

**Peering Into the Black Box: The Criminal Justice System's Response to Gun-Related Felonies in St. Louis**

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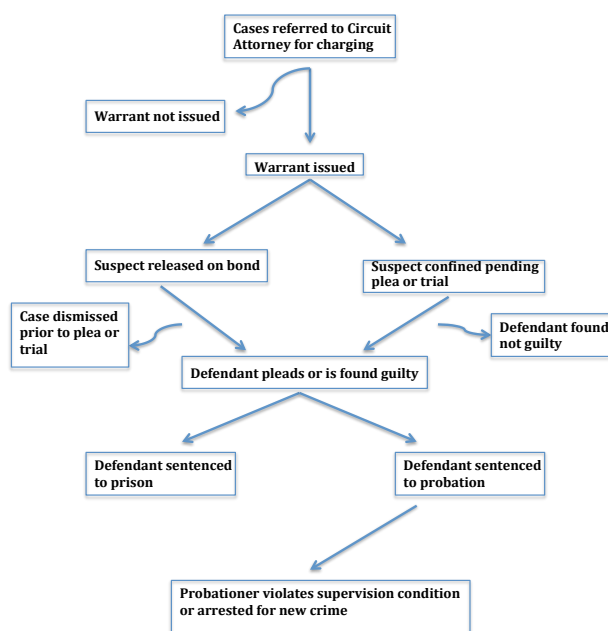
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Over the past two years, the Regional Justice Information Services and its criminal justice stakeholder partners designed a new integrated database to monitor and analyze gun-related crimes in St. Louis. To evaluate the utility of the *Gun Monitor* design template for gaining insight into the criminal justice processing of persons arrested for committing gun-related crimes, the authors drew a sample of arrests for gun-related felonies and compiled data on selected design elements encompassing the major components of the criminal justice system, as depicted in Figure 1. We compiled data on 246 gun-related arrests that occurred after December 31, 2010.<sup>1</sup> Gun-related arrests averaged about 90-100 per month and our sample of cases roughly spanned the first quarter of 2011. We drew the sample from this period on the assumption that the large majority of cases would be disposed of by the time data collection began in late 2013. The data were gathered manually from the records of the St. Louis Metropolitan Police Department, the Circuit Attorney, the 22<sup>nd</sup> Judicial Circuit of Missouri, and the Division of Probation and Parole of the Missouri Department of Corrections.

This report summarizes results from an analysis of the sample of gun-related arrests. We begin by describing the arrest charges and the sex, race, age, and criminal record of the arrestees. We then trace their progress through the criminal justice system; in effect, sample values are assigned to the arrows in Figure 1. Differences in case trajectories by the suspect's age and criminal record are then assessed. Finally, we illustrate the use of the integrated database to address a timely policy issue: whether raising the bond amount for persons awaiting trial on gun-related charges reduces the risk of gun crime and violence in St. Louis.

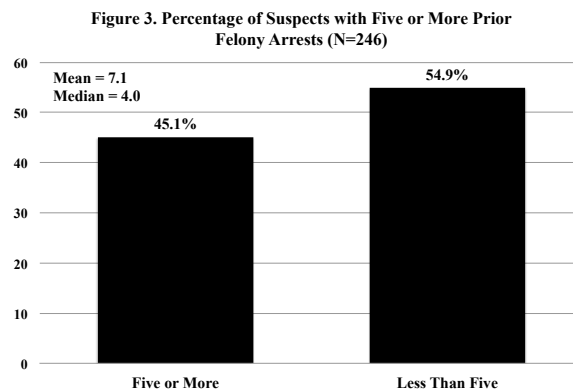
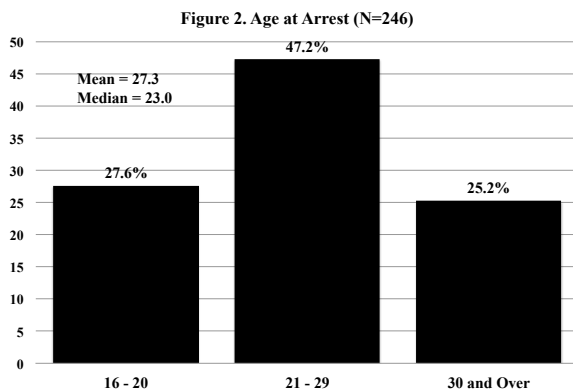
## Case Characteristics and Trajectories

FIGURE 1. GUN CASE PROCESSING DECISION TREE



<sup>1</sup> We drew an initial sample of 300 arrests from police records but could not match 54 of them with records from the Circuit Attorney's office. Many of these arrests were on warrants issued by other jurisdictions, but some may have resulted from the use of aliases or other factors that prevented accurate record matches across agencies.

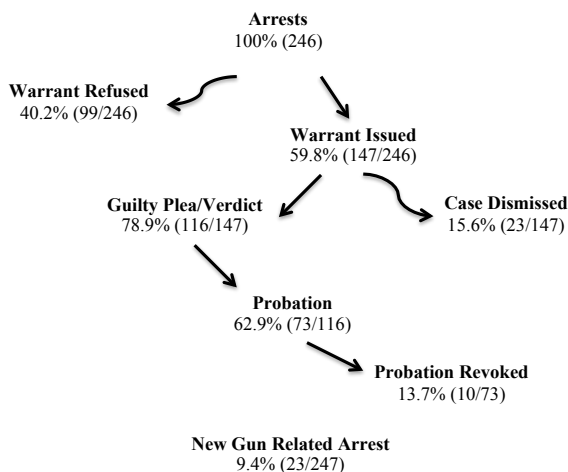
Very few of the 246 individuals in the sample were arrested for homicide, armed robbery, armed criminal action, or other gun-related violent crimes. Ninety-five percent of the 246 arrestees were charged with unlawful use or unlawful possession of a firearm. Nearly all of the unlawful possession cases were for “felon in possession” of a firearm. The large majority of arrestees were black males (93.9% and 93.5%, respectively).



Suspects ranged in age from 16 to 65, with a median age of 23. As a group, they had compiled a total of 1,753 prior felony arrests, an average of approximately seven per suspect. Only five of the 246 suspects had no prior felony arrests; 10 had 25 or more. The police applied for warrants for each of the 246 persons arrested on gun-related charges. Warrants were refused in 40.2% or 99 of these cases. This high refusal rate initially came as a surprise to both police officials and the Circuit Attorney. Upon inspection, the Circuit Attorney’s office discovered that many of the refusals involved unlawful possession cases in which the police discovered a firearm in a motor vehicle and one or more of the occupants had a prior felony conviction, but none claimed ownership of the firearm. Meanwhile, the Missouri legislature had recently passed a statute allowing the open carrying of a firearm in a motor vehicle without a permit. Because the police could not link the weapon to a felon, and the law did not prohibit open carry without a permit, requests for warrants in such instances were refused.

Of the remaining 147 cases in which warrants were issued, 23 were dismissed prior to plea or trial. Two suspects died, 10 cases were dismissed “without prejudice” by the court, and 11 were dismissed by the circuit attorney (*nolle prosequi*).<sup>2</sup> A total of 122 or 49.6% of the original 246 cases, then, did not end in a verdict or plea. One hundred and sixteen of the remaining 124 cases ended in a guilty plea (113) or a guilty verdict (3). Two of the remaining eight cases were not disposed of by the time the data were collected. The others ended in not

**Figure 4. Case Disposition and Outcomes**



<sup>2</sup> A few of the latter cases may have been taken up by the federal prosecutor.

guilty verdicts. Seventy-three or 62.9% of those who pled or were found guilty were given a suspended imposition (or execution) of sentence and placed on probation. Ten of those violated the terms of their probation. In all, of the 246 persons arrested on gun-related charges, 23 were arrested for a new gun-related felony between their initial arrest and October of 2013 when data collection began.

### Case Trajectories by Suspect Age and Criminal Record

Table 1 summarizes case processing and outcomes by the suspect's age at the time of arrest and number of prior felony arrests. We see that warrants were refused in just over half of the arrests of suspects who were 30 years-old or older, but in only about a quarter of the arrests of suspects under the age of 21. Cases of suspects with five or more prior felony arrests were as likely to be refused as those of suspects with fewer felony arrests. Case dismissals did not differ significantly by the suspect's age, whereas cases against suspects with fewer than five prior felony arrests were about twice as likely as those against suspects with five or more prior felony arrests to be dismissed. That difference is significant at the 10% level. The large majority of suspects either pled or were found guilty, regardless of their age or prior record.

A 22<sup>nd</sup> Circuit Court judge responsible for setting initial bond amounts and conditions instituted a policy in early 2011 of \$30,000 minimum cash-only bonds in gun-related cases. Fully half of the defendants in our 2011 sample had initial bonds of \$30,000 or more. As shown in Table 1, younger defendants were more likely than older defendants to be faced with elevated bond amounts. Interestingly, defendants with longer criminal histories were less likely than others to be given bonds of \$30,000 or more, but that difference is not statistically significant. Average bond amounts were reduced substantially at subsequent court hearings, however, and final bonds did not differ significantly by the defendant's age or prior record.

**Table 1. Case Processing by Suspect Age and Criminal Record<sup>a</sup>**

	Suspect Age			p	5 or More Felony Arrests		p	N
	16–20	21–29	30+		Yes	No		
Warrant Refused	23.5%	44.0%	51.6%	.003	41.4%	39.3%	.728	246
Case Dismissed	12.0%	17.5%	21.4%	.528	9.8%	21.3%	.069	141
Guilty	86.0%	81.0%	78.6%	.814	88.5%	77.5%	.089	141
Initial Bond $\geq$ \$30K	56.0%	68.8%	41.4%	.041	52.4%	63.8%	.170	143
Final Bond $\geq$ \$30K	30.0%	37.5%	27.6%	.556	38.1%	28.8%	.238	143
Case Age (Days)	254	268	301	.602	265	274	.793	142
Days in Jail	99	142	154	.235	170	98	.007	143
Days Out of Jail	153	126	146	.766	93	176	.017	142
New Arrest	16.2%	8.6%	3.2%	.038	15.3%	4.4%	.004	246
5 or More Felony Arrests	41.2%	42.2%	54.8%	.204	---	---	---	246

<sup>a</sup> Percentage differences evaluated by chi-square; mean differences evaluated by F-test.

It took just over nine months for the court to dispose of the average gun-related case initiated in early 2011. The average duration of case processing did not differ by the suspect's age or prior record. The average suspect or defendant in a gun-related case spent 130 days in jail from arrest to plea, verdict, or dismissal, but there was enormous variation in time spent in jail. A quarter of the arrestees spent nine or fewer days in jail prior to disposition, and another quarter spent over 197 days (over six months) in jail awaiting the outcome of their case. Jail time prior to case disposition did not differ by the suspect's age. Suspects with more prior felony arrests, however, spent significantly more time in jail than did other suspects.

Younger suspects were significantly more likely than older suspects to be arrested for committing a new gun-related crime (before October 2013), as were suspects with longer criminal records. The judge who inaugurated the \$30,000 cash bond policy hoped that it would reduce gun-related crimes in St. Louis. The higher bond amounts, he reasoned, could yield crime reductions in several different ways. It would have an immediate *incapacitation effect* on those suspects who spent more time in jail than they would have under former custody arrangements. It might also deter them from committing new crimes after release. Finally, as word spread about the new policy, he hoped it would deter others from committing gun-related crimes. He asked researchers from the University of Chicago to evaluate the impact of the policy on gun crimes and violence, but they were unable to draw strong conclusions, primarily because they lacked the data needed for the evaluation. We can use the 2011 *Gun Monitor* sample data to address part of this policy issue, specifically whether individuals given higher bonds were less likely than others charged with a gun-related offense to be arrested for committing a new gun crime over the next two and-a-half years.

### **Bond, Jail Time, and New Arrests**

If individuals given higher bonds are less likely to commit a new gun-related crime, a significant association should exist between bond amount and the probability of a new gun-related arrest. The results displayed in Table 2 indicate that suspects with initial bonds less than \$30,000 were three times more likely than those with higher bonds to be arrested on another gun-related charge over the next two and-a-half years. As noted above, average bonds were reduced at subsequent court hearings. None of the suspects with final bonds of \$30,000 or more, however, was arrested for committing a new gun-related crime, compared with 13.5% of those with lower bonds.

The key assumption underlying the more onerous bond policy for persons charged with gun-related offenses was that higher bonds would bring more jail time before plea or verdict. We find strong evidence for that assumption in the 2011 sample of gun-related cases. As shown in Table 2, persons whose initial bonds were set at \$30,000 or more spent over twice the amount of time in jail awaiting the disposition of their case than did those with lower bonds. After bond reduction hearings, those whose final bonds remained at or over \$30,000 spent nearly three times more time in jail than did defendants with lower bonds. Finally, as expected, the more time suspects spent in jail while awaiting the outcome of their case, the less likely they were arrested for a new gun-

related crime. Just 2.8% of the suspects who spent 74 or more days in jail, the sample median, were arrested for committing a new gun-related crime, compared with 15.5% of those who spent fewer than 74 days in jail awaiting the outcome of their case ( $\chi^2_{df=1} = 6.99, p < .01$ ).

**Table 2. New Gun-Related Arrests and Days in Jail by Bond Amount (N=143)**

	Initial Bond		Final Bond	
	\$30K or More	Less Than \$30K	\$30K or More	Less Than \$30K
New Gun Arrest				
Yes	4.8%	15.3%	0.0%	13.5%
No	95.2%	84.7%	100.0%	86.5%
Chi-Square <sub>(df=1)</sub>		4.62*		7.00**
Mean Days in Jail	168 (n=84)	75.8 (n=59)	228 (n=47)	81.6 (n=96)
F-test <sub>(df=142)</sub>		12.3**		32.3**

\*\*p < .01 \*p < .05

It appears, then, that suspects subject to higher bond amounts committed fewer gun-related crimes, as reflected by arrests over the following two and-a-half years, at least in part because they spent considerably more time in jail than did those whose bonds were lower. But we have seen that the probability of a new arrest is also related to other characteristics of suspects, such as their age and prior record. Suspects with longer criminal records were also confined for a longer period than those with fewer prior arrests (see Table 1). It is possible, then, that new gun-related arrests are a function of these factors, rather than bond amount and jail time. Consequently, they should be held constant when investigating the effect of higher bonds and more jail time on the probability that someone charged with committing a gun-related crime will be arrested again for committing another gun-related crime.

We therefore conducted a multivariate analysis of the impact of bond amount and jail time on subsequent gun-related arrests. The results are shown in Table 3. The first column of results shows the effect of a security bond greater than or equal to \$30,000 on the amount of time individuals charged with committing a gun-related crime spend in jail prior to plea, trial, or case dismissal. The next column shows the effect of a \$30,000+ bond on the likelihood of another gun-related arrest. Both of these models incorporate suspect age and prior record as control variables. The final column adds jail time to the model of new arrests. If higher bond amounts had the desired effect, they should have significantly increased time spent in jail, which in turn should have significantly reduced subsequent arrests. That is what we observe.

As expected, suspects whose bonds were greater than or equal to \$30,000 spent more time in jail than did those with lower bonds ( $b = .898, p < .01$ ) and were less likely to be arrested for another gun-related crime ( $b = -1.198, p < .05$ ), controlling for both their age at arrest and prior record. We also see that when jail time is included in the model, it significantly reduces the probability of a new arrest ( $b = -.007, p < .10$ ), and the effect of

the initial bond amount is no longer significant ( $b = -.584, p > .10$ ). These results, summarized graphically in Figure 5, support the idea behind the policy initiative that higher bonds reduce gun-related crime by lengthening the period defendants charged with committing a gun-related crime spend in jail awaiting the disposition of their case.

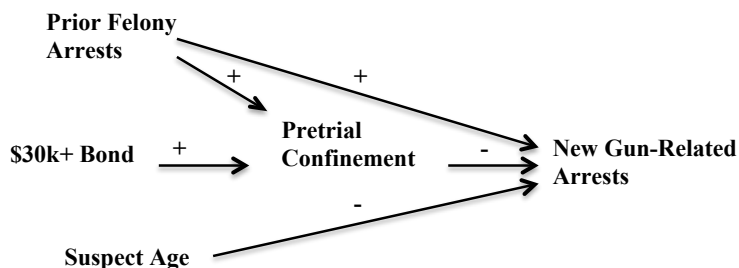
**Table 3. New Arrests by Suspect Age, Criminal Record, Bond Amount, and Time in Jail (N=143)<sup>a</sup>**

	Days in Jail	New Arrest	New Arrest
Suspect Age	.019 (.013)	-.173* (.074)	-.189* (.076)
Prior Felony Arrests	.036* (.016)	.072* (.031)	.095** (.033)
Initial Bond $\geq$ \$30K	.898** (.214)	-1.198* (.601)	-.584 (.644)
Days in Jail	---	---	-.007+ (.004)
Log likelihood	-814	-36.2	-33.4

Poisson regression coefficients for New Arrest; negative binomial regression coefficients for Days in Jail ( $\alpha = 1.48$ ). Standard errors in parentheses.

\*\*p < .01 \*p < .05 +p < .10 (two-tailed)

**Figure 5. Impact of Higher Bonds, Prior Felony Arrests, and Suspect Age on New Gun-Related Arrests**



## Discussion

The major purpose of gathering and analyzing data on the criminal justice processing of persons arrested for committing gun-related crimes in St. Louis was to determine whether the *Gun Monitor*, when implemented, would prove useful in shedding light on key policy issues that could not be readily addressed in the absence of a database that merged elements from existing criminal justice data silos.

We learned that it was possible to follow an entire cohort of persons through the criminal justice system, from arrest, through prosecution, adjudication, and sentencing, without excessive case loss because information from one agency could not be linked to that from others. Our stakeholder partners learned that an important disconnect existed, and may still exist, between the arrest and charging processes in gun-related cases. We have found suggestive evidence that the policy of increasing bonds in gun-related cases reduced gun

crimes, at least as measured by subsequent gun-related arrests. More extensive data and analysis are needed to support rigorous policy evaluation, but as a proof-of-concept exercise, our analysis of integrated criminal justice data on a sample of gun-related arrests in 2011 offers strong confirmation of the utility of the proposed *Gun Monitor*.