Positioning by Visit  | Planning Department Geographic Information Systems | Commercial Geographic Data   |
|--|----------------------|---|--|--|--|
| Fall River Schools   | Y                    | Used to touch up GPS results  | Core data source to locate boundaries                                    | N/A  | N/A  |
| Fall River Parks   | Y                    | Used to derive boundaries based on address and surrounding streets in public list | N/A  | N/A  | Used to locate parks in photos with reference to surrounding streets |
| Fall River Cases   | N/A                  | N/A   | Primary source   | N/A  | Selected additional cross-street cases                               |
| New Bedford Schools  | Y                    | Used to confirm decisions about parcel inclusions                                 | Used to locate and verify parcels to include                             | Primary source for parcel boundaries               | N/A  |
| New Bedford Parks  | Y                    | Used to confirm decisions about parcel inclusions                                 | N/A  | Primary source for parcel boundaries               | N/A  |
| New Bedford Cases  | N/A                  | N/A   | Primary source   | Add locations for 2 cases                          | N/A  |
| Springfield Schools  | Y                    | Used to confirm decisions about parcel inclusion                                  | Used to locate and verify parcels to include in high frequency locations | Primary source for parcel boundaries               | N/A  |
| Springfield Parks  | Y                    | Used to confirm decisions about parcel inclusion                                  | N/A  | Primary source for parcel boundaries               | N/A  |
| Springfield nonschools included in police reports (day care centers, etc.) | Y                    | Used to confirm decisions about parcel inclusion                                  | Used to locate and verify parcels to include in high frequency locations | Primary source for parcel boundaries               | N/A  |
| Springfield Cases  | N/A                  | N/A   | Primary Source   | N/A  | N/A  |

our sample from Springfield includes only persons actually charged with school zone offenses. Figure 1 shows the concentration of drug-dealing incidents in school zones in downtown New Bedford.

In Bristol County, we could compute the rates at which offenders in different circumstances were charged with school zone offenses because we had access to drug-dealing incidents whether or not the offenders were charged with school zone offenses. Table 4 presents these results. Most, but not all (74.2%), of those dealing in school zones are charged with school zone offenses. Note that although a material share of those dealing outside school zones are charged with school zone violations, most incidents do occur within school zones.

**TABLE 3**  
**CHARACTERISTICS OF DRUG-DEALING INCIDENTS IN SAMPLE CITIES**

|   | Fall River | New Bedford | Springfield<br>(School Zone<br>Cases) | Total |
|---|------------|-------------|---------------------------------------|-------|
| Sample size (N)                                       | 103        | 180         | 160                                   | 443   |
| Percent (%)   |            |             |                                       |       |
| Within a school zone                                  | 84         | 78          | 74                                    | 78    |
| Within a park zone                                    | 3          | 2           | 11                                    | 5     |
| Within either a school or park zone                   | 84         | 79          | 79                                    | 80    |
| Outside any school or park zone                       | 16         | 21          | 21                                    | 20    |
| Weekday   | 88         | 82          | 88                                    | 86    |
| Weekend   | 12         | 18          | 13                                    | 14    |
| Day (6AM - 6PM)                                       | 46         | 43          | 33                                    | 40    |
| Evening (6PM-10PM)                                    | 33         | 42          | 44                                    | 41    |
| Night (10PM-6AM)                                      | 21         | 15          | 23                                    | 19    |
| School session (September-June)                       | 83         | 82          | 86                                    | 84    |
| School summer (July-August)                           | 17         | 18          | 14                                    | 16    |
| Weekday day in school session                         | 36         | 29          | 24                                    | 29    |
| No school: One or more of summer weekend or after 6PM | 64         | 71          | 76                                    | 71    |
| Heroin and other Class A                              | 49         | 29          | 23                                    | 32    |
| Cocaine and other Class B                             | 34         | 41          | 61                                    | 47    |
| Marijuana and other Class D                           | 15         | 26          | 16                                    | 20    |
| Class E, miscellaneous minor                          | 1          | 2           | 0                                     | 1     |
| Unspecified drug                                      | 2          | 2           | 0                                     | 1     |

**FIGURE 1**  
**DRUG-DEALING INCIDENTS (DOTS) AND SCHOOL ZONES (SHADED) IN DOWNTOWN NEW BEDFORD**



TABLE 4

PERCENT OF DRUG-DEALING INCIDENTS CHARGED AS SCHOOL ZONE VIOLATIONS IN BRISTOL COUNTY CITIES  
(NEW BEDFORD, FALL RIVER, N = 283)

|   | N   | Percent<br>Charged<br>With<br>School<br>Zone | Statistical<br>Significance |
|---|-----|--|-----------------------------|
| Overall (N = 103, 180) (100%, 100%)         | 283 |  | 2x2 $\chi^2$ , df=1         |
| Not within a school or park zone            | 54  | 38.9   | $p < .001$                  |
| Within either a school or park zone         | 229 | 74.2   |                             |
| Among those within school or park zone:     | 229 | 74.2   | *                           |
| Weekday                                     | 191 | 77.0   | NS                          |
| Weekend                                     | 38  | 60.5   |                             |
| Day (6AM - 6PM)                             | 98  | 76.5   | NS                          |
| Evening/night (6PM—6AM)                     | 131 | 72.5   |                             |
| School session (September-June)             | 184 | 75.5   | NS                          |
| School summer (July-August)                 | 45  | 68.9   |                             |
| Weekday day in school session               | 69  | 72.5   | Composite<br>Omitted        |
| One or more of summer, weekend or after 6PM | 160 | 75.0   |                             |
| Classes A and B, heroin, cocaine, etc.)     | 169 | 81.1   | $p < .001$                  |
| Marijuana and other drugs                   | 60  | 55.0   |                             |

\*Dependent variable is whether or not charged with school zone offense; Cox and Snell  $R^2 = .078$ ,  $df = 4$ , model chi-square = 18.612,  $p < .001$ . Binary logistic regression using SPSS version 11.0.1.

Among cases that are, in fact, within school zones, Table 4 shows that only the drug sold makes a significant difference in the decision to bring school zone charges. Dealers of all illegal drugs are equally liable under the law, but heroin and cocaine dealers are more likely to be charged with a school zone violation than marijuana dealers. Timing factors related to the presence of children in a school zone – time of day, day of week, month of year – show no statistically significant predictive effects in a multivariate regression analysis, as shown in Table 4.

Perhaps the most striking fact about district court dispositions of school zone charges is that most do not involve convictions. Compromise dispositions are the rule, generally involving a plea of guilty to simple dealing charges and dropping the school zone charges. Table 5 shows that the percentage of school zone charges leading to conviction averaged only 22% in the selected cities and that, as is true for charging, case disposition is not significantly affected by the timing factors related to the presence of children. As for charging, the class of drug sold does have a statistically significant effect in predicting disposition: hard drugs are more likely to result in school zone convictions.



TABLE 5

PERCENT OF DEALING INCIDENTS OCCURRING IN SCHOOL ZONES AND CHARGED AS SCHOOL ZONE VIOLATIONS THAT LEAD TO SCHOOL ZONE CONVICTIONS\* (FALL RIVER, NEW BEDFORD, SPRINGFIELD - N = 296)

|   | N   | Percent<br>Convicted | Statistical<br>Significance |
|---|-----|----------------------|-----------------------------|
| Among those within school or park zone**    | 296 | 22.0                 | ***                         |
| Weekday                                     | 254 | 20.9                 | NS                          |
| Weekend                                     | 42  | 28.6                 |                             |
| Day (6AM—6PM)                               | 124 | 24.2                 | NS                          |
| Evening (6PM—6AM)                           | 172 | 20.3                 |                             |
| School Session (September - June)           | 243 | 21.8                 | NS                          |
| School Summer (July - August)               | 53  | 22.6                 |                             |
| Weekday day in school session               | 85  | 24.7                 | Composite<br>Omitted        |
| One or more of summer, weekend or after 6PM | 211 | 20.9                 |                             |
| Classes A and B, heroin, cocaine, etc.)     | 243 | 24.7                 | p < .05                     |
| Marijuana and other drugs                   | 53  | 9.4                  |                             |

\* Cases indicted to superior court have been treated as "convictions." All cases in the sample originated in district court and most were resolved there. Cases indicted to superior court are generally more serious cases on which the district attorney has strong evidence. We did not have access to data regarding superior court dispositions and so treated them all as convictions. This assumption is conservative with respect to the finding that most school zone charges do not result in school zone convictions.

\*\* In the sample of 443 cases studied, only four cases in which the incident occurred outside school/park zones actually led to conviction on school zone charges in district court.

\*\*\*Dependent variable is whether or not "convicted of" school zone offense; Cox and Snell  $R^2 = .031$ ,  $df = 4$ , model chi-square = 9.299,  $p = .054$ . Binary logistic regression using SPSS version 11.0.1.

One might speculate that, even though the law does not distinguish degrees of proximity within a school zone, the degree of closeness to a school might play a role in the disposition of school zone charges. Our analysis suggests that it does not. Under Massachusetts law,<sup>2</sup> distances to a school are to be measured "as the crow flies." All distances in this paper are computed on that basis, except in the right hand side of Table 6. Experience and anecdotes indicate that in most school zone trials, the evidence of distance presented is a wheel measurement of a pedestrian path from the incident to the boundary of the school property. A wandering pedestrian path is necessarily longer than or equal to a straight line. Table 6 presents both straight-line and pedestrian-path distances<sup>3</sup> and shows that neither has any effect on the probability of school zone conviction. Correlation analysis confirms that for



TABLE 6  
PERCENT OF DEALING INCIDENTS OCCURRING IN SCHOOL ZONES AND CHARGED AS SCHOOL ZONE VIOLATIONS THAT LEAD TO SCHOOL ZONE CONVICTIONS\* BY STRAIGHT-LINE AND PEDESTRIAN-PATH MEASUREMENTS (FALL RIVER, NEW BEDFORD, SPRINGFIELD, N = 275)

| Straight-line Measurements |     |            |             | Pedestrian-path Measurements (Rough)       |      |            |             |  |
|----------------------------|-----|------------|-------------|--|------|------------|-------------|--|
| Ranges in feet             | N   | % of Cases | % Convicted | Correlation of Measurement with Conviction | N    | % of Cases | % Convicted | Correlation of Measurement with Conviction |
| 0                          | 5   | 1.8        | 20.0        | Pearson $r = -.104$ ,<br>NS                | 7    | 2.5        | 14.3        | Pearson $r = -.073$ ,<br>NS                |
| 0 to 100                   | 19  | 6.9        | 21.1        |  | 17   | 6.2        | 23.5        |  |
| 100 to 200                 | 11  | 4.0        | 27.3        |  | 11   | 4.0        | 27.3        |  |
| 200 to 300                 | 40  | 14.5       | 27.5        |  | 27   | 9.8        | 29.6        |  |
| 300 to 400                 | 40  | 14.5       | 25.0        |  | 15   | 5.5        | 6.7         |  |
| 400 to 500                 | 34  | 12.4       | 17.6        |  | 15   | 5.5        | 33.3        |  |
| 500 to 600                 | 26  | 9.5        | 19.2        |  | 29   | 10.5       | 6.9         |  |
| 600 to 700                 | 29  | 10.5       | 24.1        |  | 27   | 9.8        | 22.2        |  |
| 700 to 800                 | 26  | 9.5        | 15.4        |  | 20   | 7.3        | 20.0        |  |
| 800 to 900                 | 30  | 10.9       | 10.0        |  | 45   | 16.4       | 35.6        |  |
| 900 to 1000                | 15  | 5.5        | 13.3        | 18   | 6.5  | 11.1       |             |  |
| Over 1000                  | 0   | 0.0        | NA          | 44   | 16.0 | 9.1        |             |  |
| Total                      | 275 | 100.0      | 20.4        |  | 275  | 100.0      | 20.4        |  |

Note: Analysis is limited to cases more than 100 feet from a park.  
\* Cases indicted to superior court are treated as "convictions." All cases in the sample originated in district court, and most were resolved there. Cases indicted to superior court are generally more serious cases on which the district attorney has strong evidence. We did not have access to data regarding superior court dispositions and so treated them all as convictions. This assumption is conservative with respect to the finding that most school zone charges do not result in school zone convictions.

cases within 1,000 straight-line feet, there is no significant relationship between closeness to a school (by either measure) and the probability of conviction.<sup>4</sup> In other words, offenders dealing on or near the premises of a school are not more likely to take a school zone conviction than those dealing 900 feet away from it.

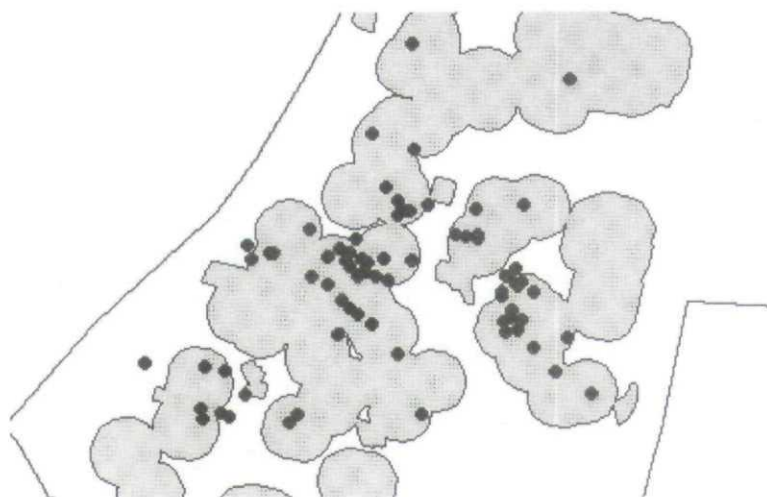
GEOGRAPHY OF THE SCHOOL ZONE LAW

As noted at the outset, a core purpose of the school zone law is to keep drug dealing away from schools. Figures 2 through 4 show the school and park zones in the downtown areas of our sample cities, which account for most of the dealing. One can see that penalty zones are irregularly shaped and that offenders are unlikely to be able to tell whether they are in them.

Drug dealers tend to offend in the vicinity of their own homes. As shown in Table 7, 34% of incidents are within 500 feet of the dealer's home, and only 21% are more than 10,000 feet away or in another city.<sup>5</sup> In 73% of the incidents that occur in a school zone, the offenders also reside in a school zone (although the incident is not necessarily connected with the school closest to the dealer's home).

Given the chaotic patterning of school zones, and the fact that dealing frequently occurs close to the homes of dealers resident in school zones, one would not predict that the school zone law would be effective in steering drug dealers away from

**FIGURE 2**  
**DOWNTOWN AREA INCLUDING 100 OF 103 (97%) SAMPLE DEALING INCIDENTS IN FALL RIVER**



**FIGURE 3**  
**DOWNTOWN AREA INCLUDING 155 OF 180 (86%) SAMPLE DEALING INCIDENTS IN NEW BEDFORD**



FIGURE 4  
DOWNTOWN AREA INCLUDING 155 OF 160 (97%) SAMPLE SCHOOL-ZONE-CHARGED DEALING INCIDENTS  
IN SPRINGFIELD

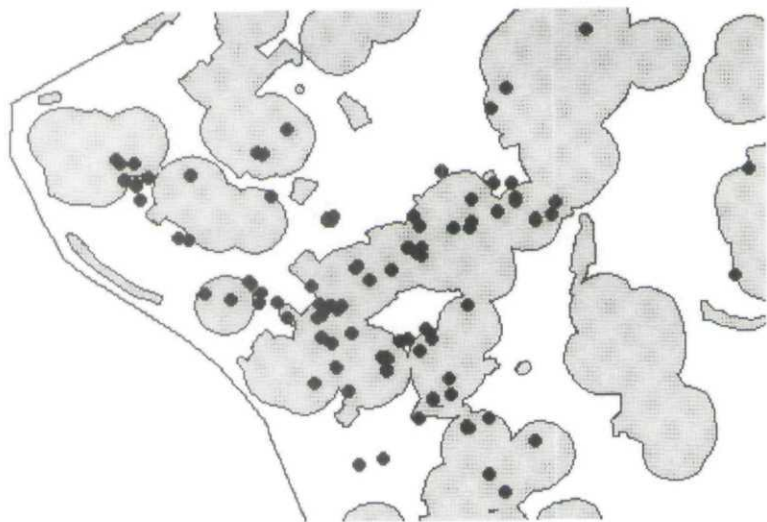


TABLE 7  
DISTANCES BETWEEN DRUG-DEALING INCIDENT ADDRESS AND OFFENDER ADDRESS  
(FALL RIVER, NEW BEDFORD, SPRINGFIELD SAMPLE)

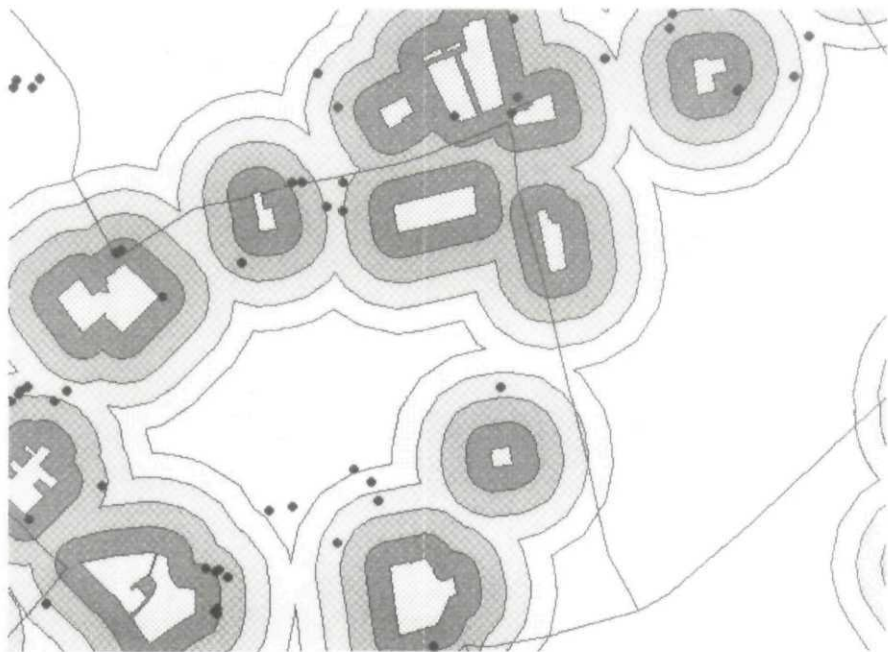
|  | N   | %   |
|--|-----|-----|
| In Same City   |     |     |
| In home or within 500 feet of home                               | 150 | 34  |
| In same census tract (neighborhood), but over 500 feet from home | 46  | 10  |
| Different census tract and from 500 to 10,000 feet from home     | 152 | 34  |
| Different census tract and over 10,000 feet from home            | 49  | 11  |
| Other cities   | 44  | 10  |
| Unknown residence  | 2   | 0   |
| TOTAL  | 443 | 100 |

schools. Figure 5 illustrates the mapping scheme we used to test the apparent effectiveness of the school zone statute in steering dealing away from schools.

Table 8 shows that at all distances fewer than 1,000 feet, except on school premises per se, drug dealing is denser than it is at distances greater than 1,000 feet – the precise opposite of what we would hope to find if the law were effective. The table shows, for example, that in poverty areas in Fall River, there were 11 drug-



**FIGURE 5**  
**SCHOOLS IN DOWNTOWN SPRINGFIELD SURROUNDED BY 250- TO 1,000-FOOT RINGS**  
**(DRUG DEALING INCIDENTS CHARGED AS SCHOOL ZONE VIOLATIONS MARKED AS DOTS)**



dealing incidents per square mile in the area zero to 250 feet from a school, but only one incident per square mile in the area over 1,000 feet from a school. For Springfield, results over 1,000 feet are not applicable because drug-dealing cases that were not charged as school zone cases were not provided to the study. The data for Springfield, however, confirm that within school zones there is not a drop-off in the density of incidents closer to schools, as we would hope to see if the law successfully deterred dealing near schools. For example, in extreme-poverty areas in Springfield, the chart shows that the area within 250 feet of schools has a density of 44 incidents, while in the 750 to 1,000 foot area the density is only 31.

It is often said that the school zone law has a particularly harsh impact on poverty areas in the centers of older cities, where there are many small neighborhood schools, making school zones a higher percentage of the land area. Within these three selected cities, the effect is real, but modest. Poverty areas do have two to three times more

**TABLE 8**  
**DRUG-DEALING INCIDENTS PER SQUARE MILE**

| Areas by City<br>and Poverty Level | Subdivision of Areas by Distance from Schools |                  |                    |                    |                     |                   | All<br>Distances |
|------------------------------------|---|------------------|--------------------|--------------------|---------------------|-------------------|------------------|
|                                    | On<br>School                                  | 0 to 250<br>Feet | 250 to 500<br>Feet | 500 to 750<br>Feet | 750 to 1000<br>Feet | Over 1000<br>Feet |                  |
| Fall River nonpoverty              | 6   | 13               | 7                  | 11                 | 6                   | 0                 | 2                |
| Fall River poverty                 | 0   | 11               | 47                 | 39                 | 23                  | 1                 | 11               |
| New Bedford nonpoverty             | 0   | 9                | 23                 | 6                  | 13                  | 2                 | 4                |
| New Bedford poverty                | 7   | 34               | 44                 | 44                 | 51                  | 14                | 29               |
| Springfield nonpoverty             | 0   | 2                | 4                  | 2                  | 2                   | n/a               | 1                |
| Springfield poverty                | 8   | 28               | 24                 | 8                  | 4                   | n/a               | 8                |
| Springfield extreme poverty        | 0   | 44               | 72                 | 50                 | 31                  | n/a               | 33               |
| All areas together                 | 3   | 15               | 21                 | 15                 | 12                  | 2                 | 5                |
| N for all areas together           | 6   | 55               | 112                | 90                 | 77                  | 103               | 443              |

Note: "Poverty" areas are census tracts with poverty rates between 20% and 40%. Extreme-poverty areas are those with poverty rates over 40%. This table is not intended for cross-country comparison (see Methods section).

schools per unit area than do nonpoverty areas in the three cities in our study. However, the schools in nonpoverty areas are on larger parcels. On average, the school and park zones cover roughly twice as much of the territory in poverty areas as in nonpoverty areas (Table 9). Drug dealing is far denser in poverty areas, but this reflects a combination of higher rates per capita and higher population density in poverty areas (Table 9).

**TABLE 9**

**CHARACTERISTICS OF NONPOVERTY, POVERTY, AND EXTREME POVERTY AREAS COMBINED ACROSS FALL RIVER, NEW BEDFORD, AND SPRINGFIELD**

|                     | Population | Area in square miles | Population per square mile | Drug-dealing cases | Drug-dealing cases per square mile | Drug-dealing cases per 100,000 people | Number of schools* | Schools per square mile (with overcount) | Merged area of school/ park zones in square mile | Merged school zones as % of merged school/ park zones | Merged school/ park zones as % of area |
|---------------------|------------|----------------------|----------------------------|--------------------|------------------------------------|---------------------------------------|--------------------|--|--|---|--|
| Nonpoverty          | 223,047    | 75.1                 | 2,969                      | 136                | 2                                  | 61                                    | 116                | 1.5                                      | 18.5   | 86  | 25                                     |
| Poverty             | 96,143     | 13.3                 | 7,206                      | 205                | 15                                 | 213                                   | 53                 | 4.0                                      | 6.2  | 91  | 47                                     |
| Extreme poverty     | 30,418     | 3.1                  | 9,722                      | 102                | 33                                 | 335                                   | 14                 | 4.5                                      | 1.7  | 91  | 56                                     |
| All selected cities | 349,608    | 91.6                 | 3,817                      | 443                | 5                                  | 127                                   | 167                | 1.8                                      | 26.4   | 87  | 29                                     |

\* Note that 16 school parcels that lie on the boundaries of nonpoverty and poverty areas are counted in both areas, so that the detail does not add to the total in this column.

## DISCUSSION

We started with two questions: (1) Are charging and sentencing in school zone cases shaped by the legislative goal of keeping drug dealing away from schools? (2) Is the law successful in keeping drug dealing away from schools? The data presented here suggest a negative answer to both questions.

As to the first question, the answer seems clear in our sample data: Charging and sentencing decisions using the school zone law do not appear to reflect the goal

of keeping drug dealing away from schools. The majority of drug-dealing cases occur within school zones. The majority of school zone charges are reduced to lesser charges, eliminating the mandatory sentence. Time of day, day of week, month of year, and nearness to schools within the zone have no statistically significant effect on charging and sentencing decisions. Of course, the law does not require that they should. However, given that 1,000-foot zones cover so much territory, one could argue that it would be consistent with legislative purpose to prioritize drug-dealing incidents closest to the places children play. It is worth noting that very few drug-dealing cases actually involve children. In our combined sample, only four cases involved charges of dealing to minors or using minors in sales.

As to the second question, the data in this study show that in three Massachusetts cities, dealing is as prevalent near schools as it is farther away. Zones are so close together that it is impossible for either drug dealers or children to distinguish "drug-free" zones from the rest of the city. However, this cross-sectional result is not definitive. A longitudinal study comparing results before and after the imposition of school zone penalties might show a change in patterns that is invisible in our cross-sectional results. Unfortunately, such a study appears virtually impossible to conduct at this time because of the likely loss or destruction of relevant incident records from the period surrounding the enactment of the law in 1989.

Local law enforcement authorities strongly support the school zone law, although none have made the argument that dealing was more prevalent on school properties before the law was imposed. In our many conversations on this issue, authorities have consistently expressed support for it. When pressed as to why, authorities usually say that it provides a substantial incremental penalty with which to punish especially undesirable drug dealers. The data in this study show practices consistent with this explanation: cocaine and heroin dealers are more likely than marijuana dealers to face and be convicted of school zone charges.

The argument that the law creates stronger penalties is questionable, however, given the high rate at which school zone charges are bargained away. Certainly, the charge creates a bargaining chip: Police can threaten to charge a school zone violation initially if a defendant is uncooperative. Prosecutors can offer to drop the school zone violation in return for cooperation or as part of a plea bargain induced by the threat of the mandatory minimum. It is uncertain whether judges would offer more lenient deals than the prosecutors, given the high rates at which prosecutors drop school zone charges. The deeper reason that law enforcement officials like the school zone statute may be that it puts the discretion in their hands, which is intrinsically desirable for them (Rasmussen & Rasmussen, 2003, p. 721), whether or not it leads to higher average penalties. A critical empirical question is how well law



enforcement officials use the great discretion afforded to them by mandatory minimum statutes.

Similar mapping studies should be conducted in other jurisdictions to determine the operation of differently crafted school zone statutes in differently designed cities. The laws of many other states paint as broadly as Massachusetts in defining school zones (or even more so – up to three miles in Alabama). It may be that school zone statutes should be generally reexamined. A statutory structure that gave more sensible guidance to both offenders and law enforcement officers might be more effective in protecting schools and the general public. One might, for example, enhance penalties by an even greater margin, but within a much smaller radius around the schools. This might more effectively push offenders away from schools. By reducing the number of cases that the enhancement applies to, such a change would moderate overall penalty levels and reduce the number of cases in which law enforcement may have excess discretionary power.

#### NOTES

- <sup>1</sup> The Massachusetts legislature first enacted a school zone penalty in 1989. In 1993, the legislature expanded the law to also cover dealing within 100 feet of a park. In 1998, after a court decision determining that preschools were not elementary schools subject to the law as worded, the legislature added 1,000 foot protection for accredited preschool and head-start programs. As it has read since July 1, 1998, M.G.L. c. 94C s. 32J provides that:

Any person who violates the provisions of section thirty-two [class A (primarily opiates) sales], thirty-two A [class B (primarily cocaine) sales], thirty-two B [class C (primarily prescription drug) sales], thirty-two C [class D (primarily marijuana) sales], thirty-two D [class E (other) sales], thirty-two E [trafficking], thirty-two F [sales to minors] or thirty-two I [paraphernalia sales] while in or on, or within one thousand feet of the real property comprising a public or private accredited pre-school, accredited head-start facility, elementary, vocational, or secondary school whether or not in session, or within one hundred feet of a public park or playground shall be punished by a term of imprisonment in the state prison for not less than two and one-half nor more than fifteen years or by imprisonment in a jail or house of correction for not less than two nor more than two and one-half years. No sentence imposed under the provisions of this section shall be for less than a mandatory minimum term of imprisonment of two years. A fine of not less than one thousand nor more than ten thousand dollars may be imposed but not in lieu of the mandatory minimum two-year term of imprisonment as established herein. In accordance with the provisions

of section eight A of chapter two hundred and seventy-nine such sentence shall begin from and after the expiration of the sentence for violation of section thirty-two, thirty-two A, thirty-two B, thirty-two C, thirty-two D, thirty-two E, thirty-two F or thirty-two I. Lack of knowledge of school boundaries shall not be a defense to any person who violates the provisions of this section.

<sup>2</sup> *Commonwealth v. Robert F. Spano*, 414 Mass. 178, 605 NE2d 1241 (Mass. 1993).

<sup>3</sup> The pedestrian-path measurements were based on aerial photos and street maps and were generated by tracing distances along apparent pathways from incident to school, using the distance-length measurement function of Arcview 3.1.

<sup>4</sup> This statement is based on regression analysis of conviction/indictment (quantifying this variable as a 0 if no conviction and no indictment or a 1 if either) against raw distance by each measure, separately or with other variables. Some statistically significant coefficients emerge, but have the wrong sign (higher probability of conviction further away from the school).

<sup>5</sup> Qualifying this point, note that among those arrested within 500 feet of their homes, three fifths (92 of 150) were arrested in conjunction with the execution of a search warrant. Forty-three of the 249 cases more than 500 feet from home but in the same city are also pursuant to a search warrant. We located incidents at the point of sale where defendants were charged with actual distribution, and at the point of arrest where defendants were charged with possession with intent to distribute.

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