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Moving Targets: An Examination of Departmental Firearms Policies and Police Shooting at Vehicles

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Do restrictive deadly force policies reduce the likelihood and frequency of police shootings at moving vehicles?

Introduction

US police fatally shoot approximately 1,000 people each year
-Another approx. 800 survive after being struck by gunfire

-2015-2020: 774 people shot when "vehicle" classified as weapon (7.4%)

Departmental/Administrative Policy
Long history of evidence suggesting policy restrictiveness reduces police shootings and use of force more broadly
-fleeing felon standard → in defense of life only

National consensus of 11 leadership organizations (e.g., IACP, NOBLE)
-Model policy includes restrictions on shooting at/from moving vehicles

Departmental Silence/Permissiveness versus Restrictions

*There is no single, uniform use of force policy
-approx. 18,000 police departments in the US; based on case law and state statutes

An employee may use deadly force to apprehend a suspected felon only when:

1. He or she reasonably believes that the suspect possesses a deadly weapon or any object, device, or instrument which, when used offensively against a person, is likely to or actually does result in serious bodily injury and when he or she reasonably believes that the suspect poses an immediate threat of serious bodily injury to the officer or others; or

2. When there is probable cause to believe that the suspect has committed a crime involving the infliction or threatened infliction of serious physical harm (O.C.G.A. Section 17-4-20) and the employee reasonably believes that the suspect's escape would create a continuing danger of serious physical harm to any person.

Atlanta (above) VERSUS Boston (below)

Sec. 8 Moving/Fleeing Vehicles: Firearms shall not be discharged from a moving vehicle. Firearms shall not be discharged at a moving or fleeing vehicle unless the officer or another person is currently being threatened with deadly force by means other than the moving vehicle. For the purposes of this section, the moving vehicle itself shall not constitute the threatened use of deadly force. Therefore, officers shall move out of the path of any oncoming vehicle instead of discharging a firearm at it or any of its occupants. Moving to cover, repositioning and/or waiting for additional responding units to gain and maintain a tactically superior police advantage maximizes officer safety and minimizes the necessity for using deadly force.

Data & Measures

100 largest municipal police departments in the US (city/dep = unit of analysis)

DVs: Sub-set of fatal and non-fatal, injurious police shootings of citizens (2015-2020) from the Gun Violence Archive (GVA)
-Binary/dummy (0,1) → 0 = no departmental shootings; 1 = at least 1
-Pooled count → total number of departmental shootings (0 – 9)

IVs: 1) Departmental permissiveness versus restrictiveness
-Binary/dummy (0,1) → 0 = silence, permissiveness, authorization
1 = restrictive language with prohibitions

2) Language instructing officers to avoid placing themselves in path of car and/or moving out of the way (0 = no; 1 = yes)

Controls: violent crime and homicide rates, concentrated disadvantage, jurisdiction's population estimates

Table 1 Summary Statistics

Variables	*Mean (SD)*	*Range*
Dependent Variables		
Shooting (Binary)	0.65 (--)	0 – 1
Shooting (Count)	1.40 (1.60)	0 – 9
Independent Variables		
Policy Restrictiveness	0.74 (--)	0 – 1
Language – Move out	0.57 (--)	0 – 1
Controls		
Violent Crime Rate (Per 100,000)	765.9 (433)	62.7 – 1,970.8
Homicide Rate (Per 100,000)	12.3 (11.2)	0.6 – 64.8
Concentrated Disadvantage	0 (1)	-2.1 – 3.5
Population	641,489 (964,009)	209,464 – 8,560,072

Analytical Plan & Findings

1. Bivariate correlations
2. Multivariate analyses: Logistic Regression (DV #1) and Negative Binomial Regression (DV #2) modeling

Table 2 Bivariate Correlations

	Y_1	Y_2	X_1	X_2	X_3	X_4	X_5
Y_1 Shooting (Binary)	--						
Y_2 Shooting Count)	.65**	--					
X_1 Policy Restrict.	-.25*	-.27**	--				
X_2 Move Out	-.01	-.09	.62**	--			
X_3 Violent Crime	.16	.13	-.11	-.01	--		
X_4 Concentrated Dis.	.12	.06	-.05	-.10	.58**	--	
X_5 Population	.09	.31**	.04	-.01	.01	.00	--

*p < .05; **p < .01 (two-tailed test).

Table 3 Multivariate Analyses

	Model 1 (Binary)		Model 2 (Binary)		Model 3 (Count)		Model 4 (Count)	
Variable	Odds Ratio	SE	Odds Ratio	SE	IRR	SE	IRR	SE
Policy Restrictiveness	.25*	.15		--	.51**	.13		--
Policy Language Move Out		--	.98	.44		--	.65	.16
Violent Crime	1.00	.00	1.00	.00	1.00	.00	1.00	.00
Concentrated Disadvantage	1.10	.30	1.18	.33	1.09	.16	1.09	.17
Population	1.00	.00	1.00	.00	(exposure)		(exposure)	
	LR $\chi^2 = 9.73$*		LR $\chi^2 = 2.80$		LR $\chi^2 = 8.42$*		LR $\chi^2 = 4.16$	

*p < .05; **p < .01 (two-tailed test).

Conclusion

Departments with more restrictive firearms policies re: moving vehicles were less likely to 1) have these types of shootings and 2) had fewer of them – net of controls
-Policy language instructing officers to move out of the way of moving vehicles was **not** associated with this subset of police shootings

This paper is a work in progress with plans to submit to *Policing: A Journal of Policy and Practice.*

This study relied on data from: The Gun Violence Archive (GVA), police departments' use of force/firearms policies from public records requests (largely through Campaign Zero/8 Can't Wait campaign), FBI's UCR system, and the US Census Bureau.