

17-56081

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

VIRGINIA DUNCAN, et al,
Plaintiff and Appellees,

v.

**XAVIER BECERRA, in his Official
Capacity as Attorney General of the State
of California,**
Defendant and Appellant.

On Appeal from the United States District Court
for the Southern District of California

No. 17-cv-1017-BEN-JLB
The Honorable Roger T. Benitez, Judge

**APPELLANT’S EXCERPTS OF RECORD,
VOLUME IX, ER 1849-2130**

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TABLE OF CONTENTS

Date		Page
<u>VOLUME I</u>		
6/29/17	Order Granting Preliminary Injunction (Docket No. 28)	ER0001
7/27/17	Notice of Appeal (Docket No. 32)	ER0067
6/13/17	Reporter's Transcript of Proceedings (Hearing on Motion for Preliminary Injunction)	ER0069
6/12/17	Attorney General Xavier Becerra's Answer (Docket No. 25)	ER0134
5/26/17	Order Granting Ex Parte Application for Order Shortening Time (Docket No. 5)	ER0148
5/25/17	Plaintiff's Ex Parte Application for Order Shortening Time to Hear Plaintiff's Motion for Preliminary Injunction (Docket No. 4)	ER0150
5/17/17	Complaint for Declaratory and Injunctive Relief (Docket No. 1)	ER0154
<u>VOLUME II</u>		
6/5/17	Declaration of Lucy P. Allen in Support of Defendant's Opposition to Plaintiff's Motion for Preliminary Injunction (Docket No. 11)	ER0176
6/5/17	Declaration of John J. Donohue in Support of Defendant's Opposition to Plaintiff's Motion for Preliminary Injunction (Docket No. 12)	ER0189
6/5/17	Declaration of Blake Graham in Support of Defendant's Opposition to Plaintiff's Motion for Preliminary Injunction (Docket No. 13)	ER0202
6/5/17	Declaration of Ken James in Support of Defendant's Opposition to Plaintiff's Motion for Preliminary Injunction	ER0210

TABLE OF CONTENTS

Date		Page
	(Docket No. 14)	
6/5/17	Declaration of Daniel W. Webster in Support of Defendant's Opposition to Plaintiff's Motion for Preliminary Injunction (Docket No. 15)	ER0214
6/5/17	Declaration of Alexandra Robert Gordon in Support of Defendant's Opposition to Plaintiff's Motion for Preliminary Injunction (Docket No. 17)	ER0233
	Exhibit 1 to Declaration of Alexandra Robert Gordon: Phillip J. Cook, et al., <i>The Gun Debate's New Mythical Number How Many Defensive Uses Per Year?</i> , 16 Journal of Policy Analysis and Management, No. 3 (Summer, 1997)	ER0249
	Exhibit 4 to Declaration of Alexandra Robert Gordon: Selected pages from James Alan Fox and Jack Levin, <i>Extreme Killing: Understanding Serial and Mass Murder</i> (2d ed., 2005)	ER0259
	Exhibit 5 to Declaration of Alexandra Robert Gordon: Selected pages from David Hemenway, <i>Private Guns Public Health</i> (2004)	ER0270
	Exhibit 7 to Declaration of Alexandra Robert Gordon: Selected pages from Gary Kleck, <i>Point Blank: Guns and Violence in America</i> (1991)	ER0288
	Exhibit 8 to Declaration of Alexandra Robert Gordon: Claude Werner, <i>The Armed Citizen – Analysis of Five Year of Armed Encounters</i> , Gunssavelives.net (Mar. 12, 2012)	ER0298
	Exhibit 9 to Declaration of Alexandra Robert Gordon: Excerpts from Massad Ayoob, <i>The Gun Digest Book of Concealed Carry</i> (2012)	ER0306

TABLE OF CONTENTS

Date		Page
	Exhibit 14 to Declaration of Alexandra Robert Gordon: Declaration of Christopher S. Koper in Support of Sunnyvale’s Opposition to Plaintiff’s Motion for Preliminary Injunction, <i>Leonard Fyock, et al. v. The City of Sunnyvale, et al.</i> , Case Number 13-cv-05807	ER0310

VOLUME III

	Continued Exhibit 14 to Declaration of Alexandra Robert Gordon: Declaration of Christopher S. Koper in Support of Sunnyvale’s Opposition to Plaintiff’s Motion for Preliminary Injunction, <i>Leonard Fyock, et al. v. The City of Sunnyvale, et al.</i> , Case Number 13-cv-05807	ER460
	Exhibit 24 to Declaration of Alexandra Robert Gordon: 12/28/16 letter from National Rifle Association and the California Rifle & Pistol Association Incorporated to the California Office of Administrative Law and the California Department of Justice Bureau of Firearms	ER0608
	Exhibit 25 to Declaration of Alexandra Robert Gordon: 12/28/12 Letter from Commissioner Charles H. Ramsey, Philadelphia Police Department, President of the Major Cities Chiefs Association to the Vice President of the United States.	ER0622
	Exhibit 28 to Declaration of Alexandra Robert Gordon: Mark Follman, <i>More Guns, More Mass Shootings - Coincidence?</i> , Mother Jones (Sep. 26, 2012)	ER0628
	Exhibit 29 to Declaration of Alexandra Robert Gordon: Mark Follman, et al., <i>A Guide to Mass Shootings in America</i> , Mother Jones (Jul. 20, 2012)	ER0635
	Exhibit 30 to Declaration of Alexandra Robert Gordon: Mark Follman and Gavin Aronsen, <i>“A Killing Machine”</i> :	ER0642

TABLE OF CONTENTS

Date	Page
<i>Half of All Mass Shooters Used High-Capacity Magazines</i> , Mother Jones (Jan. 30, 2013)	
Exhibit 34 to Declaration of Alexandra Robert Gordon: Russell Goldman, <i>Gunman William Spengler Used Bushmaster, Left Chilling Note</i> , ABC News (Dec. 25, 2012)	ER0647
<u>VOLUME IV</u>	
Exhibit 37 to Declaration of Alexandra Robert Gordon: Various media reports of incidents where the shooter was subdued or tackled while reloading	ER0650
Exhibit 38 to Declaration of Alexandra Robert Gordon: Kevin Dolak and Justin Weaver, <i>Woman Wrestled Fresh Ammo Clip from Tucson Shooter as He Tried to Reload</i> , ABC News (Jan. 9, 2011)	ER0759
Exhibit 40 to Declaration of Alexandra Robert Gordon: Edmund Mahony, et al., <i>Sandy Hook Shooter's Pause May Have Aided Students' Escape</i> , The Hartford Courant (Dec. 23, 2012)	ER0775
Exhibit 41 to Declaration of Alexandra Robert Gordon: Paul Pinkham, <i>Have Gun, Will Not Fear Anymore</i> , Florida Times Union (Jul. 18, 2000)	ER0782
Exhibit 44 to Declaration of Alexandra Robert Gordon: <i>LAPD Chief Backs Ban on Some Ammo Magazines</i> , NBC Southern California (Mar. 2, 2011)	ER0787
Exhibit 45 to Declaration of Alexandra Robert Gordon: David S. Fallis and James V. Grinaldi, <i>VA Data Show Drop in Criminal Firepower During Assault Gun Ban</i> , Washington Post (Jan. 23, 2011)	ER0792

TABLE OF CONTENTS

Date	Page
Exhibit 46 to Declaration of Alexandra Robert Gordon: David Fallis, <i>Data Indicate Drop in High-Capacity Magazines During Federal Gun Ban</i> , Washington Post (Jan. 10, 2013)	ER0797
Exhibit 47 to Declaration of Alexandra Robert Gordon: Botelho and Steve Almasy, <i>San Bernardino Shooting: Carnage Was 'Unspeakable,' Police Say</i> , CNN (Dec. 4, 2015)	ER0802
Exhibit 48 to Declaration of Alexandra Robert Gordon: Eric Levenson, <i>San Bernardino School Shooter Fired 10 Shots, Reloaded Once</i> , CNN (Apr. 12, 2017)	ER0811
Exhibit 49 to Declaration of Alexandra Robert Gordon: Ralph Ellis, et al., <i>Orlando Shooting: 49 Killed, Shooter Pledged ISIS Allegiance</i> , CNN (June 13, 2016)	ER0818
Exhibit 50 to Declaration of Alexandra Robert Gordon: Mark Follman, <i>This Is the Assault Rifle Used by the Orlando Mass Shooter</i> , Mother Jones (Jun. 13, 2016)	ER0827
Exhibit 51 to Declaration of Alexandra Robert Gordon: Excel spreadsheet of data from Mother Jones' investigation titled "U.S. Mass Shootings, 1982-2016," http://www.motherjones.com/politics/2012/12/mass- shootings-mother-jones-full-data (accessed and downloaded from site as of 5/30/17)	ER0831
Exhibit 52 to Declaration of Alexandra Robert Gordon: International Association of Chiefs of Police, <i>Position Paper of Firearm Violence</i>	ER0912
Exhibit 53 to Declaration of Alexandra Robert Gordon: National Law Enforcement Partnership to Prevent Gun Violence, <i>Protecting Communities from Assault Weapons</i>	ER0917

TABLE OF CONTENTS

Date	Page
<i>and High-capacity Ammunition Magazines</i> (Jan. 2017)	
<u>VOLUME V</u>	
Exhibit 55 to Declaration of Alexandra Robert Gordon: United States Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF), <i>Recommendation on the Importability of Certain Semiautomatic Rifles</i> (July 1989)	ER0922
Exhibit 56 to Declaration of Alexandra Robert Gordon: United States Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF), <i>The Treasury Study on the Sporting Suitability of Modified Semiautomatic Assault Rifles</i> (April 1998)	ER0942
Exhibit 57 to Declaration of Alexandra Robert Gordon: United States House of Representatives Report No. 103-489 (1994 WL 168883)	ER1069
Exhibit 58 to Declaration of Alexandra Robert Gordon: State of Connecticut, Division of Criminal Justice, <i>Report of the State's Attorney for the Judicial District of Danbury on the Shootings at Sandy Hook Elementary School</i> (Nov. 25, 2013)	ER1145
<u>VOLUME VI</u>	
Exhibit 59 to Declaration of Alexandra Robert Gordon: Mayors Against Illegal Guns, <i>Analysis of Recent Mass Shootings</i> (Sept. 16, 2013)	ER1194
Exhibit 60 to Declaration of Alexandra Robert Gordon: Excerpt from Virginia Tech Review Panel, <i>Mass Shootings at Virginia Tech, Report of the Review Panel</i> (Aug. 2007)	ER1230

TABLE OF CONTENTS

Date	Page
Exhibit 61 to Declaration of Alexandra Robert Gordon: Brady Center to Prevent Gun Violence, <i>Assault Weapons: “Mass Produced Mayhem”</i> (Oct. 2008)	ER1242
Exhibit 62 to Declaration of Alexandra Robert Gordon: Violence Policy Center, <i>The Militarization of the U.S. Civilian Firearms Market</i> (June 2011)	ER1306
Exhibit 63 to Declaration of Alexandra Robert Gordon: United States Department of Justice, Bureau of Alcohol, Tobacco, Firearms, and Explosives, <i>ATF Study on the Immortality of Certain Shotguns</i> (Jan. 2011)	ER1360
Exhibit 65 to Declaration of Alexandra Robert Gordon: United States Department of Justice, Bureau of Alcohol, Tobacco, Firearms, and Explosives, <i>Report on the Importality of Certain Shotguns</i> (July 2, 2012)	ER1395

VOLUME VII

Exhibit 66 to Declaration of Alexandra Robert Gordon: Christopher S. Koper, <i>An Updated Assessment of the Federal Assault Weapons Ban: Impacts on Gun Markets and Gun Violence, 1994-2003</i> (2004)	ER1400
Exhibit 67 to Declaration of Alexandra Robert Gordon: Violence Policy Center, <i>Officer Down: Assault Weapons and the War on Law Enforcement</i> (May 2003)	ER1515
Exhibit 68 to Declaration of Alexandra Robert Gordon: United States Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms, <i>Assault Weapons Profile</i> (April 1994)	ER1545

TABLE OF CONTENTS

Date	Page
<u>VOLUME VIII</u>	
Exhibit 69 to Declaration of Alexandra Robert Gordon: Final Report of the Sandy Hook Advisory Commission (Mar. 6, 2015)	ER1571
<u>VOLUME IX</u>	
Exhibit 70 to Declaration of Alexandra Robert Gordon: Interim Report of the Sandy Hook Advisory Commission (Mar. 18, 2013)	ER1849
Exhibit 73 to Declaration of Alexandra Robert Gordon: Brady Center to Prevent Gun Violence, <i>On Target: The Impact of the 1994 Federal Assault Weapon Act</i> (March 2004)	ER1866
Exhibit 74 to Declaration of Alexandra Robert Gordon: Christopher S. Koper and Jeffrey Roth (Urban Institute), <i>Impact Evaluation of the Public Safety and Recreational Firearms Use Protection Act of 1994: Final Report</i> (March 13, 1997)	ER1888
Exhibit 75 to Declaration of Alexandra Robert Gordon: Christopher S. Koper, <i>America's Experience with the Federal Assault Weapons Ban 1994-2004: Key Findings and Implications</i> (Excerpt from <i>Reducing Gun Violence In America: Informing Policy with Evidence and Analysis</i> , ed. Daniel W. Webster and Jon S. Vernick, 2013)	ER2006
Exhibit 76 to Declaration of Alexandra Robert Gordon: Everytown for Gun Safety, <i>Mass Shootings In the United States: 2009-2016</i> (March 2017)	ER2025
Exhibit 77 to Declaration of Alexandra Robert Gordon: Everytown for Gun Safety, <i>Appendix: Mass Shootings in the</i>	ER2038

TABLE OF CONTENTS

Date	Page
<i>United States: 2009-2016</i> (March 2017)	
Exhibit 78 to Declaration of Alexandra Robert Gordon: Citizens Crime Commission of New York City, <i>Mass Shooting Incidents in America (1984-2012)</i> , (2017)	ER2090
Exhibit 79 to Declaration of Alexandra Robert Gordon: Violence Policy Center, <i>High-Capacity Ammunition Magazines Are the Common Thread Running Through Most Mass Shootings in the United States</i>	ER2106
Exhibit 91 to Declaration of Alexandra Robert Gordon: Cal. Stats. 2016, Ch. 58 (Senate Bill No. 1446)	ER2115
Exhibit 92 to Declaration of Alexandra Robert Gordon: Senate Bill No. 1446 Senate Third Reading Analysis	ER2120
Exhibit 93 to Declaration of Alexandra Robert Gordon: California Code of Regulations Sections 5480, 5482-84 (Current Large-Capacity Magazine Regulations)	ER2124
Exhibit 94 to Declaration of Alexandra Robert Gordon: Senate Bill No. 1446 Legislative History	ER2129

VOLUME X

Exhibit 95 to Declaration of Alexandra Robert Gordon: Text of Proposition 63	ER2131
Exhibit 96 to Declaration of Alexandra Robert Gordon: Proposition 63 Voter Guide	ER2161
Exhibit 97 to Declaration of Alexandra Robert Gordon: Senate Bill No. 23	ER2185
Exhibit 98 to Declaration of Alexandra Robert Gordon: Testimony of Laurence H. Tribe, <i>Proposals to Reduce Gun</i>	ER2209

TABLE OF CONTENTS

Date	Page
<i>Violence: Protecting Our Communities While Respecting the Second Amendment</i> (Senate Judiciary Committee, Subcommittee on the Constitution, Civil Rights and Human Rights, Feb. 12, 2013)	
Exhibit 99 to Declaration of Alexandra Robert Gordon: Responses to Questions of Laurence H. Tribe, <i>Proposals to Reduce Gun Violence: Protecting Our Communities While Respecting the Second Amendment</i> (Senate Judiciary Committee, Subcommittee on the Constitution, Civil Rights and Human Rights, March 6, 2013)	ER2246
Exhibit 100 to Declaration of Alexandra Robert Gordon: Testimony of Chief Jim Johnson, Baltimore County, Maryland, Chair, National Law Enforcement Partnership to Prevent Gun Violence (Senate Judiciary Committee Hearing on Gun-related Violence, Jan. 30, 2013)	ER2254
Exhibit 101 to Declaration of Alexandra Robert Gordon: Testimony of Chief Jim Bueermann (Ret.), President, Police Foundation, Washington, D.C. (Senate Judiciary Committee Hearing on Gun-related Violence, Jan. 30, 2013)	ER2258
Exhibit 102 to Declaration of Alexandra Robert Gordon: Transcript of Senate Judiciary Committee Hearing on Gun-related Violence (Jan. 30, 2013)	ER2267
Exhibit 103 to Declaration of Alexandra Robert Gordon: Testimony of Brian J. Sibel, Senior Attorney, Brady Center to Prevent Gun Violence (Before the Council of the District of Columbia, Oct. 1, 2008)	ER2341
Exhibit 107 to Declaration of Alexandra Robert Gordon: Affidavit of Christopher S. Koper in <i>June Shew, et al. v. Dannell P. Malloy, et al.</i> , Case No. 3:13-CV-0739	ER2349

TABLE OF CONTENTS

Date		Page
	(U.S.D.C., District of Connecticut)	
	Exhibit 108 to Declaration of Alexandra Robert Gordon: San Francisco City Attorney, <i>Herrera Secures Court Order to Make California Communities Safer; Gun Suppliers Must Halt Sale of High-Capacity Ammo 'Repair Kits' Into State</i> (May 16, 2017)	ER2372

VOLUME XI

5/26/17	Declaration of Massad Ayoob in Support of Plaintiff's Motion for Preliminary Injunction; Exhibits A-C (Docket No. 6-8)	ER2379
5/26/17	Declaration of James Curcuruto in Support of Plaintiff's Motion for Preliminary Injunction; Exhibit D (Docket No. 6- 9)	ER2420
5/26/17	Declaration of Stephen Helsley in Support of Plaintiff's Motion for Preliminary Injunction (Docket No. 6-10)	ER2425
5/26/17	Declaration of Gary Kleck in Support of Plaintiff's Motion for Preliminary Injunction; Exhibit MMM (Docket No. 6-11)	ER2434
8/24/17	Civil Case Docket No. 17-cv-1017-BEN-JLB	ER2487

Exhibit 70

ER1849

March 18, 2013

Dear Governor Malloy:

On behalf of the Sandy Hook Advisory Commission, I would like to submit this interim report. It is a product of testimony shared and information received since its establishment on January 3, 2013.

I must stress that this is an interim report. The findings found within are key elements of any policy reform or changes that must be undertaken in response to the tragic events that took place on December 14, 2012.

I realize that you may agree with some of our interim recommendations, and disagree with others. In any case, I am grateful for your support for the Sandy Hook Advisory Commission as we examine policies and issues that require extensive deliberation, and for allowing us to take the time to incorporate a variety of perspectives. There are principles which we will address in our final report, but which we did not take up in this document as we plan for a long-term study in crafting meaningful recommendations for thoughtful legislative and policy changes. It is important to note that the Commission postponed discussion of mental health issues until after the interim report in order to develop a strategy to call upon the vast research and the many experts who would want to provide input.

We believe there are common-sense principles upon which short-term change is possible and action should be taken. We understand the necessity for the legislature to make progress this session, and we hope that this report will serve as an endorsement of general areas upon which change is within reach, and as a guidepost for future deliberations.

Following this submission, we will continue our efforts through the end of this year to learn from state officials, experts or practitioners, concerned advocates, and the general public. We will then synthesize that information and produce our final account of the Sandy Hook tragedy, the lessons that must be learned, and the reforms that must be made to address key policy areas in violence prevention.

The work in the coming months will focus on: mental health services, a deeper investigation of best practices in issues addressed in this report, and reaction to any new findings as a result of the State's Attorney investigation, as well as responding to the directives in your February 21 letter on gun violence prevention.

Thank you again for your support for the work of the Sandy Hook Advisory Commission, and we look forward to getting back to work.

Regards,



Scott Jackson
Mayor, Town of Hamden
Chairman, Sandy Hook Advisory Commission

Sandy Hook Advisory Commission
Interim Report of Findings
March 18, 2013

Table of Contents

Sandy Hook Advisory Commission Membership.....3

Introduction and Background.....4

Firearms and Ammunition.....6

 Firearm Permitting and Registration.....6

 High-capacity Firearms, Magazine Capacity, and Ammunition.....6

 Firearm Storage and Security.....8

 Miscellaneous (Firearms and Ammunition).....8

Safe School Design and Human Resource Emergency Preparedness.....10

 Minimum Classroom Security Standards.....10

 Threat and Risk Assessment/Emergency Planning and Response Standards.....10

 Identification and Financing of School Hardening Tactics.....13

 Human Resource Training and Capacity-Building.....13

Additional Required Partnerships and Support.....15

Miscellaneous.....16

 Commission Findings:.....16

Sandy Hook Advisory Commission Membership

Scott D. Jackson (Chair): *Mayor, Town of Hamden*

Dr. Adrienne Bentman: *Director, Adult Psychiatry Residency Program, Hartford Hospital's Institute of Living*

Ron Chivinski: *Teacher, Newtown Middle School*

Robert Ducibella: *Founding Principal, DVS Security Consulting and Engineering*

Terry Edelstein (Vice-Chair): *Nonprofit Liaison to Governor Malloy*

Kathleen Flaherty: *Staff Attorney, Statewide Legal Services of Connecticut, Inc. / Facilitator and State Trainer, National Alliance for Mental Illness in Connecticut*

Dr. Alice M. Forrester: *Executive Director, Clifford W. Beers Guidance Clinic, Inc.*

Dr. Ezra Griffith: *Professor Emeritus of and Senior Research Scientist in Psychiatry, Deputy Chair for Diversity and Organizational Ethics, Department of Psychiatry, Yale University*

Patricia Keavney-Maruca: *Member, State Board of Education / Former technical high school teacher*

Christopher Lyddy: *Former State Representative, 106th Assembly District of Newtown / Program Manager, Trainer & Consultant, Advanced Trauma Solutions, Inc. / Former Program Director, Youth Equipped for Success!, Forensic Health Services, Inc. / Former Clinical Supervisor, Juvenile Risk Reduction Center, Community Solutions, Inc.*

Denis McCarthy: *Fire Chief, City of Norwalk*

Barbara O'Connor: *Director of Public Safety and Chief of Police, University of Connecticut*

Wayne Sandford: *Professor, University of New Haven, Henry C. Lee College of Criminal Justice & Forensic Sciences / Former Deputy Commissioner, Connecticut Department of Emergency Management & Homeland Security / Former Fire Chief, Town of East Haven*

Dr. David J. Schonfeld: *Director, National Center for School Crisis and Bereavement / Professor, University of Cincinnati Department of Pediatrics*

Dr. Harold I. Schwartz: *Psychiatrist-in-Chief, Hartford Hospital's Institute of Living / Vice President, Behavioral Health, Hartford Hospital / Professor of Psychiatry, University of Connecticut School of Medicine*

Bernard R. Sullivan (Vice-Chair): *Former Chief of Police, City of Hartford / Former Commissioner, Connecticut Department of Public Safety / Former Chief of Staff to House Speaker Tom Ritter*

Introduction and Background

On December 14, 2012, the world's eyes turned to Newtown, Connecticut. This quiet town became the epicenter of an unimaginable tragedy. We cannot and will not forget the loss of 20 precious children and six heroic adults at Sandy Hook Elementary School. But if we are to truly honor their memory, we know that our grief must be turned into thoughtful change as we evaluate our laws and policies. The state and national debate is underway as officials seek to evolve and determine what actions, laws, policies, and cultural changes are necessary to reduce gun violence, secure our schools, and improve the way in which we provide mental health services. Our response to these issues will speak to the lessons our society has learned from that unspeakable tragedy.

On January 3, 2013 Governor Dannel P. Malloy established the Sandy Hook Advisory Commission (henceforth referred to as the Commission) to review current policy and make specific recommendations in the areas of public safety and mental health policy, with a focus on children and schools. With a public debate focusing on individual issues, the Commission has been committed to comprehensively evaluating all of the charges issued by the Governor. This Commission is comprised of experts in different areas, including education, mental health, law enforcement and emergency response. Commission members have taken the lead in developing the Commission's roadmap and agenda to shape conversations within their respective fields of expertise. The Commission was tasked with delivering an interim report on March 15th.

This initial report was to deliver early consensus recommendations in order to be included in the regular session of the Connecticut General Assembly; as well as identifying major issues or concern, areas for review, and a process to evaluate the standards by which the state could and should respond to the Sandy Hook tragedy. This interim report also strives to provide a roadmap by which the Commission will operate to develop a thorough understanding of the events that occurred in Newtown, and what changes can be made to prevent such an event from occurring again.

Informational meetings have thus far focused on:

1. infrastructure design, school safety and security;
2. trauma services and responses to school crisis;
3. gun violence prevention; and
4. emergency planning, preparedness, and response.

These hearings have provided the Commission the opportunity to hear from a number of parties, including state officials directly involved in responding to the Sandy Hook tragedy, experts who have dealt with these issues through their work or during past crises, and other key stakeholders.

Their testimonies provided Commission members with an understanding of the issues at stake and provided members with objectives to strive for in final recommendations. Following these hearings, the Commission was able to develop and review an exhaustive list of items for consideration that had been raised by presenters and other interested parties. Throughout the process, the Commission has welcomed and continues to encourage testimony and suggestions from the general public as they learn about relevant issues and review possible courses of action. With consensus governing the decision-making process, the Commission approved certain findings, and agreed to move forward in other areas to produce meaningful recommendation to address certain goals.

This interim report sets forward findings in which the Commission looks to make recommendations, and through subsequent hearings members will develop a consensus in how they would recommend the state to act. As the Commission continues its deliberations, it will seek to involve stakeholders and advocacy groups on all sides of each finding to fully understand the rationale of, the impacts due to, and the purpose of the final recommendations that will be submitted. This commission recognizes that there will be issues upon which there may be great controversy and upon which there are fundamental differences in opinion; yet members believe in light of the charge issued by Governor Malloy it is the responsibility of the Commission to submit findings and recommendations in all areas of its charge. In light of the Governor's directive from February 21, 2013, the Commission will also be acting to respond to new and more precise questions in the context of gun violence prevention.

As the Commission continues to meet, it will look to build upon and fill out these initial recommendations to develop a comprehensive final report within the year. Those recommendations will be a result of examining relevant policy discussions, utilizing reputable research, and expanding upon analysis from previous task forces and advisory groups; all the while the Commission will be taking into account the views of the general public, other advocacy groups and stakeholder organizations. These recommendations will be presented in a written report that will incorporate the investigative report from the State's Attorney, in order to convey the underlying facts and principles involved in this tragedy. Based on the experiences and lessons from previous task forces, the Commission will be supported by a recorder to detail meetings and discussions. There will be a written account that can serve as a record of the Commission's activities and will detail what the Commission investigated, why it investigated issues, and how it reached consensus on recommendations. This written report is crucial to recognizing and responding to the fundamental question of how we prevent this from happening again in Connecticut or anywhere around the country.

Firearms and Ammunition

Firearm Permitting and Registration

While some firearms are required to be registered in the State of Connecticut and some require a permit to carry, these requirements are not uniform. The Commission has found that firearms of significant lethality can be legally obtained without permit and without registration. According to the Connecticut State Police, there are approximately 1.4 million registered firearms in the State of Connecticut, and possibly up to 2 million unregistered firearms. The Commission finds this discrepancy in permitting and registration to be unwarranted. Furthermore, the Commission believes that this lack of uniform control abets “straw purchases” that can be used to deliver firearms to potential criminals.

In order for law enforcement agencies to safely engage in their lawful duties, the Commission believes the State of Connecticut should carefully consider the following items:

1. Mandatory background checks on the sale or transfer of any firearm, including long guns, at private sales and sales at gun shows.
2. Requiring registration, including a certificate of registration, for any firearm. This certificate of registration should be issued subsequent to the completion of a background check and is separate and distinct from a permit to carry.
3. Requiring the renewal of firearms permits on a regular basis. This renewal process should include a test of firearms handling capacity as well as an understanding of applicable laws and regulations.

High-capacity Firearms, Magazine Capacity, and Ammunition

The Commission finds that types of ammunition and magazines currently available can pose a distinct threat to safety in private settings as well as places of assembly. Furthermore, the Commission has found that, despite the lethality of this ammunition, there are limited controls on its purchase. The Commission understands that, in a spree killing, a life could be lost every few seconds. The Commission takes seriously the rights afforded under the Second Amendment of the United States Constitution, but balances those rights against the language of the Preamble to the Constitution, which includes assurances of “domestic tranquility” and the obligation to “promote the general welfare.”

In order to maintain the safety of places of assembly by ensuring that lawful, competent firearms owners are the only individuals able to lawfully possess certain types and quantities of ammunition, the Commission believes that the State of Connecticut should carefully consider the following items:

4. Instituting a ban on the sale, possession, or use of any magazine or ammunition feeding device in excess of 10 rounds except for military and police use. The Commission recognizes that certain sporting events may at times seek to utilize higher capacity magazines, however the consensus of the Commission is that the spirit of sportsmanship can be maintained with lower capacity magazines.
5. Instituting a ban on the possession or sale of all armor-piercing and incendiary bullets, regardless of caliber. The Commission also believes that a first-time offense should be classified as a Class D Felony under Connecticut General Statutes.
6. Allowing the purchase of ammunition for registered firearms only.
7. Evaluating best practices for determining the regulation or prohibition of the sale and purchase of ammunition via the internet.
8. Evaluating the effectiveness of federal law in limiting the purchase of firearms via the internet to those who have passed the appropriate background screening.
9. Limiting the amounts of ammunition that may be purchased at any given time.

The Commission has found that the definition of “assault weapon” has allowed for cosmetic changes to military-style firearms that does not reduce their lethality but does allow them to be legally possessed. The Commission believes that, defining an “assault weapon” by form rather than function has been ineffective. It is the consensus of the Commission that gun violence is an issue that goes far beyond the tragedy at Sandy Hook, and the commonality of high-capacity firearms in violent crimes must be acknowledged. According to the 2011 Connecticut Uniform Crime Reporting Program, only two (2) of 94 firearm-related homicides in the state were committed with a rifle or a shotgun. It is the consensus of the Commission that firearm lethality is correlated to capacity, a correlation borne out not only in Sandy Hook Elementary School, but in other violent confrontations in and beyond Connecticut. Therefore, the Commission believes that the State of Connecticut should carefully consider:

10. Prohibiting the possession, sale or transfer of any firearm capable of firing more than 10 rounds without reloading. This prohibition would extend to military-style firearms as well as handguns. Law enforcement and military would be exempt from this ban.

Firearm Storage and Security

The Commission has found that, in households where firearms are present, ample care is not always given to ensuring household members or guests who should not have access to the firearms are effectively prevented from gaining access. To better ensure that only appropriate handlers have direct access to firearms, the Commission believes the State of Connecticut should carefully consider:

11. Requiring that trigger locks be provided at the time of sale or transfer of any firearm.
12. Requiring that the State of Connecticut develop and update a “best practices” manual and require that all firearms in a home be stored in a locked container and adhere to these best practices; with current minimum standards featuring a tamper-resistant mechanical lock or other safety (including biometric) device when they are not under the owner's direct control or supervision. The owner should also be directly responsible for securing any key used to gain access to the locked container.

Miscellaneous (Firearms and Ammunition)

While the Commission attests that the above items create an enhanced framework for safety in our homes, in our schools, in places of assembly, and in our neighborhoods, the Commission also concludes that other targeted actions would yield beneficial results. The Commission believes that the State of Connecticut should also carefully consider:

13. Requiring non-residents seeking to purchase a firearm or ammunition in the State of Connecticut to obtain a Certificate of Eligibility and conform to all other regulations applicable to Connecticut residents.
14. Requiring gun clubs to report any negligent or reckless behavior with a firearm, or illegal possession of any firearm or magazine, to the Connecticut Department of Emergency Services and Public Protection, Commissioner of Public Safety, and local law enforcement.
15. Requiring promoters of gun shows to receive a permit from the Chief of Police or Chief Elected Official as well as provide notice to the Commissioner of the Connecticut Department of Emergency Services and Public Protection.

The Commission understands and appreciates the role and challenges of law enforcement and the principle of “general defense,” therefore the Commission believes that the State of Connecticut should also exempt law enforcement and military personnel from proposed changes in law or regulation (as appropriate).

The Commission also appreciates the role, historic and contemporary, of firearms manufacturers in the State of Connecticut. No item of consideration identified above should be construed as a prohibition against the manufacture of any device legal for sale or possession in other jurisdictions.

The Commission also recognizes the significance of federal law as it pertains to the sale and transfer of firearms and ammunition, and believes that the series of recommendations set forth above provide a rational framework to increase the safety of Connecticut residents.

Safe School Design and Human Resource Emergency Preparedness

Minimum Classroom Security Standards

While design standards exist for a number of school features, ranging from lighting appropriateness to air changes per hour, no standard exists for the baseline of safe school design or a process to determine appropriate safe school design elements. The Commission believes that K-12 schools, licensed day care centers, and institutions of higher learning should undertake a process to determine minimum design standards for safety, although it recognizes that the implementation of a robust security program in a licensed daycare facility is very different from implementation of a robust security program at a college campus.

Each institution, depending on a myriad of physical and community characteristics, can achieve safe school design through widely divergent mechanisms. The Commission recognizes that the expense of safe school design and construction may be significant, and each school district will have different factors in its cost-benefit analysis of various design tools or retrofit opportunities.

The items of considerations set forth in this section address the built environment of facilities and training to maximize the effectiveness physical security programs and policies. Items pertaining to behavioral health and trauma response will be further developed in the Commission's final report.

Notwithstanding the Commission's endorsement of local process over required outcome, the Commission has highlighted a singular element in which it believes the potential benefit outweighs the cost in all K-12 facilities. As precious seconds matter in an episode like the tragedy at Sandy Hook Elementary School, the Commission believes that the State of Connecticut should carefully consider:

16. Requiring that all classrooms in K-12 schools be equipped with locking doors that can be locked from the inside by the classroom teacher or substitute. These doors should also be compliant with building code, fire safety code, and other regulations as required.
17. Requiring that all exterior doors in K-12 schools be equipped with hardware capable of implementing a full perimeter lockdown.

Threat and Risk Assessment/Emergency Planning and Response Standards

The Commission finds that different schools and different school districts have fundamentally different capacities in effectively analyzing their security strengths and weaknesses. Therefore, the Commission has endorsed the development of a common Threat and Risk Assessment

Security Recommendations (TRASR) tool by the State of Connecticut as well as a uniform process to develop an Emergency Response Plan (ERP). This tool would be applied to all facilities and provide a common planning and assessment baseline for all schools, public and private. In conjunction with a broader Safe Schools Plan (SSP) and with appropriate review and comment by the Connecticut Department of Emergency Services and Public Protection, Division of Emergency Management and Homeland Security, the Commission believes that school security can be appreciably enhanced. Likewise, the consolidation of information at the State (or DESPP Division of Emergency Management and Homeland Security region) would assist in effective deployment of State or mutual aid resources in time of emergency.

As such, the Commission believes the State of Connecticut should carefully consider:

18. Developing an All-Hazards Threat and Risk Assessment Security Recommendations (TRASR) tool able to be applied, in a site-specific fashion, to all schools and day care centers statewide. School districts should be required to perform a TRASR within 12 months of its availability and review/update this TRASR every three to five years, unless intelligence or events suggest a more rigorous schedule.
 - 1) The TRASR should provide a common sense approach to the identification and provision of rational and credible protective design building and site components and related security operational policies and procedures which will enhance the safety of students, teachers, staff, and others on school grounds and in school buildings.
 - 2) The TRASR should incorporate Crime Prevention Through Environmental Design Strategies, technology solutions, building hardening techniques, operational policies and procedures, and the role of school staff, emergency responders, public health officials, and other appropriate resources. The TRASR should be broad enough in scope to include neighborhood conditions to represent the true school environment ecosystem.
 - 3) The TRASR should include a phased over time implementation strategy with achievable milestones representing increasing levels of security enhancement. This should apply to pre-school programs, licensed day cares and, regardless of their size, all other schools.
 - 4) In K-12 schools, the TRASR should include a definitive analysis of whether or not to have a School Resource Officer (SRO) and address after-school access/activities as well.
19. Requiring that schools, utilizing information developed using the TRASR tool as well as through input from relevant stakeholders, develop an Emergency Response Plan (ERP). This ERP should be sure to include information-sharing protocols and off-site reunification plans should the school require evacuation. Like fire drills, the exercise of this ERP (including response by outside public safety agencies) should be mandated and an age- and developmentally-appropriate curriculum around issues of safety/security should be developed by the State of Connecticut to assist in the effective integration of security policies into all classrooms. Evidence (including after-action reports) of drills

should be incorporated in the ERP to enhance accountability.

20. Requiring that all schools develop a Safe Schools Plan (SSP) that incorporates the TRASR, ERP, security policies, building design elements, staff responsibilities during emergencies, and other critical pieces of information. The SSP shall be submitted to and reviewed by the DESPP Division of Emergency Management and Homeland Security; updates to the SSP must respond to DESPP Division of Emergency Management and Homeland Security comments regarding hazards or oversights.
21. Requiring that every school establish a Safe Schools Planning Committee charged with oversight of safety and security issues as well as ensuring compliance with timelines affiliated with the TRASR, ERP, and SSP. This Safe Schools Planning Committee should be required to meet no less than three times per year and should incorporate not only school personnel, but community members.
22. Requiring that the ERPs submitted to DESPP Division of Emergency Management and Homeland Security by institutes of higher learning be not only collected by DESPP Division of Emergency Management and Homeland Security, but also reviewed and approved by that agency.
23. Assigning a full-time emergency planner at DESPP Division of Emergency Management and Homeland Security to review and comment on submissions as well as assist schools and school districts, as necessary, with the preparation of emergency plans.

The Commission finds that, in an emergency, real-time and high-fidelity data is critical to an effective response by first responders. Such data enhances situational awareness and can help establish a common operating picture during a multi-jurisdictional response. The Commission finds that changes to first responder protocols regarding an “active shooter” instituted in the law enforcement community after the tragedy at Columbine High School have saved lives. However, the Commission feels that additional efforts to provide current data to law enforcement can further improve response to such threats. The Commission believes the State of Connecticut should consider:

24. Implementing a program which requires that each school provide local police, fire, and emergency response personnel with up-to-date copies of building floor plans, blueprints, schematics of school interiors, grounds, road maps of the surrounding area, evacuation routes, alternative evacuation routes, shelter site, procedures for addressing medical needs, transportation, and emergency notification to parents. Efforts should be made to digitize plans and schematics to assist in dissemination in case of emergency.
25. Requiring school facilities to evaluate cell phone coverage throughout the facilities and grounds and make reasonable efforts to address deficiencies while, at the same time, reinforcing school policies on cell phone usage during non-emergencies.
26. Encouraging the deployment of enhanced WiFi in schools and the usage of IP enabled

cameras (to support response capacity). Special attention should be given to perimeter surveillance and areas of assembly.

Identification and Financing of School Hardening Tactics

The Commission finds that the “hardening” of schools as targets will require additional support of the State of Connecticut, to address both a lack of full access to the array of hardening tools/techniques, as well as the financing of those improvements. The Commission also understands that the incorporation of security elements should be done at the earliest stages of design. The Commission believes the State of Connecticut should carefully consider:

27. Creating a blue-ribbon panel of design and security experts to establish, within 12 months, the toolbox of recommendations for safe design and retrofit of schools to be included in state's educational specifications.
28. Modifying State Construction Grant applications to include a new category of project: SU/Security Upgrades.
29. Requiring that the School Facility Survey (ED050) incorporate security criteria.
30. Requiring School Building Committees engaged in construction or renovation projects to seek input and comment from local first responders.
31. Requiring School Building Committees to reference a specific review of the toolbox created by the blue-ribbon commission when seeking State funding for construction or renovation.

Human Resource Training and Capacity-Building

The Commission finds that effective training of staff resources provides the most critical, timely, and effective mechanism for resisting a threat to schools based upon a human actor. The Commission notes that all adults present in the schools, be they teachers, substitute teachers, custodians, paraprofessionals, administrators, volunteers, or other staff, all play a critical role in time of emergency. The Commission also observes that, in the wake of recent tragedies and attempted efforts to destroy the sanctity of our school spaces, we must redouble our efforts to restrict access to school buildings by those who may, by effort or inadvertently, expose schoolchildren to risk. The Commission believes the State of Connecticut should consider:

32. Requiring the State Department of Education to establish a training course for school staff specifically designed to increase awareness of security policies and programs.

33. Requiring that, upon the implementation of any new security measure or change in the legislative or regulatory environments regarding school security, all relevant staff be trained in management or operation of any new equipment and instructed in their role during an emergency due to any change in policy, practice, or regulation. Such roles and responsibilities may include utility and alarm shutoffs.
34. Requiring the training of appropriate school personnel in the National Incident Management System and Incident Command System, the uniform mechanisms for emergency management response to a crisis situation. Such Unified Command Structure should specifically incorporate municipal/regional officials, school officials, and emergency response personnel.
35. Requiring, for the purposes of supervised access and controlled entry, a Trusted Access Program (TAP) to be enforced at all schools. This TAP will allow, through the visual display of credentials, the identification of staff, contractors, parents, and others authorized to be on school grounds.
36. Requiring background screening for all staff in schools.
37. Establishing a best practices guide for effective bullying and threat identification, prevention, and response to be made available to all schools.
38. Requiring that a quality assurance (QA) program be implemented in all schools to ensure that appropriate matters arising within the school are referred to local law enforcement for review and action.

Additional Required Partnerships and Support

The Commission recognizes that the resources available at the local, regional, and State levels are inadequate to establish norms, standards, and opportunities that enhance the safety of all of our public spaces. As such, the Commission believes that the State of Connecticut should consider seeking additional support from federal officials in critical areas.

The Commission understands and acknowledges that, in order to effectively weave this tapestry of safe school design and human resource emergency preparedness, additional resources will be required (including for the funding of a full-time emergency manager for preparedness at DESPP Division of Emergency Management and Homeland Security). In order to assist in the development of these necessary financial resources and technical assistance, the Commission believes the State of Connecticut should consider:

39. Seeking, through Connecticut's federal delegation, funding for:
 - 1) National Incident Management System (NIMS) training;
 - 2) Re-funding of the Safe and Drug Free Schools program at U.S. Department of Education;
 - 3) Re-funding of the Readiness Emergency Management Program for Schools program.
40. Requesting assistance from the State of Connecticut's Congressional Delegation in ending the federal ban on research into gun violence. The Commission believes that quality data in this area would support the development of quality public policy.
41. Developing, through partnerships with universities, medical groups, and other relevant parties, a Connecticut-based academic institute dedicated to providing quality research data on all aspects of gun violence and its impacts. The Commission believes that the State of Connecticut should be the national leader in providing this research data.

Miscellaneous

Commission Findings:

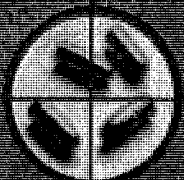
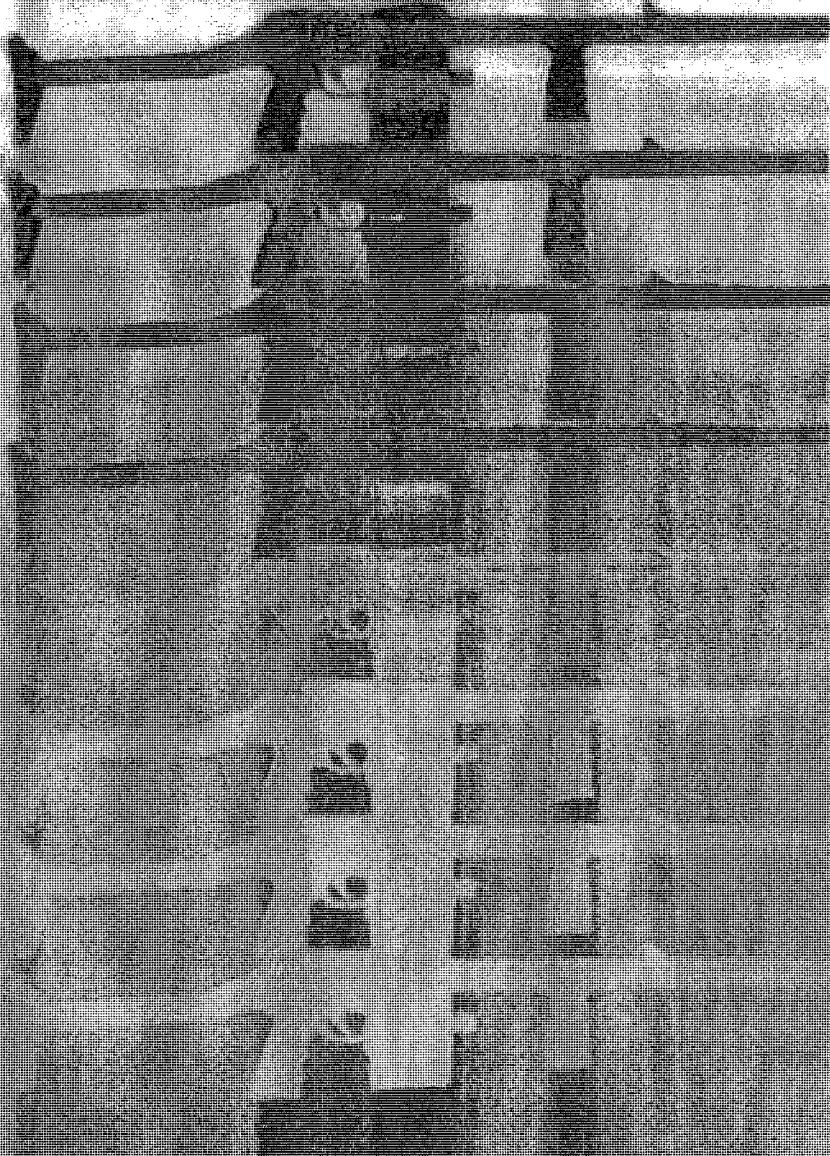
The Commission finds, that in the wake of an extreme tragedy, local resources are frequently overcome by the generous donations of others and the management of those donations. The Commission believes the State of Connecticut should consider:

42. Establishing best practices information for management of donated supplies and materials as well as a communications management plan for delivery of timely and appropriate material to press.

Exhibit 73

ER1866

ON TARGET



THE IMPACT OF THE 1994 FEDERAL ASSAULT WEAPON ACT

BRADY CENTER TO PREVENT GUN VIOLENCE
Data Analysis by Crime Gun Solutions LLC

ER1867

MARCH 2004

ACKNOWLEDGEMENTS

This study was prepared by the Brady Center to Prevent Gun Violence using data obtained and analyzed by the experts at Crime Gun Solutions LLC. Founded in 1983, the Brady Center to Prevent Gun Violence is a national non-profit organization working to reduce the tragic toll of gun violence in America through education, research, and legal advocacy. The programs of the Center complement the legislative initiatives of its sister organization, the Brady Campaign to Prevent Gun Violence united with the Million Mom March.

This study was prepared under the direction of Brian J. Siebel, Senior Attorney for the Brady Center's Legal Action Project. Daniel Vice, Elizabeth Haile, and Dawn Canady prepared portions of the study.

The crime gun tracing analysis in this study was done by Gerald A. Nunziato of Crime Gun Solutions LLC (CGS). For eight years, Mr. Nunziato was the Special Agent in Charge of the Bureau of Alcohol, Tobacco, and Firearm's National Tracing Center, during which he dramatically improved and expanded firearms tracing as a law enforcement tool. The Brady Center would also like to thank Joseph J. Vince, Jr. of CGS. Mr. Vince has held numerous positions within ATF, including Special Agent in Charge, Intelligence Division; Chief, Firearms Division; and Chief, Crime Gun Analysis Branch.

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Brady Center to Prevent Gun Violence

Study available at www.bradycampaign.org; www.bradycenter.org; and www.gunlawsuits.org.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
INTRODUCTION	3
• THE FEDERAL ASSAULT WEAPONS ACT	3
• THE "COPYCAT" PROBLEM	4
• PRIOR STUDIES OF ASSAULT WEAPONS LAWS	5
FINDINGS	7
Finding #1: Assault weapons banned by name in the Federal Assault Weapons Act have declined significantly as a percentage of guns the Bureau of Alcohol, Tobacco, Firearms and Explosives has traced to crime, and in absolute numbers of traces, since the Act was passed. Had this decline not occurred, thousands more of these banned assault weapons would likely have been traced to crime over the last 10 years	7
Finding #2: The gun industry's efforts to evade the Federal Assault Weapons Act through the sale of "copycat" guns has not substantially undercut the positive effect of the statute in reducing the incidence of assault weapons among crime guns	10
CONCLUSION	12
APPENDICES	13
ENDNOTES	17

EXECUTIVE SUMMARY

To evaluate the questions below, the Brady Center to Prevent Gun Violence asked Crime Gun Solutions LLC to review and analyze national crime gun trace data maintained by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). The data represent guns nationwide that have been illegally possessed, used in a crime, or suspected of being used in a crime, thereafter recovered by law enforcement and then traced to learn about the sales history of the gun.

Has the Federal Assault Weapons Act reduced the incidence of assault weapons used in crime?

Yes. In the five year period before enactment of the Federal Assault Weapons Act (1990-1994), assault weapons named in the Act constituted 4.82% of the crime gun traces ATF conducted nationwide. Since the law's enactment, however, these assault weapons have made up only 1.61% of the guns ATF has traced to crime—a drop of 66% from the pre-ban rate. Moreover, ATF trace data show a steady year-by-year decline in the percentage of assault weapons traced, suggesting that the longer the statute has been in effect, the less available these guns have become for criminal misuse. Indeed, the absolute number of assault weapons traced has also declined.

This decline is extremely significant to law enforcement and has clearly enhanced public safety, especially since these military-style weapons are among the deadliest ever sold on the civilian market. For example, if the Act had not been passed and the banned assault weapons continued to make up the same percentage of crime gun traces as before the Act's passage, approximately 60,000 additional assault weapons would have been traced to crime in the last 10 years—an average of 6,000 additional assault weapons traced to crime each year.

Have industry efforts to evade the Act through "copycat" assault weapons eliminated its positive effects?

No. After the Assault Weapons Act was passed, gun manufacturers sought to evade the ban by producing weapons with minor changes or new model names. The Act was designed to prevent this occurrence by defining assault weapons to include "copies or duplicates" of the firearms listed in the ban in any caliber,¹ though this provision has never been enforced. Yet, even if copycats of the federally banned guns are considered, there has still been a 45% decline between the pre-ban period (1990 – 1994) and the post-ban period (1995 and after) in the percentage of ATF crime gun traces involving assault weapons and copycat models.

The results of this study make it clear that the United States Congress needs to renew the Federal Assault Weapons Act. If the Act is not renewed, a decade of progress could be lost and thousands of additional assault weapons are likely to be used in crime in the future.

INTRODUCTION

THE FEDERAL ASSAULT WEAPONS ACT

The Assault Weapons Problem

While all firearms are dangerous, assault weapons pose special dangers. They are semiautomatic, civilian versions of weapons designed for military use. The weapons are capable of holding large-capacity magazines that allow a shooter to fire up to 150 shots without having to reload. Assault weapons also typically include features that help the shooter control the gun during rapid firing, such as pistol grips or forward handgrips.²

These weapons were specifically designed for military use in order to kill greater numbers of people more effectively. ATF has explained this as follows:

Assault weapons were designed for rapid fire, close quarter shooting at human beings. That is why they were put together the way they were. You will not find these guns in a duck blind or at the Olympics. They are mass produced mayhem.³

As ATF has noted, the weapons “are not generally recognized as particularly suitable for or readily adaptable to sporting purposes” and instead “are attractive to certain criminals.”⁴ The combination of semiautomatic firing capability with large capacity magazines allows criminals to fire more times within a limited period of time—making these weapons especially lethal. According to ATF, semiautomatic assault weapons “are preferred by criminals over law abiding citizens eight to one.... Access to them shifts the balance of power to the lawless.”⁵ A study of ATF tracing data released prior to the enactment of the 1994 federal assault weapons law revealed that assault weapons were 20 times more likely than conventional firearms to be used in crime.⁶

In the 1980s, law enforcement reported that assault weapons were the “weapons of choice” for drug traffickers, gangs, terrorists, and paramilitary extremist groups. Assault weapons were used to perpetrate some of the worst mass murders ever committed in the United States.

In 1989, the Administration of George H.W. Bush took the first step in addressing the problem of the availability of assault weapons and assault weapon use in crime by suspending importation of assault weapons “not suitable or readily adaptable to sporting purposes.” This import ban was expanded by President Bill Clinton in 1998.⁸

In May 1989, California became the first state to pass an assault weapons ban.⁹ The statute banned the sale, production and possession of certain listed assault weapons and those that have specific military features such as pistol grips and folding stocks. People who owned such assault weapons prior to the law were

Examples of Mass Shootings With Assault Weapons

- Using an Uzi assault pistol and a shotgun, James Huberty killed 21 people and wounded 19 others in a San Ysidro, California, McDonald's on July 18, 1984.
- Using an AK-47 rifle, two MAC-11 assault pistols, and a duffle-bag full of other firearms, Joseph Wesbecker killed 7 people and wounded 13 others on September 14, 1989, at his former place of work in Louisville, Kentucky, before taking his own life.
- Patrick Edward Purdy used an AK-47 to open fire on a schoolyard in Stockton, California, firing over 100 rounds in less than 2 minutes, killing 5 children and wounding 29 others on January 17, 1989.
- Using two TEC-DC9s, Gian Luigi Ferri opened fire in a San Francisco, California, office tower on July 1, 1993, killing 8 people and wounding 6 more.

required to register the weapons and were not allowed to sell or give them to anyone in the state. California also restricts the sale of rapid-fire ammunition magazines in excess of 10 rounds.¹⁰

Congress Responds to the Problem

In response to mass shootings and mounting public pressure, Congress took up consideration of a ban on assault weapons in 1989. Over a span of five years, several bills were introduced aimed at curbing assault weapon use before final passage of the current assault weapons ban in 1994.

In hearings on the bills, the Senate Judiciary Committee explained the need to:

address the carnage wrought by deadly military-style assault weapons on innocent citizens and the law enforcement officers who seek to protect us all. Recent events illustrate again, and with chilling vividness, the tragedy that results from the wide and easy availability of guns with fire power that overwhelm our police, of weapons that have no place in hunting or sport and whose only real function is to kill human beings at a ferocious pace.¹¹

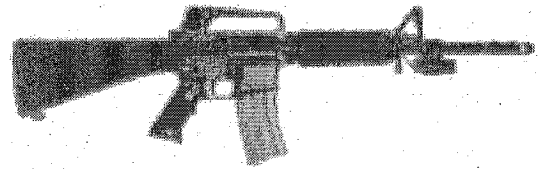
The "Public Safety and Recreational Firearms Use Protection Act of 1994," referred to here as the "Federal Assault Weapons Act," was passed on September 13, 1994, as part of a larger crime bill—The Federal Violent Crime Control and Law Enforcement Act of 1994. The Assault Weapons Act has a 10-year sunset provision. It will expire on September 13, 2004, unless it is renewed by Congress.

The ban makes it unlawful to "manufacture, transfer or possess a semiautomatic assault weapon," as well as large capacity magazines capable of holding more than 10 rounds.¹² However, assault weapons and large capacity magazines legally possessed on the effective date of the Act remain legal under the Act's "grandfather clause."¹³ Banned weapons encompass certain named firearms, including the AK-47, Uzi, Colt AR-15, and Street Sweeper, as well as copies or duplicates of these named firearms in any caliber, and any weapons with two or more of a list of military features, such as flash suppressors or grenade launchers.¹⁴ The Act also specifically exempts by name 661 sporting rifles.

THE "COPYCAT" PROBLEM

The gun industry responded to passage of the Federal Assault Weapons Act by renaming guns and/or making minor changes in guns to skirt the ban. Below are three examples out of dozens of industry attempts to evade the ban.

Bushmaster XM-15



Bushmaster Firearms of Windham, Maine, manufactures the Bushmaster XM-15 rifle. This gun is an AR-15 type rifle with minor changes that have allowed it to evade the Assault Weapons Act. According to Bushmaster officer and spokesperson Allen Faraday, "the changes were all cosmetic and didn't affect the gun's performance."¹⁵ The Bushmaster XM-15 rifle has been used in violent crimes, including the Washington, DC-area sniper attacks in late 2002.¹⁶

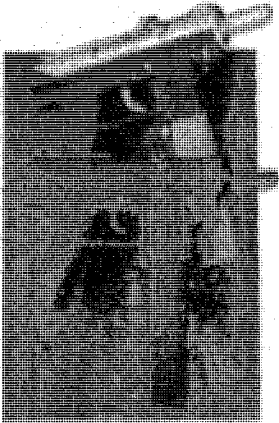
Bushmaster markets the XM-15 to the general public as a military style weapon made "to military specification."¹⁷ The XM-15 "fires...the same round used in the Colt M-16 (the standard U.S. military rifle)" and "is a semiautomatic version of the M-16. This round has an effective range of 300 meters and can pierce most body armor."¹⁸

Bushmaster advertises that the XM-15 is accurate when shooting "targets" at long range with the slogan "The Best—By A Long Shot!" Bushmaster designed its guns to appeal to people wishing to prepare for and engage in military-style operations. Bushmaster advertises that the guns it sells to civilians have a "military look" and that its guns have been used by elite military units such as "Special Forces Units; Seals; Rangers [and] Green Berets." Bushmaster markets an "ultimate sniper grip" for its guns and touts that a new model of its gun, which it concedes is not legal for hunting in some states, "is proving to be very popular as a Counter-Sniper Rifle."¹⁹

Bushmaster sells attachments for its guns, including bayonets and bayonet lugs, flash suppressors, telescoping stocks, flare launchers, and "Tactical Assault Sling" adapters "to allow easier assault position carry of your weapon." In addition, although the Assault

Weapons Act prohibits the manufacture of ammunition magazines that can hold more than 10 rounds, Bushmaster apparently stockpiled enough "pre-ban" magazines that it still markets 40 round ammunition magazines as available for sale to the general public for only \$24.95, allowing the firing of 40 ammunition rounds without pausing to reload.²⁰

Intratec AB-10 - "After Ban-10"



Prior to the Assault Weapons Act, Intratec of Miami, Florida, manufactured the infamous TEC-9, a high-powered gun weighing only 3.1 pounds, yet equipped with a 32-round ammunition magazine. Intratec advertised the TEC-9 to appeal to criminals, bragging that it had "excellent resistance to finger prints."²¹

According to ATF data, annual production of the TEC-9 increased dramatically from 2,995 pistols in 1981 to an average of 14,466 in the last four years of the 1980s. When Washington, DC, enacted a law in 1991 imposing strict liability for shootings with TEC-9 guns, Intratec mockingly renamed the gun the "TEC-DC9" to evade liability and the law. The TEC-DC9 was used in massacres at Columbine High School in Littleton, Colorado, and at the 101 California Street office building in downtown San Francisco.²²

The Federal Assault Weapons Act banned both the TEC-9 and TEC-DC9 by name. Intratec responded by renaming the gun the AB-10 (AB standing for "after ban") and making minor changes to evade the features test. Even though the assault weapons ban prohibits the manufacture of ammunition magazines that can hold more than 10 rounds, Intratec marketed the AB-10 with pre-ban 32-round ammunition magazines.²³

Following passage of the Assault Weapons Act, Intratec's production of semiautomatic pistols dropped dramatically, from 75,102 semiautomatic pistols in 1994 to 9,584 in 1995 and 5,820 in 1996. Intratec ceased operations in 2001.²⁴

Olympic Arms PCR - "Politically Correct Rifle"



Following the Act's ban on assault rifles, Olympic Arms of Olympia, Washington, redesigned its weapons to evade the Act's features test. Although the Assault Weapons Act prohibits the manufacture of Colt AR-15 rifles, Olympic Arms sells an AR-15 type rifle called the "PCR," which the company contemptuously explains is short for "Politically Correct Rifle."²⁵ This rifle incorporates changes, such as a removed bayonet lug, that have allowed it to skirt the Assault Weapons Act.²⁶

PRIOR STUDIES OF ASSAULT WEAPON LAWS

National Institute of Justice Study

Following enactment of the Assault Weapons Act, the U.S. Department of Justice National Institute of Justice conducted a study, mandated by the Act, of the short-term impact on crime of the assault weapons ban. The study, published in 1999, found that the ban had "clear short-term effects on the gun market," leading to semiautomatic assault weapons "becom[ing] less accessible to criminals because there was at least a short-term decrease in criminal use of the banned weapons."²⁷

The study also explained that ATF data showed that crime gun traces of assault weapons dropped 20% in the year following enactment of the Assault Weapons

A Study for the Department of Justice published in 1999 concluded that the ban led to assault weapons "becom[ing] less accessible to criminals because there was at least a short-term decrease in criminal use of the banned weapons."

Act, from 4,077 assault weapon traces in 1994 to 3,268 in 1995. This 20% drop in assault weapon traces was double the 10% overall decline in the gun murder rate that year, suggesting that, at least in the short-term, the ban reduced the use of assault weapons in crime. Moreover, murder rates dropped 6.7% below what the rates were projected to be without the ban, once researchers isolated the impact of the Assault Weapons Act by accounting for other factors such as murder trends, demographic and economic changes, a federal juvenile handgun possession ban, and state initiatives.²⁸

After analyzing the short-term effects of the Assault Weapons Act, the study for the Department of Justice concluded that the ban "may affect gun markets in ways that at least temporarily reduce criminals' access to the regulated guns, with little impact on law-abiding owners."

Murders of police officers with assault weapons also dropped from about 16% of gun murders of police in 1994 and early 1995 to 0% of murders of police officers in the latter half of 1995 and 1996.²⁹

The National Institute of Justice study also found further evidence that the national decrease in assault weapons traced to crime was an effect of the ban. Assault weapon traces from states that already had their own assault weapon bans dropped only an estimated 6-8% in 1995, suggesting that the national downward trends in assault weapons traces reflect effects of the Federal ban.³⁰

Further, the study found that there were fewer assault weapon traces in 1995 than in 1993, suggesting that the decrease in assault weapons traced to crime was not attributable to a surge in assault weapon tracing after the effective date of the Assault Weapon Act. Moreover, analysis of assault weapons recovered in crime in two cities without preexisting state assault weapon bans, Boston and St. Louis, showed a respec-

tive 24% and 29% drop in assault weapons recovered in crime, supporting the conclusion that the drop in assault weapon use in crime was attributable to the ban and not to any potential biases in trace request data.³¹

Although National Institute of Justice researchers could not reach long-term conclusions because of the limited time-span of their study, their analysis of the short-term effects of the assault weapons ban concluded: "The findings suggest that the relatively modest gun control measures that are politically feasible in this country may affect gun markets in ways that at least temporarily reduce criminals' access to the regulated guns, with little impact on law-abiding owners."³²

Maryland Assault Pistol Ban Study

A study of the effect of one state's ban on assault pistols showed similar positive effects. In June 1994, a Maryland law took effect that banned the sale of assault pistols and high capacity magazines, including those manufactured prior to implementation of the law. A year later a study was performed, based on data provided by the Baltimore City Police Department, that concluded that 55% fewer assault pistols were used to commit crimes than would have been used had Maryland not passed a ban.³³

Analysis Done for Senators Feinstein and Schumer

A more recent analysis of the long-term effects of the Assault Weapons Act on crime confirmed the initial conclusions of the NIJ Report that the ban has resulted in a decline of the rate at which assault weapons are recovered in crime. This analysis, by United States Senators Dianne Feinstein and Charles Schumer, showed that the proportion of banned assault weapons traced to crime has dropped by more than 65% since 1995, according to ATF crime gun trace data.³⁴ The Feinstein-Schumer report did not, however, address the effect of the industry's development of "copycat" guns on the overall effectiveness of the ban in reducing the rate of assault weapons in crime.

FINDINGS

FINDING #1: Assault weapons banned by name in the Federal Assault Weapons Act have declined significantly as a percentage of guns ATF has traced to crime, and in absolute numbers of traces, since the Act was passed. Had this decline not occurred, thousands more of these banned assault weapons would likely have been traced to crime over the last 10 years.

METHOD

This study analyzed national crime gun trace data maintained by ATF that it has previously released to the public through the Freedom of Information Act.³⁵ It is important to understand that the firearms listed in this data are considered by ATF to be "crime guns," which means they have been illegally possessed, used in a crime, or suspected of having been used in a crime.³⁶

The data available for CGS to analyze covered the years 1990–2001. This data includes more than 1,424,949 crime gun traces.³⁷ To evaluate the effect of the Assault Weapons Act, the Brady Center first asked CGS to limit its calculations to firearms named in the Act. (These are identified in Appendix 1.) Guns that could be considered "copies or duplicates" of those firearms were not included.

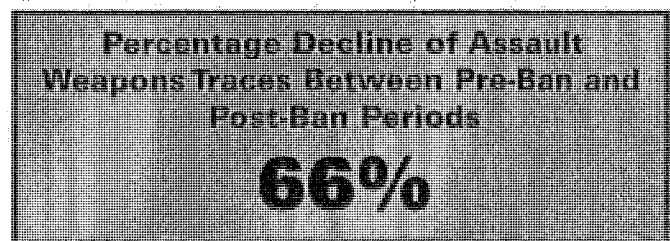
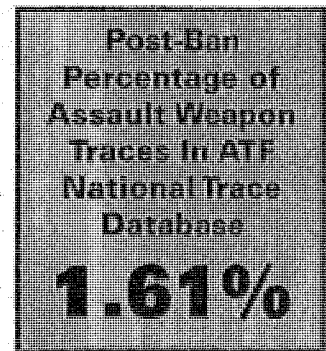
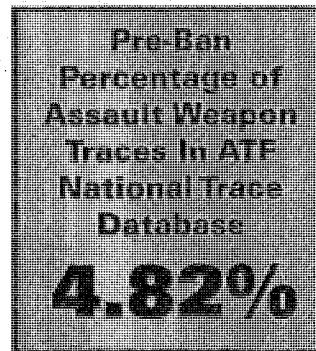
To establish a pre-ban level of tracing, CGS looked at the five year period (1990–1994) leading up to the federal ban. The federal ban was passed in September 1994, but, to be conservative, all of 1994 was included in the pre-ban analysis.³⁸

RESULTS

During the pre-ban period (1990–1994), a total of 4.82% of the crime gun traces conducted by ATF nationwide were assault weapons named in the Act, even though ATF estimated that assault weapons comprised only about 1% of the 200 million guns then in circulation in the United States.³⁹ The disproportionate use of these guns in crime was one of the reasons Congress passed the Assault Weapons Act.⁴⁰

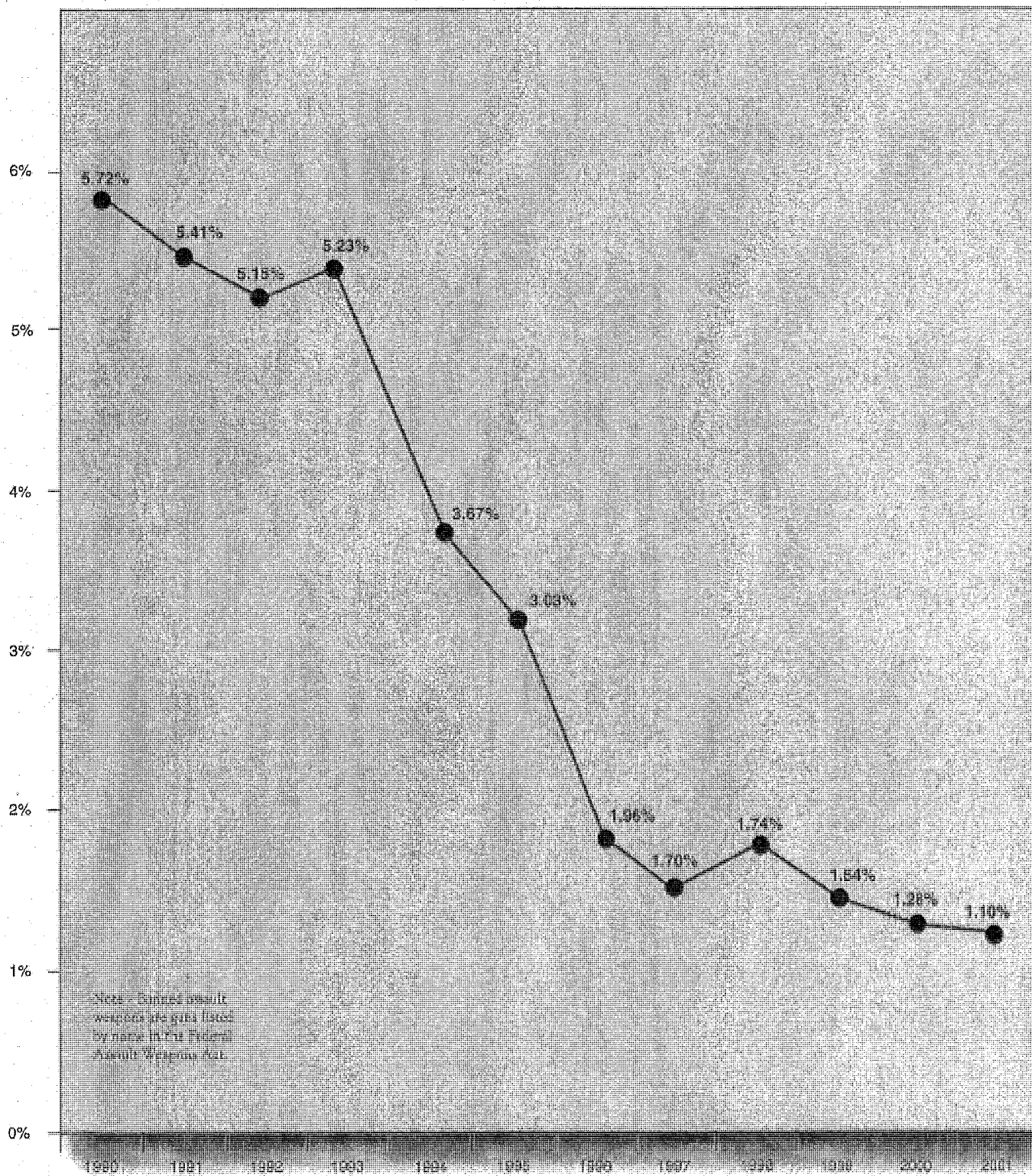
Since the law's enactment, however, assault weapons have steadily declined as a percentage of overall crime gun traces. In the post-ban period (1995

and after) assault weapons have made up only 1.61% of the guns ATF has traced to crime—a drop of 66% from the pre-ban rate. Moreover, as dramatic as this drop has been, it measures only the decline in the average percentage of assault weapons traces from the pre-ban to the post-ban period. The year-by-year percentage of assault weapons traced to crime has been even lower than the average of 1.61% since 1999. By 2001, the last year for which CGS has data, only 1.1%



of ATF's traces involved assault weapons named in the Federal ban. See Table 1. In addition, when measured by total crime guns traced, the number of named assault weapons traced in both 2000 and 2001 is less than the number of these guns that were traced in 1993 and 1994. This strongly suggests that over time these deadly guns have become less available for criminal misuse. If this decline is to continue, it is imperative that Congress renew the Assault Weapons Act.

**TABLE 1 - Banned Assault Weapons as a Percentage
of All Crime Guns, 1990 – 2001**



This decline is extremely significant to law enforcement and has clearly enhanced public safety, especially since these military-style weapons are among the deadliest ever sold on the civilian market. For example, if the Assault Weapons Act had not been passed, there is every reason to believe the rate at which they would have been traced would have at least stayed relatively constant throughout the 1990s. After all, the rate remained fairly steady above 5% of ATF traces in each year from 1990–1993, before the ban was enacted.⁴¹

If this pre-ban rate—which CGS has calculated was 4.82%—continued after the ban took effect, approximately 60,000 additional assault weapons would have been traced to crime in the last 10 years. See Table 2.⁴² If the ban is allowed to lapse, it is likely that these weapons would comprise more and more of the guns recovered in crime into the future.

Table 2 – Potential Additional Assault Weapon Crime Traces By Year, Without Federal Assault Weapons Act

1995	-	1358	crime traces
1996	-	3663	crime traces
1997	-	5679	crime traces
1998	-	5698	crime traces
1999	-	6228	crime traces
2000	-	6733	crime traces
2001	-	7884	crime traces
2002	-	7884*	crime traces
2003	-	7884*	crime traces
2004	-	7884*	crime traces

Total: 60,895

*Estimated

FINDING #2: The gun industry's efforts to evade the Federal Assault Weapons Act through the sale of "copycat" guns has not substantially undercut the positive effect of the statute in reducing the incidence of assault weapons among crime guns.

METHOD

In addition to looking at assault weapons named in the Federal Act, an evaluation of copycat weapons is necessary. Many of these copycat guns should be covered under the original Act's intent to ban "copies or duplicates" of listed firearms in any caliber. ATF has never defined this phrase nor identified any firearms that might be considered "copies or duplicates."⁴³ The gun industry has sought to exploit this by selling guns they have advertised as "copies" of banned guns to take advantage of their notorious image.

To determine the extent to which the gun industry has been successful in undercutting the Act, the Brady Center asked CGS to evaluate tracing data for copycat assault weapons. CGS included copycat AK and AR-15 assault weapons identified by name by the California Department of Justice as models that are only "variations, with minor differences" of those firearms, regardless of the manufacturer.⁴⁴ Certainly these weapons should be considered copycats under the Federal Act. In addition, CGS counted all other AK and AR-15 models listed in the ATF database, regardless of the manufacturer. (These guns are identified in Appendix 2.)

The Brady Center asked CGS to consider additional firearm models beyond AK or AR-15 variations that are identified in legislation pending in the United States House of Representatives (H.R. 2038, introduced by Representative McCarthy), and in the United States Senate (S. 1431, introduced by Senator Lautenberg). The intent of the bills is to expand the reach of the Federal Assault Weapons Act to encompass a more comprehensive set of military-style guns. (A list of the assault weapons banned by name in H.R. 2038 and S. 1431 is given in Appendix 3.) According to CGS's analysis of the ATF tracing data, only a few of these additional guns have been traced in quantities significant enough to affect the analysis. Of these guns with significant trace counts, only one gun—the Intratec AB-10—could be considered a "copy or duplicate" of a gun banned in the 1994 Act and it was

therefore included. The other guns with significant trace counts—the Hi-Point Carbine, the Ruger Mini 14, various iterations of the M1 Carbine, and various SKS models—for the most part pre-dated the 1994 Act, but were not included by Congress in the definition of assault weapons. They, therefore, have not been included in this analysis of the incidence of copycat assault weapons among overall crime gun traces.

RESULTS

CGS found that even if the grouping of copycat guns is included in the count of assault weapons traced to crime, there has still been a significant decline in the percentage of ATF crime gun traces involving assault weapons. In the pre-ban period, assault weapons, including copycats, made up 5.7% of ATF traces. In the post-ban period, the same group of guns has constituted 3.1% of ATF traces, a decline of 45%. As with Finding #1, this measures the decline in the average percentage of assault weapons traces from the pre-ban to the post-ban period. The year-by-year percentage of assault weapons traced has been even lower than

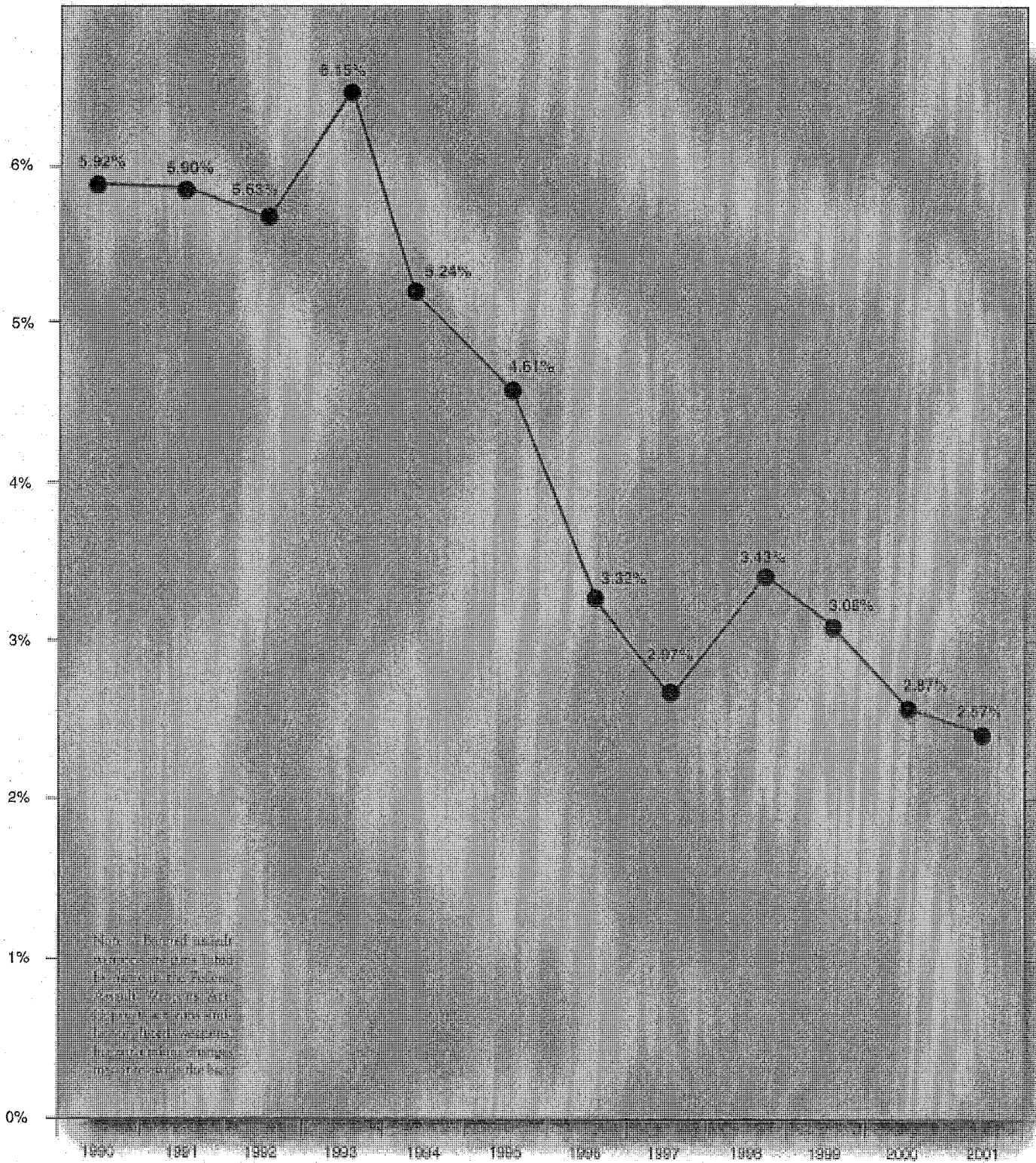
**Percentage
Decline
of Assault
Weapons Traces—
Including
Copycats—
Between Pre-Ban
and Post-Ban
Periods**

45%

**Percentage
Decline of
Assault Weapons
Traces—Including
All Guns in H.R.
2038 and S.
1431—Between
Pre-Ban and Post-
Ban Periods**

37%

**TABLE 3 - Banned Assault Weapons and Copycats
as a Percentage of All Crime Guns, 1990 – 2001**



the average of 3.1% since 1999. By 2001, the last year for which CGS has data, only 2.57% of ATF's crime gun traces involved assault weapons named in the Act. See Table 3.

Moreover, even if all of the guns listed in H.R. 2038 and S. 1431 (including the Hi-Point Carbine, the Ruger Mini-14, the M1 Carbine, and the SKS) were counted as assault weapons in the analysis, CGS found

that assault weapons traced to crime made up 7.2% of ATF's nationwide crime gun traces from 1990 – 1994, but only 4.5% of crime gun traces after the Assault Weapons Act took effect, a decline of more than 37%.

Thus, the data suggests that although, to some extent, criminals are substituting copycat assault weapons for guns banned by name, this substitution effect is far from complete.

CONCLUSION

Enacted into law in 1994, the Federal Assault Weapons Act was designed to reduce the use in crime of military-style semiautomatic firearms, seen by law enforcement authorities as posing a special threat to public safety. The Act was narrowly drawn to ban certain named assault weapons and their “copies and duplicates,” along with other guns that have certain specified military features. Soon after the Act went into effect, assault weapon manufacturers sought to evade it by producing copycat assault weapons that were either renamed or differed in design in minor ways from the banned weapons. The industry's success in introducing such copycat guns, along with the federal government's failure to move against copycats under the “copies and duplicates” language of the statute, has raised concerns about whether the Act has had any measurable impact on the use of assault weapons in crime.

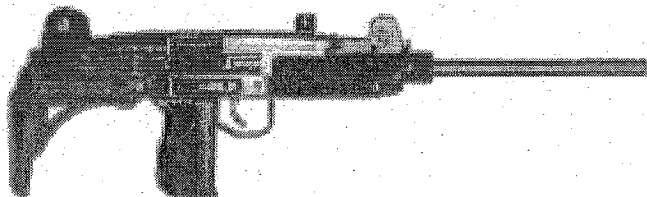
This study has demonstrated that, since the Act became law, assault weapons banned by name in the Act have declined from almost 5% of guns traced to crime in the pre-ban period to only 1.6% in the years following the ban—a decline of 66%. The absolute number of named assault weapons traced to crime also has declined, even though the absolute number of crime gun traces has steadily increased. Moreover, even if copycat guns are included, assault weapons have declined from almost 6% of traced guns to about 3%—a decline of 45%. This suggests that although, to some extent, criminals are substituting copycat assault weapons for guns banned by name, this substitution effect is far from complete. Put another way, the Federal Assault Weapons Act has contributed to a substantial reduction in the use of assault weapons in crime, despite the industry's efforts to evade the law through the sale of copycat assault weapons.

Like most laws, the Assault Weapons Act is not perfect. It should be strengthened to cover a more comprehensive set of military-style weapons. Nevertheless, it has reduced the use of high-firepower assault weapons available for criminal use. Its loss, through Congressional inaction, would be a serious blow to public safety.

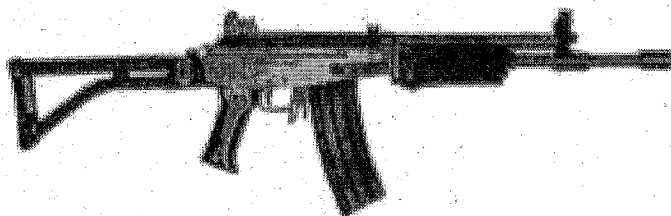
APPENDICES

Appendix 1: Assault Weapons Named in the 1994 Assault Weapons Act by Group

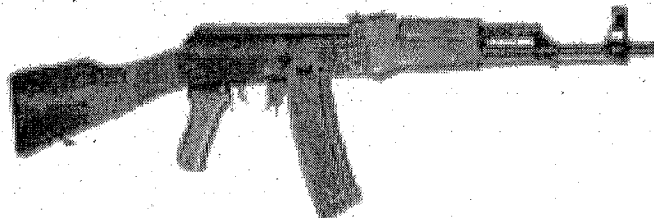
Israel Military Industries Action Arms UZI



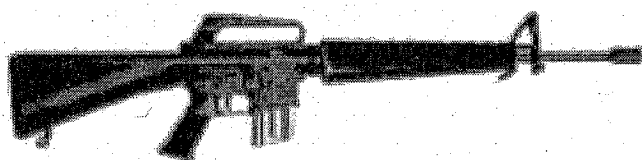
Israel Military Arms Galil



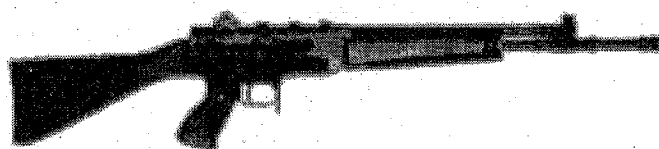
North China Industries 56, 84, 86, 320,
AKM, AKS; Polytechnologies AK47, AK47/S,
AKS; Mitchell Arms AK



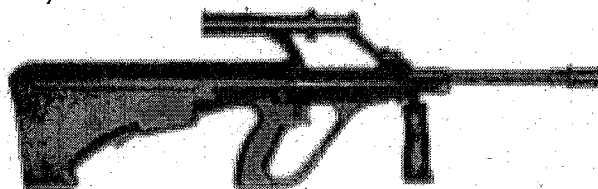
Colt AR-15



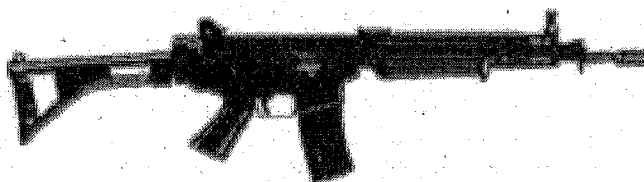
Beretta AR 70



Steyr AUG



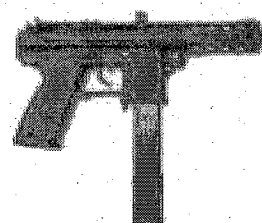
Fabrique Nationale FN/FAL, FN/LAR, and FNC



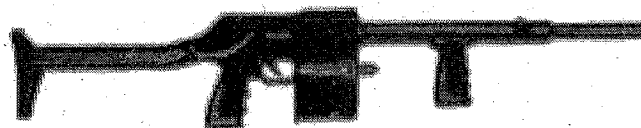
SWD M-10, M-11, M-11/9, and M-12



Intratec TEC-9, TEC-DC9 and TEC-22



Street Sweeper/Striker 12
(including USAS 12)



Appendix 2: AK Series and AR-15 Series Copycat Assault Weapons Identified by the California Department of Justice

<u>American Arms</u>	<u>DPMS</u>	<u>MAADI Co.</u>
AK-C47	Panther (all)	AK47
AK-F39		ARM
AK-F47	<u>Eagle Arms</u>	MISR (all)
AK-Y39	EA-15 E1	MISTR (all)
	EA-15 A2 H-BAR	
<u>American Spirit</u>	M15 (all)	<u>Mitchell Arms, Inc.</u>
USA Model		M-76
	<u>Frankford Arsenal</u>	M-90
<u>Armalite</u>	AR-15 (all)	RPK
AR10 (all)		
Golden Eagle	<u>Hesse Ltd.</u>	<u>North China Industries</u>
M15 (all)	HAR 15A2 (all)	MAK90
	Model 47 (all)	NHM90
<u>Arsenal Co. of Bulgaria</u>	Wieger STG 940 Rifle	NHM90-2
SLG (all)		NHM91
SLR (all)	<u>Internationale Ordnance</u>	RPK Rifle
	AK-47 (all)	Hunter Rifle
<u>B-West</u>	M-97	
AK-47 (all)	RPK	<u>Ohio Ordnance Works</u>
		ROMAK 991
<u>Bushmaster</u>	<u>Kalashnikov</u>	AK-74
XM15 (all)	Hunter Rifle/Saiga	
		<u>Olympic Arms</u>
<u>Colt</u>	<u>Knights Mfg. Co.</u>	AR-15
Law Enforcement (6920)	RAS (all)	CAR-97
Match Target (all)	SR-15 (all)	PCR (all)
Sporter (all)	SR-25 (all)	
		<u>Ordnance, Inc.</u>
<u>Dalphon</u>	<u>Les Baer Custom, Inc.</u>	AR-15
BFD	AR (all)	
		<u>Pac West Arms</u>
	<u>MARS</u>	All Models
	Pistol	

Palemtto Armory

SGA (all)

Professional Ordnance, Inc.Carbon 15 Rifle
Carbon 15 PistolRock River Arms, Inc.Car A2
Car A4 Flattop
LE Tactical Carbine
NM A2 DCM Legal
Standard A2
Standard A4 FlattopValmetHunter Rifle
76SWilson Combat

AR-15

Wum Wum

All Models

Additional Copycat AK and AR-15 Series Models*American Arms

ZCY308

Armsco

AK22

Armcorp of the Philippines

AR15

AK22

AK47

AK47/22

Arsenal Co. of Bulgaria

AK74

Charter Arms

AK7 series

AKC47

AR15

FEG

AK47

AK47S

AK47SAM85

AKN Hungarian

Imaz

Saga

Jager, Arms

AK22

M/AK22

Knights Mfg. Co.

Stoner SR50

MAADI-Griffin

(model unknown)

Machine Crafters, Inc.

AKS

Ohio Ordnance Works

AK47

Ratmil

WUM1

WUM2

Rock Island Armory

AR15

Russian

AK47

Sendra Corp.

AR15

SGW Enterprises

AR15

CAR15

LAR AR

U.S.A. Military Surplus

AR15

Valmet

M62

M71

M78

M82

Zastava

AK47

AKY39

* Model names are listed as they appear in the ATF trace data. Additional copycat models may exist, but were not included if they did not appear as crime guns in the trace data.

ENDNOTES

- ¹ 18 U.S.C. § 921(30)(A).
- ² ATF, *Assault Weapons Profile* at 20 (1994).
- ³ *Id.* at 19.
- ⁴ Dep't of Treasury, *Study on the Sporting Suitability of Modified Semiautomatic Assault Rifles*, at 38 (1998).
- ⁵ ATF, *Assault Weapons Profile* at 19-20.
- ⁶ Jim Stewart & Andrew Alexander, *Deadly Numbers for Assault Guns*, *The Atlanta Constitution*, May 21, 1989, at A1.
- ⁷ On March 21, 1989, ATF announced a temporary suspension of the importation of five assault weapons. On March 29, 1989, ATF expanded the scope of the suspension to cover all assault weapons "indistinguishable in design, appearance and function to the original five" and established a working group to decide whether to make this import ban permanent. On March 30, 1989, a gun importer challenged ATF's authority to suspend the importation of these weapons. The Eleventh Circuit Court of Appeals upheld ATF's authority to issue the import suspensions. *Gun South, Inc. v. Brady*, 877 F.2d 858 (11th Cir. 1989). ATF then issued its working group report and, pursuant to 18 U.S.C. § 925(d)(3), made the import ban permanent. ATF, *Report and Recommendation of the ATF Working Group on the Importability of Certain Semiautomatic Rifles* (July 6, 1989).
- ⁸ In April 1998, ATF determined that the 1989 ban on the importation of assault rifles remained valid and expanded the import ban to include rifles with the "ability to accept a detachable large capacity military magazine" because those weapons "cannot fairly be characterized as sporting rifles." ATF, *Department of the Treasury Study on the Sporting Suitability of Modified Semiautomatic Assault Rifles* (1998).
- ⁹ Numerous other states have passed assault weapons bans since California, including Connecticut, Hawaii, Maryland, Massachusetts, New Jersey and New York.
- ¹⁰ Roberti-Roos Assault Weapons Control Act of 1989, Cal. Penal Code §§ 12275-88.
- ¹¹ Hearings on S. 639 and S. 653 Before the Committee on the Judiciary, U.S. Senate, 103d Cong. 1 (Aug. 3, 1993) (statement of Hon. Joseph Biden).
- ¹² 18 U.S.C. § 922(v)(1) and (w)(1).
- ¹³ 18 U.S.C. § 922(v)(2) and (w)(2).
- ¹⁴ 18 U.S.C. § 922(a)(30).
- ¹⁵ Matt Wickenheiser, *As Sales Soar, Bushmaster Shrugs At Bid to Renew Gun Ban*, *Portland Press Herald*, May 14, 2003.
- ¹⁶ Eric M. Weiss, *United in Loss, Families Grieve Independently; Sniper Case Leaves Split Legacy*, *The Washington Post*, October 4, 2003.
- ¹⁷ Bushmaster Firearms 2002 product catalog at 2.
- ¹⁸ Congressional Research Service, *Foreign Terrorists and the Availability of Firearms and Black Powder in the United States*, May 16, 2003, at 9.
- ¹⁹ Bushmaster Firearms 2002 product catalog at 1-3, 5, 42.
- ²⁰ *Id.* at 19, 38, 46, 48.
- ²¹ Intratec brochure, "Intratec—Your Choice Keeps America Working."
- ²² Richard Willing, *Advocates of gun control protest law's loopholes*, *USA Today*, April 27, 1999; Harriet Chiang, *State justices hear S.F. massacre case, Families want gunmaker held liable*, *San Francisco Chronicle*, May 10, 2001.
- ²³ Richard Willing, *Advocates of gun control protest law's loopholes*, *USA Today*, April 27, 1999.
- ²⁴ *Id.*; Larry Celona, *Anatomy of a Nightmare: How NYPD's Most Perilous Job Cost 2 Cops Their Lives*, *New York Post*, March 12, 2003. Intratec's corporate name was Navegar, Inc.
- ²⁵ Olympic Arms website, <http://www.olyarms.com/faq.html>, visited February 27, 2004.
- ²⁶ Ken Ramage (ed.), *Gun Digest 2002* at 322.
- ²⁷ Jeffrey A. Roth and Christopher S. Koper, *Impacts of the 1994 Assault Weapons Ban: 1994-96* (U.S. Department of Justice National Institute of Justice 1999) at 1, 9 (available at <http://www.ncjrs.org/pdffiles1/173405.pdf>).
- ²⁸ *Id.* at 6, 9.
- ²⁹ *Id.*
- ³⁰ *Id.* at 6-7.
- ³¹ *Id.*
- ³² *Id.* at 10.
- ³³ Douglas Weil and Rebecca Knox, *Estimating the Impact in Baltimore of the Maryland Ban on the Sale of Assault Pistols and High Capacity Magazines* (Center to Prevent Handgun Violence 1995) at 2, 4.

Appendix 3: Assault Weapons Identified in H.R. 2038 and S. 1431**Rifles:**

AK	Kel-Tec Sub Rifle SUB series	Scorpion
AKM	M1 Carbine	AB10
AKS	Saiga	Uzi
AK-47	SAR-8	
AK-74	SAR-4800	
ARM	SKS with detachable magazine	
MAK90	SLG 95	
Misr	SLR9 95 or 96	
NHM 90	Steyr AUG	
NHM 91	Ruger Mini 14	
SA 85	Tavor	
SA 93	Thompson Center Arms Co.	
VEPR	1927 series	
AR-10	Thompson M1	
AR-15	Thompson 1927 Commando	
Bushmaster XM15	Uzi	
Armalite M15	Galil	
Olympic Arms PCR	Uzi Sporter	
AR70	Galil Sporter	
Calico Liberty	Galil Sniper Rifle (Galatz)	

Shotguns:

Armcor 30 BG
SPAS 12
LAW 12
Striker 12
Streetsweeper

Pistols:

Dragunov SVD Sniper Rifle	
Dragunov SVU	
Fabrique National FN/FAL	
FN/LAR	
FNC	
Hi-Point Carbine	
HK-91	
HK-93	
HK-94	
HK-PSG-1	
	Calico M-110
	MAC-10 series
	MAC-11
	MPA3
	Olympic Arms OA
	TEC-9
	TEC-DC9
	TEC-22

³⁴ See report released on November 5, 2003, accessible at <http://feinstein.senate.gov/03Releases/r-assault-wepsrate1.htm>.

³⁵ Unfortunately, this year the U.S. Congress passed an amendment to the Consolidated Appropriations Act of 2004, Public Law No. 108-199 (Division B, Title I), barring ATF from continuing to release this valuable data to the public.

³⁶ ATF, *The Youth Crime Gun Interdiction Initiative, Crime Gun Trace Analysis Reports: The Illegal Youth Firearms Market in 27 Communities*, at 5 (1999).

³⁷ During these years, ATF steadily increased the number of guns traced as more and more law enforcement agencies throughout the United States engaged in comprehensive crime gun tracing. For this reason, simply counting the absolute number of assault weapons traced to crime over the relevant period would not accurately capture the impact of the Federal Assault Weapons Act. Therefore, CGS has calculated the percentage of traced guns that are assault weapons. In this connection, however, two facts are worth noting. First, as researchers for the National Institute of Justice found, two cities that comprehensively traced firearms before the ban took effect—St. Louis and Boston—showed similar post-ban declines in the percentage of assault weapons they traced to crime that the researchers found in national data. NIJ Report at 6-7. Second, since the data show there were fewer assault weapons traced nationally in 2000 and 2001 than were traced in 1993 or 1994, even the absolute number of traces of these dangerous weapons has declined over time.

³⁸ Including all of 1994 in the pre-ban analysis makes the results more conservative than they otherwise might be, as from 1990-1993, the rate of assault weapons traces remained above 5% each year. See Table 1.

³⁹ Dep't of Justice, Bureau of Justice Statistics, *Guns Used in Crime*, July 1995.

⁴⁰ See Hearing Before the Subcommittee on Crime and Criminal Justice of the Committee of the Judiciary on the Public Safety and Recreational Firearms Use Protection Act, 103d Cong 79 (April 25, 1994) (statement of Rep. Reynolds). In addition, an expert analysis completed by Professor James Alan Fox, noted criminologist at Northeastern University, established that the TEC-9 was four to five times more likely to be traced to criminal activity than other handguns. This disproportionality was even more pronounced for overall violent offenses and murder. See Declaration of James Alan Fox in 101 California Street Litigation.

⁴¹ In 1994, the year the Federal Assault Weapons Act was passed, assault weapons traces as a percentage of overall

traces began to decline. We are not attributing this decline to the Federal Act. By this time, however, several state assault weapons laws had been passed, and these could have begun to have an effect on overall assault weapons traces. Indeed, as researchers for the National Institute of Justice measured, after the federal law was passed, there was a higher decline in states that had not passed their own assault weapons laws than in states that had. Jeffrey A. Roth and Christopher S. Koper, *Impacts of the 1994 Assault Weapons Ban: 1994-96* (Dep't of Justice National Institute of Justice 1999), at 6-7 (available at <http://www.ncjrs.org/pdffiles1/173405.pdf>).

⁴² CGS calculated the number of assault weapons that would have been traced to crime in each year from 1995 through 2001 if the 4.82% rate held and then subtracted from this number the number of assault weapons that were actually traced in each of those years. For the years 2002-2004, CGS applied the differential in the year 2001. This is a fairly conservative estimate since the differential increased in every year between 1995 and 2001.

⁴³ The California Department of Justice, pursuant to California's assault weapons ban, has defined copycat AK-47 and AR-15 assault weapons and published a list of them on its website (available at <http://caag.state.ca.us/firearms/awguide/>). Crime Gun Solutions has considered all of these guns in its tracing analysis of copycat assault weapons.

⁴⁴ Cal. Penal Code § 12276(e).



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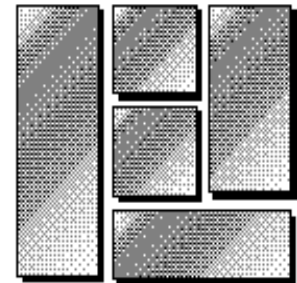
ER1887

Exhibit 74

ER1888

IMPACT EVALUATION OF THE PUBLIC SAFETY AND RECREATIONAL FIREARMS USE PROTECTION ACT OF 1994

Final Report



THE URBAN INSTITUTE
2100 M STREET, N.W.
WASHINGTON, DC 20037

March 13, 1997

Jeffrey A. Roth and
Christopher S. Koper

with William Adams, Sonja
Johnson, John Marcotte, John
McGready, Andrew Scott,
Maria Valera, and Douglas
Wissoker

ER1889

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Researchers traditionally acknowledge assistance from others in completing a study. However, we received far more than traditional amounts of help. A host of people who cared about the questions we were asking generously donated their expertise, data, and time.

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Any remaining errors or omissions are the responsibility of the authors. **Opinions expressed herein are those of the authors and not necessarily those of The Urban Institute, its trustees, or its sponsors.**

Table of Contents

1. Overview	1
1.1. Primary-Market Effects	2
1.1.1. Prices and Production	2
1.1.1.1. Findings	2
1.1.1.2. Recommendations	3
1.2. Secondary-Market Effects	4
1.2.1. Findings	4
1.2.2. Recommendations	4
1.3. Effects on Assault Weapon Use in Crime	4
1.3.1. Findings	4
1.3.2. Recommendations	5
1.4. Consequences of Assault Weapon Use	6
1.4.1. Findings	6
2. Background For The Impact Assessment	8
2.1. The Legislation	8
2.2. Context for the Assault Weapons Ban	10
2.3. Assault Weapons and Crime	12
2.4. Markets for Assault Weapons and Other Firearms	14
3. Analysis Plan	18
3.1. Potential Ban Effects	18
3.2. General Design Strategy	20
3.2.1. Threats to Validity and Use of Comparison Groups	21
4. Gun and Magazine Market Effects	24
4.1. Findings Of Price Analysis	24
4.1.1. Collection of Price Data	24
4.1.2. Analysis	25
4.1.2.1. Gun Prices	26
4.1.3. Magazine Prices	38
4.1.4. Summary of Large-Capacity Magazine Price Trends	47
4.2. Production Trends	47
4.3. Unintended Consequences: Gun Thefts and “Leakage”	50
4.3.1. Introduction	50
4.3.2. Data and Analysis Strategy	52
4.3.3. Trends in Stolen Assault Weapons	52
4.3.4. Trends in Thefts of Non-Banned Semiautomatic Handguns Capable of Accepting Large-capacity Magazines	56
5. Utilization Effects	58
5.1. BATF National Firearm Trace Data	58
5.1.1. Introduction: Data and Limitations	58
5.1.2. Trends in Total Trace Requests	59
5.1.3. Total Assault Weapon Traces	67
5.1.4. Analysis of Select Assault Weapons	68
5.1.5. Assault Weapon Traces for Violent Crimes and Drug-Related Crimes	65
5.1.6. Conclusions on National Trends in the Use of Assault Weapons	67
5.1.7. The Prevalence of Assault Weapons Among Crime Guns	69
5.1.8. Crime Types Associated with Assault Weapons	70
5.2. Assault Weapon Utilization: Local Police Data Sources	71
5.2.1. Introduction and Data Collection Effort	71
5.2.2. Assault Weapons in St. Louis and Boston	72
5.2.3. Assault Weapons and Crime	75
5.2.4. Unbanned Handguns Capable of Accepting Large-capacity Magazines	75
6. Potential Consequences of Assault Weapon Use	79
6.1. Trends in State-Level Gun Homicide Rates	79

6.1.1. Data80

6.1.2. Research Design.....81

6.2. Assault Weapons, Large-Capacity Magazines, and Multiple Victim/Mass Murders85

6.2.1. Trends in Multiple-Victim Gun Homicides85

6.3. Consequences of Title XI: Multiple Wound Gun Homicides.....87

6.3.1. Wounds per Incident: Milwaukee, Seattle, and Jersey City.88

6.3.2. Proportion of Cases With Multiple Wounds: San Diego and Boston91

6.3.3. Assault Weapons, Large-Capacity Magazines, and Multiple Wound Cases:
Milwaukee.....96

6.3.4. Conclusions97

6.4. Law Enforcement Officers Killed in Action97

6.4.1. Introduction and Data98

6.4.2. Assault Weapons and Homicides of Police Officers98

7. References 101

APPENDIX A: Assault Weapons and Mass Murder

List of Tables

Table 2-1. Description of firearms banned in Title XI	13
Table 3-1. Banned weapons and examples of unbanned comparison weapons	22
Table 4-1. Regression of SWD handgun prices on time indicators, controlling for product characteristics and distributors	28
Table 4-2. Regression of Lorcin and Davis handgun prices on time indicators, controlling for product characteristics and distributors	34
Table 4-3. Regression of Colt AR15 group prices on time indicators, controlling for product characteristics and distributors	32
Table 4-4. Regression of Ruger Mini-14 and Maadi rifle prices on time indicators, controlling for product characteristics and distributors	34
Table 4-5. Regression of Ruger Mini-14, Maadi, and SKS rifle prices on time indicators, controlling for product characteristics and distributors	37
Table 4-6. Regression of Uzi large-capacity magazine prices on time indicators, controlling for product characteristics and distributors	40
Table 4-7. Regression of Glock large-capacity handgun magazine prices on time indicators, controlling for product characteristics and distributors	42
Table 4-8. Regression of Colt AR15 group large-capacity magazine prices on time indicators, controlling for product characteristics and distributors	44
Table 4-9. Regression of Ruger Mini-14 large-capacity magazine prices on time indicators, controlling for product characteristics and distributors	46
Table 4-10. Production trends for banned assault weapons and comparison guns	48
Table 4-11. Pre-ban (Jan. 1992-Aug. 1994) to post-ban (Sept. 1994-May 1996) changes in counts of stolen assault weapons and unbanned semiautomatic handguns capable of accepting large-capacity magazines	52
Table 4-12. Pre-ban (Jan. 1992-Aug. 1994) to post-ban (Sept. 1994-May 1996) changes in ratios of stolen assault weapons and unbanned semiautomatic handguns capable of accepting large-capacity magazines	52
Table 5-1. Total traces, January 1993–May 1996	66
Table 5-2. National trends in gun crime, 1993–95	66
Table 5-3. Gun confiscations/traces, January 1993–May 1996	67
Table 5-4. Assault weapons traces, January 1993–May 1996	69
Table 5-5. Traces for select assault weapons,† January 1993–May 1996	71
Table 5-6. Traces for select assault weapons,† January 1993–May 1996 (violent and drug-related crimes)	67
Table 5-7. Assault pistol traces, ban states (CA, NJ, CT, and HI), January 1993–May 1996	69
Table 5-8. Assault weapon trace requests to BATF by crime type	71
Table 5-9. Summary data on guns confiscated in St. Louis, January 1992 – December 1995	72
Table 5-10. Summary data on guns confiscated in Boston, January 1992 – August 1996	74
Table 6-1. Estimated Coefficients and Changes in Gun Murder Rates from Title XI Interventions	82
Table 6-2. Years for which gun-related homicide data are not available	83
Table 6-3. Gunshot wounds per gun homicide victim, Milwaukee, Seattle, and Jersey City	88
Table 6-4. Proportion of gunshot victims receiving multiple wounds, San Diego and Boston	93
Table 6-5. Gunshot wounds per gun homicide victim: Assault weapon and large-capacity magazine cases, Milwaukee	96
Table 6-6. Murders of police officers with assault weapons	98

List of Figures

Figure 3-1. Logic model for <i>Public Safety and Recreational Firearms Use Protection Act</i> impact study	19
Figure 4-1. Semi-annual price trends for SWD group handguns	29
Figure 4-2. Semi-annual price trends for handguns commonly used in crime	31
Figure 4-3. Quarterly price trends for Colt AR-15 and related rifles	33
Figure 4-4. Quarterly price trends for comparison semiautomatic rifles	35
Figure 4-5. Quarterly price trends for comparison semiautomatic rifles	38
Figure 4-6. Semi-annual price trends for Uzi large-capacity magazines	41
Figure 4-7. Yearly price trends for Glock large-capacity handgun magazines	43
Figure 4-8. Quarterly price trends for Colt AR15 large-capacity magazines	45
Figure 4-9. Quarterly price trends for Ruger Mini-14 large-capacity magazines	47
Figure 4-10. Annual production data, Colt and Olympic Arms AR-15 type (years with complete data only)	49
Figure 4-11. Annual production data, SWD group (missing data in some early years)	49
Figure 4-12. Annual production data, small-caliber semiautomatic pistols	50
Figure 4-13. Stolen assault weapons count, January 1992–May 1996	54
Figure 4-14. Assault weapons as a proportion of stolen semiautomatic and automatic guns, January 1992–June 1996	55
Figure 4-15. Stolen unbanned large-capacity semiautomatic handgun counts, January 1992–May 1996	57
Figure 4-16. Thefts of unbanned large-capacity semiautomatic handguns as a proportion of all semiautomatic handguns, January 1992–June 1996	57
Figure 5-1. National ATF trace data: Traces for select assault weapons, January 1993– May 1996	64
Figure 5-2. National ATF trace data: Traces for select assault weapons (violent crimes)	66
Figure 5-3. National ATF trace data: traces for select assault weapons (drug crimes)	66
Figure 5-4. Relative changes in total and assault weapon traces	68
Figure 5-5. National ATF trace data: Assault weapons as a proportion of all traces	70
Figure 5-6. Assault weapons as a proportion of all confiscated guns, St. Louis, 1992–95	73
Figure 5-7. Assault weapons as a proportion of all confiscated guns by quarter, Boston, January 1992–August 1996	75
Figure 5-8. Unbanned large-capacity handguns as a proportion of all confiscated handguns, St. Louis, 1992–95	77
Figure 5-9. Unbanned large-capacity semiautomatic handguns as a proportion of all confiscated handguns, Boston, January 1992–August 1996	77
Figure 6-1. Victims per gun homicide incident, 1980–95	86
Figure 6-2. Gunshot wounds per gun homicide victim by month, Milwaukee County, January 1992–December 1995	89
Figure 6-3. Gunshot wounds per gun homicide victim by month, King County (Seattle), January 1992–June 1996	90
Figure 6-4. Gunshot wounds per gun homicide victim by quarter, Jersey City, January 1992–May 1996	90
Figure 6-5. Proportion of gunshot homicides with multiple wounds by month, San Diego County, January 1992–June 1996	91
Figure 6-6. Proportion of fatal gunshot wound cases with multiple wounds by quarter, Boston	94
Figure 6-7. Proportion of non-fatal gunshot wound cases with multiple wounds by month, Boston, January 1992– December 1995	95
Figure 6-8. Proportion of gunshot wound victims with multiple wounds by month, Boston, January 1992–December 1995	95

1. OVERVIEW

Title XI of the Violent Crime Control and Law Enforcement Act of 1994 (the Crime Control Act) took effect on September 13, 1994. Subtitle A banned the manufacture, transfer, and possession of designated semiautomatic assault weapons. It also banned “large-capacity” magazines, which were defined as ammunition feeding devices designed to hold more than 10 rounds. Finally, it required a study of the effects of these bans, with particular emphasis on violent and drug trafficking crime, to be conducted within 30 months following the effective date of the bans. To satisfy the study requirement, the National Institute of Justice (NIJ) awarded a grant to The Urban Institute for an impact evaluation of Subtitle A. This report contains the study findings.

In defining assault weapons, Subtitle A banned 8 named categories of rifles and handguns. It also banned *exact copies* of the named guns, revolving cylinder shotguns, and guns with detachable magazines that were manufactured with certain features such as flash suppressors and folding rifle stocks. The ban specifically exempted *grandfathered* assault weapons and magazines that had been manufactured before the ban took effect. Implicitly, the ban exempts all other guns; several of these, which we treated as *legal substitutes*, closely resemble the banned guns but are not classified as exact copies.

Among other characteristics, ban proponents cited the capacity of these weapons, most of which had been originally designed for military use, to fire many bullets rapidly. While this capacity had been demonstrated in several highly publicized mass murders in the decade before 1994, ban supporters argued that it was largely irrelevant for hunting, competitive shooting, and self-defense. Therefore, it was argued, the ban could prevent violent crimes with only a small burden on law-abiding gun owners. Some of our own analyses added evidence that assault weapons are disproportionately involved in murders with multiple victims, multiple wounds per victim, and police officers as victims.

To reduce levels of these crimes, the law must increase the scarcity of the banned weapons. Scarcity would be reflected in higher prices not only in the *primary markets* where licensed dealers create records of sales to legally eligible purchasers, but also in *secondary markets* that lack such records. Although most secondary-market transfers are legal, minors, convicted felons, and other ineligible purchasers may purchase guns in them (usually at highly inflated prices) without creating records. In theory, higher prices in secondary markets would discourage criminal use of assault weapons, thereby reducing levels of the violent crimes in which assault weapons are disproportionately used.

For these reasons, our analysis considered potential ban effects on gun markets, on assault weapon use in crime, and on lethal consequences of assault weapon use. However, the statutory schedule for this study constrained our findings to short-run effects, which are not necessarily a reliable guide to long-term effects. The timing also limited the power of our statistical analyses to detect worthwhile ban effects that may have occurred. Most fundamentally, because the banned guns and magazines were never used in more than a fraction of all gun murders, even the maximum theoretically achievable preventive effect of the ban on gun murders is almost certainly too small to detect statistically with only one year of post-ban crime data.

With these cautions in mind, our analysis suggests that the primary-market prices of the banned guns and magazines rose by upwards of 50 percent during 1993 and 1994, while the ban was being debated, as gun distributors, dealers, and collectors speculated that the banned weapons would become expensive collectors’ items. However, production of the banned guns also surged, so that more than an extra year’s normal supply of assault weapons and legal substitutes was manufactured during 1994. After the ban took effect, primary-market prices of the banned guns and most large-capacity magazines fell to nearly pre-ban levels and remained there at

least through mid-1996, reflecting both the oversupply of grandfathered guns and the variety of legal substitutes that emerged around the time of the ban.

Even though the expected quick profits failed to materialize, we found no strong evidence to date that licensed dealers have increased “off the books” sales of assault weapons in secondary markets and concealed them with false stolen gun reports. Stolen gun reports for assault weapons did increase slightly after the ban took effect, but by less than reported thefts of unbanned large-capacity semiautomatic handguns, which began rising well before the ban.

The lack of an increase in stolen gun reports suggests that so far, the large stock of grandfathered assault weapons has remained largely in dealers’ and collectors’ inventories instead of leaking into the secondary markets through which criminals tend to obtain guns. In turn, this speculative stockpiling of assault weapons by law-abiding dealers and owners apparently reduced the flow of assault weapons to criminals, at least temporarily. Between 1994 and 1995, the criminal use of assault weapons, as measured by law enforcement agency requests for BATF traces of guns associated with crimes, fell by 20 percent, compared to an 11 percent decrease for all guns. BATF trace requests are an imperfect measure because they reflect only a small percentage of guns used in crime. However, we found similar trends in data on all guns recovered in crime in two cities. We also found similar decreases in trace requests concerning guns associated with violent and drug crimes.

At best, the assault weapons ban can have only a limited effect on total gun murders, because the banned weapons and magazines were never involved in more than a modest fraction of all gun murders. Our best estimate is that the ban contributed to a 6.7 percent decrease in total gun murders between 1994 and 1995, beyond what would have been expected in view of ongoing crime, demographic, and economic trends. However, with only one year of post-ban data, we cannot rule out the possibility that this decrease reflects chance year-to-year variation rather than a true effect of the ban. Nor can we rule out effects of other features of the 1994 Crime Act or a host of state and local initiatives that took place simultaneously. Further, any short-run preventive effect observable at this time may ebb in the near future as the stock of grandfathered assault weapons and legal substitute guns leaks to secondary markets, then increase as the stock of large-capacity magazines gradually dwindles.

We were unable to detect any reduction to date in two types of gun murders that are thought to be closely associated with assault weapons, those with multiple victims in a single incident and those producing multiple bullet wounds per victim. We did find a reduction in killings of police officers since mid-1995. However, the available data are partial and preliminary, and the trends may have been influenced by law enforcement agency policies regarding bullet-proof vests.

The following pages explain these findings in more detail, and recommend future research to update and refine our results at this early post-ban stage.

1.1. PRIMARY-MARKET EFFECTS

1.1.1. Prices and Production

1.1.1.1. Findings

We found clear peaks in legal-market prices of the banned weapons and magazines around the effective date of the ban, based on display ads in the nationally distributed periodical Shotgun News between 1992 and mid-1996. For example, a price index of banned SWD semiautomatic pistols rose by about 47 percent during the year preceding the ban, then fell by about 20 percent the following year, to a level where it remains. Meanwhile, the

prices of non-banned Davis and Lorcin semiautomatic pistols remained virtually constant over the entire period. Similarly, a price index for banned AR-15 rifles, exact copies, and legal substitutes at least doubled in the year preceding the ban, then fell after the ban nearly to 1992 levels, where they have remained. Prices of unbanned semiautomatic rifles (e.g., the Ruger Mini-14, Maadi, and SKS) behaved similarly to AR-15 prices, presumably due to pre-ban speculation that these guns would be included in the final version of the Crime Act.

Like assault weapon prices, large-capacity magazine prices generally doubled within the year preceding the ban. However, trends diverged after the ban depending on what gun the magazine was made for. For example, magazines for non-banned Glock handguns held their new high levels, while magazines for banned Uzi and unbanned Mini-14 weapons fell substantially from their peaks. AR-15 large-capacity magazine prices also fell to 1993 levels shortly after the ban took effect, but returned to their 1994 peak in mid-1996. We believe that demand for grandfathered Glock and AR-15 magazines was sustained or revived by continuing sales of legal guns that accept them.

Production of the banned assault weapons surged in the months leading up to the ban. Data limitations preclude precise and comprehensive counts. However, we estimate that the annual production of five categories of assault weapons (AR-15s and models by Intratec, SWD, AA Arms, and Calico) and legal substitutes rose by more than 120 percent, from an estimated 1989–93 annual average of 91,000 guns to about 204,000 in 1994 — more than an extra year's supply. In contrast, production of non-banned Lorcin and Davis pistols, which are among the guns most frequently seized by police, fell by about 35 percent, from a 1989–93 annual average of 283,000 to 184,000 in 1994.

Our interpretation of these trends is that the pre-ban price and production increases reflected speculation that grandfathered weapons and magazines in the banned categories would become profitable collectors' items after the ban took effect. Instead, however, assault weapon prices fell sharply within months after the ban took effect, apparently under the combined weight of the extra year's supply of grandfathered guns, along with legal substitute guns that entered the distribution chain around the time of the ban. While large-capacity magazine prices for several banned assault weapons followed similar trends, those for unbanned Glock pistols sustained their peaks, and those for the widely-copied AR-15 rifle rebounded at least temporarily to peak levels in 1996, after an immediate post-ban fall.

1.1.1.2. Recommendations

To establish our findings about legal-market effects more definitively, we have short-term (i.e., 12-month) and long-term research recommendations for consideration by NIJ. In the short term, we recommend entering and analyzing large-capacity magazine price data that we have already coded but not entered, in order to study how the prices and legal status of guns affect the prices of large-capacity magazines as economic complements. We also recommend updating our price and production analyses for both the banned firearms and large-capacity magazines, to learn about retention of the apparent ban effects we identified. For the long term, we recommend that NIJ and BATF cooperate in establishing and maintaining time-series data on prices and production of assault weapons, legal substitutes, other guns commonly used in crime, and the respective large and small capacity magazines; like similar statistical series currently maintained for illegal drugs, we believe such a price and production series would be a valuable instrument for monitoring effects of policy changes and other influences on markets for weapons that are commonly used in violent and drug trafficking crime.

1.2. SECONDARY-MARKET EFFECTS

1.2.1. Findings

In addition to the retail markets discussed above, there are secondary gun markets in which gun transfers are made without formal record keeping requirements. Secondary market transfers are by and large legal transactions. However, prohibited gun purchasers such as minors, felons, and fugitives tend to acquire most of their guns through secondary markets and pay premiums of 3 to 5 times the legal-market prices in order to avoid eligibility checks, sales records, and the 5-day waiting period required by the Brady Act. We were unable to observe secondary-market prices and quantities directly. Anecdotally, however, the channels through which guns “leak” from legal to secondary markets include gun thieves, unscrupulous licensed dealers who sell guns on the streets and in gun shows more or less exclusively to prohibited purchasers (who may resell the guns), as well as “storefront” dealers who sell occasionally in secondary markets, reporting the missing inventories to BATF inspectors as “stolen or lost.” Since two of these channels may lead to theft reports to the FBI’s National Crime Information Center (NCIC), we tested for an increase in reported assault weapon thefts after the ban.

To this point, there has been only a slight increase in assault weapon thefts as a share of all stolen semiautomatic weapons. Thus, there does not appear to have been much leakage of assault weapons from legal to secondary markets.

In order to assess the effects of the large-capacity magazine ban on secondary markets, we examined thefts of Glock and Ruger handgun models that accept these magazines. Theft of these guns continued to increase after the ban, despite the magazine ban, which presumably made the guns less attractive. Yet we also did not find strong evidence of an increase in thefts of these guns relative to what would have been predicted based on pre-ban trends. This implies that dealers have not been leaking the guns to illegitimate users on a large scale.

1.2.2. Recommendations

To monitor possible future leakage of the large existing stock of assault weapons into secondary markets, we recommend updating our analyses of trends in stolen gun reports. We also recommend that BATF and NCIC encourage reporting agencies to ascertain and record the magazines with which guns were stolen. Also, because stolen gun reports are deleted from NCIC files when the guns are recovered, we recommend that analyses be conducted on periodic downloads of the database in order to analyze time from theft to recovery. For strategic purposes, it would also be useful to compare dealer patterns of assault weapon theft reports with patterns of occurrence in BATF traces of guns recovered in crime.

1.3. EFFECTS ON ASSAULT WEAPON USE IN CRIME

1.3.1. Findings

Requests for BATF traces of assault weapons recovered in crime by law enforcement agencies throughout the country declined 20 percent in 1995, the first calendar year after the ban took effect. Some of this decrease may reflect an overall decrease in gun crimes; total trace requests dropped 11 percent in 1995 and gun murders dropped 12 percent. Nevertheless, these trends suggest an 8–9 percent additional decrease due to substitution of other guns for the banned assault weapons in 1995 gun crimes. We were unable to find similar assault pistol reductions in states with pre-existing assault pistol bans. Nationwide decreases related to violent and drug crimes were at least as great as that in total trace requests in percentage terms, although these categories were quite small

in number. The decrease we observed was evidently not a spurious result of a spurt of assault-weapon tracing around the effective date of the ban, because there were fewer assault weapon traces in 1995 than in 1993.

Trace requests for assault weapons rose by 7 percent in the first half of 1996, suggesting that the 1995 effect we observed may be temporary. However, data limitations have prevented us from attributing this rebound to changes in overall crime patterns, leakage of grandfathered assault weapons to secondary markets, changes in trace request practices, or other causes. Data from two cities not subject to a pre-existing state bans suggested that assault weapon use, while rare in those cities both before and after the ban, also tapered off during late 1995 and into 1996.

With our local data sources, we also examined confiscations of selected unbanned handguns capable of accepting large-capacity magazines. Criminal use of these guns relative to other guns remained stable or was higher during the post-ban period, though data from one of these cities were indicative of a recent plateau. However, we were unable to acquire data on the magazines with which these guns were equipped. Further, trends in confiscations of our selected models may not be indicative of trends for other unbanned large-capacity handguns. It is therefore difficult to make any definitive statements about the use of large-capacity magazines in crime since the ban. Nevertheless, the contrasting trends for these guns and assault weapons provide some tentative hints of short-term substitution of non-banned large-capacity semiautomatic handguns for the banned assault weapons.

1.3.2. Recommendations

Although BATF trace request data provide the only national trends related to assault weapon use, our findings based on them are subject to limitations. Law enforcement agencies request traces on only a fraction of confiscated guns that probably does not represent the entire population. Therefore, we recommend further study of available data on all guns recovered in crime in selected cities that either were or were not under state assault weapon bans when the Federal ban took effect. Beyond that, we recommend analyzing BATF trace data already in-house to compare trends for specific banned assault weapon models with trends for non-banned models that are close substitutes. Most strongly, we also recommend updating our trend analysis, to see if the early 1996 rebound in BATF trace requests for assault weapons continued throughout the year and to relate any change to 1996 trends in gun crime and overall trace requests.

From a broader and longer-term perspective, we share others' concerns about the adequacy of BATF trace data, the only available national data, as a basis for assessing the effects of firearms policies and other influences on the use of assault weapons and other guns in violent and drug trafficking crime. Therefore, we commend recent BATF efforts to encourage local law enforcement agencies to request traces on more of the guns they seize from criminals. As a complement, however, we recommend short-term research on departmental policies and officers' decisions that affect the probability that a specific gun recovered in crime will be submitted for tracing.

Unfortunately, we have been unable to this point to assemble much information regarding trends in the criminal use of large-capacity magazines or guns capable of accepting these magazines. This gap is especially salient for the following reasons: the large-capacity magazine is perhaps the most functionally important distinguishing feature of assault weapons; the magazine ban affected more gun models than did the more visible bans on designated assault weapons; and based on 1993 BATF trace requests, non-banned semiautomatic weapons accepting large-capacity magazines were used in more crimes than were the banned assault weapons. For these reasons, we recommend that BATF and state/local law enforcement agencies encourage concerted efforts to record the magazines with which confiscated firearms are equipped — information that frequently goes unrecorded under present practice — and we recommend further research on trends, at both the national and local levels, on the

criminal use of guns equipped with large-capacity magazines. Finally, to support this research and a variety of strategic objectives for reducing the consequences of violent and drug trafficking crime, consideration should be given to studying the costs and benefits of legislative and administrative measures that would encourage recording, tracing, and analyzing magazines recovered in crimes, with or without guns.

1.4. CONSEQUENCES OF ASSAULT WEAPON USE

1.4.1. Findings

A central argument for special regulation of assault weapons and large-capacity magazines is that the rapid-fire/multi-shot capabilities they make available to gun offenders increase the expected number of deaths per criminal use, because an intended victim may receive more wounds, and more people can be wounded, in a short period of time. Therefore, we examined trends in three consequences of gun use: gun murders, victims per gun homicide incident, and wounds per gunshot victim.

Our ability to discern ban effects on these consequences is constrained by a number of facts. The potential size of ban effects is limited because the banned weapons and magazines were used in only a minority of gun crimes — based on limited evidence, we estimate that 25% of gun homicides are committed with guns equipped with large-capacity magazines, of which assault weapons are a subset. Further, the power to discern small effects statistically is limited because post-ban data are available for only one full calendar year. Also, a large stock still exists of grandfathered magazines as well as grandfathered and legal-substitute guns with assault weapon characteristics.

Our best estimate of the impact of the ban on state level gun homicide rates is that it caused a reduction of 6.7% in gun murders in 1995 relative to a projection of recent trends. However, the evidence is not strong enough for us to conclude that there was any meaningful effect (i.e., that the effect was different from zero). Note also that a true decrease of 6.7% in the gun murder rate attributable to the ban would imply a reduction of 27% in the use of assault weapons and large-capacity guns and no effective substitution of other guns. While we do not yet have an estimate of large-capacity magazine use in 1995, our nationwide assessment of assault weapon utilization suggested only an 8 to 20 percent drop in assault weapon use in 1995.

Using a variety of national and local data sources, we found no statistical evidence of post-ban decreases in either the number of victims per gun homicide incident, the number of gunshot wounds per victim, or the proportion of gunshot victims with multiple wounds. Nor did we find assault weapons to be overrepresented in a sample of mass murders involving guns (see Appendix A).

The absence of stronger ban effects may be attributable to the relative rarity with which the banned weapons are used in violent crimes. At the same time, our chosen measures reflect only a few of the possible manifestations of the rapid-fire/multi-shot characteristics thought to make assault weapons and large-capacity magazines particularly dangerous. For example, we might have found the use of assault weapons and large-capacity magazines to be more consequential in an analysis of the number of victims receiving any wound (fatal or non-fatal), in broader samples of firearm discharge incidents. Moreover, our comparisons did not control for characteristics of incidents and offenders that may affect the choice of weapon, the consequences of weapon use, or both.

Recommendations: First, we recommend further study of the impact measures examined in this investigation. Relatively little time has passed since the implementation of the ban. This weakens the ability of statistical tests — particularly those in our time-series analyses — to discern meaningful impacts. Moreover, the

ban's effects on the gun market are still unfolding. Hence, the long term consequences of the ban may differ substantially from the short term consequences which have been the subject of this investigation.

Therefore, we recommend updating the state-level analysis of gun murder rates as more data become available. Similarly, investigations of trends in wounds per gunshot victim could be expanded to include longer post ban periods, larger numbers of jurisdictions, and, wherever possible, data on both fatal and non-fatal victims. Examination of numbers of total wounded victims in both fatal and non-fatal gunshot incidents may also be useful. In some jurisdictions, it may also be possible to link trends in the types of guns seized by police to trends in specific weapon-related consequence measures.

Second, we recommend further research on the role of assault weapons and large-capacity magazines in murders of police officers. Our analysis of police murders has shown that the fraction of police murders involving assault weapons is higher than that for civilian murders. This suggests that gun murders of police should be more sensitive to the ban than gun murders in general. Yet, further research, considering such factors as numbers of shots fired, wounds inflicted, and offender characteristics, is necessary for a greater understanding of the role of the banned weaponry in these murders.

Along similar lines, we strongly recommend in-depth, incident-based research on the situational dynamics of both fatal and non-fatal gun assaults to gain greater understanding of the roles of banned and other weapons in intentional deaths and injuries. A goal of this research should be to determine the extent to which assault weapons and guns equipped with large-capacity magazines are used in homicides and assaults and to compare the fatality rates of attacks with these weapons to those with other firearms. A second goal should be to determine the extent to which the properties of the banned weapons influence the outcomes of criminal gun attacks after controlling for important characteristics of the situations and the actors. In other words, how many homicides and non-fatal gunshot wound cases involving assault weapons or large-capacity magazines would not occur if the offenders were forced to substitute other firearms and/or small capacity magazines? In what percentage of gun attacks, for instance, does the ability to fire more than 10 rounds without reloading influence the number of gunshot wound victims or determine the difference between a fatal and non-fatal attack? In this study, we found some weak evidence that victims killed with guns having large-capacity magazines tend to have more bullet wounds than victims killed with other firearms, and that mass murders with assault weapons tend to involve more victims than those with other firearms. However, our results were based on simple comparisons; much more comprehensive research should be pursued in this area.

Future research on the dynamics of criminal shootings, including various measures of the number of shots fired and wounds inflicted, would provide information on possible effects of the assault weapon and magazine ban that we were unable to estimate, as well as useful information on violent gun crime generally. Such research requires linking medical and law enforcement data sets on victim wounds, forensic examinations of recovered firearms and magazines, and police incident reports.

2. BACKGROUND FOR THE IMPACT ASSESSMENT

Title XI of the Violent Crime Control and Law Enforcement Act of 1994 (the Crime Control Act), took effect on its enactment date, September 13, 1994. Subtitle A, which is itself known as the Public Safety and Recreational Firearms Use Protection Act, contains three provisions related to “semiautomatic assault weapons.” Section 110102 (the assault weapons ban) made unlawful the manufacture, transfer, or possession of such weapons under 18:922 of the United States Code. Section 110103 (the magazine ban) made unlawful the transfer or possession of “large-capacity ammunition feeding devices”: detachable magazines that accept more than 10 rounds¹ and can be attached to semi- or automatic firearms. Section 110104 (the evaluation requirement) required the Attorney General to study the effect of these prohibitions and “in particular...their impact, if any, on violent and drug trafficking crime.” The evaluation requirement specified a time period for the study: an 18-month period beginning 12 months after the enactment date of the Act. It also required the Attorney General to report the study results to Congress 30 months after enactment of the Crime Control Act — March 13, 1997. The National Institute of Justice awarded a grant to the Urban Institute to conduct the mandated study, and this report contains the findings.

This chapter first explains the legislation in additional detail, then discusses what is already known about the role of the banned weapons in crime, and finally explains certain relevant features of firearms markets.

2.1. THE LEGISLATION

Effective on its enactment date, September 13, 1994, Section 110102 of Title XI banned the manufacture, transfer, and possession of “semiautomatic assault weapons.” It defined the banned items defined in four ways:

- 1) Named guns: specific rifles and handguns, available from ten importers and manufacturers: Norinco, Mitchell, and Poly Technologies (all models, popularly known as AKs); Israeli Military Industries UZI and Galil models, imported by Action Arms; Beretta Ar 70 (also known as SC-70); Colt AR-15; Fabrique National FN/FAL, FN/LAR, FN/FNC), SWD M-10, M-11, M-11/9, and M-12; Steyr AUG; and INTRATEC TEC-9, TEC-DC9, and TEC-22;
- 2) Exact copies: “Copies or duplicates of the [named guns] in any caliber”;
- 3) Revolving cylinder shotguns: Large-capacity shotguns, with the Street Sweeper and Striker 12 named as examples; and
- 4) Features-test guns: semiautomatic weapons capable of accepting detachable magazines and having at least two named features.²

Several provisions of the ban require further explanation because they affected our approach to this study. First, the ban exempted several categories of guns: a long list of specific models specified in Appendix A to Sec.

¹ Or “that can be readily restored or converted to accept.”

² For rifles, the named features were: a folding or telescoping stock; a pistol grip that protrudes below the firing action; a bayonet mount; a flash suppressor or threaded barrel designed to accommodate one; a grenade launcher. For pistols, the features were a magazine outside the pistol grip; a threaded barrel (capable of accepting a barrel extender, flash suppressor, forward handgrip, or silencer); a heat shroud that encircles the barrel; a weight of more than 50 ounces unloaded; and a semiautomatic version of an automatic firearm. For shotguns, named features included the folding or telescoping stock, protruding pistol grip, fixed magazine capacity over 5 rounds, and ability to accept a detachable magazine.

110102; bolt- or pump-action, inoperable, and antique guns; semiautomatic rifles and shotguns that cannot hold more than 5 rounds; and firearms belonging to a unit of government, a nuclear materials security organization, a retired law enforcement officer, or an authorized weapons tester.

Second, the prohibitions exempted weapons and magazines that met the definitional criteria but were legally owned (by manufacturers, distributors, retailers, or consumers) on the effective date of the Act. Such “grandfathered” guns may legally be sold, resold, and transferred indefinitely. Estimates of their numbers are imprecise. However, a 1992 report by the American Medical Association reported an estimate of 1 million semiautomatic assault weapons manufactured for civilian use, plus 1.5 million semiautomatic M-1 rifles sold as military surplus (AMA Council, 1992). To distinguish grandfathered guns from exempt guns that might be stolen or diverted to illegal markets, the ban required the serial numbers of guns in the banned categories to clearly indicate their dates of manufacture.

Third, the ban on exact copies of the named guns did not prohibit the manufacture, sale, or transfer of legal substitutes, most of which first appeared around or after the effective date of the ban. Legal substitutes differ from banned exact copies by lacking certain named features or by incorporating minimal design modifications such as slight reductions of pistol barrel length, thumbholes drilled in a rifle stock, or the like. Manufacturers named some legal substitutes by adding a designation such as “Sporter,” “AB,” (After Ban), or “PCR” (Politically Correct Rifle) to the name of the corresponding banned weapon.

Section 110103 of Title XI banned large-capacity magazines, i.e., magazines that accept ten or more rounds of ammunition. Its effective date, exemptions, and grandfathering provisions correspond to those governing firearms under Section 110102. This provision exempts attached tubular devices capable of operating only with .22 caliber rimfire ammunition.

Section 110104 required the study that is the subject of this report: a study of the effect of the ban, citing impacts on violent crime and drug trafficking in particular. It also specified the time period of the study: to begin 12 months after enactment, to be conducted over an 18-month period, and to be reported to Congress after 30 months. Finally, Title XI included a “sunset provision” for the ban, repealing it 10 years after its effective date.

Subtitles B and C of Title XI are relevant to this study because they took effect at the same time, and so special efforts are needed to distinguish their effects from those effects of the assault weapon and magazine bans in Subtitle A. With certain exemptions, Subtitle B bans the sale, delivery, or transfer of handguns to juveniles less than 18 years old. This juvenile handgun possession ban applies, of course, to assault pistols and to other semiautomatic handguns that are frequently recovered in crimes. Subtitle C requires applicants for new and renewal Federal Firearms Licenses — the Federal dealers’ licenses — to submit a photograph and fingerprints with their applications and to certify that their businesses will comply with all state and local laws pertinent to their business operations. These subtitles gave force of law to practices that BATF had begun early in 1994, to require the fingerprints and photographs, and to cooperate with local law enforcement agencies in investigations of Federal Firearms Licensees’ (FFLs) compliance with local sales tax, zoning, and other administrative requirements. These BATF practices are believed to have contributed to an 11 percent reduction in licensees (from 281,447 to 250,833) between January and the effective date of the Crime Act, and a subsequent 50 percent reduction to about 124,286 by December 1996 (U.S. Department of Treasury, 1997). These practices and subtitles were intended to discourage license applications and renewals by the subset of licensees least likely to comply with laws governing sales to felons, juveniles, and other prohibited purchasers.

2.2. CONTEXT FOR THE ASSAULT WEAPONS BAN

At least three considerations appear to have motivated the Subtitle A bans on assault weapons and large-capacity magazines: arguments over particularly dangerous consequences of their use, highly publicized incidents that drew public attention to the widespread availability of military-style weapons, and the disproportionate use of the banned weapons in crime.

The argument over dangerous consequences is that the ban targets a large array of semiautomatic weapons capable of accepting large-capacity magazines (i.e., magazines holding more than 10 rounds). Semiautomatic firearms permit a somewhat more rapid rate of fire than do non-semiautomatics. When combined with large-capacity magazines, semiautomatic firearms enable gun offenders to fire more times and at a faster rate, thereby increasing the probability that offenders hit one or more victims at least once.

There is very little empirical evidence, however, on the direct role of ammunition capacity in determining the outcomes of criminal gun attacks (see Koper 1995). The limited data which do exist suggest that criminal gun attacks involve three or fewer shots on average (Kleck 1991, pp.78-79; McGonigal et al. 1993, p.534). Further, there is no evidence comparing the fatality rate of attacks perpetrated with guns having large-capacity magazines to those involving guns without large-capacity magazines (indeed, there is no evidence comparing the fatality rate of attacks with semiautomatics to those with other firearms). But in the absence of substantial data on the dynamics of criminal shootings (including the number of shots fired and wounds inflicted per incident), it seems plausible that offenders using semiautomatics, especially assault weapons and other guns capable of accepting large-capacity magazines, have the ability to wound more persons, whether they be intended targets or innocent bystanders (see Sherman et al. 1989). This possibility encouraged us to attempt to estimate the effect of the ban on both the number of murder victims per incident and the number of wounds per murder victim.

The potential of assault weapons to kill multiple victims quickly was realized in several dramatic public murder incidents that occurred in the decade preceding the ban and involved assault weapons or other semiautomatic firearms with large-capacity magazines (e.g., see Cox Newspapers 1989; Lenett 1995). In one of the worst mass murders ever committed in the United States, for example, James Huberty killed 21 persons and wounded 19 others in a San Ysidro, California, McDonald's on July 18, 1984, using an Uzi handgun and a shotgun. On September 14, 1989, Joseph T. Wesbecker killed seven persons and wounded thirteen others at his former workplace in Louisville, Kentucky before taking his own life. Wesbecker was armed with an AK-47 rifle, two MAC-11 handguns, and a number of other firearms. One of the most infamous assault weapon cases occurred on January 17, 1989, when Patrick Edward Purdy used an AK-47 to open fire on a schoolyard in Stockton, California, killing 5 children.

There were additional high profile incidents in which offenders using semiautomatic handguns with large-capacity magazines killed large numbers of persons. In October of 1991, a gunman armed with a Glock 17, a Ruger P89 (both the Glock and Ruger models are semiautomatic handguns capable of accepting magazines with more than 10 rounds), and several large-capacity magazines killed 23 people and wounded another 19 in Killeen, Texas. In a December 1993 incident, six people were killed and another 20 were wounded on a Long Island commuter train by a gunman equipped with a semiautomatic pistol and large-capacity magazines.

These events have been cited as jarring the public consciousness, highlighting the public accessibility of weapons generally associated with military use, and demonstrating the apparent danger to public health posed by semiautomatic weapons with large-capacity magazines. These considerations, along with the claim that large-capacity magazines were unnecessary for hunting or sporting purposes, reportedly galvanized public support for the initiative to ban these magazines (Lenett, 1995).

Debate over assault weapons raged for several years prior to the passage of the 1994 Crime Act. Throughout that time, different studies, news reports, policy debates, and legal regulations employed varying definitions of assault weapons. Yet, in general terms, the firearms targeted in these debates and those ultimately prohibited by the federal government's ban consist of various semiautomatic pistols, rifles, and shotguns, most of which accept detachable ammunition magazines and have military-style features. Mechanically, the most important features of these guns are their semiautomatic firing mechanisms and the ability to accept detachable magazines, particularly large-capacity magazines. However, these traits do not distinguish them from many other semiautomatic weapons used for hunting and target shooting. Therefore, some have argued that assault weapons differ only cosmetically from other semiautomatic firearms (Kleck 1991; Cox Newspapers 1989).

Nonetheless, proponents of assault weapons legislation argued that these weapons are too inaccurate to have much hunting or sporting value. Furthermore, they argued that various features of these weapons, such as folding stocks and shrouds surrounding their barrels, have no hunting or sporting value and serve to make these weapons more concealable and practical for criminal use (Cox Newspapers 1989). To the extent that these features facilitated criminal use of long guns or handguns with large-capacity magazines, one could hypothesize that there would be an increase in the deadliness of gun violence. Proponents also claimed that some of these weapons, such as Uzi carbines and pistols, could be converted rather easily to fully automatic firing.³

To buttress these arguments, proponents of assault weapons legislation pointed out that assault weapons are used disproportionately in crime. According to estimates generated prior to the federal ban, assault weapons represented less than one percent of the over 200 million privately-owned guns in the United States; yet they were reported to account for 8% of all firearms trace requests submitted to BATF from 1986 to 1993 (Lenett 1995; also see Zawitz 1995). Moreover, these guns were perceived to be especially attractive to offenders involved in drug dealing and organized crime, as evidenced by the relatively high representation of these weapons among BATF gun trace requests for these crimes. To illustrate, a late 1980s study of BATF trace requests reported that nearly 30% of the guns tied to organized crime cases were assault weapons, and 12.4% of gun traces tied to narcotics crimes involved these guns (Cox Newspapers 1989, p.4).

Further, most assault weapons combine semiautomatic firing capability with the ability to accept large-capacity magazines and higher stopping power (i.e., the ability to inflict more serious wounds).⁴ Thus, assault weapons would appear to be a particularly lethal group of firearms. However, this is also true of many non-banned semiautomatic firearms. Moreover, there have been no studies comparing the fatality rate of attacks with assault weapons to those committed with other firearms.

³ Fully automatic firearms, which shoot continuously as long as the trigger is held down, have been illegal to own in the U.S. without a federal permit since 1934. BATF has the responsibility of determining whether particular firearm models are too easily convertible to fully automatic firing. Earlier versions of the SWD M series assault pistols made by RPB Industries were met with BATF disapproval for this reason during the early 1980s.

⁴ Determinants of firearm stopping power include the velocity, size, shape, and jacketing of projectiles fired from a gun. Notwithstanding various complexities, the works of various forensic, medical, and criminological researchers suggest we can roughly categorize different types of guns as inflicting more or less lethal wounds (see review in Koper 1995). At perhaps the most general level, we can classify shotguns, centerfire (high-velocity) rifles, magnum handguns, and other large caliber handguns (generally, those larger than .32 caliber) as more lethal firearms and small caliber handguns and .22 caliber rimfire (low velocity) rifles as less lethal firearms. Most assault weapons are either high velocity rifles, large caliber handguns, or shotguns.

Nonetheless, the involvement of assault weapons in a number of mass murder incidents such as those discussed above provided an important impetus to the movement to ban assault weapons. Commenting on Patrick Purdy's murder of five children with an AK-47 rifle in Stockton, California in 1989, one observer noted, "The crime was to raise renewed outcries against the availability of exotic military-style weapons in our society. This time police forces joined forces with those who have traditionally opposed the widespread ownership of guns" (Cox Newspapers 1989, p.i). Later that year, California became the first state in the nation to enact an assault weapons ban, and the federal government enacted a ban on the importation of several foreign military-style rifles.

2.3. ASSAULT WEAPONS AND CRIME

Table 2-1 describes the named guns banned by Subtitle A in terms of their design, price, pre-ban legal status, and examples of legal substitutes for the banned guns. The table also reports counts of BATF trace requests — law enforcement agency requests for BATF to trace the recorded purchase history of a gun. Trace counts are commonly used to compare the relative frequencies of gun model uses in crime, although they are subject to biases discussed in the next chapter. Together, the named guns and legal substitutes accounted for 3,493 trace requests in 1993, the last full pre-ban year. This represented about 6.3 percent of all 55,089 traces requested that year.

Of the nine types of banned weapons shown in Table 2-1, five are foreign-made: AKs, UZI/ Galil, Beretta Ar-70, FN models, and the Steyr AUG. Together they accounted for only 394 BATF trace requests in 1993, and 281 of those concerned Uzis. There are at least three reasons for these low frequencies. First, imports of all of them had been banned under the 1989 assault weapon importation ban. Second, the Blue Book prices of the UZI, FN models, and Steyr AUG were all high relative to the prices of guns typically used in crime. Third, the FN and Steyr models lack the concealability that is often desired in criminal uses.

Among the four domestically produced banned categories, two handgun types were the most frequently submitted for tracing, with 1,377 requests for TEC models and exact copies, and 878 traces of SWD's M-series. Table 2-1 also reports 581 trace requests for Colt AR-15 rifles, 99 for other manufacturers' exact copies of the AR-15, and a handful of trace requests for Street Sweepers and Berettas.

Table 2-1. Description of firearms banned in Title XI

<i>Name of firearm</i>	<i>Description</i>	<i>1993 Blue Book price</i>	<i>Pre-ban Federal legal status</i>	<i>1993 trace request count</i>	<i>Examples of legal substitutes</i>
Avtomat Kalashnikov (AK)	Chinese, Russian, other foreign and domestic: .223 or 7.62x39mm cal., semi-auto Kalashnikov rifle, 5, 10*, or 30* shot mag., may be supplied with bayonet.	\$550 (plus 10-15% for folding stock models)	Imports banned in 1989	87	Norinco NHM 90/91
UZI, Galil	Israeli: 9mm, .41, or .45 cal. semi-auto carbine, mini-carbine, or pistol. Magazine capacity of 16, 20, or 25, depending on model and type (10 or 20 on pistols).	\$550-\$1050 (UZI) \$875-\$1150 (Galil)	Imports banned in 1989	281 UZI 12 Galil	
Beretta Ar-70	Italian: .222 or .223 cal., semi-auto paramilitary design rifle, 5, 8, or 30 shot mag.	\$1050	Imports banned in 1989	1	
Colt AR-15	Domestic: .Primarily 223 cal. paramilitary rifle or carbine, 5-shot magazine, often comes with two 5-shot detachable mags. Exact copies by DPMS, Eagle, Olympic, and others.	\$825-\$1325	Legal (civilian version of military M-16)	581 Colt 99 Other manufacturers	Colt Sporter, Match H-Bar, Target. Olympic PCR Models.
FN/FAL, FN/LAR, FNC	Belgian design: .308 Winchester cal., semi-auto rifle or .223 Remington combat carbine with 30-shot mag. Rifle comes with flash hider, 4-position fire selector on automatic models. Manufacturing discontinued in 1988.	\$1100-\$2500	Imports banned in 1989	9	L1A1 Sporter (FN, Century)
SWD M-10, M-11, M-11/9, M-12	Domestic: 9mm paramilitary semi-auto pistol, fires from closed bolt, 32-shot mag. Also available in fully automatic variation.	\$215	Legal	878	Cobray PM-11, PM12 Kimel AP-9, Mini AP-9
Steyr AUG	Austrian: .223 Remington/5.56mm cal., semi-auto paramilitary design rifle.	\$2500	Imports banned in 1989	4	
TEC-9, TEC*DC-9, TEC-22	Domestic: 9mm semi-auto paramilitary design pistol, 10** or 32** shot mag.; .22 LR semi-auto paramilitary design pistol, 30-shot mag.	\$145-\$295	Legal	1202 Intratec 175 Exact copies	TEC-AB
Revolving Cylinder Shotguns	Domestic: 12 gauge, 12-shot rotary mag., paramilitary configuration, double action.	\$525***	Legal	64 SWD Street Sweepers	

* The 30-shot magazine was banned by the 1994 Crime Act, and the 10-shot magazine was introduced as a result.

** The 32-shot magazine was banned by the 1994 Crime Act, and the 10-shot magazine was introduced as a result.

*** Street Sweeper

Source: *Blue Book of Gun Values*, 17th Edition, by S.P. Fjestad, 1996.

Although the banned weapons are more likely than most guns to be used in crime, they are so rare that only 5 models appeared among the BATF National Tracing Center list of the 50 most frequently traced guns in 1993: the SWD M-11/9 (659 trace requests, ranked 8), the TEC-9 (602 requests, ranked 9), the Colt AR-15 (581 requests, ranked 11), the TEC-DC9 (397 requests, ranked 21), and the TEC-22 (203, ranked 48). In addition, the list named eight unbanned guns that accept banned large-capacity magazines: the Glock 17 pistol (509 requests, ranked 13), the Ruger P85 pistol (403 requests, ranked 20), the Ruger P89 pistol (361 requests, ranked 24), the

Glock 19 pistol (339 requests, ranked 28), the Taurus PT92 (282 requests, ranked 31), the Beretta/FI Industries Model 92 pistol (270 requests, ranked 33), the Beretta Model 92 (264 requests, ranked 34), and the Ruger Mini-14 rifle (255 requests, ranked 36).

In contrast, the list of ten most frequently traced guns is dominated by inexpensive small-caliber semiautomatic handguns not subject to the ban. These included the Raven P-25 (1,674 requests, ranked 1), the Davis P380 (1,539 requests, ranked 2), the Lorcin L-380 (1,163 requests, ranked 3), the Jennings J-22 (714 requests, ranked 6), and the Lorcin L-25 (691 requests, ranked 7). Other guns among the 1993 top ten list were: the Norinco SKS, a Chinese-made semi-automatic rifle (786 requests, ranked 4); the Mossberg 500 .12-gauge shotgun (742 requests, ranked 5), and the Smith & Wesson .38 caliber revolver (596 requests, ranked 10). None of these are subject to the assault weapon ban.

The relative infrequency of BATF trace requests for assault weapons is consistent with other findings summarized in Koper (1995). During the two years preceding the 1989 import ban, the percentage of traces involving assault weapons reportedly increased from 5.5 to 10.5 percent for all crimes (Cox Newspapers, n.d., p.4), and was 12.4 percent for drug crimes. Because law enforcement agencies are thought to request BATF traces more frequently in organized crime and drug crime cases, many criminal researchers (including ourselves) believe that raw trace request statistics overstate the criminal use of assault weapons in crime. Based on more representative samples, Kleck (1991) reports that assault weapons comprised 3.6 percent or less of guns confiscated from most of the Florida agencies he surveyed, with only one agency reporting as high as 8 percent. Similarly, Hutson et al. (1994) report that assault weapons were involved in less than one percent of 1991 Los Angeles drive-by shootings with juvenile victims. Based on his reanalysis of 1993 New York City data, Koper (1995) concluded that assault weapons were involved in only 4 percent of the 271 homicides in which discharged guns were recovered and 6.5 percent of the 169 homicides in which ballistics evidence positively linked a recovered gun to the crime.

Koper (1995) also summarizes findings which suggest that criminal self-reporting of assault weapon ownership or use may have become “trendy” in recent years, especially among young offenders. The percentages of offenders who reported ever using weapons in categories that may have included assault weapons was generally around 4 percent in studies conducted during the 1980s, but rose to the 20- to 30-percent range in surveys of youth reported since 1993, when publicity about such weapons was high (see, e.g., Knox et al., 1994; Sheley and Wright, 1993).

2.4. MARKETS FOR ASSAULT WEAPONS AND OTHER FIREARMS

Predicting effects of the bans on assault weapons and large-capacity magazines requires some basic knowledge of firearms markets. The Federal Bureau of Alcohol, Tobacco and Firearms (BATF) licenses persons to sell or repair firearms, or accept them as a pawnbroker under the Gun Control Act of 1968. Cook et al. (1995, p.73) summarized the relevant characteristics of a Federal firearms licensee (FFL) as follows. Licenses are issued for three years renewable, and they allow Federal Firearm licensees to buy guns mail-order across state lines without a background check or a waiting period. Starting well before the 1994 Crime Act, applicants had to state that they were at least 21 years old and provide a Social Security number, proposed business name and location, and hours of operation. Since the 1968 Omnibus Crime Control and Safe Streets Act, FFL applicants have had to state that they were not felons, fugitives, illegal immigrants, or substance abusers, and that they had never renounced their American citizenship, been committed to a mental institution, or dishonorably discharged from the military.

The Gun Control Act of 1968 made these same categories of persons ineligible to purchase a gun from a licensee and required would-be purchasers to sign statements that they were not ineligible purchasers. The 1968

Act also requires FFLs to retain the records of each sale and a running log of acquisitions and dispositions of all guns that come into their possession. In 1993, the Brady Handgun Violence Prevention Act added several more requirements on handgun sales by FFLs; the focus on handguns reflected their disproportionate involvement in crime. Under the Brady Act, licensed dealers⁵ became required to obtain a photo ID from each would-be handgun purchaser, to verify that the ID described the purchaser, to notify the chief law enforcement officer (CLEO) of the purchaser's home of the attempt to purchase, and to wait five business days before completing the sale, allowing the CLEO to verify eligibility and notify the seller if the purchaser is ineligible. The Brady Act also raised the fee for the most common license, Type 1 (retail), from \$10.00 per year to \$200.00 for the first three years and \$90.00 for each three-year renewal.

Subtitle C of Title XI which took effect simultaneously with the 1994 assault weapons ban strengthened the requirements on FFLs and their customers in several ways, including the following. To facilitate fingerprint-based criminal history checks and to deter applicants who feared such checks, Subtitle C required FFL applicants to submit fingerprints and photographs; this ratified BATF practice that had begun in early 1994. To make FFLs more visible to local authorities, Subtitle C required applicants to certify that within 30 days they would comply with applicable local laws and required the Secretary of the Treasury to notify state and local authorities of the names and addresses of all new licensees. To help local law enforcement agencies recover stolen guns and to discourage licensees from retroactively classifying firearms they had sold without following Federally required procedures as "stolen," Subtitle C introduced requirements for FFLs to report the theft or loss of a firearm to BATF and to local authorities within 48 hours.

Assault weapons and other firearms are sold in primary and secondary markets whose structure was described by Cook et al. (1995). Primary markets include transactions by FFLs. At the wholesale level, licensed importers and distributors purchase firearms directly from manufacturers and advertise them through catalogs and display ads in nationally distributed publications such as *Shotgun News*. Under the law, purchasers may include walk-ins who reside in the distributor's state and FFLs from anywhere who can order guns by telephone, fax, or mail. Primary-market retailers include both large discount stores and smaller-volume independent firearms specialists who offer advice, gun service, sometimes shooting ranges, and other professional services of interest to gun enthusiasts. Some 25,000 independent dealers are organized as the National Alliance of Stocking Gun Dealers. At both the wholesale and retail level, primary-market sellers are legally required to verify that the purchaser is eligible under Federal laws, to maintain records of sales for possible future use in BATF traces of guns used in crime, and, since the effective date of the Crime Act, to report thefts of guns to BATF.

Cook et al. (1995, p.68) also designated "secondary markets," in which non-licensed persons sell or give firearms to others. Sellers other than FFLs include collectors or hobbyists who typically resell used guns through classified ads in newspapers or "consumer classified sheets," through newsletters oriented toward gun enthusiasts, or through word of mouth to family and friends. The secondary market also includes gun shows, "street sales", and gifts or sales to family, friends, or acquaintances. Secondary transfers are not subject to the record-keeping requirements placed on FFLs.

Gun prices in the primary markets are widely publicized, and barriers to entry are few, so that the market for legal purchasers is fairly competitive. For new guns, distributors' catalogs and publications such as *Shotgun News* disseminate wholesale prices. Prices of used guns are reported annually in a *Blue Book* catalog (Fjestad, 1996). Based on interviews with gun market experts, Cook et al. (1995, p.71) report that retail prices track

⁵ The Brady Act exempted sellers in states that already had similar requirements to verify the eligibility of would-be gun purchasers.

wholesale prices quite closely. They estimate that retail prices to eligible purchasers generally exceed wholesale (or original-purchase) prices by 3–5 percent in the large chain stores, by about 15 percent in independent dealerships, and by about 10 percent at gun shows because overhead costs are lower.

In contrast, purchasers who wish to avoid creating a record of the transaction and ineligible purchasers, including convicted felons who lack convincing false identification and wish to avoid the Brady Act eligibility check or waiting period, must buy assault weapons and other guns in the secondary markets, which are much less perfect. Prices for banned guns with accurate and complete descriptions are rarely advertised, for obvious reasons. Sellers do not supply catalogues and reference books that would help an untrained buyer sort out the bewildering array of model designations, serial numbers, and detachable features that distinguish legal from illegal guns. And competition is limited because sellers who are wary of possible undercover purchases by law enforcement agencies prefer to limit “off-the-books” sales either to persons known or personally referred to them, or to settings such as gun shows and streets away from home, where they themselves can remain anonymous.

In general, ineligible purchasers face premium prices some 3 to 5 times legal retail prices.⁶ Moreover, geographic differentials persist that make interstate arbitrage, or trafficking, profitable from “loose regulation” states to “tight regulation” states. Among the banned assault weapons, for example, Cook et al. (1995, p.72, note 56) report TEC-9s with an advertised 1991 price of \$200 in the Ohio legal retail market selling for \$500 on the streets of Philadelphia. By 1995, they report a legal North Carolina price of \$300 compared to a street price of \$1,000 in New York City. In 1992 interviews with Roth (1992), local and state police officers reported even higher premiums in secondary submarkets in which ineligible purchasers bartered drugs for guns: prices in terms of the street value of drugs reportedly exceeded street cash prices by a factor of about 5.

The attraction that the higher premiums hold for FFLs as sellers has been noted by both researchers and market participants. Cook et al. (1995, p.72) note that licensed dealers willing to sell to ineligible purchasers or without Federal paperwork offer buyers the combined advantages of the primary and secondary markets: “they have the ability to choose any new gun in the catalog, but without the paperwork, delays, fees, and restrictions on who can buy.” Their data raise the possibility that up to 78 percent of FFLs in the Raleigh/Durham/Chapel Hill area of North Carolina may operate primarily or exclusively in secondary markets, since 40 percent had not given BATF a business name on their application, and an additional 38 percent provided “business” numbers that turned out to be home numbers (Cook et al., 1995:75). They note the consistency of their findings with a national estimate by the Violence Policy Center (1992 — More Gun Dealers than Gas Stations) that 80 percent of dealers nationwide do not have storefront retail firearms businesses. Jacobs and Potter (1995, p.106) note that because resource constraints have restricted BATF inspections to storefronts, dealers without storefronts may operate without regard to the Brady Act requirements, or presumably to other requirements as well.

The opportunities for FFLs, whether operating from storefronts or not, to sell firearms in both the primary and secondary markets, were colorfully described in the 1993 statement of the National Alliance of Stocking Gun Dealers (NASGD) to the House and Senate Judiciary Committees regarding Subtitle C. After noting the substantial price premium for selling guns directly felons to and others on the street, the statement continues:

Should you feel a little queasy about the late night hours and the face-to-face negotiations with the street folk, then you can become a “gun-show cowboy.” Simply drive by your friendly “distributor”..., load up 250 handguns, and hit the weekend circuit of gun shows...If you choose

⁶ There are exceptions. Guns fired in crimes may sell at substantial discounts on the street because ballistic “fingerprints” may incriminate the subsequent owner. Drug addicts who find and steal guns during burglaries may sell or trade them for drugs at prices far below market.

to do the “cash and carry” routine then you will command higher prices than those who insist on selling lawfully with all the attendant ID and paperwork. However, since you will most probably be selling at gun shows in states other than where you are licensed, it is unlawful for you to sell and deliver on the spot, so you will not want to identify yourself either. Attendees (purchasers) at gun shows include the entire spectrum of the criminal element — felons, gangs who don’t have their own armorer, underage youth, buyers for underage youth, multistate gun runners and such...Though the gun show cowboy won’t achieve quite as high a profit as the street seller, he can sell in very high volume and easily earn the same dollar amount and feel a lot safer. (NASGD, 1993:2-3).

Pierce et al. (1995) made an initial effort to investigate the extent and distribution of FFLs’ transactions in secondary submarkets through which firearms flow to criminal uses. Using the automated Firearms Tracing System (FTS) recently developed by BATF’s National Tracing Center, they explored several covariates of the distribution of traces in which a given FFL holder is named. They reported the highest mean number of traces for dealers in Maryland, Vermont, and Virginia. Other cross-tabulations indicated that currently active dealers operating at the addresses previously used by out-of-business dealers were more likely than average to be named in traces, which suggests that dealers who are active in secondary markets tend to reapply for licenses under new names. Finally, they reported a very high concentration of dealers in trace requests. While 91.6 percent of the dealers in the FTS database had never been named in a trace, 2,133 dealers, 0.8 percent of the total, had been named in 10 or more traces. Together, they were named in 65.7 percent of all traces conducted. An even smaller handful of 145 dealers’ names surfaced in 30,850 traces — 25.5 percent of the entire trace database. These findings indicated that the channels through which guns flow from FFLs to criminal users are more heavily concentrated than previously recognized.

The channels described above through which firearms flow from licensed dealers (FFLs) and eligible purchasers to ineligible purchasers vary in terms of visibility.⁷ In primary markets, ineligible purchasers may buy guns from FFLs using fake identification themselves or using “straw purchasers” (eligible buyers acting as agents for ineligible buyers, unbeknownst to the FFL). In Cook and Leitzel’s (1996) terminology, these are “formal” transactions that create official records, but the records do not identify the actual consumer.

We use the term “leakage” to designate channels through which guns flow from legal primary and secondary markets to ineligible purchasers. No leakage channel creates valid sales records; however, at least since 1994, all are likely to generate stolen gun reports to BATF. Ineligible purchasers may buy guns informally (i.e., without paperwork) from unethical FFLs at gun shows or through “street” or “back door” sales. To prevent informal sales from creating discrepancies between actual inventories and the acquisition/disposition records, the FFL may report them as stolen. Such transactions are indistinguishable from actual thefts, the other leakage channel.

Guns may also leak from eligible non-FFL gun owners to ineligible owners through direct sales on the street or at gun shows, or through thefts. While non-FFL owners are not required to record sales or transfers of their guns, they may also wish to report a gun that they sell to an ineligible purchaser as stolen if they suspect it may be recovered in a future crime. Therefore, leakage in secondary markets may also be reflected in theft reports.

⁷ While the law presumes ineligible purchasers to be more likely than eligible purchasers to use guns during crimes, eligible purchasers have, in fact, committed viable crimes with large-capacity firearms.

3. ANALYSIS PLAN

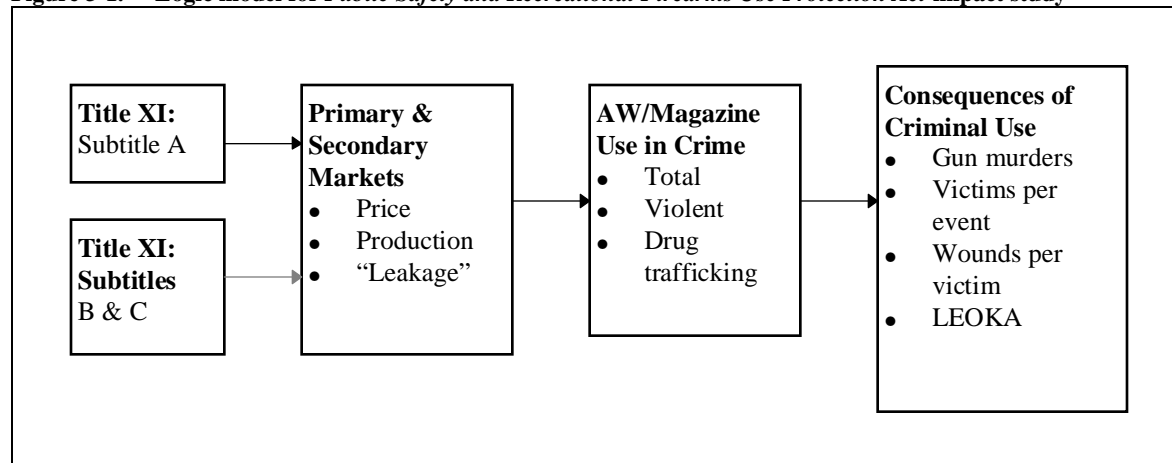
Subtitle A of Title XI banned the manufacture, transfer, and possession of assault weapons and large-capacity magazines. We hypothesized that the ban would produce direct effects in the primary markets for these weapons, that related indirect effects in secondary markets would reduce the frequency of their criminal use, and that the decrease in use would reduce such consequences as gun homicides, especially incidents involving multiple victims, multiple wounds, and killings of law enforcement officers. In this chapter, we explain our general strategy testing these hypotheses.

3.1. POTENTIAL BAN EFFECTS

Figure 3-1 displays the ban effects that we hypothesized and the measures that we used to test those effects. As shown there, we anticipated potential effects on primary and secondary markets for the banned guns and magazines, potential reductions in their use in crime, and subsequent reductions in the consequences of criminal use. Although the available measures of any single effect are problematic, the problems differ by measure. Therefore, our approach was to conduct several small studies, each subject to different error sources, and then to integrate the findings of the separate studies.

As shown in Figure 3-1, the **market effects** of interest included indicators of price, production, and “leakage” between primary and secondary markets. If the Subtitle A bans are to be effective in reducing criminal uses of the banned weapons and magazines, they must increase the prices of those items. Our **price** indicators were collected for banned guns, selected legal substitutes, large-capacity magazines, and, as comparison groups, comparable guns that should not have been directly affected by the ban. The data were the nationally advertised prices of distributors who ran display ads in *Shotgun News* continuously from January 1992 through mid-1996. Because these distributors sell guns simultaneously at the wholesale and retail levels, and because primary-market retail margins are small, we believe these prices offer a useful index of primary-market prices. We used hedonic price analysis to study trends. Annual **production** data were obtained from the Violence Policy Research Project, an organization that compiles BATF manufacturing data. We lacked post-ban data because release of the production statistics is delayed two years by law. Also, we had to make certain approximations because production statistics are not reported for specific models. Therefore, findings from our tabular analyses of production are less complete and more tentative than those about price. Finally, as discussed in Section 3.2, we defined “**leakage**” as the transfer of firearms to ineligible purchasers from licensed dealers and eligible purchasers. Because we argued there that leakage is likely to generate theft reports (either because the guns were transferred by theft or because a false theft report was used to conceal a sale to an ineligible purchaser), we measured leakage using counts of stolen gun reports to the FBI’s National Crime Information Center (NCIC).

Our primary indicator of assault weapon **use in crime** is the volume of requests for BATF traces of guns recovered in crime. **Trace request** data have the advantage of providing a national picture, and they allow us to focus on two of the Congressional priorities for this study, violent crime and drug trafficking crime. They require special caution in interpretation, however, since trace requests are a small and unrepresentative sample of guns recovered in crime. We believe that our tabular analyses provide a defensible estimate of the short-term effects of Title XI on criminal use of the banned weapons. We attempted to supplement the national analysis with analyses of **local trends in recovered assault weapons** in representative samples of recovered guns from a number of law enforcement agencies, but could obtain the necessary data for only a few cities.

Figure 3-1. Logic model for Public Safety and Recreational Firearms Use Protection Act impact study

Finally, as shown in Figure 3-1, we used four indicators of the **consequences** of criminal use of assault weapons and semiautomatic weapons with large-capacity magazines: total gun murders by state, victims per criminal event involving gun murder, entry wounds per gunshot wound victim, and law enforcement officers killed in action. While these indicators all have logical relationships to use of the banned items, all have difficulties. Total gun murders is an insensitive indicator because attacks with assault weapons and other semiautomatics with large-capacity magazines account for only a fraction of all murders. Other consequences such as victims per event and wounds per victim are more specific to the banned weapons and magazines, as supporters argued during the ban debates, and assault weapons are more disproportionately used in killings of law enforcement officers than in other murders. However, available databases for measuring those impacts are difficult to analyze because they contain such small numbers of cases. And, for all the indicators, the existence of only one full post-ban year in available data may make the estimates too imprecise to discern short-run impacts even if they are large enough to be of policy interest. As a result, our findings about ban effects on consequences are especially tentative.

We anticipated that market effects during the short-term period allowed for this study would be heavily influenced by expectations. Enactment of the ban was preceded by extensive publicity and debate, which afforded time for manufacturers, distributors, retailers, and collectors to speculate that the firearms being considered for ban coverage would eventually become expensive collectors' items. Analogous experience from 1989 seemed instructive, because that year saw both a Federal ban on importation of assault rifles and a California ban analogous to Title XI. During the three months leading up to the importation ban, import license requests for assault rifles, which had numbered 40,000 in 1987 and 44,000 in 1988, swelled 10-fold to an annual rate of 456,000 (AMA Council, 1992). It is not clear how rapidly the import surge flowed through the distribution chain from importers to consumers in the primary and secondary markets. Yet six months later, during the period leading up to a California ban and sentence enhancement, several police agencies reported sharp decreases in criminal use of assault rifles. At the time, observers attributed this seeming paradox to advance publicity that may have left the misimpression that the ban took effect when enacted, judicial anticipation of the enhancements in setting bond and imposing sentence, tips to police from law-abiding gun dealers sensitive to the criminal gun use that motivated the ban, and owners' reluctance to risk confiscation for misuse of their assault weapons, which had become more valuable in anticipation of the ban (Mathews, 1989). However, it is equally plausible that the speculative price increases for the banned weapons in formal markets at least temporarily bid assault weapons

away from ineligible purchasers who would more probably have used them in crimes (Cook and Leitzel, 1996).⁸ Whether these short-run conditions would hold for the long run would depend on the extent to which grandfathered guns in the banned categories leaked into secondary markets over time through gun shows, “back door” sales, and thefts.

Therefore, our objectives became to estimate ban-related effects on price, supply responses, and leakage from formal to informal markets; to estimate how these market effects influenced criminal assault weapon use; and to estimate trends in the consequences of that use. In accordance with the statutory study requirement, we placed special emphasis on the use of assault weapons in violent crime and drug trafficking crime wherever available data permitted.

3.2. GENERAL DESIGN STRATEGY

Our general design strategies are to test whether the assault weapon and magazine bans interrupted trends over time in the outcome measures listed above. A variety of techniques exist for this general problem. They differ in terms of desirable qualities such as statistical power, robustness against various threats to the validity of findings, and precision; unfortunately, the techniques with more desirable properties are generally more demanding in terms of data requirements. Because of different data constraints, we employed a variety of methods, including various forms of time series and multiple regression analysis (i.e., pooled, cross-sectional time series analysis, hedonic price analysis, and Box-Jenkins interrupted time series models), simple before and after comparisons, and graphical displays. As a result, our conclusions about some measures are stronger than about others.

Because we anticipated these circumstances, our approach to the Congressional mandate was to conduct a number of small-scale analyses of more-or-less readily available data, then to synthesize the results into our best judgment concerning the impacts of Title XI.⁹ We carried out three kinds of analyses of market effects:

- Hedonic price analyses of 1992–96 primary-market price trends for banned semiautomatic firearms, comparable unbanned firearms, and large-capacity magazines, using national distributors’ prices;
- Tabular analyses of gun production data through 1994, the latest available year;
- Pre-ban/post-ban comparisons and time series analyses of 1992–96 trends in “leakage” to illegal markets, as measured by guns reported stolen to FBI/NCIC.

We carried out two kinds of analyses of assault weapon use:

- Graphical and tabular analyses of 1992–96 trends in requests for BATF traces of assault weapons recovered in crime, in both absolute terms and as a percentage of all requests;

⁸ While unbanned, widely available, inexpensive semiautomatic pistols made by Lorcin, Davis, and other manufacturers are good (and perhaps superior) substitutes for the banned assault weapons in most criminal uses, they are not substitutes for speculative purposes.

⁹ During the project, we abandoned early plans for several additional impact studies that we had contemplated. It proved impossible to analyze trends in enforcement of the ban because of the small numbers of matters referred to U.S. Attorneys and cases filed in U.S. District Court. We were forced to abandon plans to measure secondary-market prices of banned weapons from classified advertisements for two reasons: back issues of consumer classifieds proved unavailable, and the ads describe the weapons too imprecisely for consistent classification. Finally, we dropped plans to analyze multi-city assault weapon use data from the gun module of the Drug Use Forecasting (DUF) program for two reasons. Data exist only for the post-ban period, and we had concerns about the validity of respondents’ reports of assault weapon ownership and use.

- Pre-ban/post-ban comparisons and time series analyses of 1992–96 trends in counts of guns recovered in crime by selected local law enforcement agencies.

We carried out the following analyses of the consequences of using assault weapons and semiautomatics with large-capacity magazines in crime:

- An analysis of state-level time-series data on gun murders which controls for potential influences of legal, demographic, and criminological importance;
- Pre-ban/post-ban comparisons and time series analyses of 1980–95 trends in victims per gun-homicide incident as measured nationally from Supplementary Homicide Reports;
- Descriptive analysis of the use of assault weapons in mass murders in the U.S. from 1992-present (see Appendix A);
- Graphical analyses and pre-ban/post-ban comparisons of 1992–96 trends in the number of wounds per gunshot victim using medical data from medical examiners and one hospital emergency department in selected cities, following Webster et al. (1992) and McGonigal et al. (1993);
- A tabular analysis of 1992–96 trends in law enforcement officers killed in action (LEOKA) with assault weapons.

3.2.1. Threats to Validity and Use of Comparison Groups

The validity of the techniques we applied depends on comparisons of trends between meaningful treatment and comparison groups, and we used two approaches to defining comparison groups. In general, to estimate ban effects on markets and uses, we compared trends between types of guns and magazines that were differentially affected by the ban. To estimate effects on the consequences of assault weapon use, we used pre-existing state-level bans on assault weapons and juvenile handgun possession to define comparison groups, because we assumed that such laws would attenuate the effects of the Federal ban.¹⁰

Table 3-1 describes our general classification scheme for types of guns affected by the ban and the corresponding comparison groups.¹¹ The comparisons are not always precise, and, as later chapters will make clear, they differ from measure to measure depending on the gun descriptors used in available databases.

¹⁰ Although in theory, comparisons of markets and uses could be made simultaneously by weapon and jurisdiction, the disaggregation often leaves too little data for meaningful analysis.

¹¹ To be considered a potential comparison gun, we had to have at least anecdotal evidence that it had appeal beyond the community of sportsmen and collectors and/or evidence that it was among the 50 guns most commonly submitted for BATF traces. Without that constraint, it would have been unreasonable to consider it as being functionally similar to any banned gun, and data on prices and uses would have involved numbers too small to analyze. The trade-off is that the comparison guns may well have been subject to indirect substitution effects from the ban.

Table 3-1. Banned weapons and examples of unbanned comparison weapons

<i>Banned weapon</i>	<i>Examples of Comparison weapon</i>
<u>Named Domestic Assault Pistols</u> -SWD M-10, M-11, M-11/9, M-12, exact copies under other names, legal substitutes -TEC-9, TEC-DC9, TEC-22, exact copies by AA Arms, legal substitutes <u>Named Domestic Assault Rifles</u> -Colt AR-15, exact copies and legal substitutes <u>Named Foreign Assault Weapons</u> -UZI carbines and pistols -AK models <u>"Features Test" Guns</u> Calico Light Weapons pistols and rifles Feather rifles <u>Rare Banned Weapons</u> Beretta Ar-70, FN models, Steyr AUG, revolving cylinder shotguns	-Lorcin, Davis semiautomatic pistols (less expensive) -Glock, Ruger semiautomatic pistols (more expensive) -Ruger Mini-14 (unbanned domestic) -Maadi (legal import) -SKS (recently restricted, widely available import) See pistols and rifles above. No comparisons defined.

Of the banned weapons named in Table 3-1, the named domestic assault pistols are of greatest interest because they are more widely used in crime than rifles. We used two categories of pistols as comparison groups: the cheap small-caliber pistols by Lorcin and Davis that are among the most widely used guns in crime, and the more expensive Glock and Ruger pistols. The Glock and Ruger models took on additional significance by serving as indicators of non-banned handguns capable of accepting large-capacity magazines. For the AR-15 family of assault rifles, we used the Ruger Mini-14, SKS, and/or Maadi rifles in various comparisons. All are legally and widely available.

We performed relatively few comparative analyses of named foreign assault weapons, the UZI, Galil, and AK weapons, because the 1989 import ban limited their availability during our observation period, and their legal status was unchanged by the Title XI ban. Nevertheless, because these guns remain in criminal use, we performed price analyses for their large-capacity magazines, which are also widely available from foreign military surplus. The SKS semiautomatic rifle, which was imported from China and Russia in fairly large numbers¹² until recently, served as an unbanned comparison weapon for the banned foreign rifles. We carried out no analyses concerning the rarest assault weapons shown in Table 3-1.

Because few available databases relate the consequences of assault weapon use to the make and model of weapon, most of our analyses of consequences are based on treatment and comparison jurisdictions defined in terms of their legal environments. Four states — California, Connecticut, Hawaii, and New Jersey — already

¹² Although a 1994 ban on Chinese imports of many goods including firearms nominally covered SKS rifles, large numbers continued to enter the country under Craig Amendment exemptions for goods already "on the water" at the time of the import ban.

banned assault weapons before the Federal ban was enacted. Although state bans can be circumvented by interstate traffickers, we hypothesized that their existence would reduce the effects of the Federal ban in their respective states.

The following chapters report findings of the analyses described here. Each chapter also explains in detail the tailoring of this general analysis plan to data constraints associated with each comparison.

4. GUN AND MAGAZINE MARKET EFFECTS

The discussion of gun markets in Chapter 2 led us to several hypotheses. First, assuming that the primary and secondary markets were in equilibrium before Congress took up serious discussion of a ban on assault weapons and large-capacity magazines, we hypothesized that the opening of debate would stimulate speculative demand for the banned guns and magazines, leading to price increases in primary markets well in advance of the effective date of the ban. Second, we hypothesized that for the makes and models of assault weapons whose prices increased, quantities produced would also increase before the ban took effect. These “grandfathered guns” were exempted from the ban.

Having been advised by a gun market expert¹³ that legal substitutes for many of the banned weapons appeared in primary markets around the effective date of the ban, it seemed doubtful that the speculative pre-ban price increases could hold under the combined weight of stockpiled grandfathered guns and the flows of new legal substitute models. Therefore, our third hypothesis was that the post-ban prices of banned guns and their legal substitutes would return to their pre-debate equilibrium levels.

We presumed that assault weapons and large-capacity magazines are economic complements, so that, like bread and butter, an increase in the supply of either one should decrease its price and increase the price of the other. Therefore, our fourth hypothesis was that, for the oversupplied assault weapons and legal substitutes whose prices fell from their speculative peaks, their magazine prices¹⁴ should rise over time, as the stock of grandfathered magazines dwindled.

Finally, we believed that for banned makes and models whose prices experienced a speculative price bubble around the time of the ban and then returned to pre-ban levels, speculative demand would fall eventually in both primary and secondary markets as expectations receded for a price “rebound” in primary markets. In contrast, demand by ineligible purchasers intending to use the banned weapons in crime should be relatively unaffected. Therefore, at least in the short run, relative prices should rise in secondary markets, where such “crime demand” is concentrated. We could not directly observe secondary-market prices. However, a price rise in secondary relative to primary markets should cause increased “leakage” to secondary markets, reflected in rising theft reports of assault weapons during post-ban periods of low prices in primary markets.

The following sections report the methods we used to test these hypotheses about market effects of the ban, and our findings.

4.1. FINDINGS OF PRICE ANALYSIS

4.1.1. Collection of Price Data

To test our hypotheses about price trends, we sought to approximate the prices at which the banned items could be legally purchased throughout the country. After considering available data sources, we decided that monthly data would be sufficient and that the distributors’ prices advertised in national publications would offer a

¹³ William R. Bridgewater, personal communication, September 1995.

¹⁴ Magazines are make and model-specific, so that in general a magazine made for a specific rifle will not fit other rifles. However, a magazine made for a banned assault rifle like the Colt AR-15 will fit an exact copy like the Olympic Arms AR-15 and a legal substitute like the Colt AR-15 Sporter, which has the same receiver.

suitable index. Those prices are available to any FFL, and, as discussed in Chapter 2, primary-market FFLs generally re-sell within 15 percent of the distributors' price.

To collect the necessary data, we developed two forms. The first was designed to collect data on base price and accessorized price on 47 makes and models of guns. These included all guns named in Subtitle A along with selected legal substitutes and functional substitutes (e.g., low-capacity semiautomatic pistols that are commonly used in crimes). The second form recorded make, model, capacity, and price of any advertised large-capacity magazines. Both forms also recorded the distributors' names and, for verification purposes, a citation to the location of the advertisements.

We selected twelve gun and magazine distributors that had display ads on a monthly basis in *Shotgun News* throughout the entire period from April 1992 through June 1996. This period was selected to permit observation of rumored "Clinton election" price effects (i.e., increased speculative demand based on concern over possible new gun controls under a Democratic administration) as well as the entire period of debate over Subtitle XI and as long a post-ban period as possible. Display ad prices were coded on a monthly basis throughout the period except immediately around the ban, from August 1994 to October 1994, when prices were coded on a weekly basis to maximize statistical power during the period when we expected the largest price variances. The *Shotgun News* issue to be coded for each month was selected randomly, to avoid any biases that might have occurred if a particular part of the month was coded throughout the period. The number of advertised-price observations for any given gun varied from month to month over the period, as distributors chose to feature different makes and models. The number of price observations for a given make and model bears an unknown relationship to the number of transactions occurring at that price. The advertised prices should be considered approximations for at least three reasons. Advertised prices simultaneously represent wholesale prices to retail dealers and retail prices to "convenience dealers" who hold licenses primarily to receive guns for personal use by mail from out-of-state sources. There is anecdotal evidence of discounts from advertised prices for purchases in large quantities or by long-time friends of the distributors. Finally, the ads did not permit us to accurately record such price-relevant features as finish, included gun cases, and included magazines.

4.1.2. Analysis

Price trends for a number of firearms and large-capacity magazines were analyzed using hedonic price analysis (Berndt 1990, pp.102-149; also see Chow 1967). This form of analysis examines changes over time in the price of a product while controlling for changes over time in the characteristics (i.e., quality) of the product. Hedonic analysis employs a model of the form:

$$Y = a + b * X + c_1 * T_1 + \dots c_n * T_n + e$$

where Y is the logarithmic price of the product, X represents one or more quality characteristics affecting the price of the product, T_1 through T_n are dummy variables for the time periods of interest, a is an intercept term, and e is an error term with standard properties. The coefficients c_1 through c_n provide quality-adjusted estimates of changes over time in the price of the product.

In the analysis that follows, all price data were first divided by quarterly values of the gross domestic product price deflator as provided in *Economic Indicators* (August 1996). This quantity was then logged. In all models, we have omitted the time dummy for the period when the ban went into effect. Thus, the time coefficients are interpreted relative to the prices at the time of ban implementation. Because the outcome variable is logged, the coefficients on the time period indicators can be interpreted as multiplier effects (we illustrate this in more

detail below). Whenever possible, we examined quarterly price trends. In a number of instances, however, sample size considerations required us to use semi-annual or annual periods.

Our quality variables correspond to factors such as manufacturer, model, distributor, and, in some cases, weapon caliber. In addition, some of the models include an indicator variable denoting whether the firearm had special features or enhancements or was a special edition of any sort.¹⁵ We have used these variables as proxy variables for quality characteristics in the absence of more detailed measures of weapon characteristics. Further, we cannot fully account for the meaning of significant distributor effects. Distributor effects may represent unmeasured quality differentials in the merchandise of different distributors, or they may represent other differences in stock volume or selling or service practices between the distributors.¹⁶ Nevertheless, we included distributor because it was often a significant predictor of price. Thus, our models provide price trends after controlling for the mix of products and distributors advertised during each time period. Finally, the models presented below are parsimonious models in which we have retained only those quality indicators which proved meaningful in preliminary analyses.¹⁷

4.1.2.1. Gun Prices

For the analysis of firearm prices, we chose groups of weapons based on both theoretical importance and data availability (a number of the guns included on our coding form appeared infrequently in the ads examined by project staff). We examined price trends in banned assault pistols and compared them to price trends for unbanned semiautomatic handguns commonly used in crime. In addition, we analyzed the price trend for the banned AR-15 assault rifle and its variations and compared it to trends for a number of similar semiautomatic rifles not subject to the ban.

Our findings for handguns were consistent with our hypotheses. For the banned SWD group of assault pistols, the average advertised price peaked at the time the ban took effect, having risen from 68 percent of the peak a year earlier; within a year, the mean price fell to about 79 percent of peak. In contrast, advertised prices of unbanned Davis and Lorcin semiautomatic pistols commonly used in crime were essentially constant over the entire period.

Rifle price trends were only partially consistent with our hypotheses. For semiautomatic rifles, prices of both the banned AR-15 family of assault rifles and a comparison group of unbanned semiautomatic rifles showed evidence of speculative peaks around the time the ban took effect, followed by a decrease to approximately pre-speculation levels.

We interpret these findings as evidence of substantial speculative pre-ban demand for guns that were expected to be banned as assault weapons, while the underlying primary market for guns more commonly used in crime remained stable. While no plausible definition of assault weapon was ever likely to include the Davis and

¹⁵ We note, however, that recording special features of the weapons was a secondary priority in the data collection effort; for this reason, and because the ads do not follow a consistent format, this information may not have been recorded as consistently as other data elements.

¹⁶ We have heard speculations but have no evidence that distributors' prices for a given quantity of a specific gun may be inversely related to the rigor of their verification of purchasers' eligibility.

¹⁷ We eliminated control variables that had t values less than one in absolute value. This generally improved the standard errors for the coefficients of interest (i.e., the coefficients for the time period indicators).

Lorcin pistols, Lenett (1995) describes considerable uncertainty during the Crime Act debate over precisely which rifles were to be covered.

Assault pistols: The analysis of assault pistol prices focused on the family of SWD M10/M11/M11-9/M12 weapons.^{18 19} Our coders did not find enough ads for these weapons to conduct a quarterly price trend analysis; therefore, we examined semi-annual prices. Results are shown in Table 4-1. In general, the M10, M11, and M11/9 models were significantly more expensive than the M12 model and the new PM11 and PM12 models. Models with the Cobray trademark name had lower prices, while weapons made in .380 caliber commanded higher prices. Finally, two distributors selling these weapons had significantly lower prices than did the other distributors.

¹⁸ Over the years, this class of weapons has been manufactured under a number of different names (i.e., Military Armaments Corp., RPB Industries, Cobray, SWD, and FMJ).

¹⁹ Initially, we had also wished to analyze the prices of banned Intratec weapons and their copies. However, project staff found few ads for these guns among the chosen distributors, particularly in the years prior to the ban's implementation.

Table 4-1. Regression of SWD handgun prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	16	16.26086	1.01630	13.376	0.0001
Error	132	10.02900	0.07598		
C Total	148	26.28986			
Root MSE		0.27564		R-square	0.6185
Dep Mean		0.87282		Adj R-square	0.5723
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	1.00876	0.073205	13.78	0.0001
T1	1	-0.17097	0.130798	-1.307	0.1935
T2	1	-0.29236	0.109943	-2.659	0.0088
T3	1	-0.26949	0.078477	-3.434	0.0008
T4	1	-0.38309	0.086909	-4.408	0.0001
T5	1	-0.1881	0.12957	-1.452	0.1489
T7	1	-0.04368	0.076185	-0.573	0.5674
T8	1	-0.23376	0.108602	-2.152	0.0332
T9	1	0.108787	0.205848	0.528	0.5981
CAL380	1	0.200609	0.06946	2.888	0.0045
DIST 3	1	-0.26216	0.128954	-2.033	0.0441
DIST 5	1	0.331378	0.224065	1.479	0.1415
DIST 6	1	-0.18987	0.059367	-3.198	0.0017
COBRAY	1	-0.18832	0.053756	-3.503	0.0006
M10	1	0.771313	0.131932	5.846	0.0001
M11	1	0.308675	0.057351	5.382	0.0001
M119	1	0.110174	0.077347	1.424	0.1567

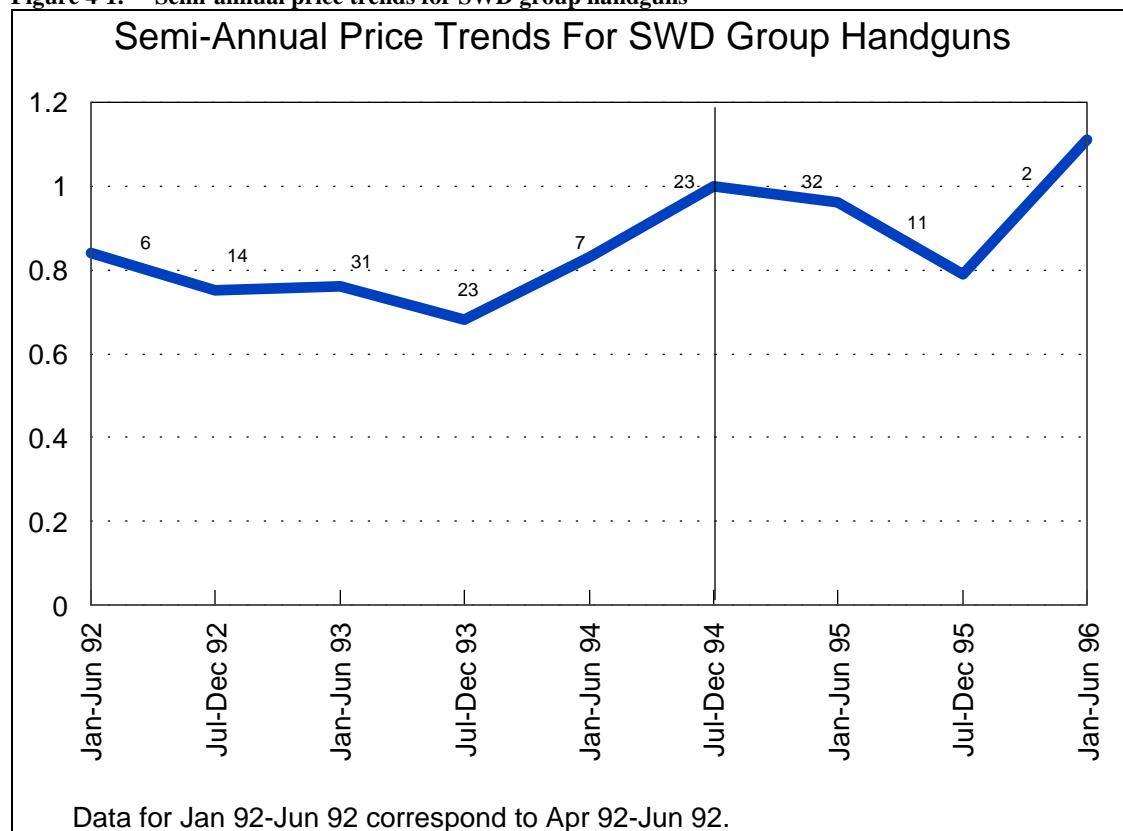
The coefficients for the time indicator variables provide quality-adjusted price trends. The time indicator t_6 has been omitted from the equation.²⁰ This indicator corresponds to the period of July 1994 through December 1994 which encompasses the ban implementation date of September 13, 1994. The coefficients on the time dummy variables are all negative and most are significant, indicating that prices for these weapons were at their highest during the six month period when the ban took effect. To interpret the time variables, we exponentiate the coefficients (i.e., take their antilogs). To illustrate, the coefficient for the first time period (January 1992 through June 1992) is -0.170966.²¹ Exponentiating this coefficient yields approximately 0.84, indicating that the average price of these weapons at time 1 (January 1992 through June 1992) was 84 percent of the average price at time 6

²⁰ In this and all other price analyses, time dummies are defined to omit the time period that includes the effective date of the ban. This restricts the coefficient to 0 and $\exp(0) = 1$. Therefore, the effective date is the reference period for prices in all other periods.

²¹ Data collection began with April 1992 issues of Shotgun News. Consequently, the first data point is based on data for April through June of 1992 rather than a full six-month period.

(July 1994 through December 1994). Conversely, the average quality-adjusted price of these firearms was 17 percent less during the January 1992-June 1992 period than during the July 1994-December 1994 period.

Figure 4-1. Semi-annual price trends for SWD group handguns



The time effects are displayed graphically in Figure 4-1 (sample sizes are shown for each time period).²² During the semi-annual periods prior to the ban's implementation, prices of these weapons ranged from 68 to 83 percent of their price during the period of the ban's implementation. Prices peaked when the ban became effective in the latter part of 1994 and remained high through the first half of 1995. In the second half of 1995, however, the prices dropped off dramatically, falling to levels comparable to the pre-ban period. Prices may have rebounded again during the first half of 1996, but the apparent "rebound" was based on only two advertisements and should be treated very cautiously. If one assumes that wholesale markets were in equilibrium before debates about the ban started, then these data reflect a ban-related, speculative peak of up to 47 percent in price, followed by a decline of about 20 percent. Parenthetically, we note that contrary to some anecdotes, we found no evidence of speculation related to the 1992 election.

Comparison handguns: For comparison, we also examined price trends for a number of unbanned semiautomatic handgun models: the Davis P32 and P380 and the Lorcin L25 and L380. By a number of accounts, these models are among the guns most frequently used in crime (BATF 1995; Kennedy et al. 1996; Wintemute 1994, Chapter 2 *supra*). Because of small sample size, this model was estimated using semi-annual data spanning from 1992 through 1995. Referring to Table 4-2, two of the handgun models were significantly less expensive than the others, and one distributor offered statistically significant discounts for these guns.

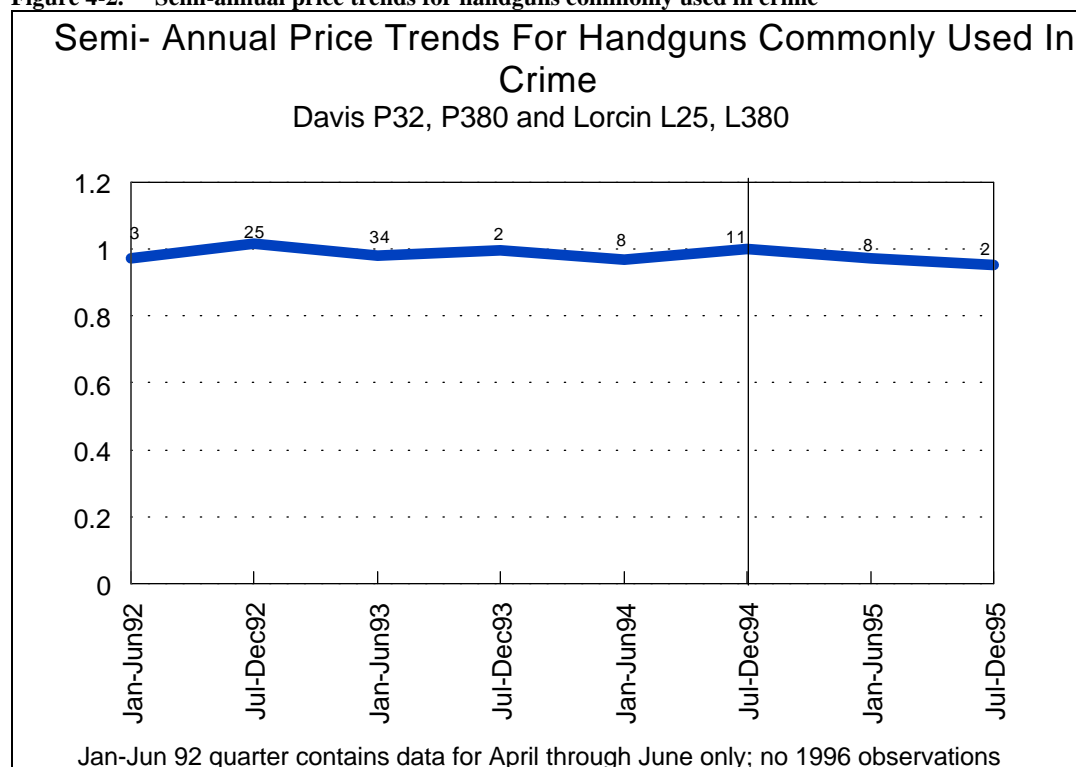
²² Sample sizes are defined in terms of number of price observations available during the period. The number of transactions that took place at each recorded price is, of course, unavailable to us.

Table 4-2. Regression of Lorcin and Davis handgun prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	11	3.60246	0.32750	30.678	0.0001
Error	81	0.86469	0.01068		
C Total	92	4.46716			
Root MSE		0.10332		R-square	0.8064
Dep Mean		-0.60396		Adj R-square	0.7801
C.V.		-17.10713			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	-0.44243	0.034043	-12.996	0.0001
T1	1	-0.03004	0.069877	-0.43	0.6684
T2	1	0.014817	0.040258	0.368	0.7138
T3	1	-0.0198	0.037239	-0.532	0.5964
T4	1	-0.00259	0.082314	-0.031	0.975
T5	1	-0.03162	0.048582	-0.651	0.517
T7	1	-0.02753	0.048576	-0.567	0.5724
T8	1	-0.05041	0.082314	-0.612	0.542
P32	1	-0.22559	0.033404	-6.753	0.0001
L25	1	-0.55562	0.034119	-16.285	0.0001
DIST 2	1	-0.06434	0.030256	-2.127	0.0365
DIST 6	1	-0.05723	0.042414	-1.349	0.181

The time period coefficients indicate that prices for these weapons were unaffected by the assault weapons ban. Most of the time dummies have negative signs, but their t score values are very small, indicating that prices during these periods did not differ meaningfully from those at the time when the ban was implemented. This is underscored graphically in Figure 4-2.

Figure 4-2. Semi-annual price trends for handguns commonly used in crime



Assault rifles: To investigate the ban's effect on assault rifle prices, we examined quarterly price trends for the Colt AR15 family, which includes the AR15 as well as Colt's Sporter, H-Bar, and Target models.²³ Referring to Table 4-3, the AR15 model was more expensive than other models. Further, guns which had special features/enhancements or a special designation of some sort had somewhat higher prices. Models in 7.62mm caliber were lower in price than other models, though this effect was not quite statistically significant. Finally, one distributor stood out as having lower prices than other distributors.

²³ A number of other manufacturers also made exact copies of the Colt AR15 (e.g., Essential Arms, Olympic Arms, and SGW Enterprises). We included a number of these copies on our price coding form before the ban and legal substitutes thereafter, but we did not find advertisements for these non-Colt versions in *Shotgun News*.

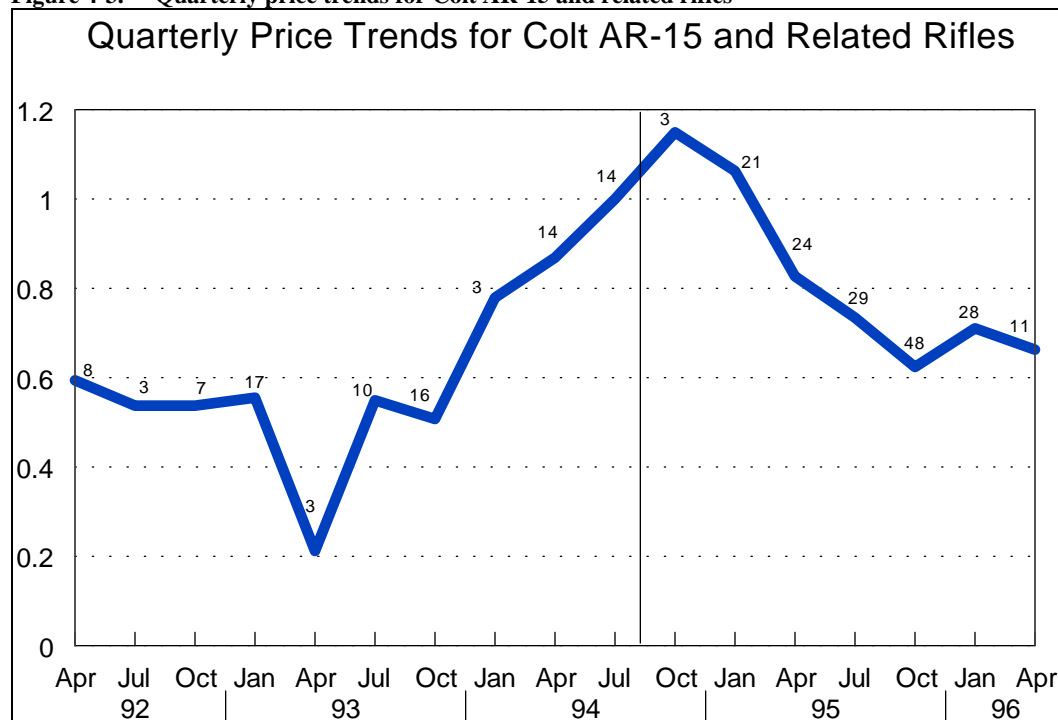
Table 4-3. Regression of Colt AR15 group prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	23	21.67729	0.94249	18.161	0.0001
Error	235	12.19537	0.05190		
C Total	258	33.87266			
Root MSE		0.22781		R-square	0.6400
Dep Mean		2.13335		Adj R-square	0.6047
C.V.		10.67826			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	2.714668	0.066599	40.762	0.0001
Q1	1	-0.52079	0.107749	-4.833	0.0001
Q2	1	-0.62023	0.149137	-4.159	0.0001
Q3	1	-0.62368	0.116786	-5.34	0.0001
Q4	1	-0.58506	0.083154	-7.036	0.0001
Q5	1	-1.54569	0.150793	-10.25	0.0001
Q6	1	-0.60339	0.095035	-6.349	0.0001
Q7	1	-0.68488	0.084707	-8.085	0.0001
Q8	1	-0.25158	0.14673	-1.715	0.0877
Q9	1	-0.14066	0.087217	-1.613	0.1081
Q11	1	0.143282	0.148951	0.962	0.3371
Q12	1	0.059189	0.082263	0.72	0.4725
Q13	1	-0.18904	0.07715	-2.45	0.015
Q14	1	-0.3144	0.075984	-4.138	0.0001
Q15	1	-0.46528	0.069595	-6.686	0.0001
Q16	1	-0.33741	0.079461	-4.246	0.0001
Q17	1	-0.40788	0.093078	-4.382	0.0001
DIST 5	1	-0.16586	0.044717	-3.709	0.0003
SPORTERL	1	-0.26691	0.042783	-6.239	0.0001
SPORTERC	1	-0.27709	0.057987	-4.778	0.0001
MATCH H-BAR	1	-0.28594	0.041454	-6.898	0.0001
TARGET	1	-0.30664	0.05565	-5.51	0.0001
FEATURE	1	0.1039	0.040315	2.577	0.0106
CAL762	1	-0.14924	0.092373	-1.616	0.1075

Turning to the quarterly indicator variables, the omitted period is quarter ten (July 1994 through September 1994). Most of the quarterly dummy variables have coefficients which are negative and significant, indicating that prices rose significantly at the time of the ban's implementation. Indeed, prices during the 1992–93 period were 41 to 79 percent lower than those at the time of the ban. The prices then began rising during 1994 and peaked during the quarter after the ban's implementation (however, prices during the latter period were not significantly different from those when the ban went into effect). These data reflect price increase of 69 to 100 percent over typical quarters during the 1992–93 period, and a 376 percent increase over the lowest price quarter during that period.

Quality-adjusted prices began to fall significantly during the second quarter of 1995. During the first two quarters of 1996, prices were 29 to 33 percent less than at the time of the ban.²⁴ These trends are illustrated in Figure 4-3.²⁵

Figure 4-3. Quarterly price trends for Colt AR-15 and related rifles



Other Semiautomatic Rifles: A comparison price series was constructed for a small number of semiautomatic rifles not prohibited by the ban. The rifles selected for this analysis, the Ruger Mini-14 and Maadi rifles are arguably useful substitutes for the banned rifles for many purposes. The Mini-14 is a semiautomatic rifle which is relatively common among guns submitted to ATF for tracing.²⁶ The Maadi is an Egyptian semiautomatic rifle which is loosely patterned after the AK-47, but it is a legal gun, according to BATF experts.

²⁴ Colt has discontinued its AR15 models, but the company has continued to make post-ban, modified versions of other weapons in the AR15 family (e.g., the Sporter). We considered the possibility that the AR15 model would follow a different pre/post ban trend from the other Colt models. Based on the number of available observations, we estimated a yearly model for the AR15. Yearly prices for the AR15 followed the same basic pattern as did the entire AR15 group. Relative to 1994, prices for the AR15 were 57 percent lower in 1993 ($p < .01$), 39 percent lower in 1995 ($p = .02$), and 37 percent lower in 1996 ($p = .06$). In addition, we estimated a model containing dummy variables for the AR15 and the post-ban period and an interaction term between these dummy variables (no other time period dummies were included in the model). The interaction term was very small and insignificant, leading us to include that the price differential between the AR15 model and the other Colt models remained constant throughout the period under study.

²⁵ Because some quarterly estimates were based on very small numbers of advertisements, the exact values of the quarterly coefficients should be treated cautiously. Nevertheless, a semi-annual model produced the same pattern of results.

²⁶ Based upon figures provided by ATF, the Mini-14 ranked as the 23rd most common firearm submitted to ATF for tracing in 1992 and the 36th most common firearm submitted in 1993. The Ruger Mini-14 was also featured as a common assault weapon in an early study of assault weapons published by *Cox Newspapers* (1989). However, the Crime Act specifically exempts Mini-14's without folding stocks from assault weapons status.

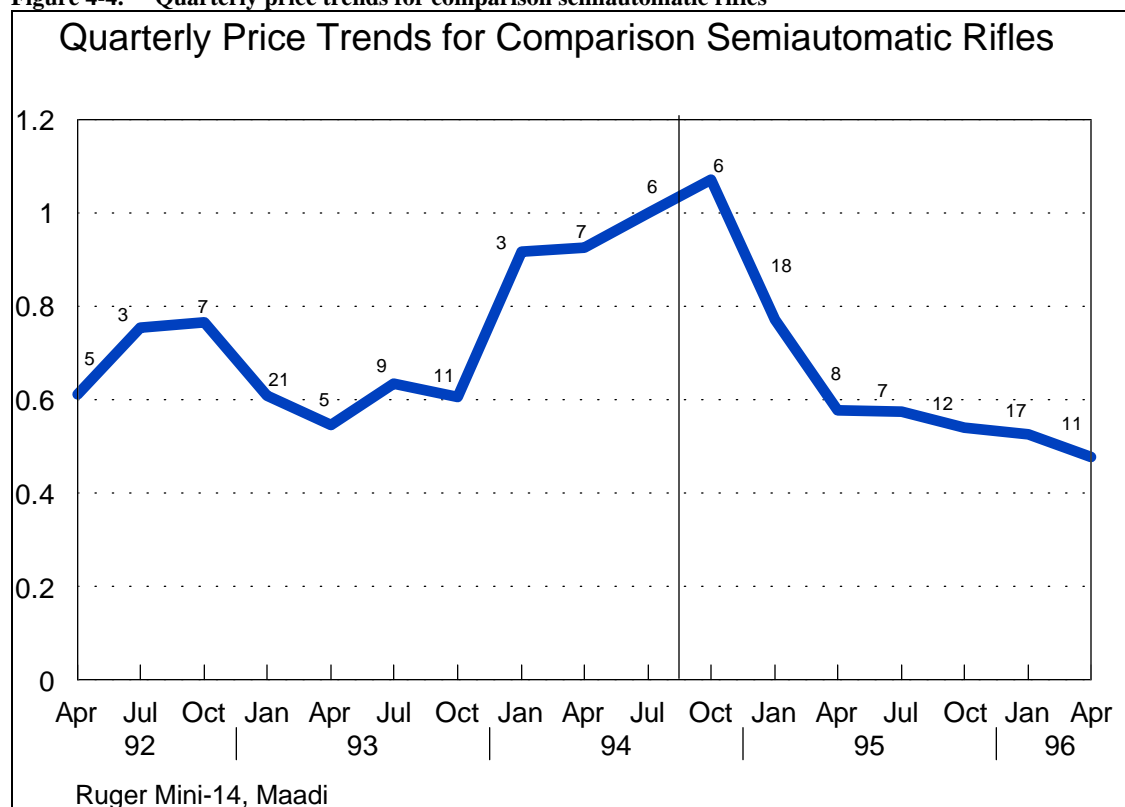
Further, the Maadi rifle has not been affected by import restrictions as have a number of other potential substitute rifles.

Table 4-4 and Figure 4-4 present trends for prices of these rifles (N=156) measured on a quarterly basis. The Ruger Mini-14 was significantly more expensive than was the Maadi, and a number of distributors had substantially lower or higher prices for these weapons. Guns having some sort of special feature or classification were somewhat less expensive than were other weapons.

Table 4-4. Regression of Ruger Mini-14 and Maadi rifle prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	23	15.72251	0.68359	12.468	0.0001
Error	132	7.23741	0.05483		
C Total	155	22.95993			
Root MSE		0.23416		R-square	0.6848
Dep Mean		1.11132		Adj R-square	0.6299
C.V.		21.06999			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	1.348039	0.096025	14.038	0.0001
Q1	1	-0.49339	0.150985	-3.268	0.0014
Q2	1	-0.28143	0.170394	-1.652	0.101
Q3	1	-0.26618	0.145198	-1.833	0.069
Q4	1	-0.49586	0.1189	-4.17	0.0001
Q5	1	-0.60429	0.149813	-4.034	0.0001
Q6	1	-0.45337	0.12651	-3.584	0.0005
Q7	1	-0.50108	0.123093	-4.071	0.0001
Q8	1	-0.08801	0.166538	-0.528	0.598
Q9	1	-0.07736	0.131103	-0.59	0.5561
Q11	1	0.06801	0.139693	0.487	0.6272
Q12	1	-0.26056	0.114103	-2.284	0.024
Q13	1	-0.55108	0.128193	-4.299	0.0001
Q14	1	-0.5565	0.137519	-4.047	0.0001
Q15	1	-0.61763	0.120067	-5.144	0.0001
Q16	1	-0.64124	0.119303	-5.375	0.0001
Q17	1	-0.73806	0.123765	-5.963	0.0001
RUGER	1	0.672197	0.055061	12.208	0.0001
DIST 2	1	-0.17779	0.079666	-2.232	0.0273
DIST 3	1	-0.08717	0.054575	-1.597	0.1126
DIST 4	1	-1.66399	0.242712	-6.856	0.0001
DIST 5	1	-0.19243	0.0727	-2.647	0.0091
DIST 7	1	0.235402	0.131826	1.786	0.0764
FEATURES	1	-0.08813	0.047131	-1.87	0.0637

Figure 4-4. Quarterly price trends for comparison semiautomatic rifles



The temporal price trends for these weapons mirror those found for the AR15 family rifles. Relative to the period of the ban's implementation, prices were significantly lower during periods before and after the ban's implementation. During 1992 and 1993, prices ranged from 23 to 45 percent lower than during the reference period. Prices were at their highest during 1994, with the peak occurring during the quarter following the ban's effective date, reflecting an increase of 82 percent from the 1992–93 low point to the immediate post-ban period. However, prices for the first, second, and fourth quarters of 1994 were not discernibly different from those during the third quarter. Prices began to fall significantly in 1995, and by the second quarter of 1996, prices were approximately 52 percent lower than during the quarter when the ban took effect.²⁷

Alternative Comparison for Semiautomatic Rifles: As a final test of price trends for potential substitute semiautomatic rifles, we added the SKS rifle to the semiautomatic rifles model. The SKS rifle is imported (there are Russian and Chinese versions) and is occasionally mistaken for an AK-47. The SKS was not covered by either the 1989 import ban or the Crime Act. We initially excluded it as a comparison semiautomatic rifle because importation was nominally restricted in 1994 as part of U.S. trade sanctions directed against China. However, SKS rifles have continued to enter the U.S. under the Craig Amendment exemption for goods already “on the water” when the trade sanctions were imposed. We added it to subsequent analysis because it has been relatively

²⁷ Because some of the quarterly periods yielded few observations, we also estimated a semi-annual model for these gun prices. The results of this model paralleled those of the quarterly model; prices were at their highest during the latter half of 1994 and were significantly lower throughout 1992, 1993, 1995, and early 1996.

common among gun traces submitted to BATF²⁸ and because our coders found over 550 ads for SKS rifles, making that gun the most frequently advertised weapon in *Shotgun News* from among those guns chosen for the analysis.

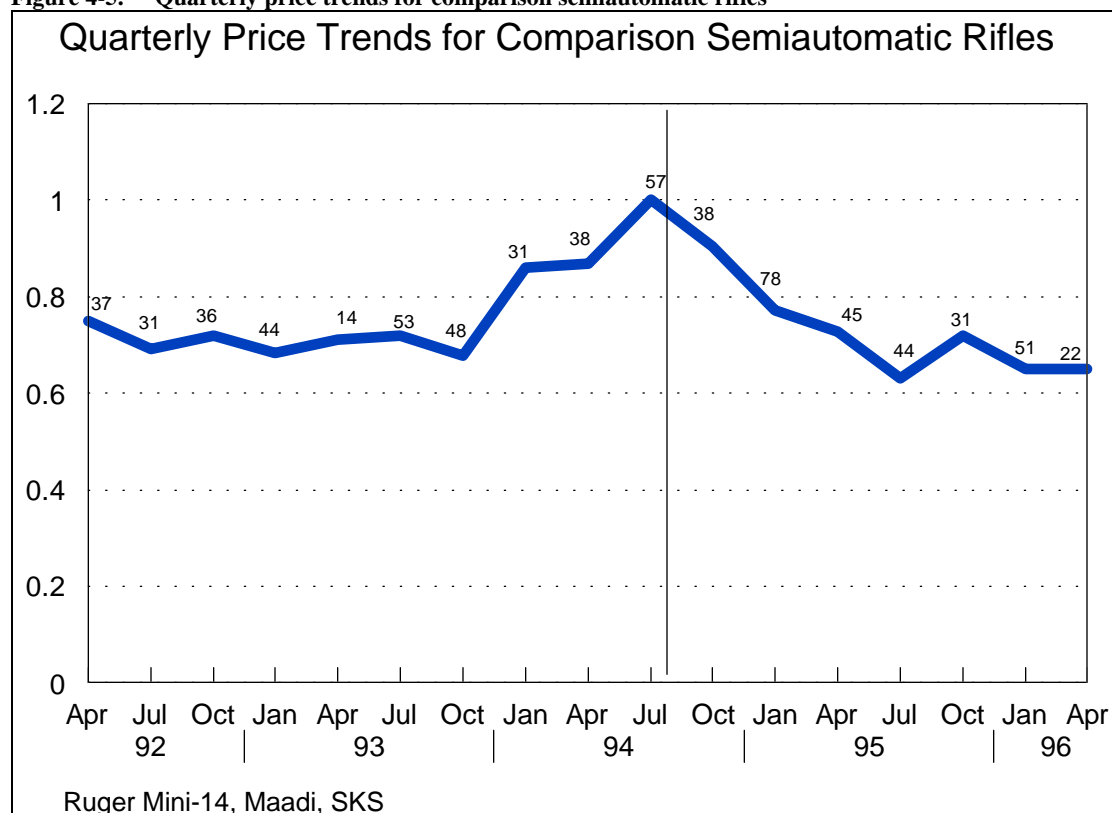
Results from a quarterly price trend model for 698 SKS, Ruger Mini-14, and Maadi AK-type advertisements are presented in Table 4-5 and Figure 4-5. Again, the results indicate that prices were highest during 1994 and peaked during the quarter of the ban's implementation (quarter ten). Prices during the 1992–93 period were generally 32 to 25 percent less than they were during the quarter of the ban's implementation. Following the ban, however, prices fell rather quickly, and by 1996 they were approximately 35 percent less than they had been at the time of the ban.

²⁸ Figures provided to us by BATF show that the SKS was the 10th most common firearm traced in 1992 and the 4th most common in 1993.

Table 4-5. Regression of Ruger Mini-14, Maadi, and SKS rifle prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	19	145.53206	7.65958	105.960	0.0001
Error	678	49.01094	0.07229		
C Total	697	194.54300			
Root MSE		0.26886		R-square	0.7481
Dep Mean		0.32139		Adj R-square	0.7410
C.V.		83.65546			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	0.320571	0.037047	8.653	0.0001
Q1	1	-0.29288	0.056985	-5.14	0.0001
Q2	1	-0.36758	0.060234	-6.103	0.0001
Q3	1	-0.32732	0.057937	-5.65	0.0001
Q4	1	-0.37657	0.056037	-6.72	0.0001
Q5	1	-0.33581	0.08099	-4.146	0.0001
Q6	1	-0.32629	0.051373	-6.351	0.0001
Q7	1	-0.39266	0.052767	-7.441	0.0001
Q8	1	-0.15306	0.060298	-2.538	0.0114
Q9	1	-0.13647	0.056349	-2.422	0.0157
Q11	1	-0.09587	0.056591	-1.694	0.0907
Q12	1	-0.25553	0.047168	-5.417	0.0001
Q13	1	-0.32473	0.053753	-6.041	0.0001
Q14	1	-0.457	0.054492	-8.387	0.0001
Q15	1	-0.32702	0.06053	-5.403	0.0001
Q16	1	-0.43303	0.052708	-8.216	0.0001
Q17	1	-0.42588	0.068581	-6.21	0.0001
MAADI	1	0.855348	0.032324	26.462	0.0001
RUGER	1	1.363013	0.036904	36.934	0.0001
FEATURES	1	0.093431	0.02203	4.241	0.0001

Figure 4-5. Quarterly price trends for comparison semiautomatic rifles



4.1.3. Magazine Prices

Since the Crime Act permanently capped the stock of large-capacity magazines at the number produced before September 13, 1994, our long-run expectations about price trends for the banned magazines depend on whether or not the ban prevented increases in the supply of “compatible” guns that accept the magazine. For compatible guns whose supply continued to increase — such as the unbanned Ruger Mini-14 rifle and Glock pistols and the AR-15 family of rifles, for which legal substitutes emerged — we expect a gradual long-run increase in the price of the large-capacity magazines. Only for compatible guns such as Uzi models, whose supply was capped because legal substitutes did not emerge, do we expect stable or declining long-run magazine prices as the operational stock of banned guns gradually declines.

In the short run, which is all we can observe at this time, we expect at least three confounding factors to divert large-capacity magazine prices from these trends. First, as with the banned guns, speculative demand for the banned magazines may have caused prices to rise and then fall around the time of the ban. Second, because guns and magazines are economic complements, their prices may be likely to move in opposite directions. Third, for banned guns such as the AR-15 and Uzi models, which are mechanically identical to military weapons, there are military surplus supplies that we believe are huge relative to civilian demand. For these reasons, short-run price trends are a poor guide to long-run price trends for large-capacity magazines.

With these reservations in mind, we examined price trends for large-capacity magazines (i.e., magazines holding more than 10 rounds) manufactured for use with banned firearms and compared them to trends for large-capacity magazines made for unbanned semiautomatic weapons. Selection of firearm models was based on both theoretical relevance and available sample sizes. To improve the generalizeability of the results, we attempted to

analyze magazine prices for both handguns and long guns and for both banned and non-banned weapons. The methodology for the magazine price analysis was essentially the same as that used in the firearm price analysis.²⁹ As in the firearm price analysis, our quality control variables consisted primarily of indicator variables corresponding to manufacturers and distributors. An additional key variable for the magazine analysis was the number of rounds held by the magazine (logged).³⁰

Assault weapon handgun magazines—Uzi: Our analysis of large-capacity magazines prices for assault weapons focused upon the 9mm Uzi handgun.³¹ Though importation of the Uzi handgun had been discontinued in 1993 (Fjestad 1996, p.1049), our coders found ads for Uzi magazines (N=117) more frequently than for other assault weapon handguns.³² Even so, the number of observations was as low as 1-2 for some quarterly periods, and we therefore grouped the data into semi-annual time periods. There is no legal substitute for the banned Uzis that accepts the same magazine.

Regression results for Uzi magazine prices are presented in Table 4-6 and price trends are displayed in Figure 4-6. Controlling for the number of rounds held by the magazine, semi-annual prices during the January 1992 through June 1994 period ranged from approximately 52 to 62 percent of their value during the latter half of 1994. Prices peaked in the first half of 1995, rising another 56 percent, to a tripling of their 1992–94 lowest prices. Prices began to fall in the latter half of 1995 and the first half of 1996, but they did not differ significantly from prices during the latter half of 1994.

²⁹ Project staff recorded information on all advertisements for magazines holding more than 10 rounds which appeared in the selected issues of *Shotgun News*. However, the volume of collected data required us to pursue a data reduction strategy. Based on informal inspection of the hardcopy data, therefore, we chose a group of magazines which appeared relatively more frequently and which had relevance as a banned weapon or legal substitute.

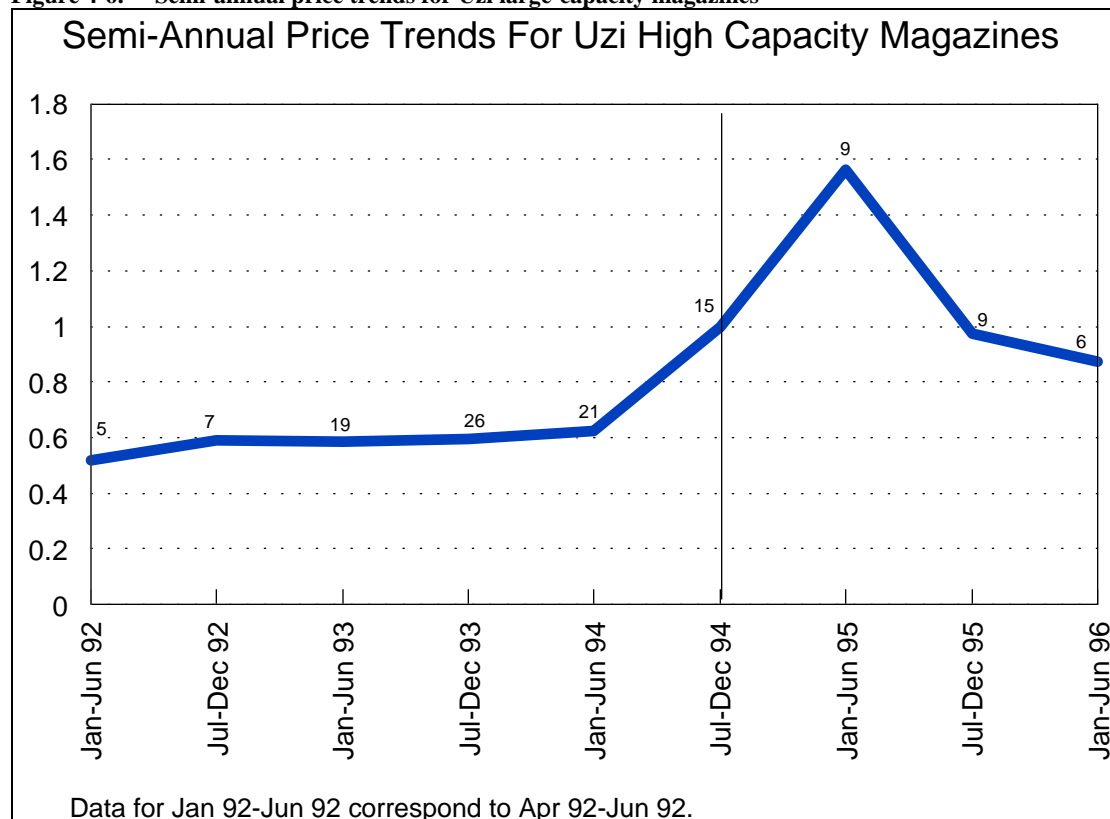
³⁰ Other potentially important characteristics are whether the magazine was new or used and the type of metal from which the magazine was made. Ads often did not state whether magazines were new or used, and our research staff did not record this information. Our working assumption is that the magazines were new or in good working condition. If an ad featured the same magazine manufactured with different types of metals, we used the base price magazine. If the coding form indicated that the advertisement featured only magazines made from special materials (e.g., stainless steel), we made note of this characteristic. There were very few such cases, and preliminary analyses using an indicator variable for the presence of a special metal showed the variable to have no impact in any of the models discussed in the main text.

³¹ The Uzi was previously manufactured and imported to the U.S. in both carbine and handgun versions, but the carbine versions were banned from importation in 1989.

³² The relative frequency of Uzi magazine advertisements is probably due to the fact that the Uzi is a military weapon. Firearms experts have informed us that good quality, military surplus magazines are commonly available and are often sold cheaply.

Table 4-6. Regression of Uzi large-capacity magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	9	12.80484	1.42276	9.670	0.0001
Error	107	15.74298	0.14713		
C Total	116	28.54782			
Root MSE		0.38358		R-square	0.4485
Dep Mean		-1.65739		Adj R-square	0.4022
C.V.		-23.14337			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	-3.835055	0.54716949	-7.009	0.0001
ROUNDS	1	0.729783	0.15350538	4.754	0.0001
T1	1	-0.661263	0.19914123	-3.321	0.0012
T2	1	-0.525479	0.17560540	-2.992	0.0034
T3	1	-0.536934	0.13325422	-4.029	0.0001
T4	1	-0.515880	0.12659037	-4.075	0.0001
T5	1	-0.474834	0.12970256	-3.661	0.0004
T7	1	0.447430	0.16646042	2.688	0.0083
T8	1	-0.027967	0.16286070	-0.172	0.8640
T9	1	-0.137577	0.18908164	-0.728	0.4684

Figure 4-6. Semi-annual price trends for Uzi large-capacity magazines

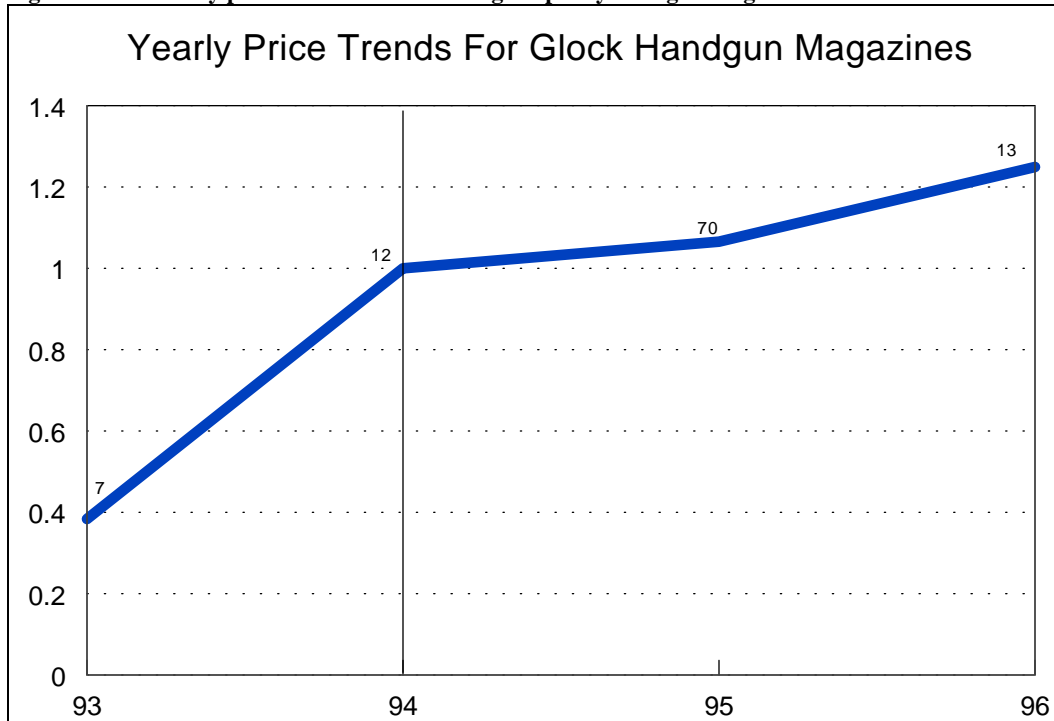
Other Handgun Magazines: To provide price trends for large-capacity magazines manufactured for non-banned handguns, we examined large-capacity magazines for Glock 9mm handguns. Prior to the Crime Act, Glock sold several handgun models with large-capacity magazines. The most common, the Glock 17, was among the ten firearm models submitted most frequently to ATF for tracing in 1994 (BATF 1995a). Guns currently manufactured by Glock are capable of accepting Glock's pre-ban large-capacity magazines, but the supply is limited to magazines made before the ban.

Project staff found 74 advertisements for Glock magazines, but the large majority of these ads were placed after the ban (only nine ads were pre-ban) and there were no ads for 1992. It was therefore necessary to group the advertisements into yearly periods rather than quarterly or semi-annual periods. Regression results and price trends for 1993 through 1996 are shown in Table 4-7 and Figure 4-7 respectively. In general, magazines with greater numbers of rounds were more expensive. In addition, a number of distributors had higher prices for these magazines, and magazines for one particular model were more expensive at a moderate level of statistical significance.³³

³³ For the model dummy variables, the excluded category included magazines for which no model was indicated.

Table 4-7. Regression of Glock large-capacity handgun magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	10	29.85755	2.98575	28.020	0.0001
Error	91	9.69680	0.10656		
C Total	101	39.55434			
Root MSE		0.32643		R-square	0.7548
Dep Mean		-0.86656		Adj R-square	0.7279
C.V.		-37.66991			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	-3.37422	0.56384	-5.984	0.0001
ROUNDS	1	0.618327	0.197724	3.127	0.0024
Y93	1	-0.95884	0.17246	-5.56	0.0001
Y95	1	0.064606	0.108817	0.594	0.5542
Y96	1	0.2227	0.143595	1.551	0.1244
DIST 10	1	0.529244	0.279526	1.893	0.0615
DIST 12	1	0.601322	0.162505	3.7	0.0004
DIST 3	1	0.37606	0.17071	2.203	0.0301
DIST 5	1	0.980483	0.101626	9.648	0.0001
M17	1	0.198804	0.108878	1.826	0.0711
M19	1	0.169323	0.112614	1.504	0.1362

Figure 4-7. Yearly price trends for Glock large-capacity handgun magazines

Most importantly, prices for large-capacity Glock magazines were 62 percent lower in 1993 than they were in 1994. Prices remained high through 1995, and they increased another 25 percent in 1996 (relative to 1994), though this increase was not statistically significant by conventional standards.

Assault rifle magazines — AR15 Family: Pre-ban large-capacity magazines manufactured by Colt for their AR15's and related rifles can be utilized with the post-ban, modified versions of these rifles. Consequently, we expected that there would be a continuing demand for these magazines.

Project staff recorded 364 ads for large-capacity magazines (.223 caliber) made to fit the AR15 and related rifles. Results from our analysis of quarterly price trends for these magazines are shown in Table 4-8 and Figure 4-8. Magazines having larger ammunition capacities were more expensive as were those magazines for which Colt was listed explicitly as the manufacturer.³⁴ In addition, prices tended to differ significantly between distributors.

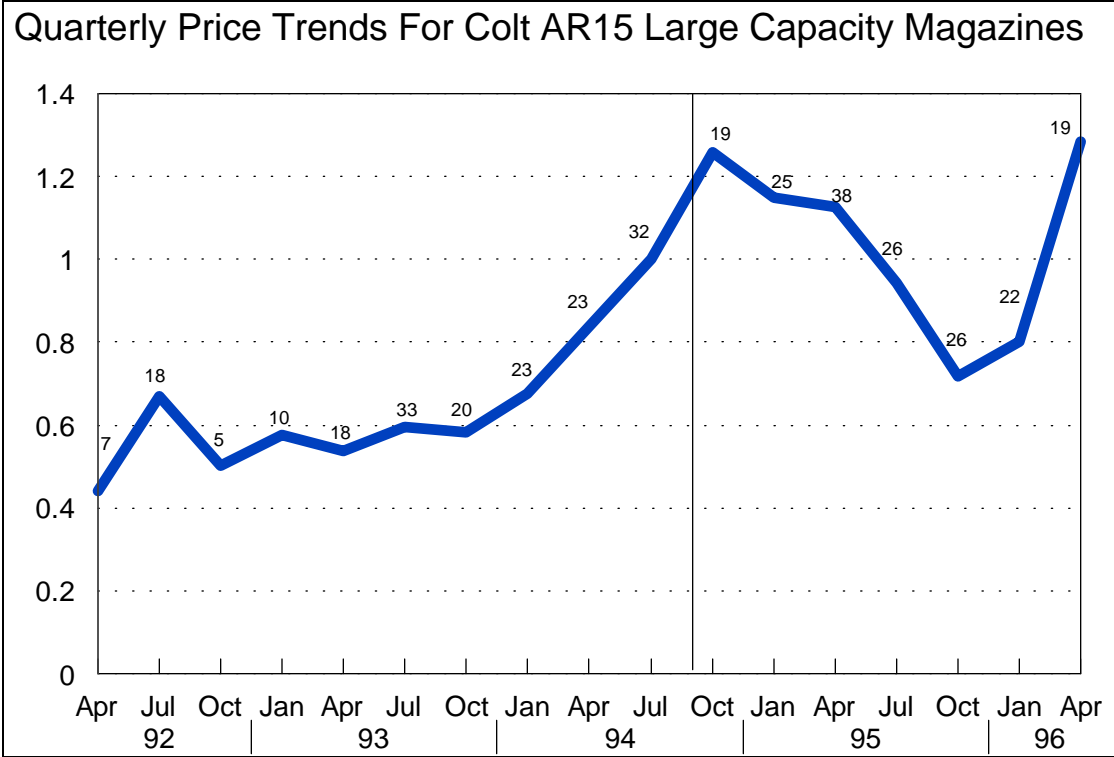
During the quarters of 1992 and 1993, prices were anywhere from 33 to 56 percent lower than during the third quarter of 1994. Prices rose further during the last quarter of 1994 and remained high through the first three quarters of 1995. In the last quarter of 1995 and the first quarter of 1996, prices fell though they remained higher than their pre-ban levels. Prices then rebounded in the second quarter of 1996, reaching a peak value comparable to the last quarter of 1995 (prices were approximately 29 percent higher than during the quarter when the ban took effect). Gun market experts have suggested to us that these short-run fluctuations reflect intermittent availability of military surplus M-16 magazines, which are compatible with the AR-15 family of rifles.

³⁴ Though firearms usually require magazines made by the same manufacturer, a number of manufacturers other than Colt make magazines which can fit Colt rifles.

Table 4-8. Regression of Colt AR15 group large-capacity magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	26	122.28012	4.70308	33.836	0.0001
Error	337	46.84153	0.13900		
C Total	363	169.12165			
Root MSE		0.37282		R-square	0.7230
Dep Mean		-1.65183		Adj R-square	0.7017
C.V.		-22.57021			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	-5.34744	0.194896	-27.437	0.0001
ROUNDS	1	1.025757	0.046243	22.182	0.0001
CLT	1	0.184123	0.063507	2.899	0.004
DIST 2	1	0.385288	0.283893	1.357	0.1756
DIST 3	1	0.10778	0.078807	1.368	0.1723
DIST 4	1	-0.40188	0.129797	-3.096	0.0021
DIST 5	1	0.134623	0.068759	1.958	0.0511
DIST 7	1	-0.41214	0.13435	-3.068	0.0023
DIST 10	1	0.137861	0.080196	1.719	0.0865
DIST 11	1	-0.36298	0.168942	-2.149	0.0324
DIST 12	1	0.215247	0.085722	2.511	0.0125
Q1	1	-0.82099	0.158248	-5.188	0.0001
Q2	1	-0.39767	0.115668	-3.438	0.0007
Q3	1	-0.68998	0.181038	-3.811	0.0002
Q4	1	-0.55199	0.137727	-4.008	0.0001
Q5	1	-0.61893	0.115858	-5.342	0.0001
Q6	1	-0.52304	0.093025	-5.623	0.0001
Q7	1	-0.54396	0.107619	-5.055	0.0001
Q8	1	-0.38921	0.102709	-3.789	0.0002
Q9	1	-0.17713	0.104247	-1.699	0.0902
Q11	1	0.229259	0.11575	1.981	0.0484
Q12	1	0.13716	0.107928	1.271	0.2047
Q13	1	0.115077	0.099774	1.153	0.2496
Q14	1	-0.05869	0.106556	-0.551	0.5821
Q15	1	-0.32639	0.107409	-3.039	0.0026
Q16	1	-0.21758	0.109759	-1.982	0.0482
Q17	1	0.252132	0.117683	2.142	0.0329

Figure 4-8. Quarterly price trends for Colt AR15 large-capacity magazines



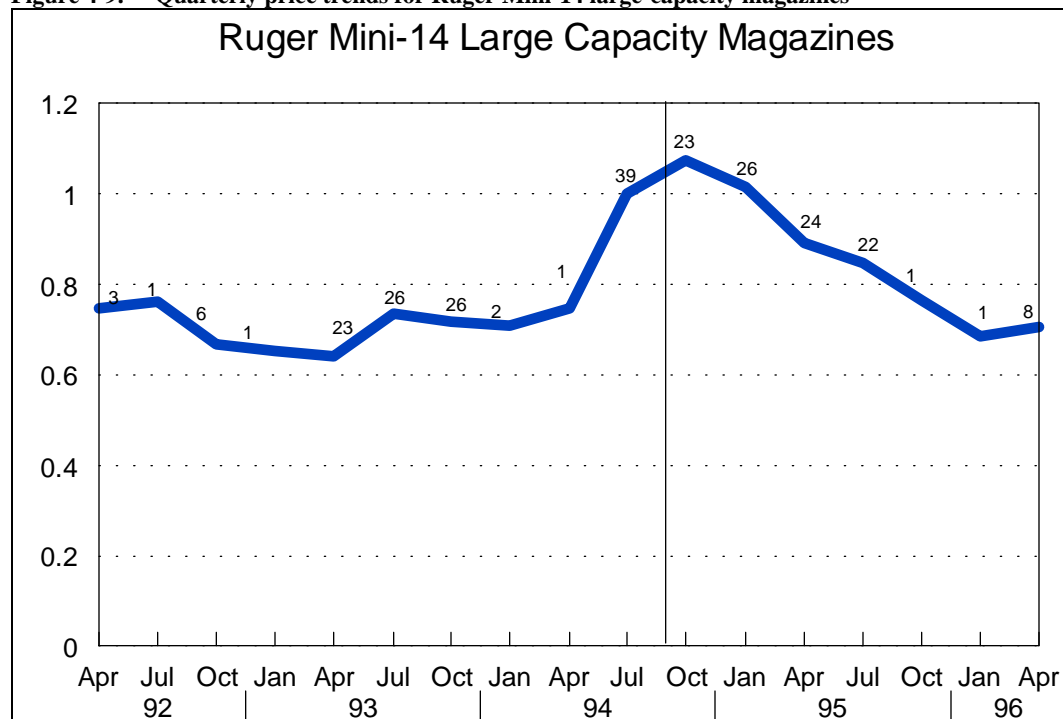
Comparison Semiautomatic Rifle Magazines — Ruger Mini-14: Quarterly price regression results for large-capacity magazines made for the Ruger Mini-14 rifle are shown in Table 4-9. Magazines with the Ruger name and larger magazines were more expensive than other magazines.³⁵ Further, prices differed significantly among distributors.

³⁵ A number of manufacturers besides Ruger made large-capacity magazines to fit the Mini-14.

Table 4-9. Regression of Ruger Mini-14 large-capacity magazine prices on time indicators, controlling for product characteristics and distributors

Analysis of Variance					
<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean square</i>	<i>F value</i>	<i>Prob>F</i>
Model	26	64.39474	2.4672	34.029	0.0001
Error	303	22.05342	0.07278		
C Total	329	86.44816			
Root MSE		0.26978		R-square	0.7449
Dep Mean		-1.72827		Adj R-square	0.7230
C.V.		-15.61009			
Parameter Estimates					
<i>Variable</i>	<i>DF</i>	<i>Parameter estimate</i>	<i>Standard error</i>	<i>T for H0 parameter = 0</i>	<i>Prob> T </i>
INTERCEP	1	-4.41607	0.145547	-30.341	0.0001
ROUNDS	1	0.836435	0.036639	22.829	0.0001
RUG	1	0.264903	0.061061	4.338	0.0001
DIST 2	1	-0.3889	0.17264	-2.253	0.025
DIST 3	1	-0.13012	0.072105	-1.805	0.0721
DIST 4	1	-0.57328	0.126483	-4.532	0.0001
DIST 5	1	-0.40885	0.066235	-6.173	0.0001
DIST 7	1	-0.5319	0.278193	-1.912	0.0568
DIST 10	1	-0.26988	0.074589	-3.618	0.0003
DIST 11	1	-0.1793	0.164002	-1.093	0.2751
DIST 12	1	0.324892	0.094116	3.452	0.0006
Q1	1	-0.29169	0.178205	-1.637	0.1027
Q2	1	-0.27167	0.08733	-3.111	0.002
Q3	1	-0.40486	0.122507	-3.305	0.0011
Q4	1	-0.425	0.082811	-5.132	0.0001
Q5	1	-0.44577	0.073027	-6.104	0.0001
Q6	1	-0.30726	0.070368	-4.366	0.0001
Q7	1	-0.33086	0.069189	-4.782	0.0001
Q8	1	-0.34428	0.074365	-4.63	0.0001
Q9	1	-0.29213	0.078927	-3.701	0.0003
Q11	1	0.071176	0.074263	0.958	0.3386
Q12	1	0.013922	0.07447	0.187	0.8518
Q13	1	-0.11436	0.073432	-1.557	0.1204
Q14	1	-0.1658	0.075341	-2.201	0.0285
Q15	1	-0.26924	0.081055	-3.322	0.001
Q16	1	-0.37783	0.084169	-4.489	0.0001
Q17	1	-0.34628	0.111216	-3.114	0.002

The quarterly indicators in Table 4-9 and the graphic illustration in Figure 4-9 show that quarterly prices prior to the ban were 64 to 76 percent of their level at the time of the ban. By late 1995, prices of these magazines were falling significantly, and by 1996 they had fallen to levels comparable to pre-ban prices.

Figure 4-9. Quarterly price trends for Ruger Mini-14 large-capacity magazines

4.1.4. Summary of Large-Capacity Magazine Price Trends

In summary, short-run price trends for four examples of banned large-capacity magazines appeared to depend on the legal status of the guns they fit, speculative demand for the guns and magazines, and the availability of military surplus magazines. All four magazine prices rose substantially during the period of debate over the ban, reflecting anticipatory demand. However, their price trends diverged substantially after that point. For a banned assault pistol (the 9mm Uzi) for which no legal substitute emerged, the post-ban magazine price fell to a level between its peak and its pre-speculation level and remained there. For a banned rifle (Colt AR-15) for which legal substitutes emerged and the gun price fell sharply after the ban, post-ban magazine prices fluctuated dramatically, apparently because of variations in the availability of military surplus M-16 magazines. For unbanned Glock pistols, whose supply continued to grow, the post-ban magazine price continued to rise throughout the post-ban period, though at a slower rate than during the pre-ban speculation; this is consistent with the expected long-term price trend. Finally, prices for large-capacity Ruger Mini-14 magazines appear to have followed speculative trends similar to those for the rifles themselves.

4.2. PRODUCTION TRENDS

Analyses reported in Section 4.1 found substantial pre-ban price increases for two major categories of assault weapons that were examined: SWD and related handguns (+47 percent), the AR-15 assault rifle family (+69 percent to +100 percent, at minimum). A comparison group of unbanned semiautomatic rifles including the domestically produced Ruger Mini-14 showed a pre-ban price increase of 82 percent. But strikingly, a comparison group of inexpensive Davis and Lorcin semiautomatic handguns showed no discernible price change during the 4-year period that included the effective date of the ban.

In the introduction to this chapter, we hypothesized that weapons whose prices increased during the pre-ban period would also show increases in production. To test that hypothesis, we were able to obtain annual

production data from the Violence Policy Center for three of the four weapon categories above: the SWD, AR-15, and Davis/Lorcin groups.³⁶ The data extend through 1994, the year of the ban and the last year for which production data are available.

The production data for these three groups are shown in Figure 4-10, Figure 4-11, and Figure 4-12, and they strongly support the hypothesis that pre-ban price speculation was associated with increases in production. As shown there, the SWD and AR-15 groups show substantial increases in production in 1993 and 1994, the years when prices were increasing in advance of the ban. Production increases of similar magnitude appear for two other categories of banned assault weapons that could not be included in the price analysis: the Intratec/AA Arms group, and Calico and Feather Industries rifles, which are banned by the features test.³⁷ In contrast, the Davis/Lorcin handgun group showed decreased production relative to both 1993 and their 1989–93 average.

Table 4-10 summarizes production data for five typical groups of banned assault weapons and the Lorcin/Davis comparison group of small-caliber semiautomatic pistols. For each weapon type, the table reports 1994 production, average 1989–93 production, and the ratio of 1994 production to the average over the period. On average, 1994 assault weapon production exceeded the 1989–93 average by a ratio of 2.233 during the nine months before the ban took effect. In contrast, 1994 production for the Lorcin/Davis comparison group was only 65.2 percent of the 1989–93 average.

Table 4-10. Production trends for banned assault weapons and comparison guns

<i>Firearm type</i>	(1) <i>1994 production</i>	(2) <i>1989–93 average production</i>	(3) <i>Ratio [(1)/(2)]</i>	(4) <i>“Excess” production [(1)-(2)]</i>
AR-15 group	66,042	38,511	1.714	27,531
Intratec 9mm, 22	102,682	33,578	3.058	69,104
SWD family (all) & MAC (all)	14,380	10,508	1.368	3,872
AA Arms	17,280	6,561	2.633	10,719
Calico 9mm, 22	3,194	1,979	1.613	1,215
Lorcin, Davis	184,139	282,603	0.652	
Assault Weapon Total*	203,578	91,137	2.233	112,441

*Assault weapon total excludes Lorcin/Davis group

Table 4-10 also displays "excess" production, the difference between 1994 production and 1989–93 average production. Excess 1994 production for the five assault weapon types shown in the table was approximately 112,000, which were added to the stock of grandfathered assault weapons eligible for resale after the ban took effect.

³⁶ BATF production data for rifles are not disaggregated by model or caliber. While we could be confident that nearly all Colt's rifles belong to the AR-15 family and could therefore use Colt's rifle production data as an index of AR-15 production, Sturm, Ruger produces too many rifles besides the Mini-14 for us to have a reliable index of Mini-14 production.

³⁷ It may be of interest that the Intratec, SWD, and Calico/Feather groups, but not the AR-15 group, also had production peaks in 1989, the year of the assault weapon import ban.

Figure 4-10. Annual production data, Colt and Olympic Arms AR-15 type (years with complete data only)

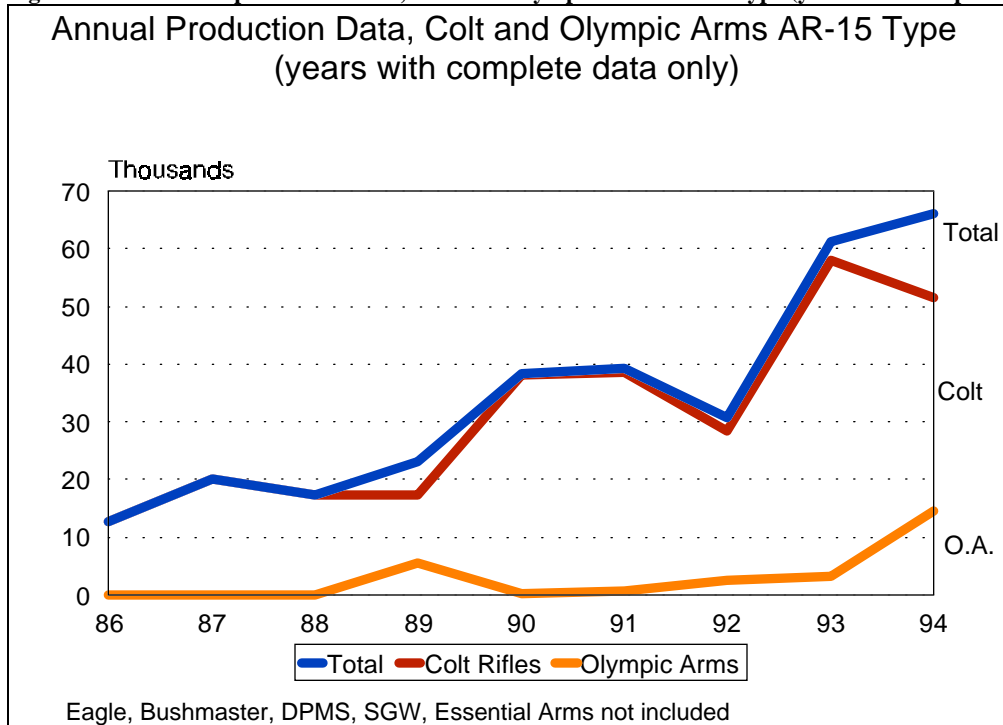


Figure 4-11. Annual production data, SWD group (missing data in some early years)

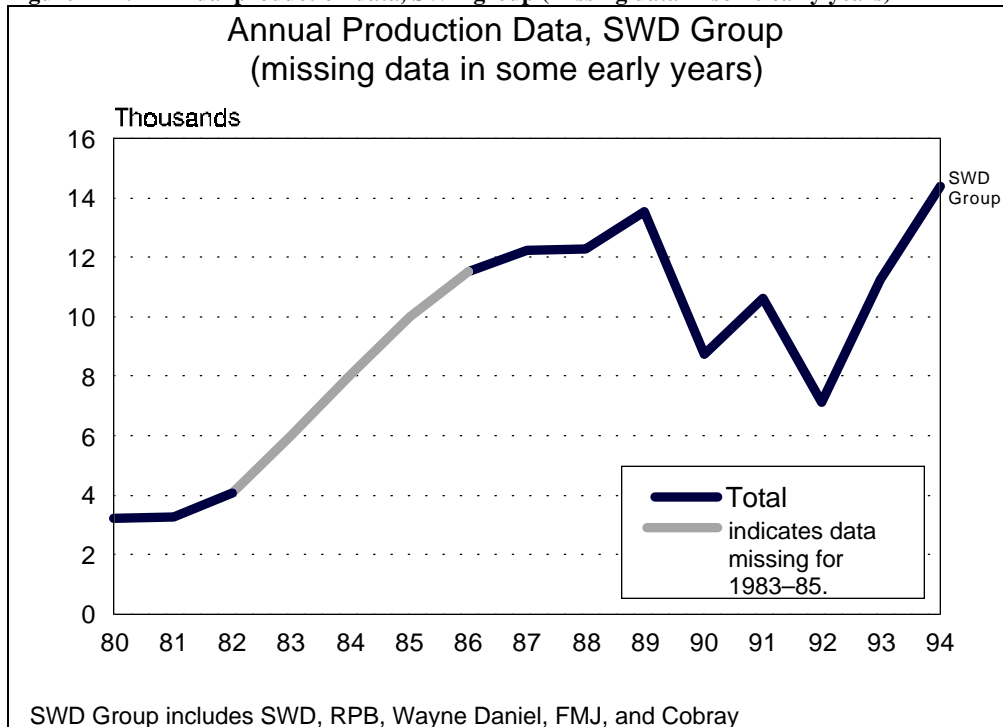
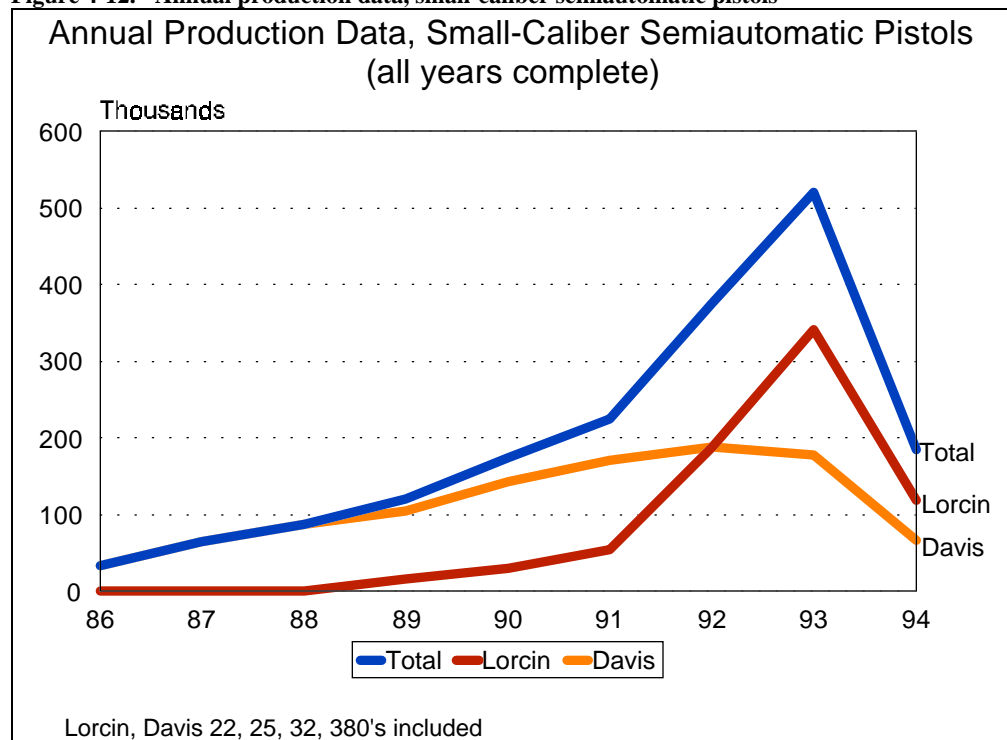


Figure 4-12. Annual production data, small-caliber semiautomatic pistols

4.3. UNINTENDED CONSEQUENCES: GUN THEFTS AND “LEAKAGE”

4.3.1. Introduction

As a final consideration of the ban’s impact on gun markets, we investigated trends in stolen firearms. Given the boom in production of the banned weapons prior to the assault weapon ban, there would appear to be a substantial stockpile of banned weapons, some of which may “leak” from gun dealers and carriers into the hands of criminals and other violence-prone individuals after the ban through a combination of recorded transfers, unrecorded transfers, and thefts.

Indeed, we hypothesized that the Crime Act might have the unintended consequence of increasing reported thefts of the banned weapons for two reasons. Short-term price increases in primary markets might temporarily keep assault weapons from entering the sales distribution channels to criminals, who might be tempted to steal them instead. In addition, dealers who had paid high speculative prices for grandfathered assault weapons around the time of the of the ban but then suffered the post-ban price decline prices might be encouraged to sell their to ineligible purchases and then report the weapons as stolen to BATF, who in turn would enter them into the Federal Bureau of Investigation’s national database on stolen firearms. Our tests of these hypotheses had to recognize that any observed rise in assault weapon thefts could be due, at least in part, to new theft reporting requirements established for firearm dealers by Subtitle C of Title XI. In the sections below, we describe the tests and findings.

4.3.2. Data and Analysis Strategy

Since 1967, the Federal Bureau of Investigation has stored law enforcement agency reports of stolen and recovered guns in a database maintained by the National Crime Information Center (NCIC). This database contains records on guns which have been reported stolen to participating agencies. It also includes a relatively small number of guns which have been recovered by law enforcement agencies but which have not been reported stolen to the FBI. The latter category of guns accounts for about 6 percent of the guns in the database, and we removed them from our analysis. Weapons which are stolen and later recovered are removed from the database by the NCIC. Thus, the file contains only guns which have been stolen and not recovered. Among other items, the database contains entries for the following: the date the gun was reported stolen ; the weapon type, make, model, caliber, and serial number of the gun; and the agency to which the weapon owner reported the theft.

For our analysis, we utilized data on guns stolen between January 1992 and May 1996. Our analysis of assault weapon thefts focused upon our select group of domestic assault weapons. Unfortunately, weapon model is missing for the majority of the records in the file. Therefore we used the following operational definitions to approximate thefts of assault weapons and other guns:³⁸

- 1) Colt AR15 group: all .223 caliber firearms made by Colt, Eagle, Olympic/SGW, Essential Arms, Bushmaster, and Sendra.
- 2) Intratec group: all 9mm and .22 caliber semiautomatic weapons made by Intratec and all 9mm semiautomatic handguns made by AA Arms.
- 3) SWD group: all 9mm, .380, and .45 caliber semiautomatic weapons made by SWD, Ingram, Military Armaments Corp., and RPB Industries.
- 4) Features test group: all semiautomatic handguns and rifles made by Calico and all 9mm and .22 caliber semiautomatic rifles made by Feather.
- 5) Non-banned large-capacity handguns: Based on the relative frequency of the Glock 17 and Ruger P89 among guns traced by BATF (see Chapter 2), we used Glock and Ruger 9mm semiautomatic handguns to operationalize this count.

4.3.3. Trends in Stolen Assault Weapons

Statistics in Table 4-11 show that the number of assault weapons reported stolen per month was higher during the post-ban period than during the pre-ban period. These figures combine all of the assault weapons in our select group. As is shown in

³⁸ We arrived at these operational definitions by examining the varieties of gun types, makes, models, and calibers contained in the *Blue Book of Gun Values* (Fjestad 1996). The largest approximation error is probably that Group 2 includes the Protect .22, which is not banned and does not accept large-capacity magazines.

Figure 4-13, this post-ban increase continued an upward trend which began before the assault weapon ban. Interpreting the raw numbers of assault weapons thefts is problematic even with time series methods, however, because the Subtitle C theft reporting requirement for FFL's may have caused an artificial increase in reported thefts. The monthly average of total reported gun thefts did increase from approximately 11,602 for the January 1992 through August 1994 period to 12,806 during the September 1994 through May 1996 period, although we did not make systematic attempts to explain the increase.

Table 4-11. Pre-ban (Jan. 1992-Aug. 1994) to post-ban (Sept. 1994-May 1996) changes in counts of stolen assault weapons and unbanned semiautomatic handguns capable of accepting large-capacity magazines

<i>Stolen gun type</i>	<i>Pre-ban monthly mean</i>	<i>Post-ban monthly mean</i>
Assault weapons	2,334	2,642
Unbanned large-capacity semiautomatic handguns	235	343

Table 4-12. Pre-ban (Jan. 1992-Aug. 1994) to post-ban (Sept. 1994-May 1996) changes in ratios of stolen assault weapons and unbanned semiautomatic handguns capable of accepting large-capacity magazines

	<i>Pre-ban</i>	<i>Post-ban</i>	<i>Change</i>
Ratio: Assault weapons ÷ automatic and semiautomatic guns	.449	.463	+3%
Ratio: Unbanned large-capacity semiautomatic handguns ÷ All semiautomatic handguns	.054	.073	+35%

To control for possible confounding effects of the Subtitle C reporting requirement, we examined assault weapon thefts as a proportion of all reported thefts of semiautomatic and automatic weapons. A post-ban increase in this proportion would suggest a rise in assault weapon thefts which occurred independently of any Subtitle C effect. We used semiautomatic and automatic weapons as our baseline rather than all reported thefts in order to control for changes in the composition of the gun stock; semiautomatic firearms, of which assault weapons are a subset, have grown dramatically since the late 1980s as a share of the firearms market. Relatedly, some law enforcement personnel have suggested to us that gun theft victims are more likely to report thefts of recently purchased firearms because it is easier for victims to assemble information necessary for a theft report (such as serial numbers) when dealing with a newer firearm. Finally, expressing assault weapons as a proportion of semiautomatic/automatic weaponry may correct potential bias stemming from the NCIC's removal of recovered weapons from their data system. Some evidence suggests that semiautomatic handguns tend to move more quickly from retail sale to crime than do other firearms (Kennedy et al. 1996). If this process works the same way for the time from theft to use in crime and recovery by police, then assault weapons and other semiautomatic firearms may tend to drop out of the system at a faster rate than other firearms.

Figures in Table 4-12 reveal that between 1992 and 1996 automatic and semiautomatic assault weapon thefts increased only very slightly (about 3%) as a proportion of thefts of rapid fire weapons. A contingency table chi-square test indicated that this was a statistically significant increase ($p < .01$).³⁹ However, an interrupted time series analysis of monthly trends (see Figure 4-14) failed to provide any strong evidence that the ban caused a change in the proportion of semiautomatic/automatic firearm thefts involving assault weapons.⁴⁰ Either way, the relative increase in assault weapon thefts appears to have been very modest.

³⁹ The proportion of semiautomatic/automatic gun thefts accounted for by assault weapons is strikingly large in light of the generally low prevalence of these guns among confiscated and traced weapons. Due to the manner in which we approximated assault weapon thefts, our figures probably overstate assault weapon thefts to some degree. In addition, BATF agents have suggested to us that assault weapon thefts may be more likely to be reported to NCIC than thefts of other firearms due to owners' insurance claims on assault weapons and owners' concerns about how stolen assault weapons may be used.

Errors in the data submitted by law enforcement agencies may also be relevant. The NCIC uses character and numeric codes to identify manufacturers, weapon types, and calibers. To assess coding error in the data, we ran a number of crude reliability tests with guns made by selected manufacturers. To illustrate, if a particular handgun manufacturer makes only semiautomatic handguns, one can examine all guns made by that company which appear in the database and determine what percentage were coded as weapon types other than semiautomatic handguns. If 5% of the guns produced by this manufacturer have other weapon type codes, then the manufacturer and/or weapon type must be incorrect for that 5% of cases.

We chose guns made by Davis Industries and Intratec for our tests. Davis Industries makes only derringers and semiautomatic pistols (Fjestad 1996, pp.412-413). Davis derringers are made in .22, .25, .32, .38, and 9mm calibers. The company's semiautomatic pistols are produced in calibers .32 and .380. Of the several thousand guns in the data coded as Davis Industries firearms, about 10% were coded as weapon types other than derringers or semiautomatic handguns (most of these were coded as revolvers). Virtually 100% of the Davis Industries derringers had calibers in the proper range, as did 95% of the semiautomatic handguns.

Intratec, a prominent maker of assault weapons, makes derringers in .38 caliber and produces semiautomatic handguns in .22, .25, .380, .40, .45, and 9mm calibers (Fjestad 1996, pp.577-579). Approximately 89% of the several thousand guns coded as Intratecs were coded as semiautomatic handguns or derringers. Nearly 100% of the Intratec semiautomatic handguns had caliber codes in the proper range, while 97% of the derringers had the proper caliber.

In light of the various coding errors which are present in the NCIC data, we constructed our counts of assault weapons and semiautomatic/automatic guns using a broad array of weapon type codes corresponding to various semiautomatic and fully automatic weapon types. The analyses described above seem to indicate that errors in the numerator and denominator of our assault weapon measure are roughly proportional. Finally, our analysis assumes that any biases in the data resulting from the various issues discussed above have remained relatively constant from the pre-ban to post-ban periods.

⁴⁰ Due to ambiguity regarding the form of the ban's hypothesized impact on assault weapon thefts, we tested a number of impact models (see McCleary and Hay 1980). The temporary increase in assault weapon prices which occurred around the time of the ban may have raised the incentive for criminals to steal assault weapons, thereby creating an abrupt, temporary impact on thefts of assault weapons. However, an abrupt temporary impact was inconsistent with the data.

The eventual fall in assault weapon prices, on the other hand, could have increased the incentive for dealers to "leak" the guns to illegitimate buyers. The gradual decline of assault weapon prices documented in the price analysis would suggest a gradual, permanent impact on assault weapon thefts. However, an abrupt, permanent impact also seems plausible. Further, abrupt, permanent impact models are less demanding on the data and sometimes provide a better fit and more accurate results even when the true form of the impact is not of this type (see McDowall et al. 1996). In this case, a gradual, permanent impact model yielded insignificant results and provided a worse fit to the data than did an abrupt, permanent impact model.

Assessment of the abrupt, permanent impact model was complicated by the presence of an outlier observation corresponding to March 1993, during which time there was an unusually low proportion of thefts involving assault weapons (see Figure 4-14). We therefore estimated models with and without this observation. In the first model, we retained the outlier observation and logged the data series. This model suggested that the ban produced a moderately significant ($p < .10$) positive impact on the proportion of semiautomatic/automatic gun thefts that involved assault weapons. (After adding the intervention component, this model did not require any autoregressive or moving average parameters for the noise component). When the outlier observation was removed, however, the model failed to yield evidence of an impact from the ban. (The noise

component for this model included a fourth order autoregressive subset model [see SAS Institute 1993] in which all parameters except the fourth were set to zero).

Figure 4-13. Stolen assault weapons count, January 1992–May 1996

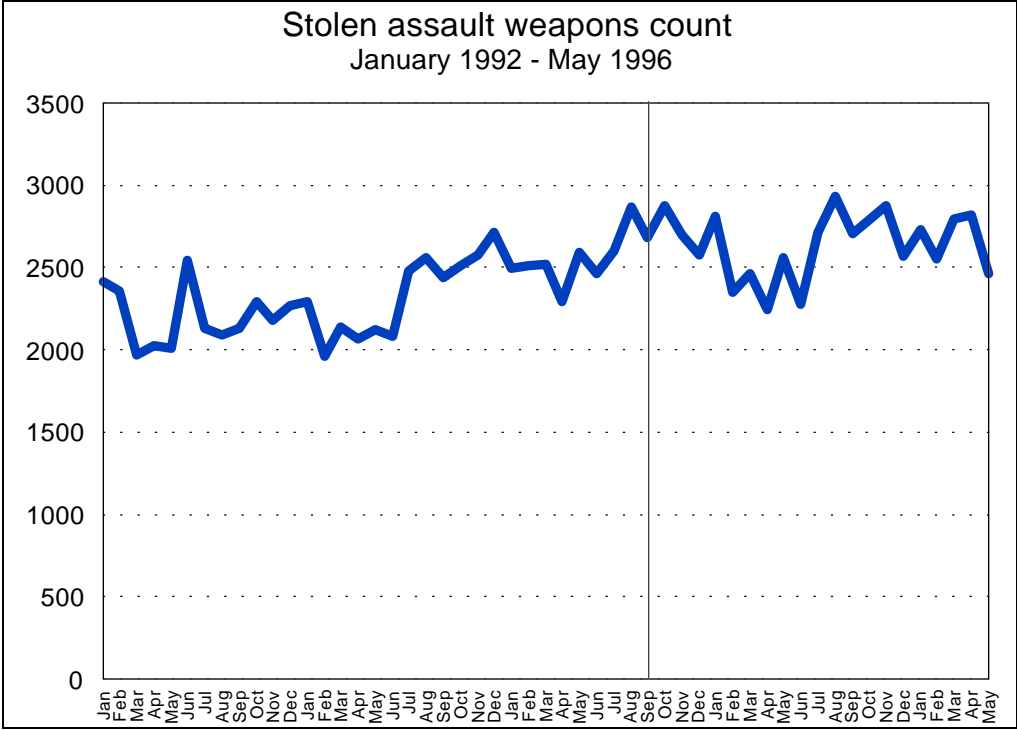
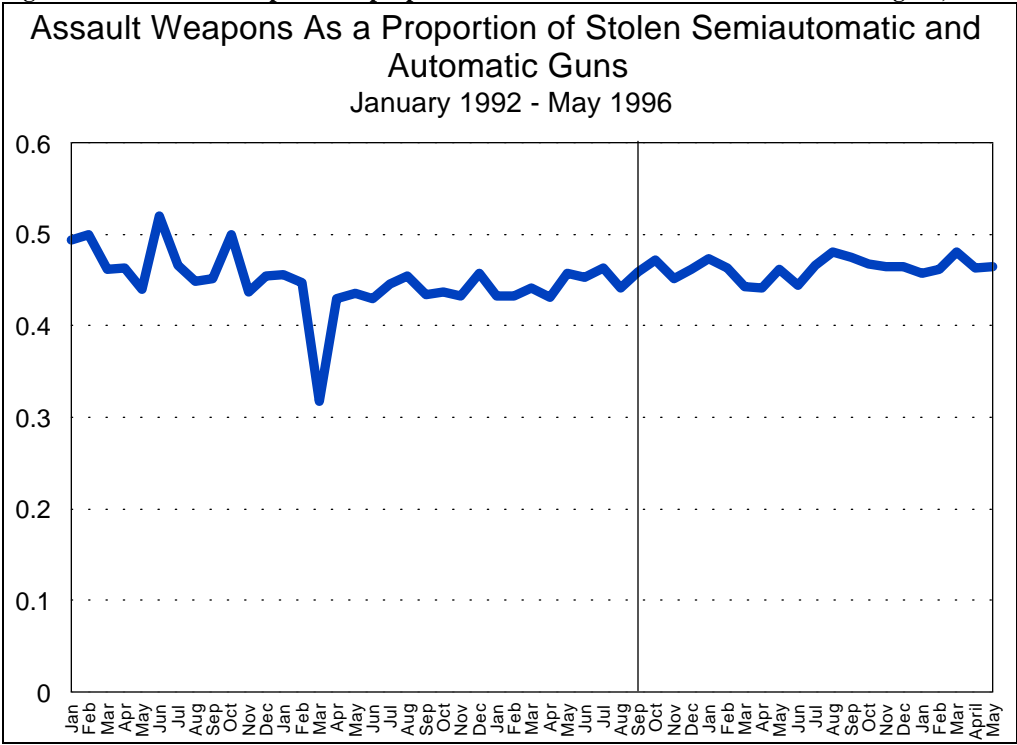


Figure 4-14. Assault weapons as a proportion of stolen semiautomatic and automatic guns, January 1992–June 1996



Additional analyses (not shown) revealed that the assault weapon trends were driven entirely by assault pistols. Thefts of the AR15 group weapons, for example, were rather few in number both before and after the ban, and they decreased both in numbers and as a proportion of stolen weapons during the post-ban months.

4.3.4. Trends in Thefts of Non-Banned Semiautomatic Handguns Capable of Accepting Large-capacity Magazines

In another set of analyses, we investigated whether the ban affected thefts of non-banned semiautomatic handguns capable of handling banned, large-capacity magazines. A number of effects seem plausible. If the magazine ban has been effective in decreasing the availability of large-capacity magazines, one might hypothesize a decrease in offenders' demand for handguns capable of accepting these magazines and a decrease in thefts of these weapons from primary-market dealers and eligible owners. Alternatively, if a similar decrease in the demand for these guns drove down their prices in the primary market, it might increase the incentive for dealers to leak the guns to the illegal market and report the guns as stolen or missing. However, recent years' Blue Book values for Glock pistols suggest that their primary-market prices have been quite stable, when adjusted for inflation. Therefore, if these magazines are still widely available in secondary markets, some offenders might desire to substitute unbanned large-capacity handguns for banned assault weapons. In that case, we might also expect to see a rise in thefts of these guns.

Average monthly thefts of these weapons were higher in the months following the ban (Table 4-11). Moreover, thefts of these guns increased by about a third during the post ban period as a fraction of all semiautomatic handgun thefts (Table 4-12). However, Figure 4-15 and Figure 4-16 show that thefts of these guns were trending upwards in both numbers and as a proportion of semiautomatic handgun thefts both before and after the ban. A time series analysis did not provide conclusive evidence that handguns accepting large-capacity magazines increased significantly after the ban as a fraction of semiautomatic handgun thefts.⁴¹ (We did not employ contingency table chi-square tests due to the clear upward trend in this variable.) At any rate, the Crime Act does not appear to have decreased criminal demand for these guns, as approximated by theft reports.

⁴¹ We tested a variety of potential impact forms for this time series, though we considered an abrupt, permanent impact or a gradual, permanent impact to be most plausible in light of the steadily increasing prices for Glock magazines documented in the price analysis. A model with an abrupt, permanent intervention component and a first order autoregressive process for the noise component provided an adequate fit to the data. However, this model yielded an impact estimate virtually identical to the change in the proportion measure shown in Table 4-12 (an increase of approximately one third). In light of the clear pre-ban upward trend in this measure shown in Figure 4-16, we find this effect to be implausible and suspect that the data series is too short to provide a rigorous test of the ban's impact using this methodology.

We ran a crude alternative test in which we regressed the proportion measure on a time trend and a pre-ban/post-ban indicator variable. The time trend variable was significant, while the post ban variable suggested a positive, but statistically insignificant, increase of about 7% in the proportion measure.

Figure 4-15. Stolen unbanned large-capacity semiautomatic handgun counts, January 1992–May 1996

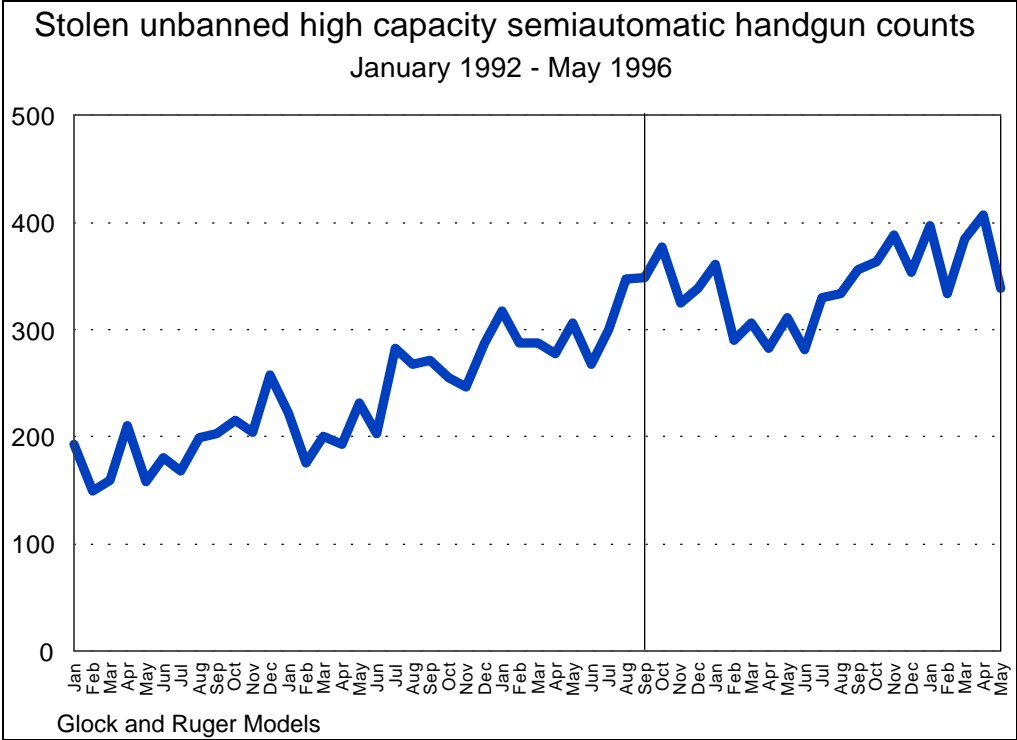
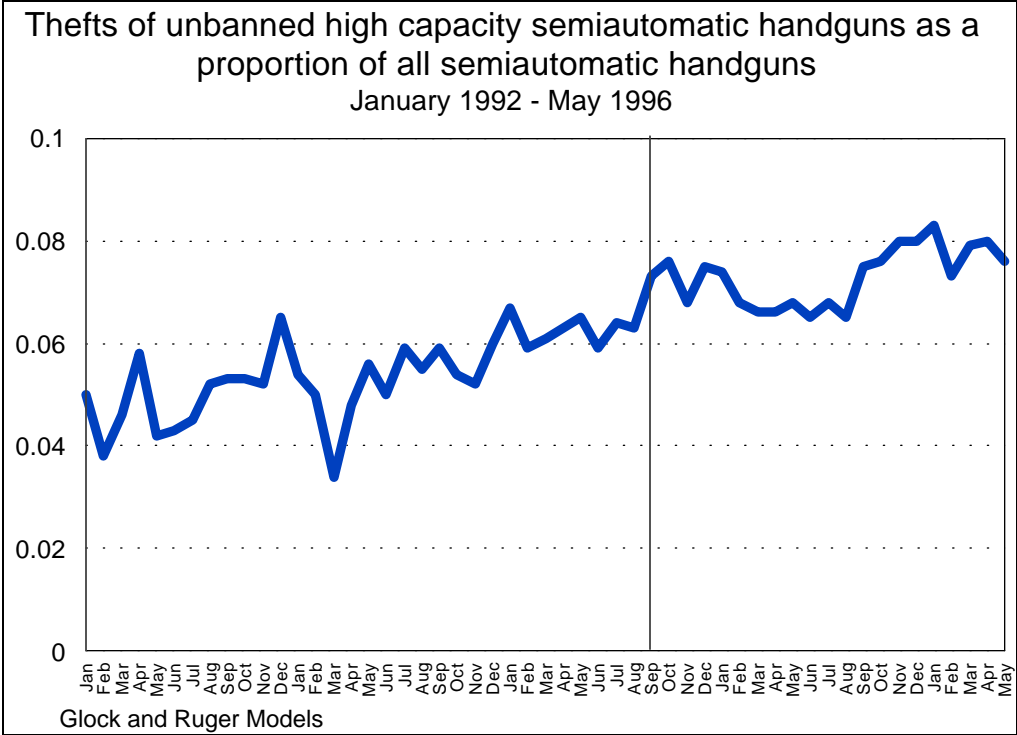


Figure 4-16. Thefts of unbanned large-capacity semiautomatic handguns as a proportion of all semiautomatic handguns, January 1992–June 1996



5. UTILIZATION EFFECTS

5.1. BATF NATIONAL FIREARM TRACE DATA

5.1.1. Introduction: Data and Limitations

To provide national level estimates of the use of assault weapons, we obtained data on firearm trace requests submitted to the U.S. Bureau of Alcohol, Tobacco and Firearms (BATF) by Federal, State, and local law enforcement personnel throughout the nation from January 1993 through May 1996. BATF maintains a firearm tracing center in West Virginia. Upon request, personnel at this center can trace firearms to their last point of recorded sale in a primary market. BATF makes this service available to police departments throughout the country to assist in criminal investigations.

The assault weapon trace file provided by BATF contains the make, model, and caliber of all models subject to the assault weapons ban (the designations are discussed in more detail below). Further, the file includes the month and year when BATF received the request, the state from which the request originated, and type of crime with which the firearm was associated. Our data for total traces consist of aggregate counts of traces broken down by month, year, state, weapon type,⁴² and offense.

BATF trace data are the only available national-level sample of guns used in crime. Nevertheless, BATF trace data have significant limitations for research purposes. As Zawitz (1995, p.4) has noted, trace requests represent an unknown fraction of all guns used in crime. In terms of general limitations, BATF cannot trace military surplus weapons, imported guns without the importer name, stolen guns, or guns without a legible serial number (Zawitz 1995, p.4). Tracing guns manufactured before 1968 is also difficult because FFL's were not required to keep records of their transactions prior to that time. BATF does not generally trace guns having a manufacturing date more than six years old (such guns are likely to be many transfers removed from the original retail purchaser), though BATF can and does trace these guns in response to special requests.

Moreover, trace data are based on requests from law enforcement agencies; yet not all guns used in crime are seized by authorities, and agencies, particularly local ones, do not submit all guns they seize for tracing. Consequently, firearms submitted to BATF for tracing may not be a representative sample of firearms used in crime. Previous studies of trace data have suggested that only about 10 percent of gun crimes and 2 percent of violent crimes result in trace requests to BATF (Cox Newspapers 1989, p.3; Kleck 1991, p.75).⁴³

The vast majority of weapons submitted to BATF for tracing are associated with weapons offenses, drug offenses, or violent crimes. In 1994, 72% of traces were for weapons offenses, 12% were for drug-related offenses, 12% were for the combined violent crimes of homicide, assault, and robbery, and 2% were for burglary

⁴² The weapon categories consist of revolver, pistol, derringer, rifle, shotgun, combination rifle/shotgun, and a few other miscellaneous categories.

⁴³ A prior study of BATF trace data by *Cox Newspapers* (1989) suggested that police are more likely to request gun traces for organized crime and drug trafficking. Further, the study indicated that these were the types of crimes with which assault weapons were most likely to be associated. Nearly 30 percent of the gun traces tied to organized crime were for assault weapons as defined by the Cox study (their definition did not match that in the 1994 Crime Act), and 12.4 percent of gun traces for drug crimes involved these guns. In contrast, assault weapons accounted for only 8 percent of gun trace requests for assaults and homicides.

(BATF 1995a, p.43). The high representation of weapons offenses was probably due to the fact that 57% of the trace requests were made by BATF field offices (BATF 1995a, p.45).

Because of the predominance of weapons offenses, BATF trace data might not appear to be a good indicator of guns used in violent and/or drug-related crime. However, the fact that a gun was not seized in association with a specific violent crime does not rule out the possibility that it had been used or would have been used in violent crime. Substantial percentages of adult and juvenile offenders carry firearms on a regular basis for protection and to be prepared for criminal opportunities (Sheley and Wright 1993; Wright and Rossi 1986). In Kansas City, Missouri, for example, about 60% of the guns seized as a result of regular police enforcement activity in high crime beats in 1992 were seized in conjunction with pedestrian checks, car checks, and other traffic violations (Shaw 1994, p.263).⁴⁴ Moreover, drug offenders tend to be disproportionately involved in violence and illegal gun traffic (National Institute of Justice 1995; Sheley and Wright 1993). Thus, guns seized in association with weapons offenses and violent offenses — in addition to those seized for drug-related crimes — may serve as a good indicator of guns possessed by drug offenders.

Despite their limitations, guns confiscated by law enforcement agencies are a reasonable index of guns used in violent and drug-related crime, and they are the best available indicator of changes over time in the types of guns used in crime and possessed and/or carried by criminal and otherwise deviant or high risk persons. BATF trace data are the only such national sample.

Yet, another important limitation to national trace data is that the process by which state and local law enforcement agencies decide to submit guns for tracing is largely unknown, and there are undoubtedly important sources of variation between agencies in different states and localities (and perhaps regions). For instance, a state or local agency may be less likely to need the tracing services of BATF if its state or city maintains its own firearms registration system. Knowledge of BATF's tracing capabilities and participation in federal/state/local law enforcement task forces are some additional factors that can affect an agency's tracing practices. Further, these conditions will vary over time; for example, BATF has been actively trying to spread this knowledge and encourage trace requests since 1994. For all of these reasons, BATF trace data should be interpreted cautiously.

Finally, prior studies have suggested that assault weapons are more likely than other guns to be submitted for tracing.⁴⁵ However, this generalization may no longer be valid, for, as is discussed below, police appear to be requesting traces for increasing proportions of confiscated firearms.

5.1.2. Trends in Total Trace Requests

Table 5-1 presents yearly changes in trace requests for all firearms for 1993 through early 1996. Total traces grew 57 percent from 1993 to 1994, decreased 11 percent from 1994 to 1995, and then increased 56 percent from 1995 to 1996. In contrast, Table 5-2 indicates that gun crimes declined throughout the 1993–95 period (national gun crime figures are not yet available for 1996). The increase in gun trace requests that occurred in 1994 was not attributable to an increase in gun crime and thus appears to have reflected a change in police trace request behavior and/or BATF initiatives. The large growth in traces in early 1996 also seems to be unrelated to gun crime (national gun crime figures for 1996 are not yet available, but we are not aware of any data suggesting

⁴⁴ This calculation excludes guns seized by special crime hot spots patrols which were proactively targeting guns. Thus, the figure reflects normal police activity.

⁴⁵ Prior estimates have indicated that approximately 5 to 11 percent of trace requests are for assault weapons (Cox *Newspapers* 1989; Lenett 1995; Zawitz 1995), though these estimates have not all been based on the 1994 Crime Act definition of assault weapons.

that gun crime has increased over 50 percent since 1995). On the other hand, the decline in trace requests in 1994 mirrored the decline in gun crime, particularly gun homicides (the most accurately measured gun crime category), suggesting that tracing practices were fairly stable from 1994 to 1995.

Table 5-1. Total traces, January 1993–May 1996

<i>Year</i>	<i>Total</i>	<i>Monthly average</i>	<i>Percent change from previous year</i>
1993	55,089	4,591	N/A
1994	86,216	7,185	+ 57
1995	76,924	6,410	- 11
1996 (Jan.-May)	54,254	10,851	+56*

* Change is expressed relative to January through May of 1995.

Table 5-2. National trends in gun crime, 1993–95

<i>Year</i>	<i>Offense</i>	<i>Number</i>	<i>Percent change from previous year</i>
1993	Gun murders	16,136	N/A
1994	Gun murders	15,463	- 4
1995	Gun murders	13,673	- 12
1993	Gun robberies	279,737	N/A
1994	Gun robberies	257,428	- 8
1995	Gun robberies	238,023	- 8
1993	Gun aggrav. assaults	284,910	N/A
1994	Gun aggrav. assaults	268,788	- 6
1995	Gun aggrav. assaults	251,712	- 6

Sources: FBI Uniform Crime Reports, *Crime in the United States* (1996, pp.18, 26-29, 31-32; 1995, pp.18, 26-29, 31; 1994, pp.27-29, 31-32).

As a comparison to national trends, Table 5-3 presents gun confiscation figures for the cities of Boston and St. Louis, two cities for which we have data on all confiscated firearms.⁴⁶ The Boston data are consistent with national trends in gun violence in that they show decreases in gun seizures for each year.⁴⁷ In St. Louis, gun confiscations increased slightly in 1994, but in 1995, they decreased by an amount comparable to the nationwide

⁴⁶ These Boston data were provided to us by the Boston Police Department via researchers at Harvard University. The St. Louis data are from the St. Louis Police Department and were provided by researchers at the University of Missouri, St. Louis.

⁴⁷ The sharp decrease in gun confiscations from 1995 to 1996 may be due in part to recent youth gun violence initiatives being undertaken by the Boston Police Department in collaboration with a number of other agencies and researchers from Harvard University (Kennedy et al. 1996; Kennedy 1996).

decreases in gun murders and gun robberies. Of course, trends in Boston and St. Louis may not be indicative of those in the rest of the nation. Nevertheless, the contrast between the Boston and St. Louis figures and the national tracing figures provide further evidence that changes in national gun traces in 1994 and early 1996 were driven largely by police practices and BATF initiatives rather than changes in gun crime.

Table 5-3. Gun confiscations/traces, January 1993–May 1996

<i>Year</i>	<i>Total</i>	<i>Monthly average</i>	<i>Percent change from previous year</i>
<u>Gun confiscations/traces for Boston, MA, January 1993–May 1996</u>			
1993	866	72	N/A
1994	762	64	- 12%
1995	712	59	- 7%
1996 (Jan.-May)	241	48	- 28%*
<u>Gun confiscations in St. Louis, MO, 1993–95</u>			
1993	3,544	295	N/A
1994	3,729	311	5%
1995	3,349	279	-10%

*Change is expressed relative to January-May of 1995.

In sum, the changes in national trace requests which occurred in 1994 and early 1996 appear to have stemmed from BATF initiatives. Although we have little documentation of these changes, our consultations with BATF agents have suggested that the surge in trace requests from 1993 to 1994 was due largely to internal BATF initiatives that now require agents to submit all confiscated firearms for tracing. In addition, BATF has made efforts to encourage more police departments to submit trace requests and to encourage police departments to request traces for greater fractions of their confiscated weapons. One example is BATF's national juvenile firearms tracing initiative launched in late 1993 (BATF 1995b, p.21). Greater cooperation between BATF and local agencies (through, for example, special task forces) has also resulted in more trace requests according to BATF officials, and a few states and localities have recently reached 100 percent tracing. Beginning in the fall of 1995, moreover, agents from the tracing center began visiting BATF's field divisions to inform federal, state, and local law enforcement personnel about the tracing center's services and capabilities, including the implementation of computerized on-line tracing services. This would appear to be a major factor behind the growth in trace requests from 1995 to 1996.

For the 1994–95 period, however, tracing practices seem to have remained steady. The decline in traces in 1995 matched a real decrease in gun crimes. These developments have important ramifications for the analysis of assault weapon traces.⁴⁸

⁴⁸ We made limited efforts to further disentangle federal and state/local trends by obtaining annual data on traces from a number of states broken down by requesting agency. We examined trace requests from a number of cities where, according to informal judgments by BATF agents, cooperative efforts between local law enforcement agencies and BATF had resulted in the submission of trace requests for a relatively high percentage of confiscated firearms over an extended period. We anticipated that trace requests from BATF field offices in these locations would show substantial increases from 1993 to

5.1.3. Total Assault Weapon Traces

During the period from January 1993 through May 1996, BATF received 12,701 trace requests for assault weapons. This count covers specific makes and models listed in the 1994 Crime Act, exact copies of those makes and models, and other firearms failing the Crime Act's features test for assault weapons.⁴⁹ The requests include all states, Washington, D.C., Puerto Rico, and Guam.⁵⁰

Table 5-4 shows the number, monthly averages, and percentage changes of assault weapon traces for each year. Assault weapon traces increased 9 percent from 1993 to 1994, declined 20 percent from 1994 to 1995, and then increased 7 percent from 1995 to 1996. While one cannot entirely dismiss the possibility that the use of assault weapons rose in 1994 and 1996, it seems likely that these increases were due partially or entirely to the general increase in police trace requests which occurred during those years. Yet assault weapon traces increased by amounts much smaller than did total traces in 1994 and 1996, a finding which supports the conjecture that police have been more consistently diligent over time in requesting traces for confiscated assault weapons.⁵¹

1994, and that requests from the local law enforcement agencies would rise from 1995 to 1996. However, the figures from these locations did not reveal any clearly interpretable patterns. Any patterns which might have existed may be obscured by the fact that local agencies may submit traces directly to the tracing center or submit them indirectly through local ATF field offices. In 1994, for example, 17% of trace requests were from outside (i.e., non-BATF) agencies directly, while 26% were from outside agencies through BATF offices (BATF 1995, p.45). Our judgment is that analyzing trace requests according to submitting agency will not necessarily illuminate the ambiguities in interpreting trace request trends without extensive research into both the processes by which guns are selected for tracing and submitted by local agencies and BATF field offices and the impact of special BATF/local initiatives on these processes.

⁴⁹ The guns designated as "features test" guns consist of makes and models that fail the features test based on manufacturer specifications. The file does not generally include guns which were legal as manufactured but were later modified in ways which made them illegal. (Firearms which are traced by BATF are not actually sent to BATF for inspection). Further, firearms are often manufactured and sold with various options, and the legal/illegal status of some models is contingent upon the particular features with which the gun was manufactured. For example, a Franchi Spas 12 shotgun may or may not be an assault weapon depending upon the size of its ammunition magazine (prior to the ban, the gun was sold with 5 shot and 8 shot tube magazines - see Fjestad [1996, p.471]). Unfortunately, this level of detail is not available in the BATF data. Potential assault weapon models like the Franchi Spas 12 were included in the assault weapon file, but, as is discussed later in the text, we did not utilize them in all analyses.

⁵⁰ It should be noted that the firearm make and model designations in BATF trace data are made by the law enforcement officers who submit the requests. Undoubtedly, there exists some level of error in these designations, though we do not have any data with which to estimate the error rate.

⁵¹ The 1996 assault weapon traces include 89 observations identified as "duplicate traces." Although these trace requests can sometimes represent instances in which the same gun was used in multiple crimes, they usually represent instances in which, for various administrative reasons, a particular trace request was entered into the computer system more than once. Unfortunately, it is not possible to identify duplicate trace requests for years prior to 1996. In order to treat data from all years in a consistent manner, we therefore retained all of the 1996 trace requests for the analysis. Consequently, the total and assault weapon trace numbers presented in this report overstate the true numbers of trace requests. Our analysis of the trace data rests on the assumption that the rate of duplicate tracing has remained relatively constant over the 1993-96 period.

Table 5-4. Assault weapons traces, January 1993–May 1996

<i>Year</i>	<i>Total</i>	<i>Monthly average</i>	<i>Percent change from previous Year</i>
1993	3,748	312	N/A
1994	4,077	340	+ 9%
1995	3,268	272	- 20%
1996 (Jan.-May)	1,608	322	+ 7% *

*Change is expressed relative to January through May of 1995.

Traces for assault weapons dropped more markedly from 1994 to 1995 (20 percent) than did overall traces (11 percent). In a t-test of 1994 and 1995 monthly means, the drop in assault weapon traces was statistically significant ($p=.01$, two-tailed test), while the drop in total traces was not ($p=.22$, two-tailed test). Moreover, the drop in assault weapon traces was substantially greater than the declines in gun murder (12 percent), gun robbery (8 percent), and gun assault (6 percent) for the same period. This suggests that criminal use of assault weapons decreased from 1994 to 1995, both in absolute terms and relative to crime trends generally. In addition, utilization of assault weapons in crime was less in 1995 than in 1993.

5.1.4. Analysis of Select Assault Weapons

As noted in Chapter 2, many of the foreign makes and models banned by Title XI were banned from importation prior to the passage of that legislation. Thus, any recent decrease in the use of those weapons cannot be attributed unambiguously to the effects of the Crime Act. For this reason, we concentrated our analyses below on a select group of domestic assault weapons whose availability was not affected by legislation or regulations predating the 1994 Crime Act. These guns include the AR15 family (including the various non-Colt copies), the Intratec family (including the AA Arms AP-9), and the SWD handgun family.

In addition, we selected a small number of firearm models which, as manufactured, fail the features test of the assault weapons legislation. These weapons had to meet three selection criteria: 1) the weapon had to be in production at the time of the Crime Act (if the weapon was a foreign weapon, its importation could not have been discontinued prior to the Crime Act);⁵² 2) there had to be 30 or more trace requests for assault weapons made by that manufacturer during the period January 1993 through April 1994; and 3) the weapon had to have an unambiguous assault weapon designation as it was manufactured prior to the ban (i.e., its status could not be conditional on optional features).⁵³ These criteria ensured that we would capture the most prevalent assault weapons that were still being sold in primary markets just prior to the effective date of Title XI. We used January 1993 through April 1994 as the selection period in order to minimize effects on the gun market which may have resulted from the passage of the assault weapons legislation by the U.S. House of Representatives in May of 1994.

⁵² Heckler and Koch, for example, manufactured a number of rifle and handgun models which were relatively common among assault weapon traces (i.e., the HK91, HK93, HK94, and SP89). However, these models were all discontinued between 1991 and 1993 (Fjestad 1996, p.531).

⁵³ BATF officials assisted us in these designations. The only weapon which passed the first two criteria but not the third was the Franchi Spas 12 shotgun. The assault weapon trace file contained 53 trace requests for this model prior to May 1994.

The features test weapons selected for the analysis were: Calico M950 and M110 model handguns; Calico M100, M900, and M951 model rifles; and Feather AT9 and AT22 model rifles.

This select group of assault weapons accounted for 82 percent of assault weapon traces submitted to BATF during the study period. Yearly trends in trace requests for these weapons (see Table 5-5) were virtually identical to those for all assault weapons. Most importantly, average monthly traces were 20 percent lower in 1995 than in 1994 (p=.01, two-tailed test). Figure 5-1 displays the trend in monthly traces for these firearms.

Figure 5-1. National ATF trace data: Traces for select assault weapons, January 1993–May 1996

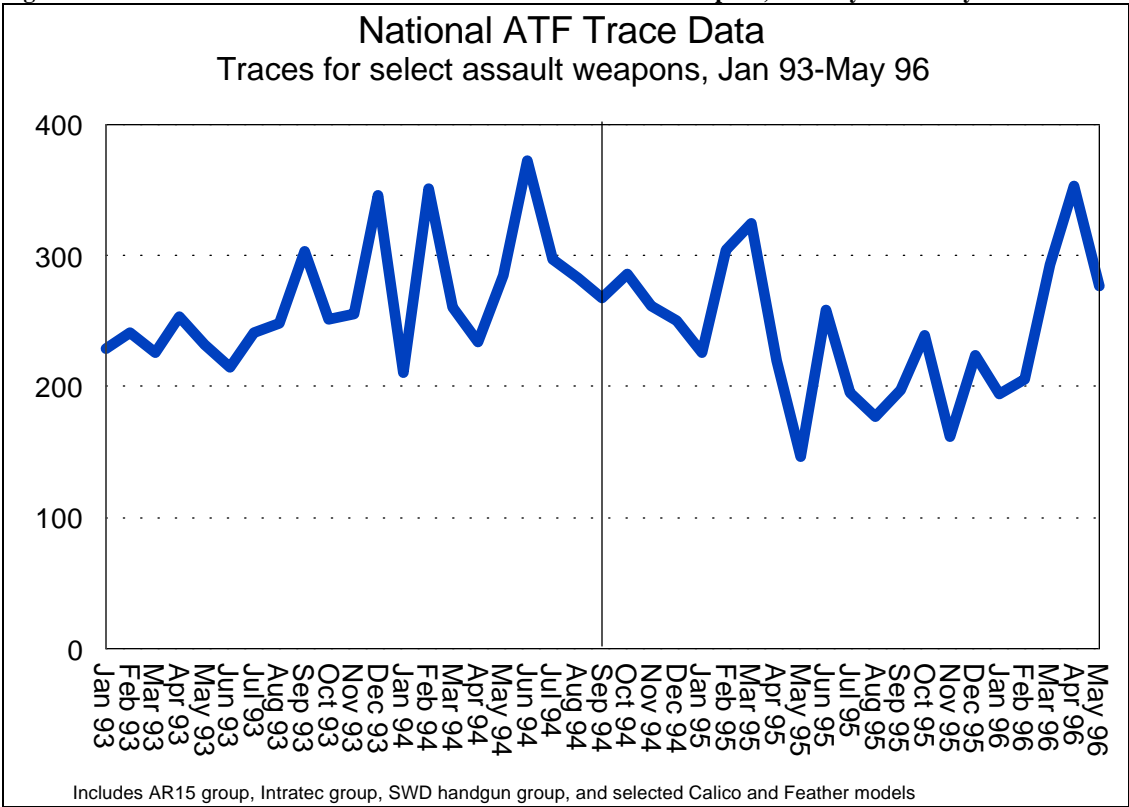


Table 5-5. Traces for select assault weapons,[†] January 1993–May 1996

Year	Total	Monthly average	Percent change from previous year
1993	3,040	253	N/A
1994	3,358	280	+ 10%
1995	2,673	223	- 20%
1996 (Jan.-May)	1,323	265	+ 8% *

*Change is expressed relative to January through May of 1995.

[†]Includes traces for AR15 group, Intratec group, SWD handgun group, and selected Calico and Feather models.

5.1.5. Assault Weapon Traces for Violent Crimes and Drug-Related Crimes

To fulfill Title XI's mandate to assess the effects of the ban on violent and drug-related crime, we also analyzed assault weapon traces associated with violent crimes (murder, assault, and robbery) and drug-related crimes. We used our select group of assault weapons for this analysis. Yearly trends for these traces are presented in Table 5-6. Monthly trends are graphed in Figure 5-2 and Figure 5-3. A striking feature of these numbers is their small magnitude. On average, the monthly number of assault weapon traces associated with violent crimes across the entire nation ranged from approximately 30 in 1995 to 44 in 1996. For drug crimes, the monthly averages ranged from 34 in 1995 to 50 in 1994.

Figure 5-2. National ATF trace data: Traces for select assault weapons (violent crimes)

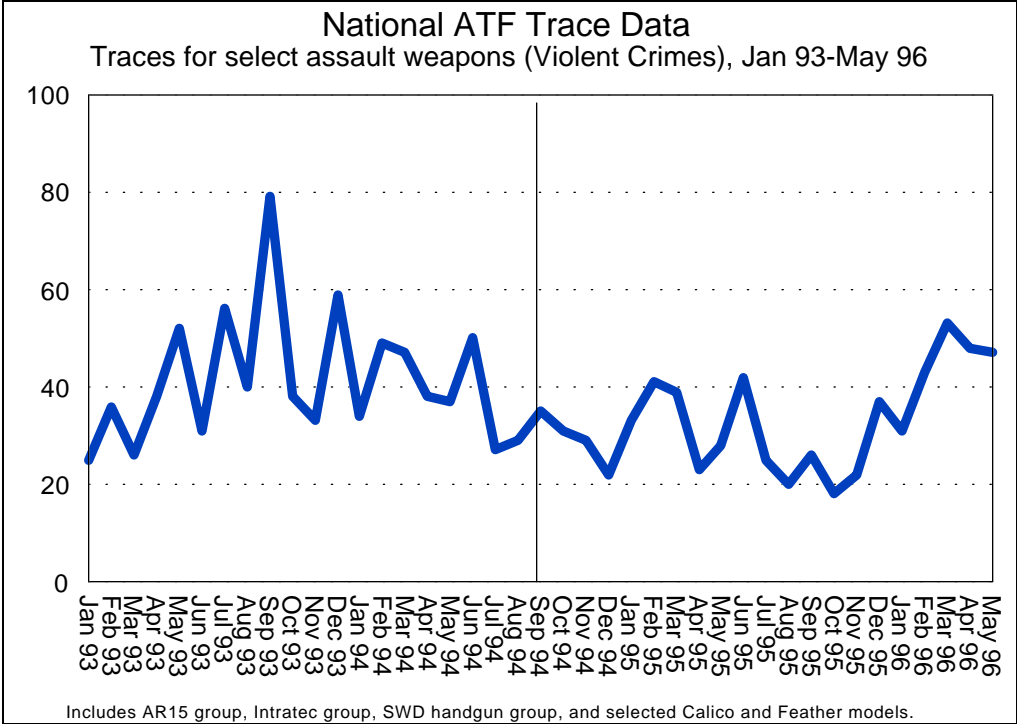


Figure 5-3. National ATF trace data: traces for select assault weapons (drug crimes)

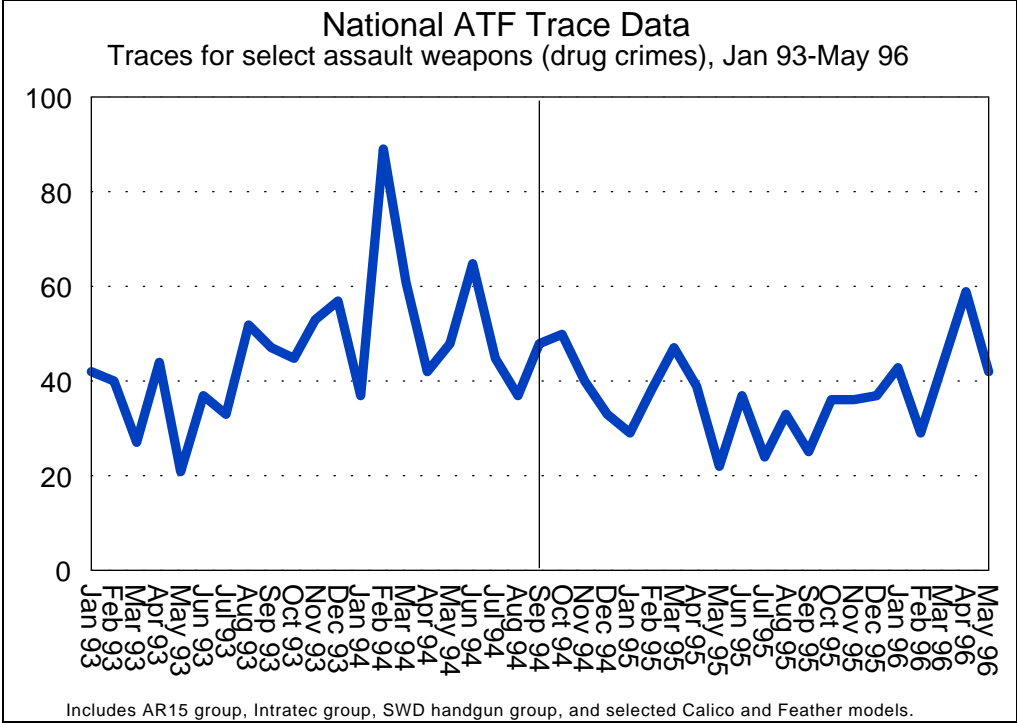


Table 5-6. Traces for select assault weapons,[†] January 1993–May 1996 (violent and drug-related crimes)**Violent Crimes:**

<i>Year</i>	<i>Total</i>	<i>Monthly average</i>	<i>Percent change from previous year</i>
1993	513	43	N/A
1994	428	36	- 17%
1995	354	30	- 17%
1996 (Jan.-May)	222	44	+ 35% *

Drug-Related Crimes:

<i>Year</i>	<i>Total</i>	<i>Monthly average</i>	<i>Percent change from previous year</i>
1993	498	42	N/A
1994	595	50	+ 19%
1995	403	34	- 32%
1996 (Jan.-May)	217	43	+ 24% *

*Change is expressed relative to January through May of 1995.

[†]Includes AR15 group, Intratec group, SWD handgun group, and selected Calico and Feather models.

Traces for assault weapons associated with violent crimes dropped 17 percent in both 1994 and 1995. Both decreases were greater than the decreases which occurred for violent gun crimes in each of those years. However, assault weapon traces for violent crime rebounded 35 percent in 1996 to a level comparable with that in 1993.

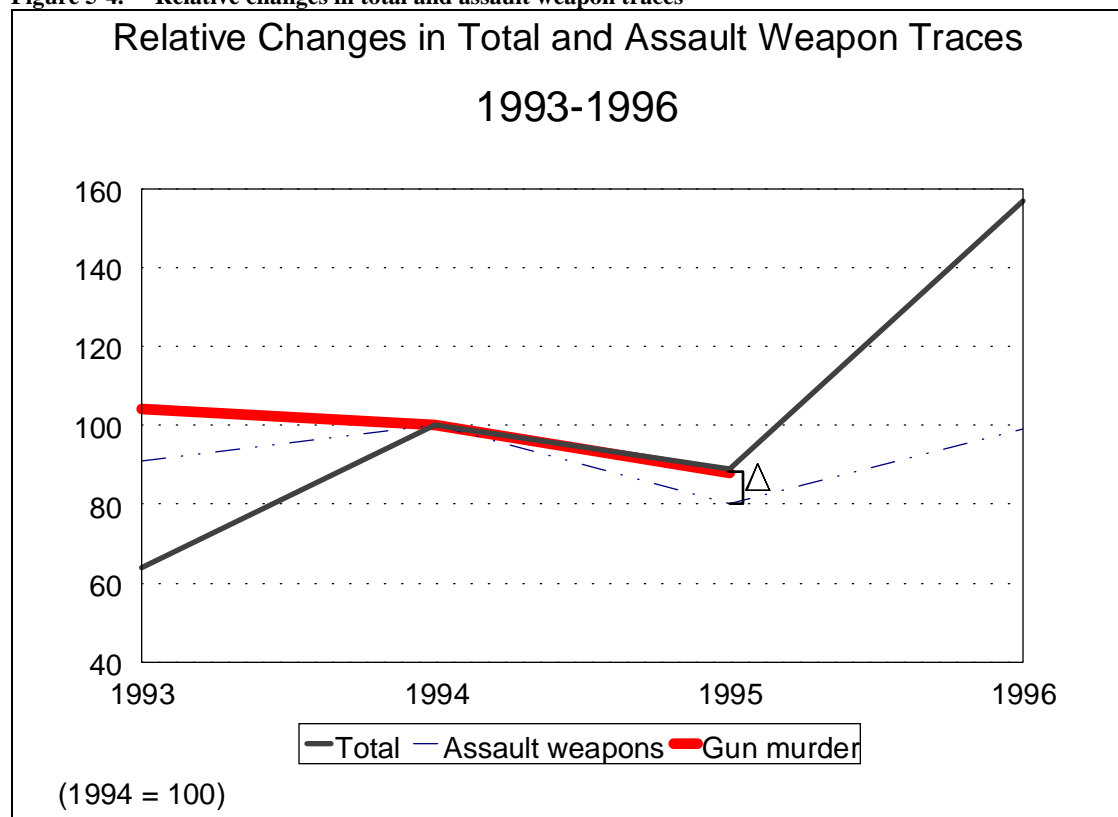
Assault weapon traces for drug crimes followed patterns similar to those for all assault weapons. Assault weapon traces increased 19 percent from 1993 to 1994, decreased 32 percent from 1994 to 1995, and then increased 24 percent from 1995 to 1996. The yearly fluctuations of these traces were greater than those for all assault weapons, but the drug trace numbers may be relatively more unstable due to the small number of weapons under consideration.

5.1.6. Conclusions on National Trends in the Use of Assault Weapons

National-level data suggest that the use of assault weapons, as measured by trace requests to BATF, declined in 1995 in the wake of the Crime Act. The 20 percent decrease in assault weapon trace requests from 1994 to 1995 was greater than occurred overall, and it was greater than the 6 to 12 percent national drop in violent gun crime. This is demonstrated graphically in Figure 5-4. Assault weapon traces for violent crimes and drug-related crimes also decreased in 1995 by amounts comparable to or greater than the overall drop in assault weapon

traces. Further, there were approximately 13 percent fewer assault weapon trace requests in 1995 than during the pre-ban year of 1993.⁵⁴

Figure 5-4. Relative changes in total and assault weapon traces



Another indication that this was an effect from the ban is that assault weapon traces declined less in 1995 in states which had their own bans prior to the Federal legislation. Table 5-7 presents combined yearly traces for our select assault pistol group in the four states with assault weapon bans: California, New Jersey, Connecticut, and Hawaii. In general, assault weapon traces in these states followed the same pattern as did the national figures. The increases in 1994 and 1996 were larger than the national increases which occurred during those years, but the 1995 decrease was smaller than the national assault weapon decrease. Further, the decline in these ban states was consistent in magnitude with the national drop in gun crime.⁵⁵

⁵⁴ The data also do not show any obvious substitution of non-banned long guns for assault weapons. Trace requests for shotguns decreased 10 percent in 1995. Total rifle traces increased 3.5 percent in 1995, but our select group of assault weapon rifles (AR15 group and selected Calico and Feather models) also increased 3 percent. Thus, banned and non-banned rifles did not follow divergent trends. With currently available data, we have not been able to assess whether the assault weapon ban led to displacement to other categories of weapons, such as non-banned semiautomatic handguns capable of carrying pre-ban large-capacity magazines.

⁵⁵ We chose to examine only assault weapon pistols because assault rifles are rarely used in crime and Hawaii's assault weapons legislation covers only handguns. Maryland passed an assault pistol ban in 1994, but the legislation was passed only a few months prior to the Federal ban, so we did not include Maryland as a ban state.

All of the assault pistol ban states outlawed one or more of the handguns in our select group of assault pistols. However, the coverage of these state laws varied, and our select assault pistols were not banned in all of these states. We therefore conducted a supplemental analysis focusing on the Intratec TEC-9 series and the M10/M11 series made by SWD and others. As far as we can determine, these guns were covered by all of the state assault pistol bans. Trace requests for TEC-9's,

Table 5-7. Assault pistol traces, ban states (CA, NJ, CT, and HI), January 1993–May 1996

<i>Year</i>	<i>Total</i>	<i>Monthly mean</i>	<i>Percent change from previous year</i>
1993	204	17	N/A
1994	228	19	+12%
1995	210	18	- 8%
1996 (Jan.-May)	106	21	+15%

*Change is expressed relative to January through May of 1995.

Nationally, traces for assault weapons rebounded in 1996 to a level higher than that of 1993 but lower than that of 1994. This could represent leakage into illegal channels from the stockpile of legal, grandfathered assault weapons manufactured prior to the implementation of Title XI. Production of assault weapons increased considerably in 1994, and prices of these weapons fell to pre-ban levels in late 1995 and early 1996 (see Chapter 3). Over the next few years, it is possible that more, rather than fewer, of the grandfathered weapons will make their way into the hands of criminals through secondary markets.

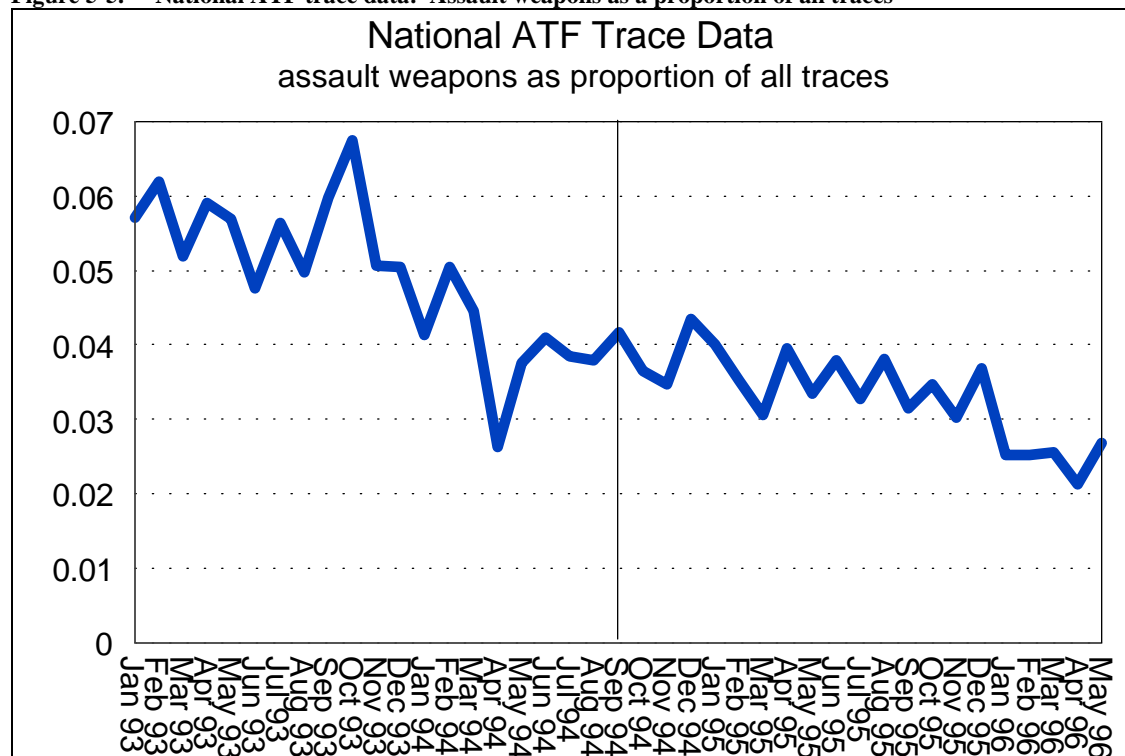
On the other hand, the increase for 1996 may be an artifact of recent BATF initiatives to increase trace requests from local police. The rebound in assault weapon traces might also reflect an as yet undocumented rebound in gun crime in 1996. Unfortunately, we cannot disentangle these possibilities with data available at this time, and it is not yet clear whether the 1995 decrease in our indicator of assault weapon use was temporary or permanent.⁵⁶

5.1.7. The Prevalence of Assault Weapons Among Crime Guns

As is shown in Figure 5-5, assault weapon traces decreased as a proportion of all traces throughout the entire study period. While Title XI may have contributed to this trend, it is apparent that the trend began before implementation of Title XI, and, to a large degree, must reflect the disproportionate growth in trace requests for non-assault weapons rather than a continual decline in the prevalence of assault weapons.

M10's, and M11's from the ban states rose 1% from 1993 to 1994, decreased 6% from 1994 to 1995, and remained steady from 1995 to early 1996. The 6% drop in 1995 seems to confirm that assault weapon trace requests dropped in the ban states after implementation of the federal law but by smaller percentages than assault weapon trace requests nationwide.

⁵⁶ In light of the substantial instrumentation problems with these data and the threat which such problems pose to quasi-experimental time series designs (Campbell and Stanley 1963, pp.40-41), we elected not to pursue more sophisticated methods, such as an interrupted time series analysis, with these data.

Figure 5-5. National ATF trace data: Assault weapons as a proportion of all traces

Despite this problem with interpreting trends in the prevalence of assault weapon traces, the 1996 trace figures arguably provide the best available estimate of the prevalence of assault weapons among crime guns. Firearm tracing should now be more complete and less biased than at any time previously. For January through May of 1996, assault weapons accounted for 3 percent of all trace requests. Our group of select domestic assault weapons represented 2.5 percent of all traces. Traces for the select assault weapon group accounted for 2.6 percent of traces for guns associated with violent crimes and 3.5 percent of traces for guns associated with drug crimes. This is consistent with previous research indicating that assault weapons are more likely to be associated with drug crimes than with violent crime (Cox Newspapers 1989; Kleck 1991). At the same time, these numbers reinforce the conclusion that assault weapons are rare among crime guns.

5.1.8. Crime Types Associated with Assault Weapons

Table 5-8 displays the types of offenses with which assault weapons were associated. For each year, approximately two-thirds of assault weapons were tied to weapons offenses. Drug offenses were the next most common, accounting for 16 to 18 percent of assault weapon traces for each year. Violent offenses ranged from 13 to 17 percent of assault weapon traces. For comparison, the percentage of total traces associated with drug offenses varied between 12 and 13 percent during this period. Violent offenses accounted for 12 to 16 percent of total traces. Hence, assault weapons were more likely to be associated with drug offenses than were other traces.

Table 5-8. Assault weapon trace requests to BATF by crime type

	1993 (N=3,725)	1994 (N=4,048)	1995 (N=3,226)	1996 (Jan–May) (N=1,500)
Offense type*				
Murder/Homicide	.097	.069	.063	.072
Aggravated assaults	.048	.040	.051	.076
Robbery	.027	.018	.020	.022
Drug abuse violations	.167	.182	.161	.174
Weapons; carrying, possessing, etc.	.647	.665	.661	.581
Other offenses	.015	.025	.046	.075

*Offense type could not be determined for 1 percent of assault weapon traces in 1993, 1994, and 1995. Offense type could not be determined for 7 percent of assault weapon traces in 1996.

5.2. ASSAULT WEAPON UTILIZATION: LOCAL POLICE DATA SOURCES

5.2.1. Introduction and Data Collection Effort.

Because of our concerns over the validity of national BATF trace data for measuring the distribution of guns used in crime, we attempted to collect and analyze data from a number of police departments around the country. We sought to acquire data on all firearms confiscated in these jurisdictions, rather than just firearms for which BATF trace requests were made. Analyzing all guns confiscated in a jurisdiction provides a more complete and less biased picture of weapons used in crime than does analysis of guns selected for BATF traces. The disadvantage of using local agency gun seizure data is that trends in any given jurisdiction may not be indicative of those elsewhere in the nation. Of course, local agency data are still subject to general limitations regarding police gun confiscation data which were raised in the last section (i.e., not all guns confiscated by police are used in violent or drug-related crime and not all guns used in crime are seized by police).

Unfortunately, the attempt to collect local gun data fell short of our expectations. Our intention was to collect data from cities in states both with and without their own assault weapon bans. Further, we concentrated our data collection effort on cities in states which had relatively high rates of gun violence. To this end, we contacted several police departments around the country. However, most of the departments that we contacted either did not have their property records computerized or had only computerized their records a few months prior to the implementation of the Crime Act, thus precluding the collection of meaningful pre-ban baseline data.⁵⁷

Ultimately, we obtained data from two cities, St. Louis and Boston, neither of which is subject to a State assault weapon ban. From St. Louis, we acquired a database on all firearms confiscated by police from 1992 through 1995 (N=13,863). Our Boston data consist of monthly counts of various categories of firearms confiscated by Boston police from 1992 through August of 1996 (total confiscations numbered 3,840 for this period). For both locations, we examined trends in confiscations of our select domestic assault weapon group (i.e., the AR15, Intratec, and SWD families and selected Calico and Feather models). In addition, we approximated trends in confiscations of semiautomatic handguns capable of accepting large-capacity magazines by analyzing confiscations of selected Glock and Ruger pistols.

⁵⁷ Time, cost, and personnel considerations limited our ability to implement on-site data collection efforts.

The patterns we discovered were relatively consistent in both cities. Assault weapon confiscations were rare both before and after the ban. In both cities, the data were suggestive of a decrease in assault weapon confiscations after the ban. As a fraction of all confiscated guns, assault weapons decreased roughly 25% in these cities. Thus, these data sources provide some confirmation of our inferences regarding assault weapon trends from the national trace data. Further, we were able to examine the crimes with which assault weapons were associated in St. Louis and found that, as in the national data, assault weapons are overrepresented in drug offenses but not in violent offenses. Finally, confiscations of non-banned semiautomatic handguns capable of accepting large-capacity magazines increased or remained stable after the ban as a fraction of all confiscated handguns in both St. Louis and Boston.⁵⁸

5.2.2. Assault Weapons in St. Louis and Boston

St. Louis police confiscated 180 weapons in the select assault weapon group between 1992 and 1995.⁵⁹ The vast majority of these weapons were from the Intratec and SWD assault pistol groups. Average monthly confiscations of assault weapons dropped from 4 to 3 after the ban's implementation (see Table 5-9). Total gun seizures also dropped during the post-ban months. In order to control for the general downward trend in gun confiscations, we examined assault weapons as a fraction of all confiscated guns. Prior to the ban, assault weapons accounted for about 1.4% of all guns. After the ban they decreased to 1% of confiscated guns, a relative decrease of approximately 29%. A contingency table chi-square test indicated that this was a statistically meaningful drop ($p=.05$). In addition, assault weapons represented a lower fraction of all guns confiscated during 1995 (.009) than

Table 5-9. Summary data on guns confiscated in St. Louis, January 1992 – December 1995

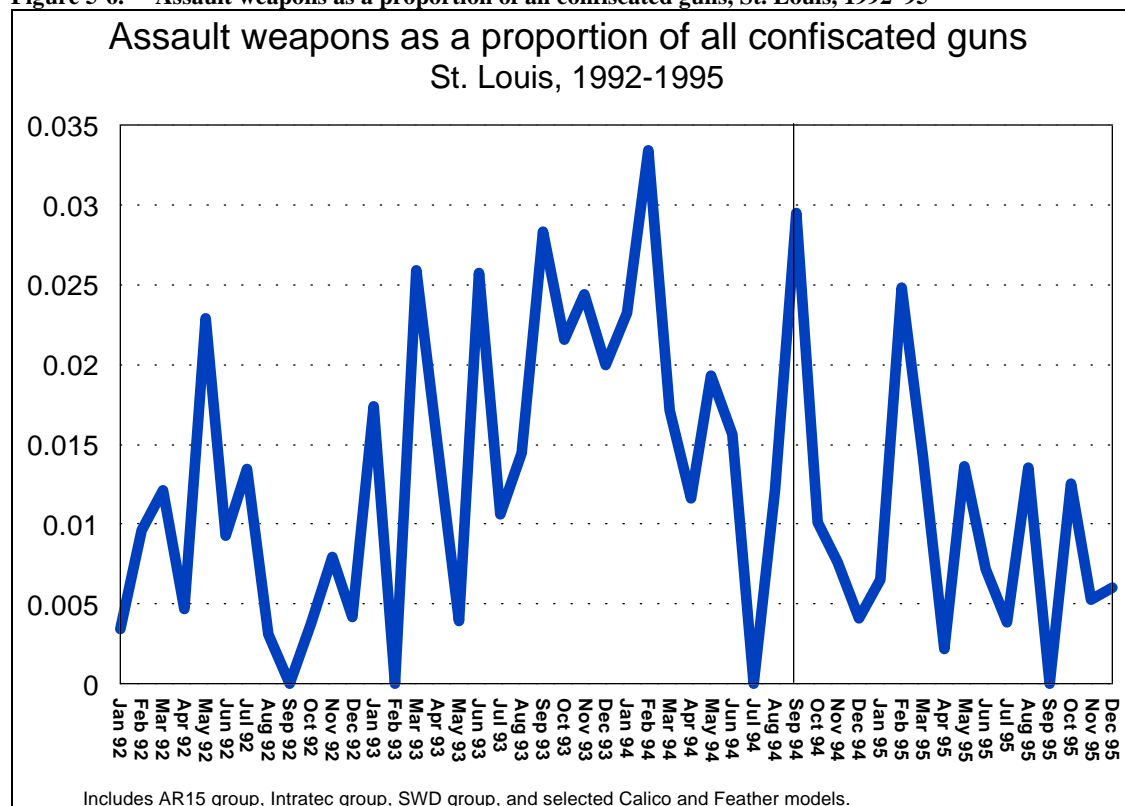
	<i>Pre-ban</i> (Jan. '92–Aug. '94)	<i>Post-ban</i> (Sept. '94–Dec. '95)	<i>Change</i>
<u>Total guns confiscated</u>			
Total	9,372	4,491	
Monthly mean	293	281	-4%
<u>Assault guns</u>			
Total	134	46	
Monthly mean	4	3	-25%
Proportion of confiscated guns	.014	.010	-29%
<u>Large-capacity handguns (Ruger and Glock)</u>			
Total	118	93	
Monthly mean	4	6	+50%
Proportion of all handguns	.018	.031	+72%

⁵⁸ As stated above, analyses of local data sources have the limitation that they are not necessarily indicative of those elsewhere in the nation. We cannot address the various local conditions which may have impacted recent gun trends in the selected cities. However, we should note that youth gun violence initiatives sponsored by the National Institute of Justice have been ongoing in each city during recent years. It is not clear at this time what impact, if any, these initiatives have had upon the gun trends that are the subjects of our investigation.

⁵⁹ The St. Louis data contain a few SWD streetsweeper shotguns in addition to SWD assault pistols.

during 1993 (.018), the last full calendar year prior to the passage and implementation of the ban. A monthly trend line for assault weapons as a fraction of all guns is shown in Figure 5-6.^{60 61}

Figure 5-6. Assault weapons as a proportion of all confiscated guns, St. Louis, 1992–95



A similar picture emerged from Boston. From 1992 through August of 1996, Boston police seized only 74 of these weapons. As in St. Louis, the vast majority were Intratec and SWD assault pistols. Table 5-10 shows

⁶⁰ We also estimated interrupted time series models to test the post intervention change in the monthly trend for the assault weapons proportion measure. As in the NCIC analysis reported in Section 4.3 (p.50) we considered various models of impact. An abrupt, temporary impact model might seem appropriate, for example, based on the price trends presented in Section 4.1 (p.24). Both abrupt, permanent and gradual, permanent impacts are also plausible and seem to better match the pattern displayed in the St. Louis data. At any rate, these analyses failed to confirm that there was a significant change in assault weapons as a fraction of all guns. (The best fitting model was an abrupt, permanent impact model with an autoregressive parameter at the third lag).

However, we have emphasized the chi-square proportions test because the monthly series is rather short (N=48) for interrupted time series analysis (McCleary and Hay 1980) and because the monthly trend line provides no strong indication that the post ban drop was due to a preexisting trend.

⁶¹ Average monthly confiscations of long guns (rifles and shotguns) increased somewhat from 88 in the pre-ban months to 92 after the ban. As a proportion of all confiscated guns, long guns rose from .299 before the ban to .326 after the ban. Thus, the decrease in assault weapons may have been offset by an increase in the use of long guns. However, we did not have the opportunity to investigate the circumstances under which long guns were seized. The post-ban increase could have been due, for example, to an increase in the proportion of confiscated guns turned in voluntarily by citizens. In addition, the ramifications of a long gun substitution effect are somewhat unclear. If, for instance, the substituted long guns were .22 caliber, rimfire (i.e., low velocity) rifles (and in addition did not accept large-capacity magazines), then a substitution effect would be less likely to have demonstrably negative consequences. If, on the other hand, offenders substituted shotguns for assault weapons, there could be negative consequences for gun violence mortality.

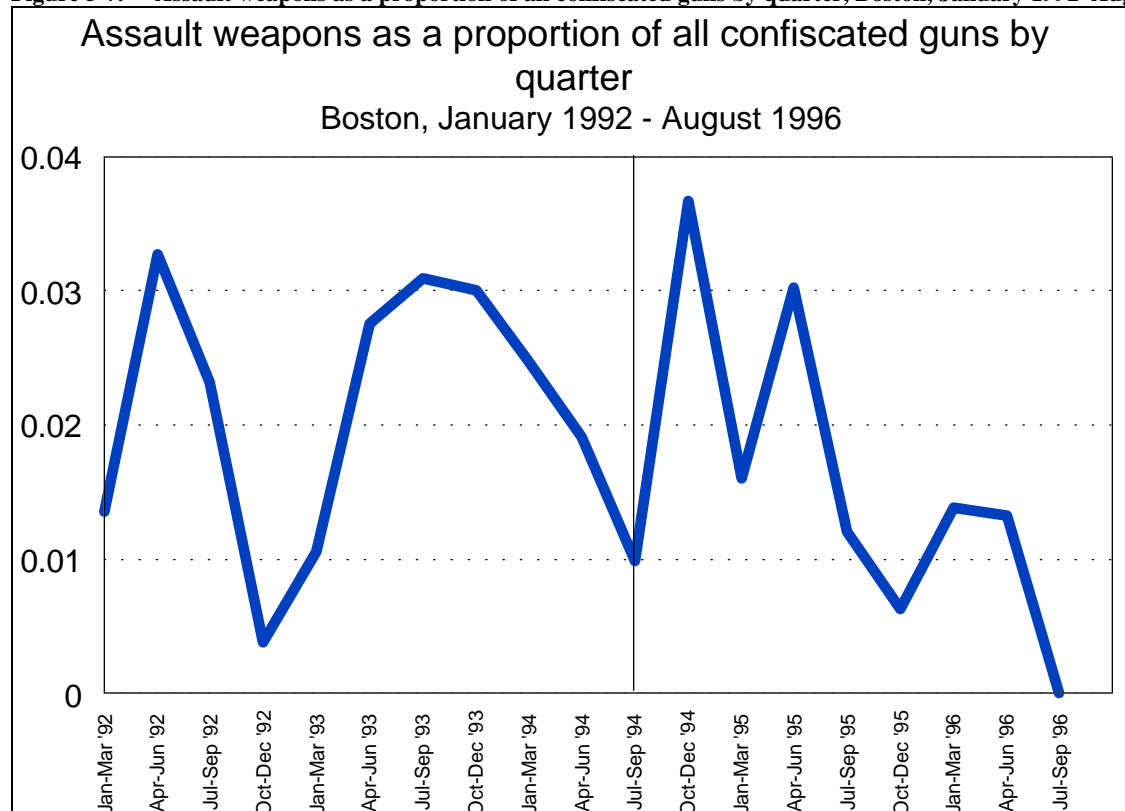
the respective numbers of total firearms and assault weapons seized before and after the Crime Act. The average number of assault weapons seized per month dropped from approximately 2 before the ban to about 1 after the ban, but total gun seizures were also falling. As a fraction of all guns, assault weapons decreased from .021 before the ban to .016 after the ban, a relative decrease of about 24%. A contingency table chi-square test indicated that this change was not statistically meaningful ($p=.38$), but the numbers provide some weak indication that assault weapons were dropping at a faster rate than were other guns. Quarterly trends for the proportions variable shown in Figure 5-7 suggest that assault weapons were relatively high as a proportion of confiscated guns during the quarters immediately following the ban, but then dropped off notably starting in the latter part of 1995.^{62 63}

Table 5-10. Summary data on guns confiscated in Boston, January 1992 – August 1996

	<i>Pre-ban Jan. '92–Aug. '94)</i>	<i>Post-ban (Sept. '94–Aug. '96)</i>	<i>Change</i>
<u>Total guns confiscated</u>			
Total	2,567	1,273	
Monthly mean	80	53	-34%
<u>Assault guns</u>			
Total	53	21	
Monthly mean	2	1	-50%
Proportion of confiscated guns	.021	.016	-24%
<u>Large-capacity handguns (Ruger and Glock)</u>			
Total	28	17	
Monthly mean	1	1	0%
Proportion of all handguns	.015	.016	+7%

⁶² We did not estimate time series models with the Boston data due to the rarity with which assault weapons were confiscated during the study period.

⁶³ In other analyses, we found that long guns decreased as a proportion of gun confiscations throughout the period, suggesting that there was not substitution of long guns for assault weapons in Boston.

Figure 5-7. Assault weapons as a proportion of all confiscated guns by quarter, Boston, January 1992–August 1996

5.2.3. Assault Weapons and Crime

Using the data from St. Louis, we were able to investigate the types of crimes with which assault weapons were associated. Approximately 12% of the assault weapons seized in St. Louis during the study period were associated with the violent crimes of homicide, aggravated assault, and robbery. Overall, about 12% of all confiscated guns were associated with these crimes. Hence, assault weapons do not appear to be used disproportionately in violent crime relative to other guns in these data, a finding consistent with our conclusions about national BATF trace data (see previous section). Overall, assault weapons accounted for about 1% of guns associated with homicides, aggravated assaults, and robberies.

However, 27% of the assault weapons seized in St. Louis were associated with drug offenses. This figure is notably higher than the 17% of all confiscated guns associated with drug charges.⁶⁴ This finding is also consistent with our national trace data analysis showing assault weapons to be more heavily represented among drug offenders relative to other firearms. Nevertheless, only 2% of guns associated with drug crimes were assault weapons.

5.2.4. Unbanned Handguns Capable of Accepting Large-capacity Magazines

We could not directly measure criminal use of pre-ban large-capacity magazines. Therefore, in order to approximate pre-ban and post-ban trends, we examined confiscations of a number of Glock and Ruger handgun models which can accept large-capacity magazines. These guns are not banned by the Crime Act, but they can

⁶⁴ Some of the guns associated with drug charges were also tied to weapons charges.

accept banned large-capacity magazines. We selected Glock and Ruger models because they are relatively common in BATF trace data (BATF 1995a, p.35). A caveat to the analysis is that we were not able to obtain data on the magazines recovered with these guns. Consequently, we cannot say whether Glock and Ruger pistols confiscated after the ban were equipped with pre-ban large-capacity magazines. It is also possible that trends corresponding to Glocks and Rugers are not indicative of trends for other unbanned, large-capacity handguns.

As was discussed in Chapter 4 (see the NCIC stolen gun analysis), the hypothesized effects of the ban on this group of weapons is ambiguous. If large-capacity handgun magazines have become less available since the ban as intended (indeed, recall that the magazine price analysis in Chapter 4 indicated that prices of large-capacity magazines for Glock handguns remained at high levels through our last measurement period in the spring of 1996), one might hypothesize that offenders would find large-capacity handguns like Glocks and Rugers to be less desirable, particularly in light of their high prices relative to other handguns. If, on the other hand, large-capacity magazines for these unbanned handguns are still widely available, offenders seeking high-quality rapid-fire capability might substitute them for the banned assault weapons.

With the St. Louis data, we investigated trends in confiscations of all Glock handguns and Ruger P85 and P89 models. Police confiscated 118 of these handguns during the pre-ban months and 93 during the post-ban months (see Table 5-9). The monthly average increased from approximately 4 in the pre-ban months to 6 in the post-ban period. As a fraction of all confiscated handguns, moreover, the Glock and Ruger models rose from .018 before the ban to .031 after the ban, a relative increase of 72%. (These handguns also increased from .037 to .065 — a 76% change — as a fraction of all semiautomatic handguns; thus, the upward trend for these guns was not simply a result of a general increase in the use of semiautomatic handguns). However, Figure 5-8 shows that these handguns were trending upward as a fraction of all handguns well before the ban was implemented. (For this reason, we did not conduct contingency table chi-square tests for the pre-ban and post-ban proportions). Visually, it appears that the ban may have caused this trend to level off. Nevertheless, an interrupted time series analysis failed to provide evidence of a ban effect on the proportion of handguns which were unbanned large-capacity semiautomatics.⁶⁵

⁶⁵ In preliminary analysis, we found that the noise component of this time series was substantially affected by a modest outlier value at the last data point. We were able to estimate a better fitting model with more stable parameters with the outlier removed. After removing this data point (N=47), the final noise component consisted of a moving average parameter at the third lag, autoregressive parameters at lags two and four, and a seasonal autoregressive parameter at the twelfth lag. As in the time series analyses reported elsewhere, we examined a variety of impact models. The most appropriate impact model for the data was an abrupt, permanent impact. The impact parameter was positive (.006) but statistically insignificant (t value=1.13).

Figure 5-8. Unbanned large-capacity handguns as a proportion of all confiscated handguns, St. Louis, 1992-95

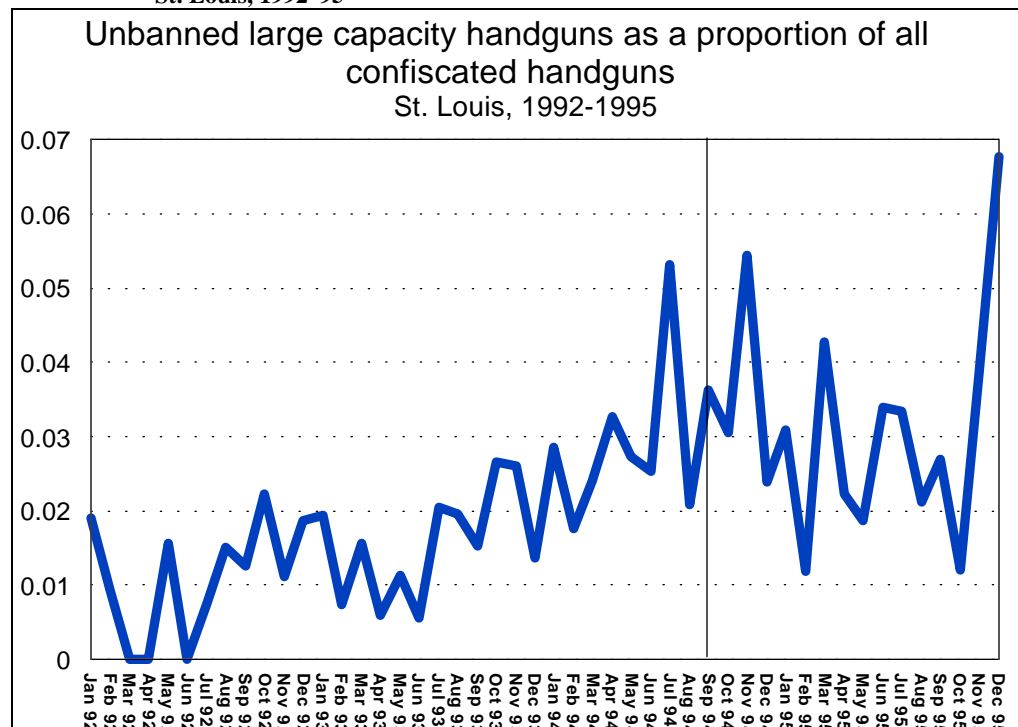
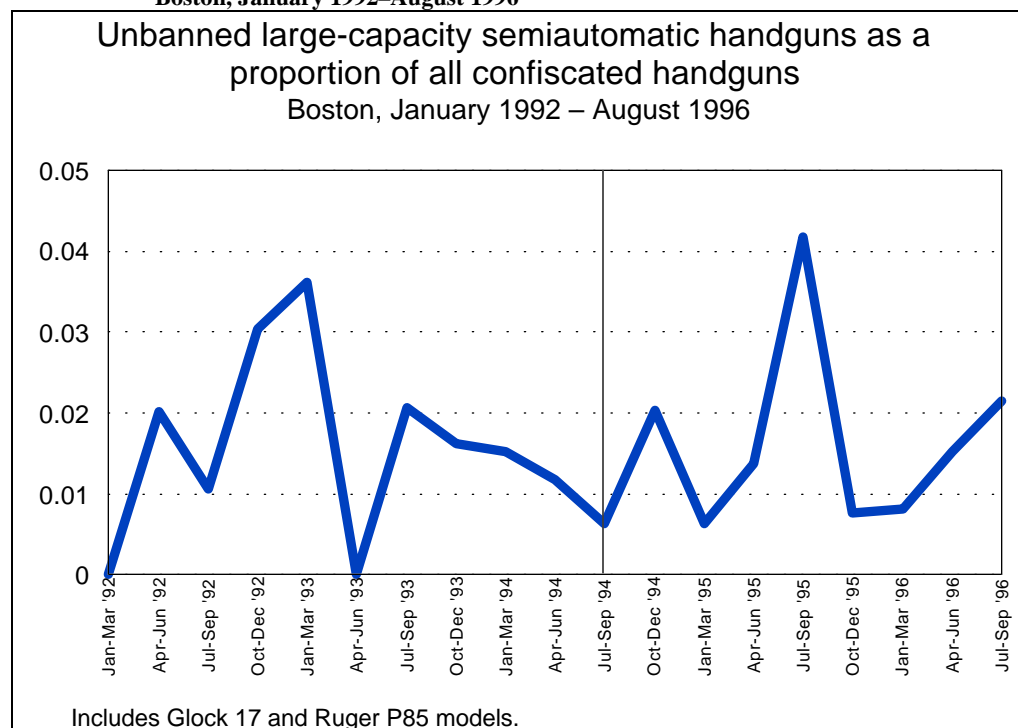


Figure 5-9. Unbanned large-capacity semiautomatic handguns as a proportion of all confiscated handguns, Boston, January 1992–August 1996



The data we acquired from Boston included counts for two specific unbanned, large-capacity handgun models, the Glock 17 and Ruger P85. Police in Boston confiscated 28 of these guns from January 1992 through August of 1994 and 17 from September 1994 through August 1996 (see Table 5-10). As a proportion of all

confiscated handguns, these models increased slightly from .015 before the ban to .016 after the ban. However, a contingency table chi-square test indicated that this difference was not statistically meaningful ($p=.83$).⁶⁶ The quarterly trend for the proportion measure is displayed in Figure 5-8. The pattern does not suggest any meaningful trends over time.⁶⁷

In sum, the data from St. Louis and Boston do not warrant any strong conclusions one way or the other with respect to the use of large-capacity magazines, as crudely approximated by confiscations of a few relatively popular unbanned handgun models which accept such magazines. The ban on large-capacity magazines does not seem to have discouraged the use of these guns. At the same time, the assault weapon ban has not caused a clear substitution of these weapons for the banned large-capacity firearms.

⁶⁶ We did not attempt any time series analyses with these data due to the rarity with which these guns were confiscated in Boston.

⁶⁷ A caveat to this analysis is that the Ruger P85 was discontinued in 1992 and replaced with a new version called the P89 (Fjestad 1996, p.996). The P89 was one of the ten most frequently traced guns nationally in 1994 (BATF 1995a, p.35). Unfortunately, we did not acquire data on confiscations of P89's in Boston (the P89 was included in our St. Louis figures). Had we been able to examine P89's in Boston, we may have found a greater increase in the use of unbanned, large-capacity handguns after the ban. Accordingly, the most prudent conclusion from the Boston data may be that there are no signs of a decrease in the use of unbanned, large-capacity handguns.

6. POTENTIAL CONSEQUENCES OF ASSAULT WEAPON USE

The Congressional mandate for this study required us to study how the Subtitle A bans on assault weapons and large-capacity magazines affected two consequences of using those weapons: specifically, violent and drug-related crime. Among violent crimes, we devoted most attention to gun murders, because it is the best measured. However, the total gun murder rate is an insensitive indicator of ban effects, because only a fraction of gun murders involve large-capacity magazines, and only about 25 percent of those murders involve the banned assault weapons. Therefore, we carried out supplementary analyses of certain categories of gun murders that more commonly involve the banned guns and magazines: events that involve multiple gun murder victims, gun murders involving multiple wounds, and killings of law enforcement officers. Unlike the BATF trace data analyzed in Chapter 5, available data sources did not permit us to categorize these events on the basis of relationship to drugs.

6.1. TRENDS IN STATE-LEVEL GUN HOMICIDE RATES

To estimate the impact of the Subtitle A bans on gun homicide rates, we estimated multivariate regression models using data from all states with reasonably consistent Supplementary Homicide Reporting over the sixteen-year period 1980 through 1995. We closely followed the approach used by Marvell and Moody (1995) to analyze the impact of enhanced prison sentences for felony gun use. Marvell and Moody generously provided their database, which we updated to cover the post-ban period.

Any effort to estimate how the ban affected the gun murder rate must confront a fundamental problem, that the maximum achievable preventive effect of the ban is almost certainly too small to detect statistically. Although our statistical model succeeded in explaining 92 percent of the variation in State murder rates over the observation period, a post hoc power analysis revealed that it lacks the statistical power to detect a preventive effect smaller than about 17 percent of all gun murders under conventional standards of statistical reliability.⁶⁸ A reduction that large would amount to preventing at least 2.4 murders for every one committed with an assault weapon before the ban, or, alternatively, preventing two-thirds of all gun murders committed with large-capacity magazines — obviously impossible feats given the availability of substitutes for the banned weapons.⁶⁹ While there are substantially smaller reductions that would benefit society by more than the cost of the ban, they would be impossible to detect in a statistical sense, at least until the U.S. accumulates more years of post-ban data.

Within this overall constraint, our strategy was to begin with a “first-approximation” estimate of the ban effect on murders, then to produce a series of re-estimates intended to rule out alternative explanations of the estimated effect. Based on these efforts, our best estimate of the short-run effect is that the ban produced a 6.7 percent reduction in gun murders in 1995. However, we caution that for the reasons just explained, we cannot statistically rule out the possibility that no effect occurred. Also, we expect any short-run 1995 preventive effect on gun murders to ebb, then flow, in future years, as the stock of grandfathered assault weapons makes its way to offenders patronizing secondary markets, while the stock of large-capacity magazines dwindles over time.

The following sections first describe our data set, then explain our analyses.

⁶⁸ By conventional standards, we mean statistical power of 0.8 to detect a change, with .05 probability of a Type 1 error.

⁶⁹ Moreover, no evidence exists on the lethality effect of limiting magazine capacity.

6.1.1. Data

Data for gun homicides are available for the entire 1980–95 period of the study. We obtained data from “Crime in the United States” Uniform Crime Reports for the years 1994 and 1995, and from Marvell and Moody for the years 1980 through 1993. (Marvell and Moody used “Crime in the United States” Uniform Crime Reports for years 1991 to 1993, and unpublished data from the FBI for the earlier years.)

Since the fraction of homicides for which weapon use was reported by states varied from state to state and even year to year over the period, it was necessary to adjust and filter the data. To address this reporting problem, we adopted Marvell and Moody’s (1995) approach to compile what they call a “usable” data series, consisting of observations (each year for each state) for which homicide weapon-use reporting is at least 75 percent complete (See Marvell and Moody, 1995).⁷⁰ On this basis we had to eliminate a certain portion of the gun homicide data (see Table 6-2) For each observation that met this requirement, the number of gun homicides was multiplied by a correction factor defined as the ratio of the FBI estimate for the total number of reported homicides in the state to the number of homicides for which the state reported weapon data.

We used Marvell and Moody’s rule of retaining states in the analysis only if they had data for seven or more consecutive years⁷¹ and added the additional requirement that states must have had gun homicide data for the post-intervention year, 1995. (This additional requirement caused us to eliminate four states entirely from the analysis: Delaware, Kansas, Nebraska, and New Mexico.) In addition, Marvell and Moody made allowances for otherwise adequate seven-year series that contained a single year of data that did not meet the above requirements. Provided the reporting rate was at least 50 percent and the corrected figure did not “depart greatly”⁷² from surrounding years, the state was not dropped from the analysis. (These are: Louisiana 1987, South Carolina 1991, Tennessee 1991, and Wyoming 1982.) A further allowance was, that if the reporting rate was below 50 percent, or if the adjusted number did depart from surrounding years, the percentage of gun homicides was revised as the average of that for the four surrounding years. (These are: Alaska 1984, Arizona 1989, Idaho 1991, Iowa, 1987, Kentucky 1983, Maryland 1987, Minnesota 1990, North Dakota 1991, Texas 1982, and Vermont, 1993.) In the end, “usable data” remained for 42 states for the analysis (see Table 6-2).

To allow us to account for intervening influences on gun homicide rates, we gathered data for several time-varying control variables that proved statistically significant in Marvell and Moody’s analysis. Two economic variables (state per capita personal income and state employment rate) and two age structure variables were included. State per capita personal income was available from the Bureau of Economic Analysis for all years; we obtained data for 1991–95 directly from the Department of Commerce, while Marvell and Moody provided us the data for earlier years. State employment rates were available from the Bureau of Labor Statistics, Department of Labor for 1994 and 1995 and from the Bureau of Economic Analysis (via Marvell and Moody) for year 1980–93. Data on the age structures of state populations were available from the Bureau of the Census

⁷⁰ An alternative approach would have been to use mortality data available from the National Center for Health Statistics through 1992, then to append NCR data for the subsequent years. We were concerned about possible artifactual effects of combining medical examiners’ and police data into a single time series, but recommend this approach for future replication.

⁷¹ However, we departed from Marvell and Moody by including observations for years that followed a gap in a series of “usable” data and were therefore not part of a seven-year string. The state was treated as a missing observation during the gap.

⁷² According to Marvell and Moody, a single year of data does not “depart greatly” from surrounding years if either the percentage of gun murders falls within the percentages for the prior and following years, or if it is within three percentage points of the average of the four closest years.

unadjusted estimates of total resident population of each state as of July 1 of each year. (We obtained these data directly for years 1994–95, while Marvell and Moody generously provided us with the data for earlier years).

6.1.2. Research Design

As a first approximation for estimating effects of the assault weapon ban, we specified Model 1 as loglinear in state gun homicide rate (adjusted as described above) and a series of regressors.⁷³ The regressors were:

- A third-degree polynomial trend in the logarithm of time;
- A dummy variable for each state;
- State per-capita income and employment rates for each year (logged);
- Proportions of the population aged 15-17 and 18-24 (logged);
- D95, a 1995 dummy variable, which represented ban effects in this first-approximation model; and
- PREBAN, a dummy variable set to represent states with assault weapon bans during their pre-ban years.

We represented time with the polynomial trend instead of a series of year dummies for two reasons. First, by reducing the number of time parameters to estimate from 15 to 3, we improved statistical efficiency. Second, during sensitivity analyses after Model 1 was fit, we discovered that it produced more conservative estimates of ban effects than a model using time dummies (that model implicitly compares 1995 levels to 1994 levels instead of to the projected trend for 1995), because the estimated trend began decreasing at an increasing rate in the most recent years. We included the economic and demographic explanatory variables because Marvell and Moody (1995) had found them to be significant influences on state-level homicide rates using the same data set. PREBAN was included so that for states with their own assault weapon bans, the D95 coefficient would reflect differences between 1995 and only those earlier years in which the state’s gun ban was in place.

As shown in Table 6-1, Model 1 estimated a 9.0 percent reduction in gun murder rates in the year following the Crime Act, based on a statistically significant estimated coefficient for the 1995 dummy variable.⁷⁴ This estimated coefficient, of course, reflects the combined effect of a package of interventions that occurred nearly simultaneously with the Subtitle A bans on assault weapons and large-capacity magazines. These include: the Subtitle B ban on juvenile handgun possession and the new Subtitle C FFL application and reporting requirements, other Crime Act provisions, the Brady Act, and a variety of State and local initiatives.

We reasoned that if the Model 1 estimate truly reflected assault weapon ban effects, then by disaggregating the states we would find a larger reduction in gun murders in the states without pre-existing assault weapon bans than in the four states with such bans prior to 1994 (California, Connecticut, Hawaii, and New Jersey). To test this hypothesis, we estimated Model 2, in which D95 was replaced by two interaction terms that indicated whether or not a State ban was in place in 1995. As shown in Table 6-1, disaggregating the states using

⁷³ We weighted the regression by state population to adjust for heteroskedasticity and to avoid giving undue weight to small states.

⁷⁴ In our sensitivity analyses of models in which the polynomial time trend was replaced with year dummies, the corresponding Model 1 estimated reduction was 11.2 percent, and the estimated coefficient was statistically significant at the .05 level. Similarly, for alternatives to Models 2-4, the estimated ban effects were 2 to 3 percent larger than those shown in Table 6-1 and were statistically significant at the .05 level.

Model 2 did produce a larger estimated ban effect, a statistically significant reduction of 10.3 percent in the states without their own bans.

Table 6-1. Estimated Coefficients and Changes in Gun Murder Rates from Title XI Interventions

<i>Model</i>	<i>Subgroup for 1995 impact</i>	<i>Coefficient</i>	<i>Percent change</i>	<i>test statistic</i>
1	All Usable (N = 42)	-0.094 +	-9.0%	-1.67
2	States without AW ban (N = 38)	-0.108 +	-10.3	-1.88
	States with AW ban (N = 4)	-0.001	-0.1	-0.01
3	States without AW or JW ban (N = 22)	-0.102	-9.7	-1.56
	States without AW, with JW ban (N = 16)	-0.115	-10.9	-1.64
	States with AW, without JW ban (N = 2)	-0.076	-7.3	-0.41
	States with AW and JW ban (N = 2)	0.044	4.5	0.39
4	California and New York excluded: States without AW or JW ban (N = 22)	-0.103	-9.8	-1.58
	States without AW, with JW ban (N = 15)	-0.069	-6.7	-0.95
	States with AW, without JW ban (N = 2)	-0.079	-7.6	-0.43
	States with AW and JW ban (N = 1)	0.056	5.8	0.30

+ Statistically significant at 10-percent level

To isolate the hypothesized Subtitle A bans from the Subtitle B ban on juvenile handgun possession, we estimated Model 3, in which D95 was used in four interaction terms with dummy variables indicating whether a state had its own assault weapon ban, juvenile handgun possession ban, both, or neither at the time of the Crime Act.⁷⁵ We also added a term, PREJBAN, which represented states with juvenile bans during their pre-ban years, for reasons analogous to the inclusion of PREBAN. The estimates of most interest are those for the 38 states without their own assault weapon bans. Among those, the estimated ban effect was slightly larger in states that

⁷⁵ A more restrictive alternative to Model 3 is based on the assumption that the impacts for states without assault weapon bans and the impacts for states without juvenile handgun possession bans are additive. A model estimate under this assumption yielded very similar point estimates and slightly smaller standard errors than Model 3. We preferred the more flexible Model 3 for two reasons. First, the less restrictive model helps us interpret the estimates clearly in light of some of the legislative changes that occurred in late 1994. Model 3 allows the reader to assess the consequences of the assault weapon ban under each set of conditions that existed at the time the ban was implemented. Second, because a juvenile handgun possession ban a fortiori prohibits the most crime-prone segment of the population from possessing the assault weapons most widely used in crime, we hesitated to impose an additivity assumption.

already had a juvenile handgun possession ban than in those that did not. We interpret the former estimate as a better estimate of the assault weapon ban effect because the State juvenile ban attenuates any confounding effects of the Federal juvenile ban. In any event, however, the estimates are not widely different, and they imply a reduction in the 10 to 11 percent range.

We were also concerned that our estimates might be distorted by the effects of relevant State and local initiatives. Therefore, we reestimated Model 3 excluding 1995 data for California and New York. We filtered out these two because combined they account for nearly one-fourth of all U.S. murders and because they were experiencing potentially relevant local interventions at the time of the ban: California’s “three strikes” law and New York City’s “Bratton era” in policing, coming on the heels of several years of aggressive order maintenance in that city’s subway system.

The estimation results with California and New York omitted appear as Model 4 in Table 6-1. While dropping these states leaves three of the estimated coefficients largely unaffected, it has a substantial effect on New York’s category, states with a juvenile handgun possession ban but no assault weapon ban. The estimated ban effect in this category drops from a nearly significant 10.9 percent reduction to a clearly insignificant 6.7 percent reduction, which we take as our best estimate.

To conclude our study of state-level gun homicide rates, we performed an auxiliary analysis. We were concerned that our Model 4 estimate of 1995 ban effects could be biased by failure to control for the additional requirements on FFL applicants that were imposed administratively by BATF in early 1994 and included statutorily in Subtitle C of Title XI, which took effect simultaneously with the assault weapon ban. These requirements were intended to discourage new and renewal applications by scofflaw dealers who planned to sell guns primarily to ineligible purchasers presumed to be disproportionately criminal. Indeed, they succeeded in decreasing the number of FFLs by some 37 percent during 1994 and 1995, from about 280,000 to about 180,000 (U.S. Department of Treasury, 1997). We were concerned that if the FFLs who left the formal market during that period were disproportionately large suppliers of guns to criminals, then failure to control for their disappearance could cause us to impute any resulting decrease in gun murder rates mistakenly to the Subtitle A ban.

Unfortunately, we could use only the 1989–95 subset of our database to test this possibility, because we could not obtain state-level FFL counts for years before 1989. Therefore, we modified Model 4 by replacing the time trend polynomial with year dummies. We then estimated the modified Model 4 both with and without a logged FFL count and an interaction term between the logged count and a 1994–95 dummy variable. Although the estimated coefficient on the interaction term was significantly negative, the estimated 1995 ban effect was essentially unchanged.

Table 6-2. Years for which gun-related homicide data are not available

	<i>Gun homicide data 1980–95</i>
Alabama	✓
Alaska	✓
Arizona	✓
Arkansas	✓
California	✓
Colorado	✓
Connecticut	✓

	<i>Gun homicide data 1980–95</i>
Delaware	No usable data
District of Columbia	No usable data
Florida	1988–91
Georgia	1980–81
Hawaii	✓
Idaho	✓
Illinois	No usable data
Indiana	1989–1991
Iowa	1991–1993
Kansas	No usable data
Kentucky	1987-89; 1994
Louisiana	1990–91
Maine	1990–92
Maryland	✓
Massachusetts	1988–90
Michigan	✓
Minnesota	✓
Mississippi	No usable data
Missouri	✓
Montana	No usable data
Nebraska	No usable data
Nevada	✓
New Hampshire	✓
New Jersey	✓
New Mexico	No usable data
New York	✓
North Carolina	✓
North Dakota	1994
Ohio	✓
Oklahoma	✓
Oregon	✓

	<i>Gun homicide data 1980–95</i>
Pennsylvania	✓
Rhode Island	✓
South Carolina	✓
South Dakota	No usable data
Tennessee	✓
Texas	✓
Utah	✓
Vermont	1980-83
Virginia	✓
Washington	✓
West Virginia	✓
Wisconsin	✓
Wyoming	✓

✓ indicates usable data are available for all years (1980–95) in the period

6.2. ASSAULT WEAPONS, LARGE-CAPACITY MAGAZINES, AND MULTIPLE VICTIM/MASS MURDERS

6.2.1. Trends in Multiple-Victim Gun Homicides

The use of assault weapons and other firearms with large-capacity magazines is hypothesized to facilitate a greater number of shots fired per incident, thus increasing the probability that one or more victims are hit in any given gun attack. Accordingly, one might expect there to be on average a higher number of victims per gun homicide incident for cases involving assault weapons or other firearms with large-capacity magazines. To the extent that the Crime Act brought about a permanent or temporary decrease in the use of these weapons (a result tentatively but not conclusively demonstrated for assault weapons in Chapter 5), we can hypothesize that the number of victims per gun homicide incident may have also declined.

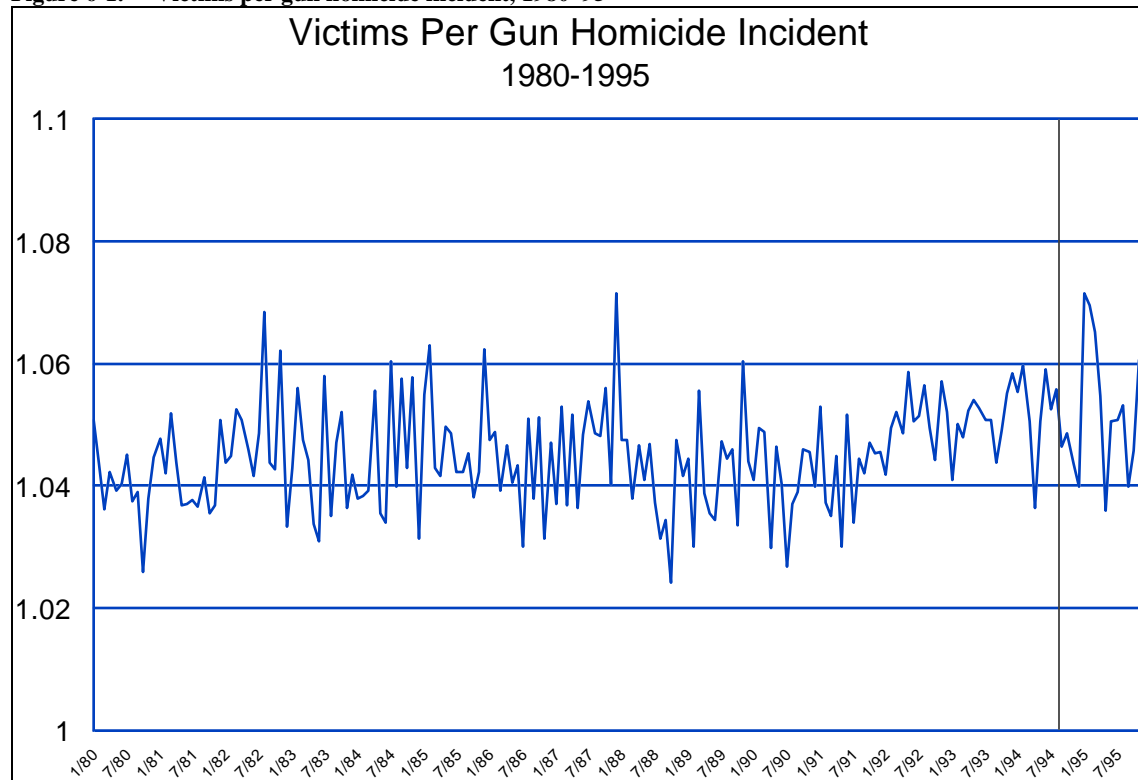
We investigated this hypothesis using data from the Federal Bureau of Investigation’s Supplemental Homicide Reports (SHR) for the years 1980 through 1995. We constructed a monthly database containing the number of gun homicide incidents and victims throughout the nation.⁷⁶ The SHR does not contain information

⁷⁶ The SHR is compiled annually by the FBI based on homicide incident reports submitted voluntarily by law enforcement agencies throughout the country (see the FBI’s *Uniform Crime Reports* for more information about reporting to the Uniform Crime Reports and the Supplemental Homicide Reports). Though the SHR contains data on the vast majority of homicides in the nation, not all agencies report homicide incident data to the SHR, and those agencies which do report may fail to report data for some of the homicides in their jurisdiction. In this application, it is not clear how any potential bias from

about the makes, models, and magazine capacities of firearms used in homicides. Consequently, these results rely on indirect, inferred links between expected changes in the use of banned weapons and trends in the victim per incident measure.

From 1980 through August of 1994 (the pre-ban period), there were 184,528 gun homicide incidents reported to the SHR. These cases involved 192,848 victims, for an average of 1.045 victims per gun homicide incident. For the post-ban months of September 1994 through December 1995, there were 18,720 victims killed in 17,797 incidents, for an average of 1.052 victims per incident. Thus, victims per incident increased very slightly (less than 1 percent) after the Crime Act. A graph of monthly means presented in Figure 6-1 suggests that this increase predated the assault weapon ban. Nevertheless, an interrupted time series analysis also failed to produce any evidence that the ban reduced the number of victims per gun homicide incident.⁷⁷

Figure 6-1. Victims per gun homicide incident, 1980-95



Considering the rarity with which assault weapons are used in violent crime (for example, assault weapons are estimated to be involved in 1 to 7 percent of gun homicides),⁷⁸ this result is not unexpected. At the same time, an important qualifier is that the data available for this study have not produced much evidence regarding pre-ban/post-ban trends in the use of large-capacity magazines in gun crime. In the next section, we offer a tentative estimate, based on one city, that approximately 20 to 25 percent of gun homicides are committed

missing cases would operate. That is, we are unaware of any data indicating whether reported and non-reported cases might differ with respect to the number of victims killed.

⁷⁷ We tested the data under different theories of impact suggested by the findings on assault weapon utilization reported in Chapter 5, but failed to find evidence of a beneficial ban effect. If anything, our time series analysis suggested that the post-ban increase in victims per gun murder incident was a meaningful change.

⁷⁸ See discussion in Chapters 2 (p.8) and 5 (p.58) and in Section 6.3 (p.87) of this chapter.

with gun equipped with large-capacity magazines banned by the Crime Act.⁷⁹ Hence, trends in the use of large-capacity magazines would seem to have more potential to produce measurable effects on gun homicides. It is not yet clear as to whether the use of large-capacity magazines has been substantially affected by the Crime Act.

Despite these ambiguities, we can at least say that this examination of SHR data produced no evidence of short term decreases in the lethality of gun violence as measured by the mean number of victims killed in gun homicide incidents.⁸⁰

6.3. CONSEQUENCES OF TITLE XI: MULTIPLE WOUND GUN HOMICIDES

To provide another measure of the consequences of the assault weapon/large-capacity magazine ban on the lethality of gun violence, we analyzed trends in the mean number of gunshot wounds per victim of gun homicides in a number of sites. In one jurisdiction, we were able to examine trends in multiple wound non-fatal gunshot cases. The logic of these analyses stems from the hypothesis that offenders with assault weapons or other large-capacity firearms can fire more times and at a more rapid rate, thereby increasing both the probability that they hit one or more victims and the likelihood that they inflict multiple wounds on their victims. One manifestation of this phenomenon could be a higher number of gunshot wounds for victims of gun homicides committed with assault weapons and other large-capacity firearms. To the extent that Title XI decreased the use of assault weapons and large-capacity magazines, we hypothesize a decrease in the average number of wounds per gun murder victim.

To test this hypothesis, we collected data from police and medical sources on gunshot murders (justifiable homicides were excluded) in Milwaukee County, Seattle and King County, Jersey City (New Jersey), Boston, and San Diego County. Selection of the cities was based on both data availability and theoretical relevance. Jersey City and San Diego were chosen as comparison series for the other cities because New Jersey and California had their own assault weapons bans prior to the Federal ban. The New Jersey and California laws did not ban all large-capacity magazines, but they did ban several weapons capable of accepting large-capacity magazines. Thus, we hypothesized that any reduction in gunshot wounds per gun homicide victim due to the Federal ban might be smaller in magnitude in Jersey City and San Diego.

The data from Seattle and San Diego were collected from the respective medical examiners' offices of those counties.⁸¹ The Milwaukee data were collected from both medical and police sources by researchers at the Medical College of Wisconsin. The Jersey City data were collected from the Jersey City Police Department. Finally, the Boston data were provided by the Massachusetts Department of Public Health. From each of these sources, we were able to collect data spanning from January 1992 through at least the end of 1995. In some cities we were able to obtain data on the actual number of gunshot wounds inflicted upon victims, while in other cities we were able to classify cases only as single wound or multiple wound cases. Depending on data available, we analyzed pre-ban and post-ban data in each city for either the mean number of wounds per victim or the proportion

⁷⁹ A New York study estimated this figure to be between 16 percent and 25 percent (New York State Division of Criminal Justice Services 1994, p.7).

⁸⁰ See Appendix A for an investigation of assault weapon use in mass murders.

⁸¹ The Seattle data were collected for this project by researchers at the Harborview Injury Prevention and Research Center in Seattle. The San Diego County Medical Examiner's Office provided data from San Diego.

of victims with multiple wounds. We concluded this investigation with an examination of the mean number of gunshot wounds for victims killed with assault weapons and other firearms with large-capacity magazines, based on data from one city.

6.3.1. Wounds per Incident: Milwaukee, Seattle, and Jersey City

From the Milwaukee, Seattle, and Jersey City data, we were able to ascertain the number of gunshot wounds suffered by gun murder victims. Relevant data comparing pre-ban and post-ban cases are displayed in Table 6-3. The average number of gunshot wounds per victim did not decrease in any of these three cities. Gunshot wounds per victim actually increased in all these cities, but these increases were not statistically significant.^{82 83}

Table 6-3. Gunshot wounds per gun homicide victim, Milwaukee, Seattle, and Jersey City

	<i>Cases</i>	<i>Average</i>	<i>Standard deviation</i>	<i>T value</i>	<i>P level</i>
<u>Milwaukee County (N = 418)</u>					
Pre-ban: January '92 - August '94	282	2.28	2.34		
Post-ban: September '94 - December '95	136	2.52	2.90		
<i>Difference</i>		+ 0.24		0.85*	.40
<u>Seattle and King County (N = 275)</u>					
Pre-ban: January '92 - August '94	184	2.08	1.78		
Post-ban: September '94 - June '96	91	2.46	2.22		
<i>Difference</i>		+ 0.38		1.44*	.15
<u>Jersey City (N = 44)</u>					
Pre-ban: January '92 - August '94	24	1.58	1.56		
Post-ban: September '94 - May '96	20	1.60	1.79		
<i>Difference</i>		+ 0.02		0.03	.97

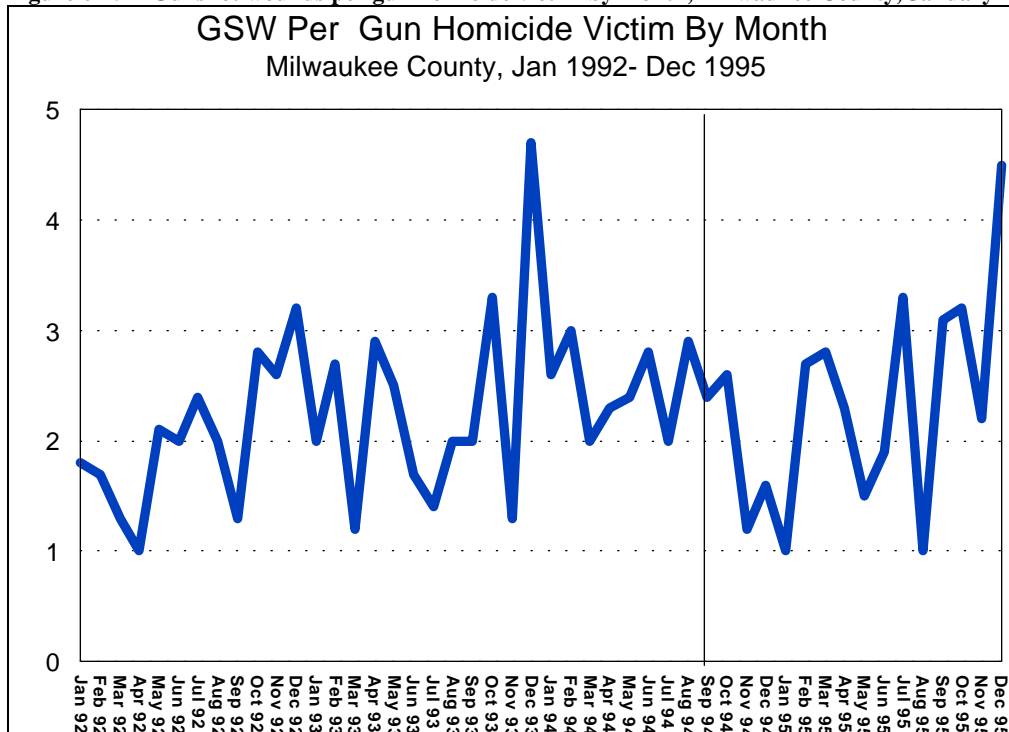
* T values were computed using formula for populations having unequal variances

⁸² Our comparisons of pre-ban and post-ban cases throughout this section are based on the assumption that the cases in each sample are independent. Technically, this assumption may be violated by incidents involving multiple victims and/or common offenders. Violation of this assumption has the practical consequence of making test statistics larger, thus making it more likely that differences will appear significant. Since the observed effects in these analyses are insignificant and usually in the wrong direction, it does not appear that violation of the independence assumption is a meaningful threat to our inferences.

⁸³ We also ran tests comparing only cases from 1993 (the last full year prior to passage and implementation of Title XI) and 1995 (the first full year following implementation of Title XI). These tests also failed to yield evidence of a post-ban reduction in the number of wounds per case.

Time trends in the monthly average of wounds per victim for Milwaukee and Seattle are displayed in Figure 6-2 and Figure 6-3. Figure 6-4 presents quarterly time trends for Jersey City. None of the graphs provide strong visual evidence of trends or changes in trends associated with the implementation of Title XI, but the Milwaukee and Seattle graphs are somewhat suggestive of upward pre-ban trends that may have been affected by the ban. We made limited efforts to estimate interrupted time series models (McCleary and Hay 1980) for these two series. The Milwaukee model provided no evidence of a ban effect,⁸⁴ and the efforts to model the Seattle data were inconclusive.⁸⁵ Because the ban produced no effects in Milwaukee or Seattle, it was not necessary to draw inferences about Jersey City as a comparison site.

Figure 6-2. Gunshot wounds per gun homicide victim by month, Milwaukee County, January 1992–December 1995



⁸⁴ We tested the Milwaukee data under various theories of impact but failed to find evidence of an effect from the ban.

⁸⁵ The Seattle data produced an autocorrelation function (see McCleary and Hay 1980) that was uninterpretable, perhaps as a result of the small number of gun murders per month in Seattle. Aggregating the data into larger time periods (such as quarters) would have made the series substantially shorter than the 40-50 observations commonly accepted as a minimum number of observations necessary for Box-Jenkins (i.e., ARIMA) modeling techniques (e.g., see McCleary and Hay 1980, p.20).

Figure 6-3. Gunshot wounds per gun homicide victim by month, King County (Seattle), January 1992–June 1996

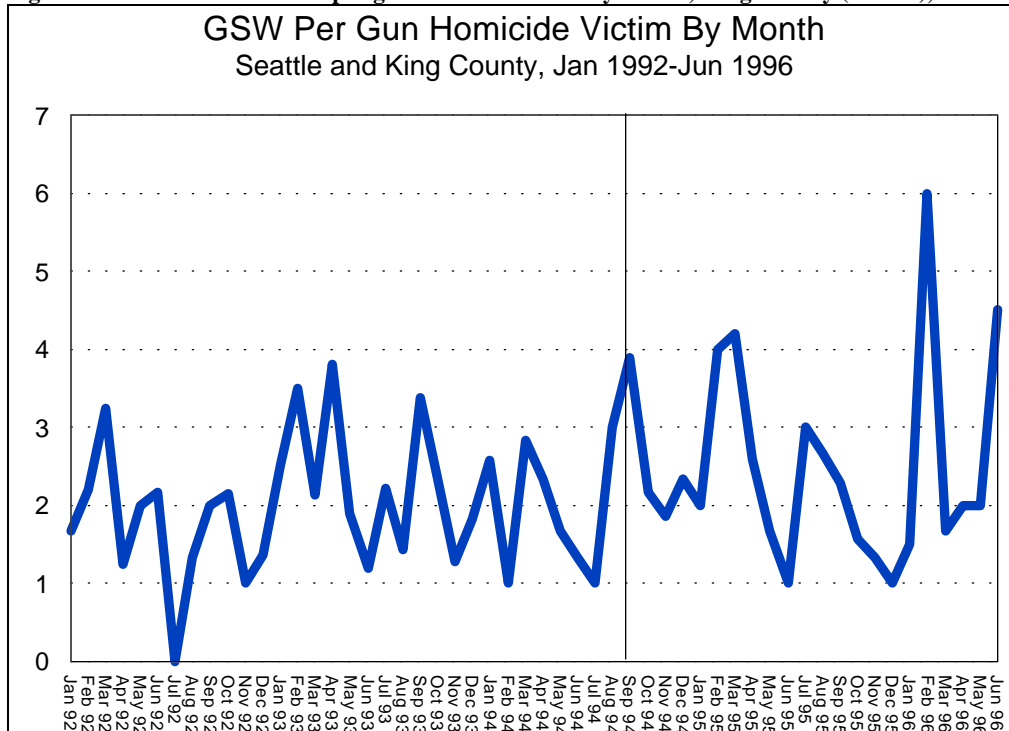
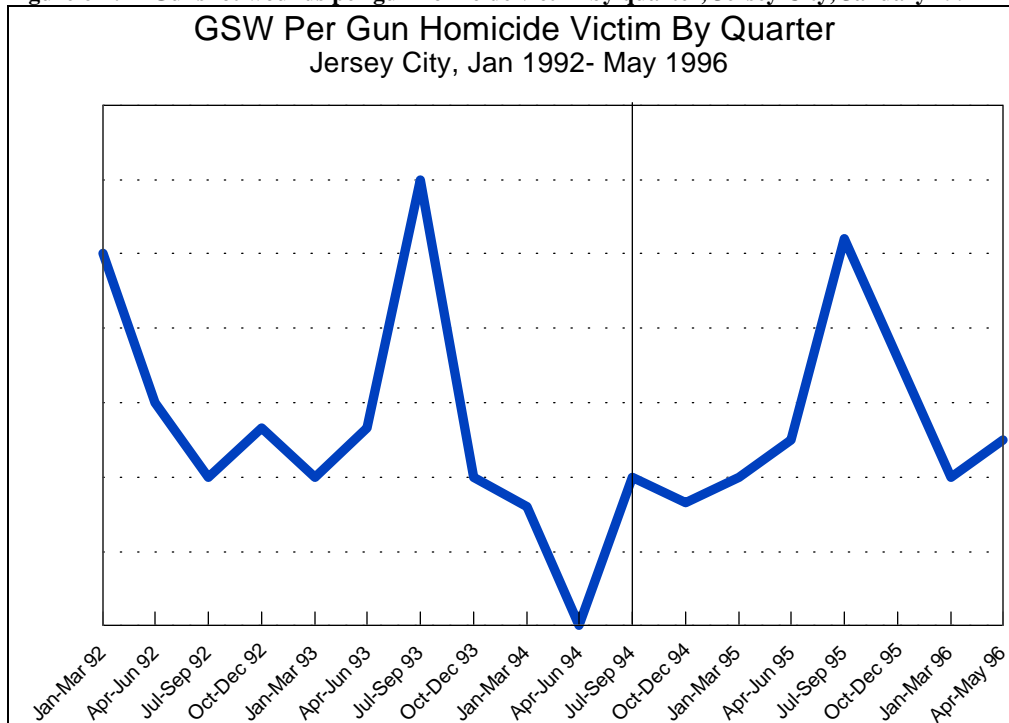


Figure 6-4. Gunshot wounds per gun homicide victim by quarter, Jersey City, January 1992–May 1996

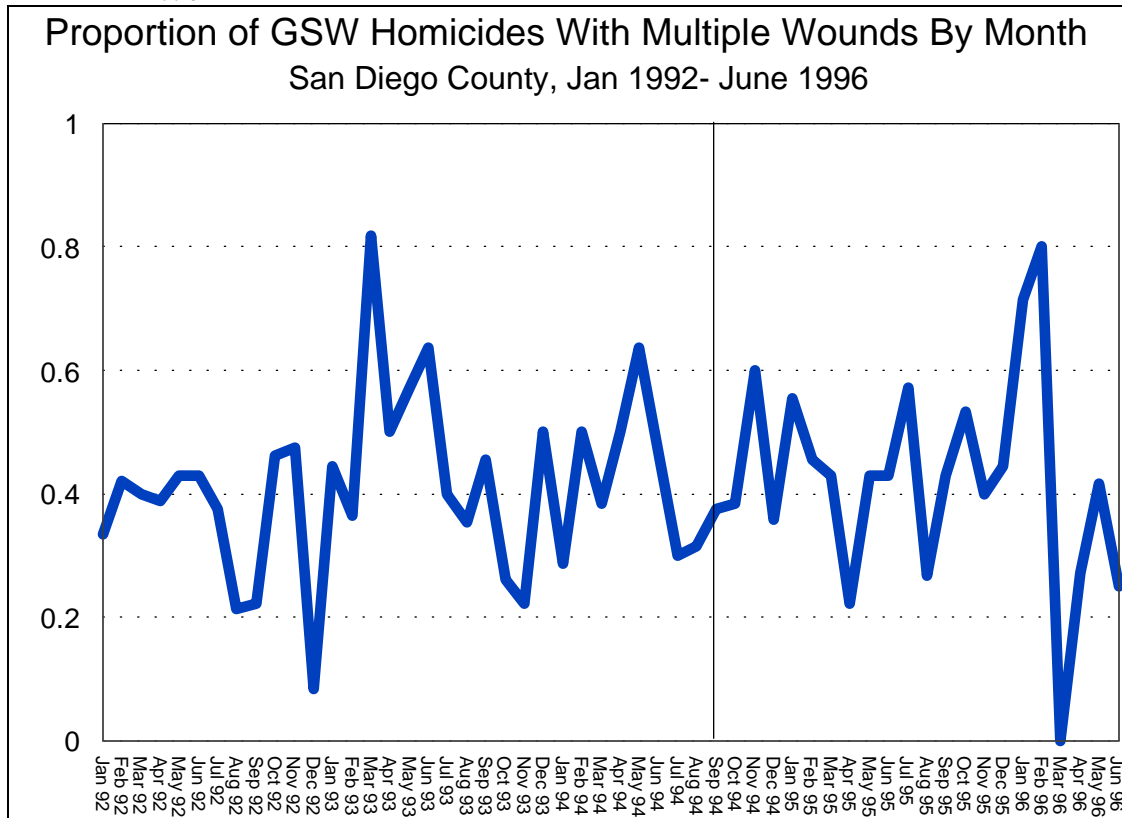


6.3.2. *Proportion of Cases With Multiple Wounds: San Diego and Boston*

The data from San Diego and Boston identified cases only as being single or multiple wound cases. We examined the proportions of pre-ban and post-ban cases involving multiple wounds and utilized contingency tables with chi-square tests to determine whether pre-ban and post-ban cases differed significantly.⁸⁶

The proportion of San Diego County's gun homicide victims sustaining multiple wounds increased very slightly after the ban (see Table 6-4), thus providing no evidence of a ban impact. Nor do there appear to have been any significant temporal trends before or after the ban (see Figure 6-5).

Figure 6-5. Proportion of gunshot homicides with multiple wounds by month, San Diego County, January 1992–June 1996



The Boston data require further explanation and qualification. The data were taken from the Weapon-Related Injury Surveillance System (WRISS) of the Massachusetts Department of Public Health (MDPH). WRISS tracks gunshot and stabbing cases treated in acute care hospital emergency departments throughout the state.⁸⁷ These data have the unique advantage of providing trends for non-fatal victimizations, but they represent a biased sample of gunshot homicide cases because gun homicide victims found dead at the scene are not tracked by WRISS.⁸⁸ Since multiple wound victims can be expected to have a greater chance of dying at the scene, WRISS

⁸⁶ Monthly and quarterly averages in the fraction of cases involving multiple wounds did not appear to follow discernible time trends for any of these series (see Figure 6-5 through Figure 6-8). Therefore, we did not analyze the data using time series methods.

⁸⁷ For a discussion of error rates in the determination of wound counts by hospital staff, see Randall (1993).

⁸⁸ The MDPH also maintains a database on all homicide victims, but this database does not contain single/multiple wound designations and data for 1995 are not complete as of this writing.

data are likely to underestimate the fraction of gun homicide victims with multiple wounds. While it is possible that this bias has remained constant over time, the gun homicide trends should be treated cautiously.

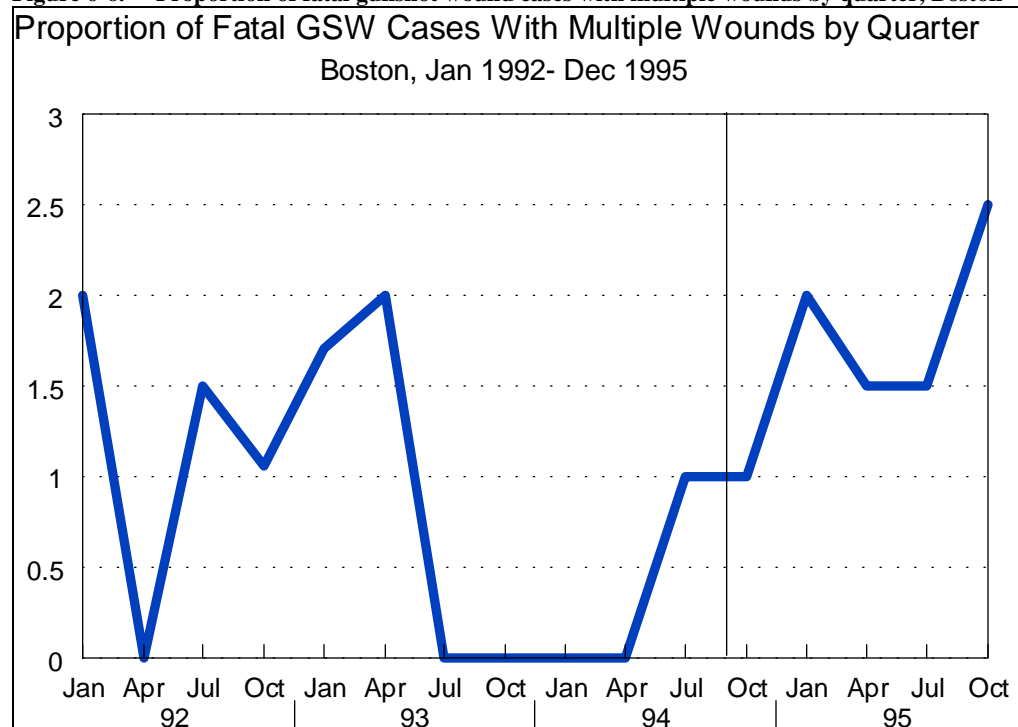
Table 6-4. Proportion of gunshot victims receiving multiple wounds, San Diego and Boston

	<i>Cases</i>	<i>Proportion with multiple wounds</i>	<i>Standard deviation</i>
<u>San Diego homicides (N = 668)</u>			
Pre-ban: January '92 - August '94	445	.41	.49
Post-ban: September '94 - June '96	223	.43	.50
<i>Difference</i>		.02	
$\chi^2 = 0.177$			
<i>P level = .674</i>			
<u>Boston Gun homicides (N = 53)</u>			
Pre-ban: January '92 - August '94	32	.50	.50
Post-ban: September '94 - December '95	21	.38	.50
<i>Difference</i>		-.12	
$\chi^2 = 0.725$			
<i>P level = .39</i>			
<u>Boston non-fatal gunshot victims (N = 762)</u>			
Pre-ban: January '92 - August '94	518	.18	.39
Post-ban: September '94 - December '95	244	.24	.43
<i>Difference</i>		.06	
$\chi^2 = 3.048$			
<i>P level = .08</i>			
<u>Boston total gunshot victims (N = 815)</u>			
Pre-ban: January '92 - August '94	550	.20	.40
Post-ban: September '94 - December '95	265	.27	.44
<i>Difference</i>		.07	
$\chi^2 = 4.506$			
<i>P level = .03</i>			

An additional concern with WRISS data is that system compliance is not 100 percent. Based on figures provided by MDPH, yearly hospital reporting rates in Boston during the study period were as follows: 63 percent for 1992; 69 percent for 1993; 75 percent for 1994; and 79 percent for 1995. It is thus possible that gunshot cases treated in non-reporting hospitals differ significantly from those treated in reporting hospitals with respect to single/multiple wound status. For all of these reasons, the Boston data should be interpreted cautiously. Overall, the WRISS captured 18 to 33 percent of Boston's gun homicides for the years 1992–94.

Pre-ban/post-ban comparisons for fatal, non-fatal, and total gunshot cases from WRISS are presented in Table 6-4. The proportion of multiple wound cases decreased only for gun homicides. This decrease was not statistically significant, but the sample sizes were very small and thus the statistical power of the test is rather low. Nonetheless, the non-fatal wound data, which are arguably less biased than the fatal wound data, show statistically meaningful increases in the proportion of cases with multiple wounds.⁸⁹ Figure 6-6 through Figure 6-8 present monthly or quarterly trends for each series. These trends fail to provide any visual evidence of a post-ban reduction in the proportion of multiple wound gunshot cases.⁹⁰ Thus, overall, the Boston data appear inconclusive.

Figure 6-6. Proportion of fatal gunshot wound cases with multiple wounds by quarter, Boston



⁸⁹ Further, the decrease for homicide cases could have been due to an increase in the proportion of multiple wound victims who died at the scene and were not recorded in the WRISS.

⁹⁰ As with the Milwaukee and Seattle data, we also ran supplemental tests with the San Diego and Boston data using only cases from 1993 and 1995. These comparisons also failed to produce evidence of post-ban reductions in the proportion of gunshot cases with multiple wounds.

Figure 6-7. Proportion of non-fatal gunshot wound cases with multiple wounds by month, Boston, January 1992–December 1995

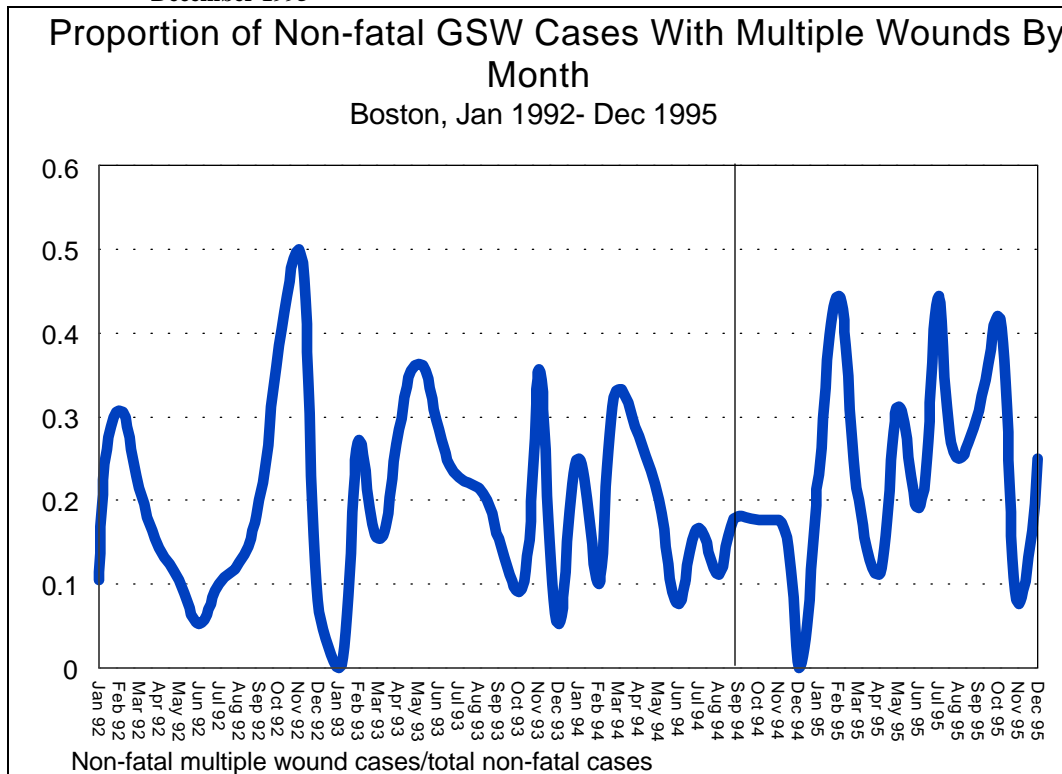
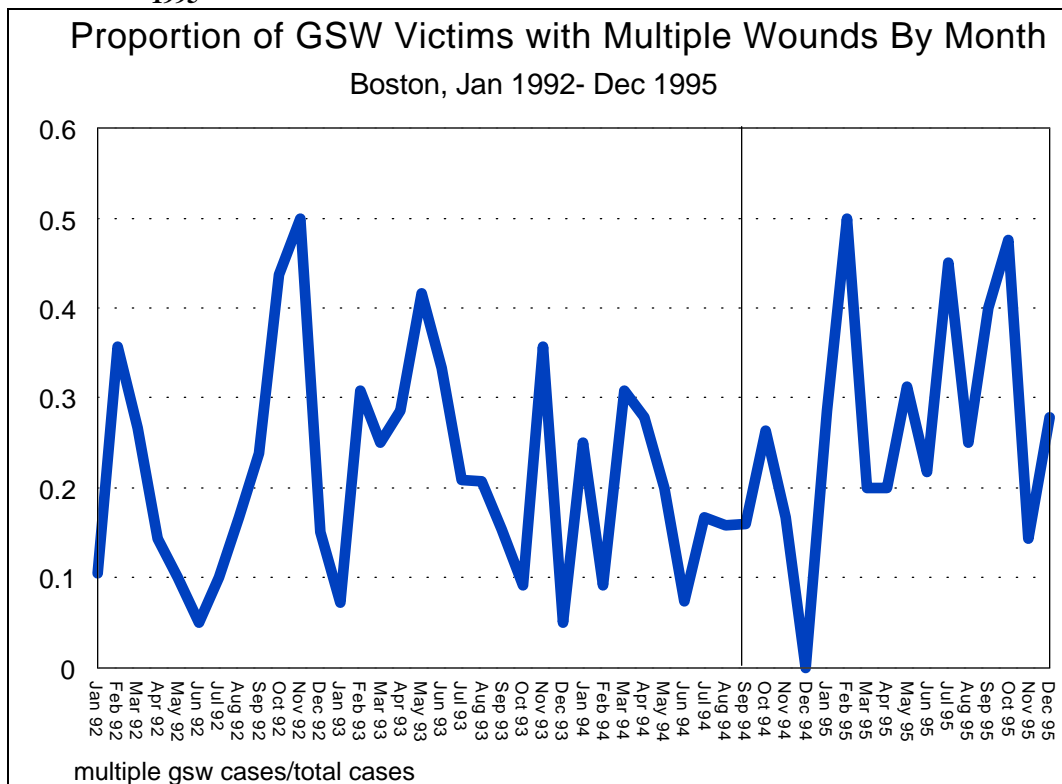


Figure 6-8. Proportion of gunshot wound victims with multiple wounds by month, Boston, January 1992–December 1995



6.3.3. Assault Weapons, Large-Capacity Magazines, and Multiple Wound Cases: Milwaukee

Most of the data sources used in this investigation contain little or no detailed information regarding weapon makes and models. Consequently, the validity of the previous analyses rest on indirect, inferred links between multiple wound gun homicides and expected changes in the use of assault weapons and large-capacity magazines.

However, we were able to make more explicit links between the banned weapons and gunshot wound counts by performing a cross-sectional analysis with the data from Milwaukee. Complete weapon make and model data were obtained for 149 guns associated with the 418 gun murders which occurred in Milwaukee County from 1992 through 1995. Eight of these firearms, or 5.4 percent, were assault weapons named in Title XI or copies of firearms named in Title XI (all of the assault weapons were handguns).⁹¹ Table 6-5 shows the mean number of wounds for gun homicide victims killed with assault weapons and other guns. Note that in Table 6-5 we screened out two cases in which the victim appeared to have been shot with multiple firearms. One of these cases involved an assault weapon. The results in Table 6-5 indicate that victims killed with assault weapons were shot a little over three times on average, while victims killed with other firearms were shot slightly over two times on average. This difference was not statistically significant, but the small number of cases involving assault weapons makes the test rather weak.

Table 6-5. Gunshot wounds per gun homicide victim: Assault weapon and large-capacity magazine cases, Milwaukee

	<i>Cases</i>	<i>Average</i>	<i>Standard deviation</i>	<i>T value</i>	<i>P level</i>
Assault weapons v. other firearms (N = 147)					
Assault weapons	7	3.14	3.08		
Other firearms	140	2.21	2.87		
<i>Difference</i>		0.93		0.83	.41
Firearms with banned large-capacity magazines v. other firearms (N = 132)					
Large-capacity firearms	30	3.23	4.29		
Other firearms	102	2.08	2.48		
<i>Difference</i>		1.15		1.41*	.17

*T values were computed using formula for populations having unequal variances.

We also conducted a more general examination of cases involving any firearm with a large-capacity magazine. There were 132 cases in which a victim was killed with a firearm for which make, model, and magazine capacity could be determined (the magazine capacity variable corresponds to the magazine actually recovered with the firearm). This analysis also excluded cases in which the victim was shot with more than one firearm. In 30 of these cases (23 percent), the victim was killed with a firearm carrying a large-capacity magazine

⁹¹ It is possible that other firearms in the database were assault weapons according to the features test of Title XI, but we did not have the opportunity to fully assess this issue.

banned by Title XI. As is shown in the bottom of Table 6-5, offenders killed with guns having banned large-capacity magazines received over three wounds on average. In contrast, persons killed with firearms having non-banned magazines received an average of two wounds. Despite the relatively small number of large magazine cases, the t statistic is moderately large and could be considered statistically meaningful with a one-tailed test.⁹² In addition, we constructed a regression model in which wound counts were regressed upon magazine capacity and the number of perpetrators involved in the incident.⁹³ The large-capacity magazine coefficient was 1.24 with a two-tailed p level equal to 0.05 (however, the equation explained only 3 percent of the variance in wound counts). These admittedly crude comparisons support the hypothesis that large-capacity magazines are linked to higher numbers of shots fired and wounds inflicted.

6.3.4. Conclusions

Our multi-site analysis of gunshot wounds inflicted in fatal and non-fatal gunshot cases failed to produce evidence of a post-ban reduction in the average number of gunshot wounds per case or in the proportion of cases involving multiple wounds. These results are perhaps to be expected. Available data from national gun trace requests to BATF (see Chapter 5), Milwaukee (this chapter), and other cities (see Chapters 2 and 5) indicate that assault weapons account for only 1 to 7 percent of all guns used in violent crime. Likewise, our analysis of guns used in homicides in Milwaukee suggests that a substantial majority of gun homicides (approximately three-quarters) are not committed with guns having large-capacity magazines. Further, victims killed with large-capacity magazines in Milwaukee were shot three times on average, a number well below the ten-round capacity permitted for post-ban magazines. This does not tell us the actual number of shots fired in these cases, but other limited evidence also suggests that most gun attacks involve three or fewer shots (Kleck 1991; McGonigal et al. 1993). Finally, a faster rate of fire is arguably an important lethality characteristic of semiautomatics which may influence the number of wounds inflicted in gun attacks; yet one would not expect the Crime Act to have had an impact on overall use of semiautomatics, of which assault weapons were a minority even before the ban.

On the other hand, the analysis of Milwaukee gun homicides did produce some weak evidence that homicide victims killed with guns having large-capacity magazines tended to have more bullet wounds than did victims killed with other firearms. This may suggest that large-capacity magazines facilitate higher numbers of shots fired per incident, perhaps by encouraging gun offenders to fire more shots (a phenomenon we have heard some police officers refer to as a “spray and pray” mentality). If so, the gradual attrition of the stock of pre-ban large-capacity magazines could have important preventive effects on the lethality of gun violence. However, our analysis of wounds inflicted in banned and non-banned magazine cases was crude and did not control for potentially important characteristics of the incidents, victims, and offenders. We believe that such incident-based analyses would yield important information about the role of specific firearm characteristics in lethal and non-lethal gun violence and provide further guidance by which to assess this aspect of the Crime Act legislation.

⁹² Note that two cases involving attached tubular .22 caliber large-capacity magazines were included in the non-banned magazine group because these magazines are exempted by Title XI. In one of these cases, the victim sustained 13 wounds. In a second comparison, these cases were removed from the analysis entirely. The results were essentially the same; the two-tailed p level for the comparison decreased to .13.

⁹³ The regression model (N=138) included cases in which the victim was shot with more than one gun. Separate variables were included for the number of victims and the use of more than one firearm. Both variables proved insignificant, but the perpetrator variable had a somewhat larger t statistic and was retained for the model discussed in the main text.

6.4. LAW ENFORCEMENT OFFICERS KILLED IN ACTION

6.4.1. *Introduction and Data*

As a final measure of consequences stemming from the assault weapons ban, we examined firearm homicides of police officers. Assault weapons and other high capacity firearms offer substantial firepower to offenders and may be especially attractive to very dangerous offenders. Further, the firepower offered by these weapons may facilitate successful gun battles with police. We hypothesized that these weapons might turn up more frequently in police homicides than in other gun homicides, and that the Crime Act might eventually decrease their use in these crimes.

To investigate this issue, we obtained data from the Federal Bureau of Investigation (FBI) on all gun murders of police officers from January 1992 through May 1996.⁹⁴ The data include the date of the incident, the state in which the incident occurred, the agency to which the officer belonged, and the make, model, and caliber of the firearm reportedly used in the murder. During this period, 276 police officers were killed by offenders using firearms. Gun murders of police peaked in 1994 (see Table 6-6). Data for 1995 and early 1996 suggest a decline in gun murders of police. However, any drop in gun murders of police could be due to more officers using bullet-proof vests, changes in policing tactics for drug markets, or other factors unrelated to the assault weapons ban. Moreover, the 1995 and 1996 data we received are preliminary and thus perhaps incomplete. For these reasons, we concentrated on the use of assault weapons in police homicides and did not attempt to judge whether the assault weapon ban has caused a decline in gun murders of police.

Table 6-6. Murders of police officers with assault weapons

<i>Year</i>	<i>Total gun murders of police officers</i>	<i>Officers killed with assault weapons</i>	<i>Proportion of victims killed with assault weapons (minimum estimate)</i>	<i>Proportion of victims killed with assault weapons for cases in which gun make is known</i>
1992	54	0	0%	0%
1993	67	4	6%	8%
1994	76	9	12%	16%
1995*	61	7	11%	16%
1996* (Jan-May)	18	0	0%	0%

*Data for 1995 and 1996 are preliminary

Even this more limited task was complicated by the fact that complete data on the make, model, and caliber of the murder weapon were not reported for a substantial proportion of these cases. The number of cases by year for which at least the gun make is known are 43 (80%) for 1992, 49 (73%) for 1993, 58 (76%) for 1994, 44 (72%) for 1995, and 10 (56%) for 1996.

6.4.2. *Assault Weapons and Homicides of Police Officers*

We focused our investigation on all makes and models named in Title XI and their exact copies. We also included our selected features test guns (Calico and Feather models), although we did not make a systematic

⁹⁴ These data are compiled annually by the FBI based on reports submitted by law enforcement agencies throughout the country.

assessment of all guns which may have failed the features test of the Crime Act as produced by their manufacturers.⁹⁵ Using these criteria, our estimate is that 20 officers were murdered by offenders using assault weapons during this period. (In some of these cases, it appears that the same weapon was used to murder more than one officer). Of these cases, 3 involved Intratec models, 6 were committed with weapons in the SWD family, 3 involved AR15's or exact AR15 copies, 2 cases involved Uzi's, and 6 cases identified AK-47's as the murder weapons.^{96 97} These cases accounted for about 7% of all gun murders of police during this period. This 7% figure serves as a minimum estimate of assault weapon use in police gun murders. A more accurate estimate was obtained by focusing on those cases for which, at a minimum, the gun make was reported. Overall, 10% of these cases involved assault weapons, a figure higher than that for gun murders of civilians.⁹⁸

All of the assault weapon cases took place from 1993 through 1995 (see Table 6-6). For those three years, murders with assault weapons ranged from 6% of the cases in 1993 to 12% in 1994. Among those cases for which firearm make was reported, assault weapons accounted for 8% in 1993 and 16% in both 1994 and 1995. All of these cases occurred prior to June 1995. From that point through May of 1996, there were no additional deaths of police officers attributed to assault weapons. This is perhaps another indication of the temporary or permanent decrease in the availability of these weapons which was suggested in Chapter 5.

In sum, police officers are rarely murdered with assault weapons. Yet the fraction of police gun murders perpetrated with assault weapons is higher than that for civilian gun murders. Assault weapons accounted for about 10% of police gun murders from 1992 through May of 1996 when considering only those cases for which the gun make could be ascertained. Whether the higher representation of assault weapons among police murders is due to characteristics of the weapons, characteristics of the offenders who are drawn to assault weapons, or some

⁹⁵ With the available data, it is not possible for us to determine whether otherwise legal guns were modified so as to make them assault weapons.

⁹⁶ There is a discrepancy between our data and those provided elsewhere with respect to a November 1994 incident in which two FBI agents and a Washington, D.C. police officer were killed. In a study of police murders from January 1994 through September 1995, Adler et al. (1995) reported that the offender in this case used a TEC9 assault pistol. The FBI data identify the weapon as an M11. (The data actually identify the gun as a Smith and Wesson M11. However, Smith and Wesson does not make a model M11. We counted the weapon as an SWD M11.)

In addition, Adler et al. identified one additional pre-ban incident in which an officer was killed with a weapon which may have failed the features test (a Springfield M1A). We are not aware of any other cases in our data which would qualify as assault weapon cases based on the features test, but we did not undertake an in-depth examination of this issue. There were no cases involving our select features test guns (Calico and Feather models).

⁹⁷ The weapon identifications in these data were made by the police departments reporting the incidents, and there is likely to be some degree of error in the firearm model designations. In particular, officers may not always accurately distinguish banned assault weapons from legal substitutes or look-alike variations. We note the issue here due to the prominence of AK-47's among guns used in police homicides. There are numerous AK-47 copies and look-alikes, and firearm experts have informed us that legal guns such as the SKS rifle and the Norinco NHM-90/91 (a modified, legal version of the AK-47) are sometimes, and perhaps commonly, mistakenly identified as AK-47's.

⁹⁸ In consultation with BATF officials, we developed a list of manufacturers who produced models listed in the Crime Act and exact copies of those firearms. We were thus able to determine whether all of the identified makes in the FBI file were assault weapons.

combination of both is unclear. However, there have been no recorded murders of police with assault weapons since the early part of 1995.⁹⁹

These findings have important ramifications for future research on the impact of the assault weapons ban. The relatively high use of assault weapons in murders of police suggests that police gun murders should be more sensitive to the effects of the ban than gun murders of civilians. That is, if the disproportionate representation of assault weapons among gun homicides of police is attributable to the objective properties of these firearms (i.e., the greater lethality of these firearms), then a decrease in the availability of these guns should cause a notable reduction of police gun murders because other weapons will not be effective substitutes in gun battles with police. At this point, however, it is not clear whether the high representation of assault weapons among police murder cases is due to the greater stopping power of assault weapons (most assault weapons are high velocity rifles or high velocity handguns and thus inflict more serious wounds), their rate of fire and ability to accept large-capacity magazines, some combination of these weapon characteristics, or simply the traits of offenders who prefer assault weapons. A variety of non-banned weapons may serve as adequate substitutes for offenders who engage in armed confrontations with police.

As more data become available, we encourage the study of trends in police gun murders before and after the Crime Act. Furthermore, we believe that research on these issues would be strengthened by the systematic recording of the magazines with which police murder weapons were equipped and the numbers of shots fired and wounds inflicted in these incidents.

⁹⁹ We did not examine police murders committed with firearms capable of accepting large-capacity magazines because the available data do not enable us to determine whether any guns used after the ban were actually equipped with pre-ban large-capacity magazines, nor do the data indicate the number of shots fired in these incidents. Moreover, in recent years many police departments have adopted large-capacity semiautomatic handguns as their standard firearm. Since about 14% of police officers murdered with guns are killed with their own firearms (FBI 1994, p.4), this could create an apparent increase in police murders with large-capacity firearms. (We did not acquire data on whether the officers were killed with their own firearms.) For a discussion of large-capacity firearms used in killings of police from January 1994 through September 30, 1995, see Adler et al. (1995).

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Appendix A

Assault Weapons and Mass Murder

INTRODUCTION: MASS MURDERS AS AN IMPACT MEASURE

As another indicator of ban effects on the consequences of assault weapon use, we attempted to analyze pre- and post-ban trends in mass murders, which we defined as the killing of four or more victims at one time and place by a lone offender. Although we lacked advance information on the proportion of mass murders involving assault weapons, we had two reasons for believing that assault weapons were more prevalent in mass murders than in events involving smaller numbers of victims:

- 1) A weapon lethality/facilitation hypothesis, that assault weapon characteristics, especially high magazine capacities, would enable a rational but intent killer to shoot more people more rapidly with an assault weapon than with many other firearms.
- 2) A selection hypothesis, that certain deranged killers might tend to select assault weapons to act out “commando” fantasies (e.g., see Holmes and Holmes 1994, pp.86-87).

In addition, we believed that newspaper reports of mass murders might carry more detail than reports of other murders, and that these reports might provide insights into the situational dynamics of mass murders involving assault weapons.

Our attempt to construct and analyze a 1992–96 trend line in mass murders using Nexis searches of U.S. news sources foundered, for two primary reasons. First, apparent variations in reporting or indexing practices forced us to alter our search parameters over the period, and so all three kinds of variation introduce validity problems into the trends. Second, newspaper accounts were surprisingly imprecise about the type of weapon involved. In some cases, the offender had not yet been apprehended and thus the make and model of the weapon was probably unknown. In other instances, there was apparent inattention or confusion regarding the make, model, and features. Finally, some offenders were armed with multiple weapons when they committed their crimes or when they were captured, and it was unclear to the reporter which weapon accounted for which death(s).¹

Nevertheless, our mass murder analysis produced several interesting, though tentative, findings. First, SHR and news media sources both appear to undercount mass murders under our definition, and our capture-recapture analysis suggests that their true number may exceed the count based on either source by something like 50 percent. Second, contrary to our expectations, only 2 — 3.8 percent — of the 52 mass murders we gleaned from the Nexis search unambiguously involved assault weapons. This is about the same percentage as for other murders. Third, media accounts lend some tenuous support to the notion that assault weapons are more deadly than other weapons in mass murder events, as measured by victims per incident.

Our search methodology and the findings above are explained more fully in the following sections, which conclude with recommendations for further related research.

¹ It is also not unusual for news accounts to use imprecise terms like “assault rifle” when describing a military-style firearm. However, we did not encounter any such cases in our particular sample.

DEFINING MASS MURDERS AND SAMPLE SELECTION

In general terms, a mass murder is the killing of a number of people at one time and place. The time requirement in particular sets mass murders apart from serial murders, which take place over a very long timeframe. We focused our analysis upon mass murders committed with firearms, and we chose four victims for our operational definition of mass murder.² In addition, we focused upon cases in which the murders were committed by one offender. We selected the victim and offender criteria based on practicality and because they arguably fit better with the weapon lethality/weapon facilitation argument. If assault weapons do contribute to mass murder, we hypothesized that they will enable a single offender to murder greater numbers of people at one time. Thus, we selected a subset of mass murders for which we felt assault weapons might plausibly play a greater role.

Project staff conducted Nexis searches for multiple-victim firearm murder stories appearing in U.S. news sources from 1992 through the early summer of 1996. Fifty-two stories meeting our firearm mass murder criteria were found. A breakdown of these cases by year is shown in the bottom row of table A-1.³ Cases ranged from a low of 3 in 1994 and 1996 to a high of 20 in 1995. We urge caution in the interpretation of these numbers. Although project staff did examine well over a thousand firearm murder stories, we do not claim to have found all firearm mass murders occurring during this time. Rather, these cases should be treated as a possibly unrepresentative sample of firearm mass murders. Further, we do not recommend using these numbers as trend indicators. We refined our search parameters several times during the course of the research, and we cannot speak to issues regarding changes in journalistic practices (or Nexis coverage) which may have occurred during this period and affected our results. This portion of the evaluation was more exploratory in nature, and the primary goal was to assess the prevalence of assault weapons among a sample of recent mass murder incidents.

Table A-1. Mass murder newspaper reports, by weapon type and year of event

	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>Total</i>
<u>Semiautomatics</u>						
Handgun	4	3	1	7	1	16
Rifle	0	0	0	2	0	2
<u>Generic weapon types</u>						
Revolver	0	0	0	1	0	1
Other non-semiautomatic handgun	0	0	0	0	0	0
Handgun, type unknown	2	2	0	1	0	5
Non-semiautomatic rifle	0	0	0	1	0	1
Rifle, type unknown	1	1	0	0	0	2
Non-semiautomatic shotgun	0	0	0	1	0	1
Shotgun, type unknown	2	3	0	1	0	6
Unknown firearm	5	2	2	6	2	17

² As Holmes and Holmes (1994, pp.71-73) have noted, most scholars set the victim criterion for mass murder at three or four victims.

³ Table A-1 excludes 1 of the 52 for which we were unable to ascertain the date of the mass murder.

Total cases	14	11	3	20	3	51
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ESTIMATING TOTAL FIREARM MASS MURDERS: A METHODOLOGICAL NOTE

Our investigation of multiple/mass murders utilized both the SHR and news media as data sources. Both of these sources have limitations for this task. Though the SHR is widely accepted as an accurate source of homicide data, not all agencies in the country report homicides to the SHR, and agencies that do report to the SHR program may not report all of their homicides. Likewise, some mass murders may not be reported accurately in media sources, or the stories may differ in their accessibility depending on where they occurred and the publication(s) which carried the story. Family-related mass murders, for example, seem less likely to be reported in national sources (Dietz 1986), although the availability of national electronic searches through services such as Nexis would seem to lessen this problem.⁴ Our experience suggests that both sources underestimate the number of true mass murders.

Capture-recapture methods (e.g., see Mastro et al. 1994; Neugebauer and Wittes 1994) offer one potential way of improving estimation of mass murders. Capture-recapture methods enable one to estimate the true size of a population based on the number of overlapping subjects found in random samples drawn from the population. Mastro et al. (1994), for example, have used this methodology to estimate the number of HIV-infected drug users in the population of a foreign city. Similarly, researchers in the biological sciences have used this methodology to estimate the size of different wildlife populations.

Given two samples from a population, the size of the population can be estimated as:

$$N = n1 * n2 / m$$

where N is the population estimate, n1 is the size of the first sample, n2 is the size of the second sample, and m is the amount of overlap in the samples (i.e., the number of subjects which turned up in the first sample and that were subsequently recaptured in the second sample). Neugebauer and Wittes (1994, p.1068) point out that this estimate is biased but that the "bias is small when the capture and recapture sizes are large." The reliability of the estimate depends on four assumptions (Mastro et al. 1994, pp.1096-1097). First, the population must be closed (in our case, this is not a problem because our samples are drawn from the same geographic area and time period). Second, the capture sources must be independent (if more than two sources are used, log-linear modeling can be used to account for dependence between the sources, and the assumption of independence is not necessary). Third, members of the population must have an equal probability of being captured. Finally, the matching procedure must be accurate — all matches must be identified and there can be no false matches.

As mentioned previously, our work with the SHR and media sources suggests that both sources underestimate the true number of firearm mass murders occurring in the nation. That being the case, we offer a tentative illustration of how capture-recapture methods might be used to estimate the true number of mass murders occurring in the nation based on the SHR and media source numbers. We add a number of qualifiers

⁴ In our experience, one factor making mass murder cases more difficult to locate is that many of these stories are not labeled with dramatic terms such as "mass murder" or "massacre." Despite the rarity and tragedy of these events, they are often described in commonplace terms (headlines may simply state something like, "Gunman shoots five persons during robbery"). Thus, it becomes necessary to develop Nexis search parameters broad enough to capture various sorts of multiple-victim incidents. This, in turn, requires one to examine a much greater number of stories.

throughout this exercise. To begin with, the SHR and media sources might not seem independent because, generally speaking, news organizations are reliant upon police for information about crime. Once a homicide is discovered, on the other hand, the reporting apparatuses for the SHR and news organizations are distinct.

With that caveat in mind, we used the year 1992 for this demonstration. For that year, we identified all cases from both sources in which one offender killed four or more persons using a firearm. The SHR search turned up 15 cases, and the Nexis search yielded 14 cases.

Next, we attempted to match these cases. Tentatively, we determined that nine cases were common to both sources (see Table A-2). Our estimate for the number of incidents during 1992 in which one offender killed four or more persons using a firearm(s) thus becomes:

$$N = (15 * 14)/9 = 23.$$

Table A-2. 1992 HR/Nexis comparisons

<u>NEXIS</u>	<u>SHR</u>	<u>NEXIS & SHR</u>
14	15	9
<u>NEXIS ONLY</u>		<u>NUMBER OF VICTIMS</u>
2/16/92	Mobile, AL	4
5/1/92	Yuba County, CA	4
6/15/92	Inglewood, CA	5
9/13/92	Harris County, TX	4
11/13/92	Spring Branch, TX	5
<u>FBI ONLY</u>		<u>NUMBER OF VICTIMS</u>
8/92	Dade, FL	4
9/92	Chicago, IL	4
5/92	Detroit, MI	4
3/92	New York, NY	4
1/92	Burleigh, ND	4
7/92	Houston, TX	4
<u>NEXIS & FBI</u>		<u>NUMBER OF VICTIMS</u>
2/12/92	Seattle, WA	4
3/21/92	Sullivan, MO	6
3/26/92	Queens, NY	5
7/23/92	Fairmont, WV	4
10/4/92	Dallas, TX	4
10/15/92	Schuyler County	4
11/1/92	Rancho Santa Fe, CA	4
12/13/92	King County, WA	4
12/24/92	Prince William County, VA	4

A number of cautionary notes are required. Obviously, our sample sizes are quite small, but, apparently, so is the population which we are trying to estimate. In addition, our matches between the sources were based on matching the town (determined from the police department's name), month of occurrence, number of victims, and number of offenders. In a more thorough investigation, one would wish to make the matches more carefully. If,

for instance, the victims were not all immediately killed, one may find a news story referring to the initial number of deaths, and that count might not match the final count appearing in the SHR. Moreover, we have focused on cases in which one offender committed the murders. However, the SHR might list two or more offenders if there were other accomplices who did not do the shooting. Finally, there could be ambiguity regarding the exact location of the SHR cases because we used the police department name to match the locations with the Nexis cases (city or town name does not appear in the file). We did not investigate these issues extensively, but they would seem to be manageable problems.

Another issue is whether each incident's probability of being captured is the same for each sample. Our tentative judgment is that this is not the case, or at least it does not appear to have been true for our sample. Referring to Table A-2, it seems that the SHR-only cases were more likely to appear in urban areas, whereas the Nexis-only cases appear to have taken place in more rural areas. We can speculate that rural police departments are somewhat less likely to participate in the SHR, and that cases in rural areas are thus less likely to be reported to the SHR. In contrast, the greater number of murders and violent acts which occur in urban areas may have the effect of making any given incident less newsworthy, even if that incident is a mass murder. A mass murder taking place among family members in an urban jurisdiction, for instance, might get less prominent coverage in news sources and might therefore be more difficult to locate in a national electronic search.

But even if we accept these biases as real, we can at least estimate the direction of the bias in the capture-recapture estimate. Biases such as those discussed above have the effect of lessening the overlap between our sources. Therefore, they decrease the denominator of the capture-recapture equation and bias the population estimate upwards. With this in mind, our 1992 estimate of 23 cases should be seen as an upper estimate of the number of these incidents for that year.

In this section, we have provided a very rough illustration of how capture-recapture models might be utilized to more accurately estimate the number of mass murders in the U.S. or any portion of the U.S. If additional homicide sources were added such as the U.S. Public Health Service's Mortality Detail Files, moreover, researchers could model any dependencies between the sources. With further research into past years and ahead into future years, researchers could build time series to track mass murders and firearm mass murders over time. This may be a worthwhile venture because though these events are only a small fraction of all homicides, they are arguably events which have a disproportionately negative impact on citizens' perceptions of safety.

Firearms Used in Mass Murders

Table A-1 displays information about the weapons used in our sample of mass murders. One of the major goals behind the Nexis search was to obtain more detailed information on the weapons used in firearm mass murders. Yet a substantial proportion of the articles said nothing about the firearm(s) used in the crime or identified the gun(s) with generic terms such as "handgun," "rifle," or "shotgun." Overall, 18 stories identified the murder weapon(s) as a semiautomatic weapon, and 16 of these guns were semiautomatic handguns. Only eight stories named the make and model of the murder weapon.

Despite the general lack of detailed weapon information, our operating assumption was that, due to their notoriety, assault weapons would draw more attention in media sources. That is, we assumed that reporters would explicitly identify any assault weapons that were involved in the incident and that unidentified weapons were most likely not assault weapons. This assumption is most reasonable for cases in which the offender was apprehended. Overall, 37 cases (71 percent) were solved and another 6 (11.5 percent) had known suspects.

Of the total 52 cases in our sample, 2, or 3.8 percent, involved assault weapons as the murder weapon. If we focus on just the 37 solved cases, assault weapons were involved in 5.4 percent (both assault weapon cases were solved). One of the assault weapon cases took place in 1993 and the other took place in 1995 after the ban's implementation. The accounts of those cases are as follows:

Case 1 (July 3, 1993, San Francisco, California). A 55-year-old man bearing a grudge against his former attorneys for a lawsuit in which he lost 1 million dollars killed 8 persons, wounded 6 others, and then killed himself during a 15-minute rampage in which he fired 50-100 rounds. The offender was armed with two TEC-9 assault pistols, a .45 caliber semiautomatic pistol, and hundreds of rounds of ammunition.⁵

Case 2 (June 20, 1995, Spokane, Washington). A military man assigned to Fairchild Air Force Base entered the base hospital with an AK-47 assault rifle and opened fire, killing 4 and wounding 19. The gunman was killed by a military police officer. At the time of the story, no motive for the killing had been discovered.

In addition, our search uncovered two other cases in which the offender possessed an assault weapon but did not use it in the crime. In one of these cases, the additional weapon was identified only as a "Chinese assault rifle," so there is the possibility that the gun was an SKS rifle or other firearm that was not an assault weapon by the criteria of Title XI.

LETHALITY OF ASSAULT WEAPONS USED IN MASS MURDERS

Although assault weapons appeared rarely in our sample of firearm mass murder cases, there are some indications that mass murders involving assault weapons are more deadly than other mass murders with guns. The two unambiguous assault weapon cases in our sample involved a mean of 6 victims, a number 1.5 higher than the 4.5 victims killed on average in the other cases. Further, each assault weapon case involved a substantial number of other victims who were wounded but not killed. Other notorious mass murders committed with assault weapons also claimed particularly high numbers of victims (Cox Newspapers 1989). The numbers of victims in these cases suggests that the ability of the murder weapons to accept large-capacity magazines was probably an important factor. We offer this observation cautiously, however, for several reasons besides the small number of cases in our sample. We did not make detailed assessments of the actors or circumstances involved in these incidents. Relevant questions, for example, might include whether the offender had a set number of intended targets (and, relatedly, the relationship between the offender and victims), the number of different guns used, whether the offender had the victims trapped at the time of the murders, and the amount of time the offender had to commit the crime.

In order to refine our comparison somewhat further, we examined the number of victims in assault weapon and non-assault weapon cases after removing 19 family-related cases from consideration. This did not change the results; the average number of victims in assault weapon cases was still approximately 1.5 higher than that of non-assault weapon cases.

⁵ The story indicated that the offender had modified the firearms to make them fire more rapidly than they would have otherwise. Presumably, this means that he converted the guns to fully automatic fire, but this is not entirely clear from the article.

RECOMMENDATIONS FOR FURTHER RELATED RESEARCH

There are a number of related questions that could be pursued in future research. One concerns a more explicit examination of the role of large-capacity magazines in mass murder, particularly for incidents involving non-assault weapon firearms. Based on our experience, this information is rarely offered in media sources and would require contacting police departments which investigated mass murder incidents. Another issue concerns non-fatal victims. This was not an express focus of our research, but if the assault weapon/large-capacity semiautomatic hypothesis has validity, we can hypothesize that shootings involving these weapons will involve more total victims. Along similar lines, Sherman and his colleagues (1989) documented a rise in bystander shootings in a number of cities during the 1980s and speculated that the spread of semiautomatic weaponry was a factor in this development. Due to time and resource limitations, we did not pursue the issue of bystander shootings for this study, but further research might shed light on whether assault weapons and large-capacity magazines have been a factor in any such rise.

Exhibit 75

ER2006

REDUCING GUN VIOLENCE IN AMERICA

Informing Policy with
Evidence and Analysis

Edited by

DANIEL W. WEBSTER
and **JON S. VERNICK**

Foreword by

MICHAEL R. BLOOMBERG



Reducing Gun Violence in America

Informing Policy with Evidence and Analysis

EDITED BY

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and Jon S. Vernick, JD, MPH

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*To victims of gun violence a
to those who work daily
to reduce it*

America's Experience with the Federal Assault Weapons Ban, 1994–2004

Key Findings and Implications

Christopher S. Koper

In 1994, the federal government imposed a ten-year ban on military-style semi-automatic firearms and ammunition-feeding devices holding more than ten rounds of ammunition. This legislation, commonly known as the federal assault weapons ban, was intended in the broadest sense to reduce gunshot victimizations by limiting the national stock of semi-automatic firearms with large ammunition capacities and other features conducive to criminal uses. Reflecting America's general political divisions over the issue of gun control, the debate over the law was highly contentious. Ten years later, Congress allowed the ban to expire.

More recently, there have been growing calls for a reexamination of the assault weapons issue. This debate has been fueled by a series of mass shooting incidents involving previously banned firearms or magazines. Since 2007, for example, there have been at least 11 incidents in which offenders using

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assault weapons or other semi-automatics with magazines larger than 10 rounds have wounded or killed eight or more people (Violence Policy Center 2012). Some of the most notorious of these incidents have been a 2007 shooting on the college campus of Virginia Tech that left 33 dead and 17 wounded; a 2011 shooting in an Arizona parking lot that killed 6 and wounded 13, including Congresswoman Gabrielle Giffords; a 2012 shooting in an Aurora, Colorado, movie theatre that left 12 dead and 58 wounded; and, most recently, a shooting in a Newtown, Connecticut, elementary school that left 26 victims dead, 20 of whom were children (an additional victim was killed elsewhere).

To help inform the new dialogue on this issue, this essay examines America's experience with the 1994 assault weapons law. During the course of the ban, the National Institute of Justice (NIJ) funded a series of studies on the law's impacts for the U.S. Department of Justice and the U.S. Congress (Koper 2004; Koper and Roth 2001, 2002; Roth and Koper 1997, 1999). I present highlights from those studies, with an emphasis on findings from the final evaluation reported in 2004 (Koper 2004). These studies sought to assess the law's impacts on (1) the availability of assault weapons (AWs) and large-capacity magazines (LCMs) as measured by price and production (or importation) indices in legal markets; (2) trends in criminal uses of AWs and LCMs; and (3) trends in the types of gun crimes that seemed most likely to be affected by changes in the use of AWs and LCMs. (The latter two issues are emphasized in this summary.) Finally, the research team examined studies of gun attacks more generally in order to estimate the ban's potential to produce longer-term reductions in shootings.

In summary, the ban had mixed effects in reducing crimes with the banned weaponry because of various exemptions and loopholes in the legislation. The ban did not appear to affect gun crime during the time it was in effect, but some evidence suggests it may have modestly reduced gunshot victimizations had it remained in place for a longer period. The ban's most important provision was arguably its prohibition on ammunition magazines holding more than 10 rounds. Policymakers considering a new version of the ban might particularly focus on this aspect of the previous legislation and reconsider the exemptions and loopholes that undermined the effectiveness of the original ban.

Provisions of the Assault Weapons Ban

Enacted on September 13, 1994, Title XI, Subtitle A of the Violent Crime Control and Law Enforcement Act of 1994 imposed a ten-year ban on the “manufacture, transfer, and possession” of certain semi-automatic firearms designated as assault weapons. The AW ban did not prohibit all semi-automatics; rather, it was directed at semi-automatics having features that appear to be useful in military and criminal applications but unnecessary in shooting sports or self-defense. Examples of such features include pistol grips on rifles, flash hiders, folding rifle stocks, threaded barrels for attaching silencers, and the ability to accept ammunition magazines holding large numbers of bullets. The law specifically prohibited 18 models and variations by name (e.g., the Intratec TEC-9 pistol and the Colt AR-15 rifle), as well as revolving cylinder shotguns (see Koper 2004, 5). This list included a number of foreign rifles that the federal government had banned from importation into the country beginning in 1989 (e.g., Avtomat Kalashnikov models). In addition, the ban contained a generic “features test” provision that generally prohibited other semi-automatic firearms having two or more military-style features, as described in Table 12.1. In total, the federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) identified 118 model and caliber variations that met the AW criteria established by the ban.

The law also banned “copies or duplicates” of the named gun makes and models, but federal authorities emphasized exact copies. Relatively cosmetic changes, such as removing a flash hider or bayonet mount, were thus sufficient to transform a banned weapon into a legal substitute. In this sense, the law is perhaps best understood not as a gun ban but as a law that restricted weapon accessories. A number of gun manufacturers began producing modified, legal versions of some of the banned guns, though not all of these substitute weapons proved as popular as the banned versions.¹ In other respects (e.g., type of firing mechanism, ammunition fired, and the ability to accept a detachable magazine), the banned AWs did not differ from other legal semi-automatic weapons.

The other major component of the assault weapons legislation was a ban on most ammunition-feeding devices holding more than 10 rounds of ammunition (referred to as large-capacity magazines).² The LCM ban was arguably the most important part of the assault weapons law for two reasons. First, an LCM is the most functionally important feature of an AW-type firearm. As noted by the U.S. House of Representatives, most prohibited AWs came equipped with magazines holding 30 rounds and could accept magazines holding as

Table 12.1 Features test of the federal assault weapons ban

Weapon category	Military-style features (2 or more qualified a firearm as an assault weapon)
Semi-automatic pistols accepting detachable magazines	1) ammunition magazine that attaches outside the pistol grip 2) threaded barrel capable of accepting a barrel extender, flash hider, forward handgrip, or silencer 3) heat shroud attached to or encircling the barrel 4) weight of more than 50 ounces unloaded 5) semiautomatic version of a fully automatic weapon
Semi-automatic rifles accepting detachable magazines	1) folding or telescoping stock 2) pistol grip that protrudes beneath the firing action 3) bayonet mount 4) flash hider or a threaded barrel designed to accommodate one 5) grenade launcher
Semi-automatic shotguns	1) folding or telescoping stock 2) pistol grip that protrudes beneath the firing action 3) fixed magazine capacity over 5 rounds 4) ability to accept a detachable ammunition magazine

many as 50 or 100 rounds (United States Department of the Treasury 1998, 14). Removing LCMs from these weapons thus greatly limits their firepower.

Second, the reach of the LCM ban was much broader than that of the AW ban because many semi-automatics that were not banned by the AW provision could accept LCMs. Approximately 40 percent of the semi-automatic handgun models and a majority of the semi-automatic rifle models that were being manufactured and advertised prior to the ban were sold with LCMs or had a variation that was sold with an LCM (calculated from Murtz and the Editors of Gun Digest 1994). Still others could accept LCMs made for other firearms and/or by other manufacturers. A national survey of gun owners in 1994 found that 18% of all civilian-owned firearms and 21% of civilian-owned handguns were equipped with magazines having 10 or more rounds (Cook and Ludwig 1996, 17). The AW provision did not affect most LCM-compatible guns, but the LCM provision limited the capacities of their magazines to 10 rounds.

The AW ban also contained important exemptions. AWs and LCMs manufactured before the effective date of the ban were “grandfathered” and thus legal to own and transfer. Though not precise, estimates suggest there were

upward of 1.5 million privately owned AWs in the United States when the ban took effect (American Medical Association Council on Scientific Affairs 1992; Cox Newspapers 1989, 1; Koper 2004, 10). Gun owners in America possessed an estimated 25 million guns that were equipped with LCMs or 10-round magazines in 1994 (Cook and Ludwig 1996, 17), and gun industry sources estimated that, including aftermarket items for repairing and extending magazines, there were at least 25 million LCMs available in the United States as of 1995 (Gun Tests 1995, 30). Moreover, an additional 4.8 million pre-ban LCMs were imported into the country from 1994 through 2000 under the grandfathering exemption, with the largest number arriving in 1999. During this same period, importers were also authorized to import another 42 million pre-ban LCMs that may have arrived after 2000.

Criminal Use of Assault Weapons and Large-Capacity Magazines Prior to the Ban

During the 1980s and early 1990s, AWs and other semi-automatic firearms equipped with LCMs were involved in a number of highly publicized mass shootings that raised public concern about the accessibility of high-powered, military-style weaponry and other guns capable of rapidly discharging high numbers of bullets (Cox Newspapers 1989; Kleck 1997, 124-126, 144; Lenett 1995; Violence Policy Center 2012). Perhaps most notably, AWs or other semi-automatics with LCMs were used in 6, or 40%, of 15 particularly severe mass shooting incidents between 1984 and 1993 that resulted in at least 6 deaths or at least 12 killed or wounded (Kleck, 1997, 124-126, 144). Early studies of AWs, though sometimes based on limited and potentially unrepresentative data, also suggested that AWs recovered by police were often associated with drug trafficking and organized crime (Cox Newspapers 1989, 4; also see Roth and Koper 1997, chap. 5), fueling a perception that AWs were guns of choice among drug dealers and other particularly violent groups. These events intensified concern over AWs and other semi-automatics with LCMs and helped spur the 1989 federal import ban on selected semi-automatic rifles (implemented by executive order) and the passage of the 1994 federal AW ban (the states of California, New Jersey, Connecticut, Hawaii, and Maryland also passed AW legislation between 1989 and 1994).

Looking at the nation's gun crime problem more broadly, numerous studies of AW-type weapons conducted prior to the federal ban found that AWs

typically accounted for up to 8% of guns used in crime, depending on the specific AW definition and data source used (e.g., see Beck et al. 1993; Hargarten et al. 1996; Hutson, Anglin, and Pratts 1994; Hutson et al. 1995; McGonigal et al. 1993; New York State Division of Criminal Justice Services 1994; Roth and Koper 1997, chap. 2; Zawitz 1995). A compilation of 38 sources indicated that AWs accounted for about 2% of crime guns on average (Kleck 1997, 112, 141–143). Similarly, the most common AWs prohibited by the 1994 federal ban accounted for between 1% and 6% of guns used in crime according to most of several national and local data sources examined for the NIJ-funded studies summarized here (Koper 2004, 15).

As with crime guns in general, the majority of AWs used in crime were assault pistols rather than assault rifles. Among AWs reported by police to ATF during 1992 and 1993, for example, assault pistols outnumbered assault rifles by a ratio of three to one.

The relative rarity of AW use in crime can be attributed to a number of factors. Many of these models are long guns, which are used in crime much less often than handguns. Also, as noted, a number of the rifles named in the 1994 law were banned from importation into the United States in 1989. Further, AWs in general are more expensive and more difficult to conceal than the types of handguns that are used most frequently in crime.

Criminal use of guns equipped with LCMs had not been studied as extensively as criminal use of AWs at the time of the ban. However, the overall use of guns with LCMs, which is based on the combined use of AWs and non-banned guns with LCMs, is much greater than the use of AWs alone. Based on data examined for this and a few prior studies, guns with LCMs were used in roughly 13% to 26% of most gun crimes prior to the ban, though they appeared to be used in 31% to 41% of gun murders of police (see summary in Koper 2004, 18; also see Adler et al. 1995; Fallis 2011; New York Division of Criminal Justice Services 1994).

The Ban's Effects on Crimes with Assault Weapons and Large-Capacity Magazines

Although there was a surge in production of AW-type weapons as Congress debated the ban in 1994, the law's restriction of the new AW supply and the interest of collectors and speculators in these weapons helped to drive prices higher for many AWs (notably assault pistols) through the end of the 1990s

Table 12.2 Assault weapons as a percentage of guns recovered by police

City	Pre-ban	Post-ban	% change
Baltimore, MD	1.88% (1992-1993)	1.25% (1995-2000)	-34%
Boston, MA	2.16% (1991-1993)	0.6% (2000-2002)	-72%
Miami, FL	2.53% (1990-1993)	1.71% (1995-2000)	-32%
St. Louis, MO	1.33% (1992-1993)	0.91% (1995-2003)	-32%
Anchorage, AK	3.57% (1987-1993)	2.13% (1995-2000)	-40%
Milwaukee, WI	5.91% (1991-1993)	4.91% (1995-1998)	-17%

Note: Figures for Baltimore, Boston, Miami, and St. Louis are based on all recovered guns. Figures for Anchorage and Milwaukee are based on, respectively, guns tested for evidence and guns recovered in murder cases. Changes in Baltimore, Boston, Miami, and St. Louis were statistically significant at $p < .05$. See Koper (2004) for further details about the data and analyses.

and appeared to make them less accessible and/or affordable to criminal users.³ Analyses of several national and local databases on guns recovered by police indicated that crimes with AWs declined following the ban.

To illustrate, the share of gun crimes involving the most commonly used AWs declined by 17% to 72% across six major cities examined for this study (Baltimore, Miami, Milwaukee, Boston, St. Louis, and Anchorage), based on data covering all or portions of the 1995-2003 post-ban period (Table 12.2). (The number of AW recoveries also declined by 28% to 82% across these locations and time periods; the discussion here focuses on changes in AWs as a share of crime guns in order to control for general trends in gun crime and gun seizures.) Similar patterns were found in a national analysis of recovered guns reported by law enforcement agencies around the country to ATF for investigative gun tracing.⁴ The percentage of gun traces that were for AWs fell 70% between 1992-1993 and 2001-2002 (from 5.4% to 1.6%), though the interpretation of these data was complicated by changes that occurred during this time in gun tracing practices (see Koper 2004 for further discussion).

The decline in crimes with AWs was due primarily to a reduction in the use of assault pistols. Assessment of trends in the use of assault rifles was complicated by the rarity of crimes with such rifles and by the substitution in some cases of post-ban rifles that were very similar to the banned models. In general, however, the decline in AW use was only partially offset by substitution of post-ban AW-type models. Even counting the post-ban models as AWs, the share of crime guns that were AWs fell 24% to 60% across most of the local

jurisdictions studied. Patterns in the local data sources also suggested that crimes with AWs were becoming increasingly rare as the years passed.

The decline in crimes with AWs appeared to have been offset throughout at least the late 1990s by steady or rising use of other semi-automatics equipped with LCMs. Assessing trends in LCM use was difficult because there is no national data source on crimes with LCMs and few contacted jurisdictions maintained such information. It was possible, nonetheless, to examine trends in the use of guns with LCMs in four jurisdictions: Baltimore, Milwaukee, Anchorage, and Louisville (KY). Across the different samples analyzed from these cities (some databases included all recovered guns and some included only guns associated with particular crimes), the share of guns with an LCM generally varied from 14% to 26% prior to the ban. In all four jurisdictions, the share of crime guns equipped with LCMs rose or remained steady through the late 1990s (Table 12.3). These trends were driven primarily by handguns with LCMs, which were used in crime roughly three times as often as rifles with LCMs (though crimes with rifles having LCMs also showed no general decline). Generalizing from such a small number of jurisdictions must be done very cautiously, but the consistency of the findings across these geographically diverse locations strengthens the inference that they reflected a national pattern.

Failure to reduce LCM use for at least several years after the ban was likely because of the immense stock of exempted pre-ban magazines, which, as noted, was enhanced by post-ban imports. The trend in crimes with LCMs may have been changing by the early 2000s, but the available data were too limited and inconsistent to draw clear inferences (post-2000 data were available for only two of the four study sites).

Table 12.3 Guns with large-capacity magazines as a percentage of guns recovered by police (selected years)

City	Pre-ban	Late 1990s	Early 2000s
Baltimore, MD	14.0% (1993)	15.5% (1998)	15.7% (2003)
Anchorage, AK	26.2% (1992–1993)	30.0% (1999–2000)	19.2% (2001–2002)
Milwaukee, WI	22.4% (1993)	36.4% (1998)	N/A
Louisville, KY	N/A	20.9 (1996)	19.0% (2000)

Note: Figures for Baltimore and Milwaukee are based on, respectively, guns associated with violent crimes and with murders. Figures for Anchorage and Louisville are based on guns submitted for evidentiary testing. The Anchorage figures are based on handguns only. See Koper (2004) for further details about the data and analyses.

A later media investigation of LCM use in Richmond, Virginia, suggests that the ban may have had a more substantial impact on the supply of LCMs to criminal users by the time it expired in 2004. In that city, the share of recovered guns with LCMs generally varied between 18% and 20% from 1994 through 2000 but fell to 10% by 2004 (Fallis 2011). It is not clear whether the Richmond results represented a wider national or even regional trend. (The data from this study also show that after the ban was lifted, the share of Richmond crime guns with an LCM rose to 22% by 2008.)

The Ban's Impacts on Gun Violence

Because offenders could substitute non-banned guns and small magazines for banned AWs and LCMs, there was not a clear rationale for expecting the ban to reduce assaults and robberies with guns. But by forcing this weapon substitution, it was conceivable that the ban would reduce the number and severity of shooting deaths and injuries by reducing the number of shots fired in gun attacks (thus reducing the number of victims per gunfire incident and the share of gunshot victims sustaining multiple wounds). Based on this logic, the research team examined several indicators of trends in the lethality and injuriousness of gun violence for different portions of the 1995–2002 post-ban period. These included national-level analyses of gun murders, the percentage of violent gun crimes resulting in death, the share of gunfire cases resulting in wounded victims, the percentage of gunshot victimizations resulting in death, and the average number of victims per gun homicide incident. For selected localities, the team also examined trends in wounds per gunshot victim or the percentage of gunshot victims sustaining multiple wounds.

On balance, these analyses showed no discernible reduction in the lethality or injuriousness of gun violence during the post-ban years (see Koper 2004, Koper and Roth 2001, and Roth and Koper 1997). Nationally, for example, the percentage of violent gun crimes resulting in death (based on gun homicides, gun assaults, and gun robberies reported to the Uniform Crime Reports) was the same for the period 2001–2002 (2.9%) as it was for the immediate pre-ban period 1992–1993 (Koper 2004, 82, 92). Accordingly, it was difficult to credit the ban with contributing to the general decline in gun crime and gun homicide that occurred during the 1990s.

However, the ban's exemption of millions of pre-ban AWs and LCMs meant that the effects of the law would occur only gradually. Those effects were still

unfolding when the ban was lifted and may not have been fully realized until several years beyond that, particularly if importation of foreign, pre-ban LCMs had continued in large numbers. In light of this, it was impossible to make definitive assessments of the ban's impact on gun violence.

It was also difficult to judge the ban's effects on the more specific problem of mass shootings. The research team attempted to assess changes in mass shootings during the first few years of the ban, but this effort was hampered by the difficulty of counting these incidents (results can be sensitive to the definitions and data sources used) and identifying the specific types of guns and magazines used in them (Roth and Koper 1997, app. A). There is no national data source that provides detailed information on the types of guns and magazines used in shooting incidents or that provides full counts of victims killed and wounded in these attacks. Studying mass shootings in particular poses a number of challenges with regard to defining these events, establishing the validity and reliability of methods for measuring their frequency and characteristics (particularly if done through media searches, as is often necessary), and modeling their trends, as they are particularly rare events (e.g., see Duwe 2000; Roth and Koper 1997, app. A).

Nonetheless, the issue of mass shootings continues to be a catalyst to the debate surrounding AW legislation. A recent media compilation of 62 mass shooting incidents that involved the death of four or more people over the period 1982–2012, for instance, suggests that 25% of the guns used in these attacks were AW-type weapons (these were not precisely defined) and another 48% were other types of semi-automatic handguns (Follman, Aronsen, and Pan 2012). Continuing improvements in media search tools and greater attention to the types of guns and magazines used in multiple-victim attacks may improve prospects for examining this issue more rigorously in future studies.

Assessing the Potential Long-Term Effects of Banning Assault Weapons and Large-Capacity Magazines

Although available evidence is too limited to make firm projections, it suggests that the ban may have reduced shootings slightly had it remained in place long enough to substantially reduce crimes with both LCMs and AWs. A small number of studies suggest that gun attacks with semi-automatics—including AWs and other guns equipped with LCMs—tend to result in more shots fired, more persons wounded, and more wounds inflicted per victim

than do attacks with other firearms (see reviews in Koper 2004; Koper and Roth 2001; also see McGonigal et al. 1993; Richmond et al. 2003; Reedy and Koper 2003; Roth and Koper 1997). For example, in mass shooting incidents that resulted in at least 6 deaths or at least 12 total gunshot victims from 1984 through 1993, offenders who clearly possessed AWs or other semi-automatics with LCMs (sometimes in addition to other guns) wounded or killed an average of 29 victims in comparison to an average of 13 victims wounded or killed by other offenders (see Koper and Roth's [2001] analysis of data compiled by Kleck [1997, 144]).

Similarly, a study of handgun attacks in Jersey City, New Jersey, during the 1990s found that the average number of victims wounded in gunfire incidents involving semi-automatic pistols was in general 15% higher than in those involving revolvers (Reedy and Koper 2003). The study also found that attackers using semi-automatics to fire more than 10 shots were responsible for nearly 5% of the gunshot victims in the sample. Used as a tentative guide, this implies that the LCM ban could have eventually produced a small reduction in shootings overall, perhaps up to 5%, even if some gun attackers had the foresight to carry more than one small magazine (or more than one firearm) and the time and poise to reload during an attack.

Effects of this magnitude might be difficult to measure reliably, but they could nonetheless yield significant societal benefits. Consider that in 2010 there were 11,078 gun homicides in the United States and another 53,738 non-fatal assault-related shootings according to the federal Centers for Disease Control and Prevention (see the CDC's web-based injury statistics query and reporting system at <http://www.cdc.gov/injury/wisqars/index.html>). At these levels, reducing shootings by just 1% (arguably a reasonable ballpark estimate for the long-term impact of substantially reducing AW and LCM use) would amount to preventing about 650 shootings annually. The lifetime medical costs of assault-related gunshot injuries (fatal and nonfatal) were estimated to be about \$18,600 per injury in 1994 (Cook et al. 1999). Adjusting for inflation, this amounts to \$28,894 in today's dollars. Moreover, some estimates suggest that the full societal costs of gun violence—including medical, criminal justice, and other government and private costs (both tangible and intangible)—could be as high as \$1 million per shooting (Cook and Ludwig 2000). Hence, reducing shootings by even a very small margin could produce substantial long-term savings for society, especially as the shootings prevented accrue over many years.

Lessons and Implications from the 1994 Ban

Studies of America's previous assault weapons ban provide a number of lessons that can inform future policymaking. A new law similar to the old ban will have little impact on most gun crimes, but it may prevent some shootings, particularly those involving high numbers of shots and victims. It may thus help to reduce the number and severity of mass shooting incidents as well as produce a small reduction in shootings overall.

The most important feature of the previous ban was the prohibition on large-capacity ammunition magazines. A large magazine is arguably the most critical feature of an assault weapon, and restrictions on magazines have the potential to affect many more gun crimes than do those on military-style weapons. Restrictions focused on magazine capacity may also have a greater chance of gaining sufficient public and political support for passage than would new restrictions on assault weapons, though current polling suggests that both measures are supported by three-quarters of non-gun owners and nearly half of gun owners (Barry et al., in this volume). To enhance the potential impact of magazine restrictions, policymakers might also consider limiting magazine capacity to fewer than 10 rounds for all or selected weapons (for example, lower limits might be set for magazines made for semi-automatic rifles).⁵ It is unknown whether further restrictions on the outward features of semi-automatic weapons, such as banning weapons having any military-style features, will produce measurable benefits beyond those of restricting magazine capacity.

Policymakers must also consider the implications of any grandfathering provisions in new legislation. Assessing the political and practical difficulties of registering all assault weapons and large magazines or establishing turn-in or buyback programs for them is beyond the scope of this essay. Policymakers should note, however, that it may take many years to attain substantial reductions in crimes with banned weapons and/or magazines if a new law exempts the existing stock (which has likely grown considerably since the time of the original ban). Policies regarding exemptions must also explicitly address the status of imported guns and magazines.

Past experience further suggests that public debate on reinstating the ban or crafting a new one will raise prices and production of the guns and magazines likely to be affected. This could temporarily saturate the market for the guns and magazines in question (particularly if close substitutes emerge) and delay desired reductions in crimes with some categories of the banned weap-

onry (this appeared to happen with assault rifles that were banned by the 1994 law and may have contributed as well to the observed trends in use of large magazines).

A new ban on assault weapons and/or large-capacity magazines will certainly not be a panacea for America's gun violence problem nor will it stop all mass shootings. However, it is one modest measure that, like federal restrictions on fully automatic weapons and armor-piercing ammunition, can help to prevent the further spread of particularly dangerous weaponry.

NOTES

1. In general, the AW ban did not apply to semi-automatics possessing no more than one military-style feature listed under the ban's features test provision. Note, however, that firearms imported into the country still had to meet the "sporting purposes test" established under the federal Gun Control Act of 1968. In 1989, ATF determined that foreign semi-automatic rifles having any one of a number of named military features (including those listed in the features test of the 1994 AW ban) fail the sporting purposes test and cannot be imported into the country. In 1998, the ability to accept an LCM made for a military rifle was added to the list of disqualifying features. Consequently, it was possible for foreign rifles to pass the features test of the federal AW ban but not meet the sporting purposes test for imports (U.S. Department of the Treasury 1998).

2. Technically, the ban prohibited any magazine, belt, drum, feed strip, or similar device that has the capacity to accept more than 10 rounds of ammunition or which can be readily converted or restored to accept more than 10 rounds of ammunition. The ban exempted attached tubular devices capable of operating only with .22 caliber rimfire (i.e., low velocity) ammunition.

3. See Koper (2004), Koper and Roth (2002), and Roth and Koper (1997) for more extensive discussions of the ban's impacts on prices and production of AWs, non-banned firearms, and LCMs.

4. A gun trace is an investigation into the sales history of a firearm (e.g., see ATF 2000).

5. To support the formulation and evaluation of policy in this area, there are also a number of research needs worth noting. For one, it is important to develop better data on crimes with guns having LCMs. Policymakers should thus encourage police agencies to record information about magazines recovered with crime guns. Likewise, ATF should consider integrating ammunition magazine data into its national gun tracing system and encourage reporting of magazine data by police agencies that trace firearms. Second, there is a need for more studies that contrast the outcomes of attacks with different types of guns and magazines. Such studies would help to refine predictions of the change in gun deaths and injuries that would follow reductions in attacks with firearms having large-capacity magazines.

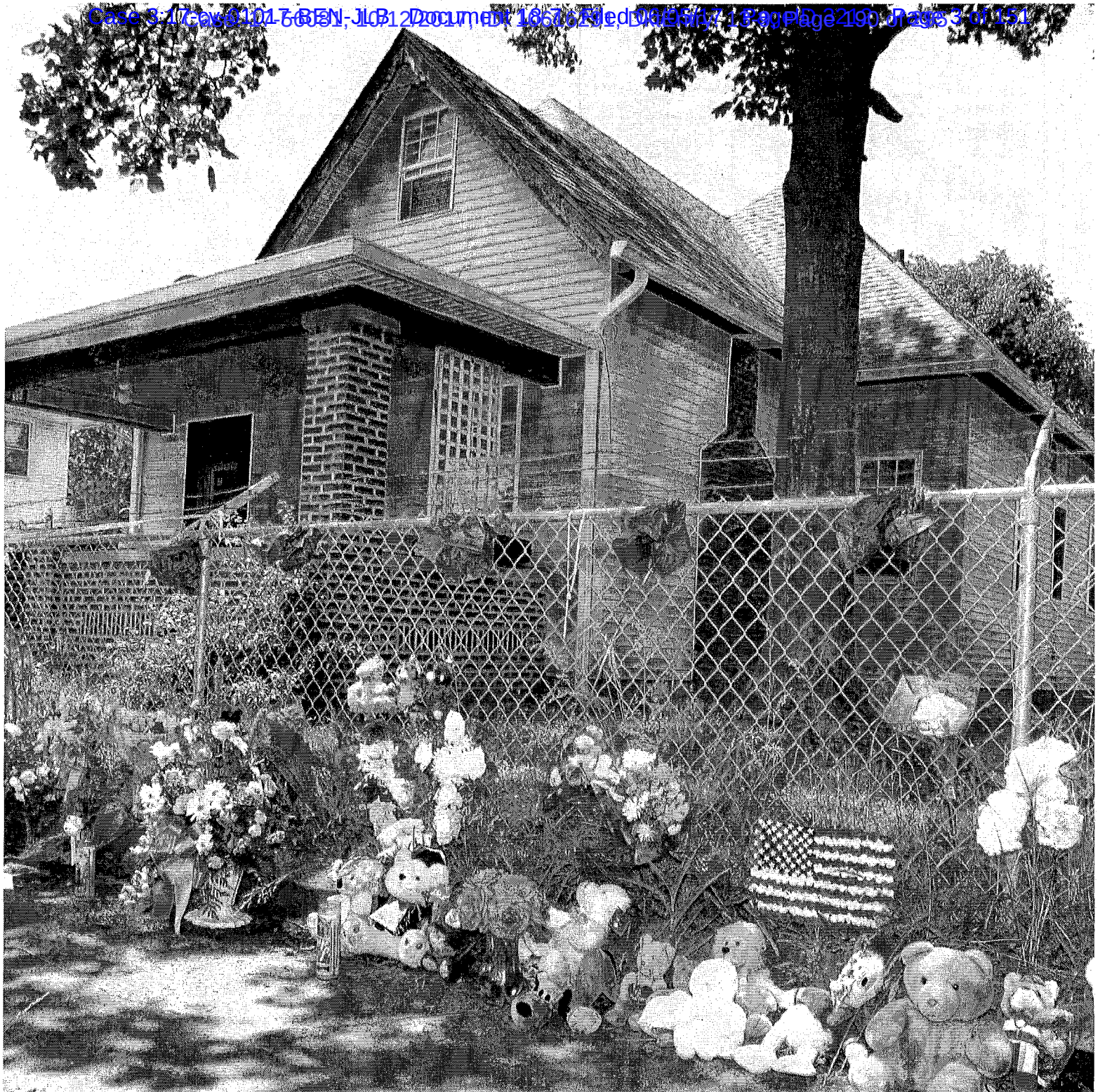
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Exhibit 76

ER2025

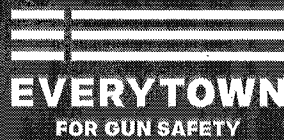


MARCH 2017

Mass Shootings in the United States: 2009–2016


EVERYTOWN
FOR GUN SAFETY

ER2026



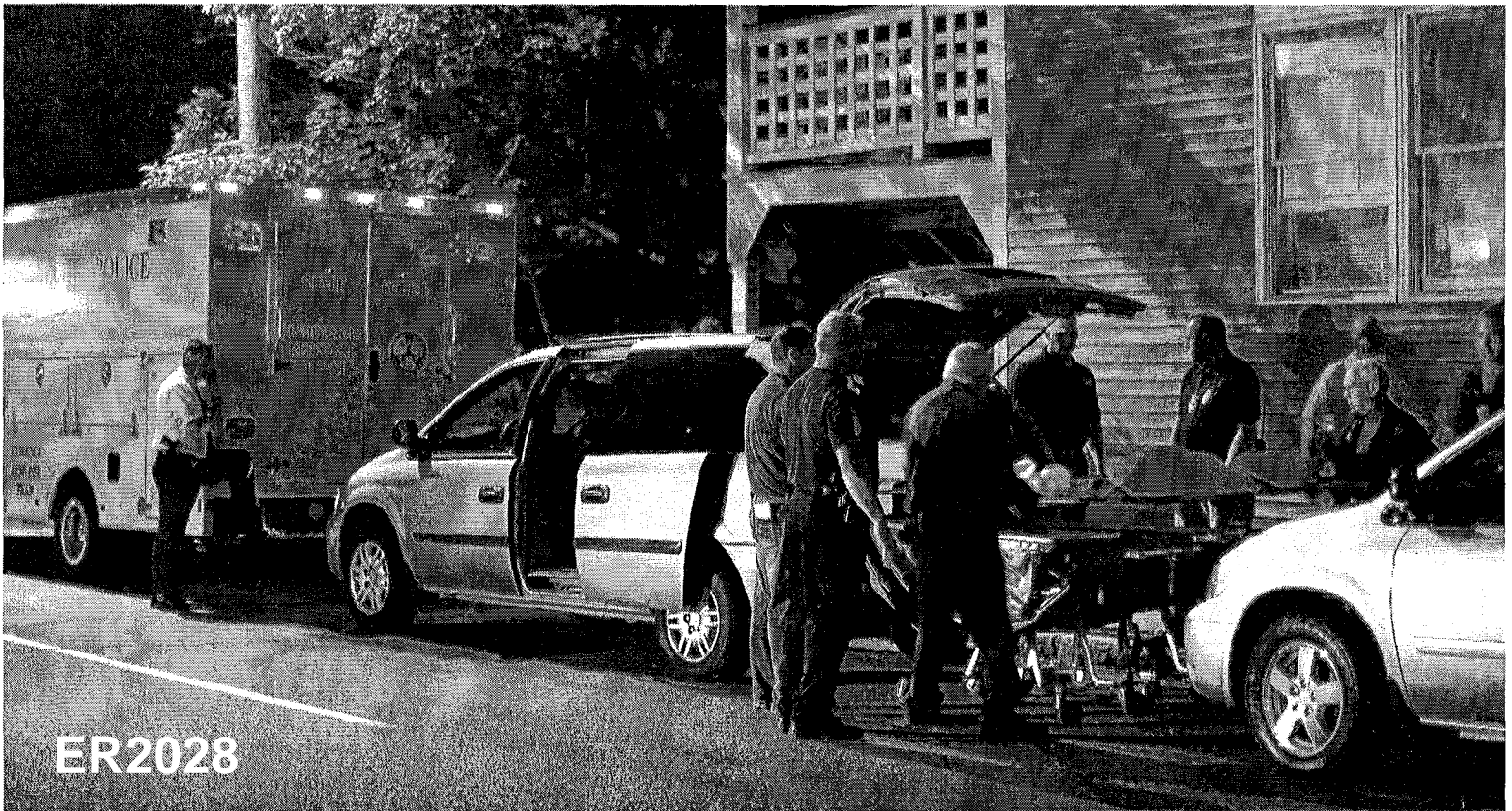
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EXECUTIVE SUMMARY

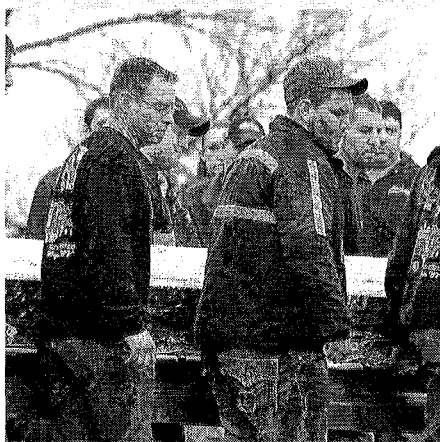
At around 11:30 PM on Saturday, July 26, 2014, neighbors of the Smith family in Saco, ME heard gunshots ring out. Maine State Police detectives arrived at the Smiths' apartment to discover five bodies, all fatally shot. Finding a shotgun under Joel Smith's body, police quickly identified the scene as a murder-suicide: Smith had shot and killed his wife Heather, their two children, and his stepson before turning the gun on himself.

There were several warning signs in advance of the shooting that suggested the Smith family was in danger. After the shooting, Joel's father told police that his son was a heavy drinker and often used alcohol to cope with depression. And a family friend of the Smiths told police that, just days before the shooting, Heather confided that Joel had pointed a gun at his own head and threatened to kill himself.¹

The story of the Smith family is devastating. But when it comes to mass shootings in the United States—incidents in which four or more people are shot and killed, not including the shooter—it fits a familiar pattern. **Like the shooting of the Smith family, the majority of mass shootings in the United States are related to domestic or family violence. Furthermore, there are often warning signs in advance of these shootings—"red flags" indicating that the shooters posed a risk to themselves or others.**



SINCE 2009, MASS
SHOOTINGS HAVE
CAUSED **848 DEATHS**
AND **339 INJURIES**.



1 IN 4 DEATHS
IN A MASS
SHOOTING IS
A CHILD.



To better assess the reality of mass shootings in the United States—and to identify policies which could prevent them from occurring in the first place—Everytown analyzed every mass shooting we were able to identify in the United States from 2009-2016. This analysis uncovered the following findings:

- From 2009-2016 in the U.S., there have been **156 mass shootings**—incidents in which four or more people were shot and killed, not including the shooter. **These incidents resulted in 1,187 victims shot: 848 people were shot and killed, and 339 people were shot and injured.** In addition, 66 perpetrators killed themselves after a mass shooting, and another 17 perpetrators were shot and killed by responding law enforcement.
- The majority of mass shootings—**54 percent of cases**—were related to **domestic or family violence**.
- Mass shootings significantly impacted children: **25 percent of mass shooting fatalities (211) were children.** This is primarily driven by mass shootings related to domestic or family violence, in which over 40 percent of fatalities were children.
- In nearly half of the shootings—**42 percent of cases**—the shooter exhibited **warning signs before the shooting** indicating that they posed a danger to themselves or others. These red flags included acts, attempted acts, or threats of violence towards oneself or others; violations of protective orders; or evidence of ongoing substance abuse.
- More than one-third of the shootings—**34 percent**—involved a shooter who **was prohibited from possessing firearms**.
- **Only ten percent of incidents took place in “gun-free zones,”** or areas where civilians are prohibited from carrying firearms and there is not a regular armed law enforcement presence (armed security guards, for example). The vast majority of incidents—63 percent—took place entirely in private homes.

These findings reaffirm the value of gun violence prevention policies that address the circumstances underlying mass shootings: strong domestic violence laws that keep guns away from abusers, mechanisms that allow for the temporary removal of guns from individuals who have exhibited dangerous recent behavior, and background checks on all firearm sales to prevent people who are prohibited from having guns from buying them.

METHODOLOGY

Everytown defines a mass shooting as an incident in which four or more people, not including the shooter, are killed with a firearm. The threshold of four fatalities—which is used by the majority of academics and organizations studying mass violence—is derived from a definition of mass murder used in a 2005 FBI report.² Unless specifically noted, the casualty figures discussed below include only victims and not perpetrators who were also killed or injured.

To identify the 156 mass shootings included in this analysis, Everytown pulled information from the FBI's Supplementary Homicide Report and from media reports. Everytown then requested police and court records for each shooting. Researchers received official records for 76 shootings. If police or court records were unavailable, Everytown used media reports that were deemed reliable for additional case information.



IN **54%** OF INCIDENTS, THE
PERPETRATOR SHOT AN INTIMATE
PARTNER OR FAMILY MEMBER

FINDINGS

Domestic violence is a driving factor in mass shootings

The majority of mass shootings in the U.S. are related to domestic or family violence. In at least 54 percent of mass shootings (85), the perpetrator shot a current or former intimate partner or family member. These domestic violence mass shootings resulted in 422 victims being killed—more than 40 percent (181) of whom were children. A majority of these cases—56—also ended with the perpetrators killing themselves.

Included in this count are Phoukeo-Dej Odoum and her three children. On June 8, 2016, Phoukeo Dej-Odoum applied for a temporary protective order in Clark County, NV, noting that her husband had threatened the family with weapons in the past. The next day, her application was denied—reportedly because the

threats referenced were not recent enough. On June 18, she quit her job as an assistant manager at Sport Clip Haircuts, texting her boss, "I cannot work. [My husband will] know where I am. I have to quit now."³ On June 29, the husband, Jason Dej-Odoum, chased Phoukeo through a Walgreens parking lot, where he shot and killed her. Hours later, when police went to the family home looking for Jason, they found the couple's three children—ages 9 to 15—dead. Jason had shot and killed them. Jason was there too, dead from a self-inflicted gunshot wound.

The connection between mass shootings and domestic violence may be explained, in part, by the role guns play in domestic violence generally. About 4.5 million American women report that they have had an intimate partner threaten them with a gun.⁴ And guns make it more likely that domestic abuse will turn fatal—**when a gun is present in a domestic violence situation, the likelihood that a woman will be shot and killed increases fivefold.**⁵

Because of the risk that firearms pose when they intersect with domestic violence, a series of federal and state laws are in place to help keep guns out of the hands of domestic abusers. The strongest state laws prohibit domestic abusers and stalkers from buying or possessing guns, require background checks for all gun sales, and create processes to ensure that abusers and stalkers relinquish guns already in their possession. When these laws are on the books and enforced properly, they save lives. For example, cities in states that restrict access to firearms for those under domestic violence protective orders see a 25 percent reduction in intimate partner gun deaths.⁶

Weeks after applying for a protective order, Phoukeo Dej-Odoum was shot and killed by her husband in a Walgreens parking lot.



There were often warning signs before mass shootings

In the aftermath of a mass shooting, survivors, the community, and policymakers try to understand whether the shooting could have been prevented. In pursuit of this goal, public health experts that study mass shootings and other acts of mass violence have identified certain dangerous behaviors that can serve as warning signs that an individual is a risk to themselves or others.⁷ These “red flags” include, but are not limited to recent acts, attempted acts, or threats of violence towards oneself or others; a violation of a protective order; or evidence of ongoing substance abuse.⁸



IN **42%** OF INCIDENTS, THE SHOOTER EXHIBITED DANGEROUS WARNING SIGNS BEFORE THE SHOOTING

In nearly half of mass shootings—42 percent of cases—the shooter exhibited at least one red flag prior to the shooting

This was true in the case of Omar Mateen who, on July 12, 2016, fatally shot 49 people and injured 53 more at Pulse, a gay nightclub in Orlando. Before this attack, there were warning signs that he was potentially dangerous. His ex-wife had alleged that he beat her: “He would just come home and start beating me up because the laundry wasn’t finished or something like that.”⁹ A man who had recently been his colleague said, “He [Mateen] was an angry person, violent in nature...I saw it coming...He said he was going to kill a whole bunch of people.”¹⁰

The fact that so many mass shooters displayed warning signs prior to the shootings indicates the value of providing a mechanism to law enforcement or family members that would allow them to petition a court to temporarily remove firearms from an individual they believe to be at risk to themselves or others.

This is what policymakers refer to as a Gun Violence Restraining Order (GVRO), or in some cases an Emergency Risk Protection Order (ERPO). Currently, four states—California, Connecticut, Indiana, and Washington—have such restraining order processes in place. These provide a crucial tool for intervention when a person exhibits dangerous behaviors.¹¹

Many shooters were prohibited from possessing firearms

Policymakers have long recognized that it's dangerous for felons, domestic abusers, or those with serious mental illnesses to have guns. That is why people with such records are legally prohibited from buying or possessing firearms.

The harm posed when guns get into the wrong hands is particularly evident in mass shootings. **In more than one-third—34%—of mass shootings (53), the shooter was prohibited from possessing firearms at the time of the shooting.**

The federal background check system is designed to enforce legal prohibitions and keep guns out of the hands of dangerous people. Under federal law, licensed dealers are legally required to run a background check on potential buyers. When someone who is not legally allowed to have a gun attempts to make a purchase from a licensed dealer, the background check stops the sale. In fact, between 1994-2014, the background check system has blocked nearly 3 million gun sales to prohibited people.¹²

But there's a loophole in the federal system. Federal law only requires background checks for gun sales at licensed dealers—a gap referred to as the unlicensed sale loophole. Nineteen states and Washington, DC have acted to close this dangerous loophole by requiring background checks on all handgun sales.¹³ There is strong evidence that closing this loophole saves lives. In states that have done so, 47 percent fewer women are shot to death by their intimate partners, 53 percent fewer law enforcement officers are killed with guns, and there is 48 percent less gun trafficking in cities.¹⁴



IN **34%** OF INCIDENTS, THE
SHOOTER WAS PROHIBITED
FROM POSSESSING FIREARMS.

In the absence of laws that close the unlicensed sale loophole, criminals and other prohibited people can easily avoid background checks simply by buying guns from unlicensed sellers—including strangers they meet online.

This is exactly how convicted felon Jody Lee Hunt was able to buy the firearm he used to shoot and kill four people on December 1, 2014 in Morgantown, WV. Fifteen years before the shooting, he had been convicted of felony kidnapping and sentenced to ten years in prison for abducting a former girlfriend and holding her hostage at gunpoint. As a result of the conviction, he became prohibited from buying and possessing firearms. If he had tried to purchase a firearm at a licensed dealer, a background check would have stopped the sale. But West Virginia law does not require background checks for gun sales between individuals who are not licensed dealers. So Hunt found a 9mm handgun listed for sale on Facebook and purchased it from a fellow West Virginian who had posted the ad.

He then used the gun to shoot and kill four people: a business rival, an ex-girlfriend and her boyfriend, and his cousin. Finally, he used the same gun to shoot and kill himself.



ONLY **10%** OF MASS
SHOOTINGS TOOK PLACE
IN A GUN-FREE ZONE

Most mass shootings do not occur in gun-free zones

The gun lobby frequently claims that so called “gun-free zones”—areas where civilians are prohibited from carrying firearms and there is no regular armed law enforcement present—attract mass shooters. This does not seem to be the case. In fact, **only 10 percent of mass shootings (16) took place in so called “gun-free zones”**. The vast majority of mass shootings—63 percent—took place entirely in private homes.

Additionally, there is not a single mass shooting in Everytown's database in which the shooter was stopped by an armed civilian—even in cases where there were armed civilians present.

Take, for example, the October 1, 2015 mass shooting in which Christopher Harper-Mercer fatally shot nine people in an attack at Umpqua Community College in Roseburg, OR. At the time of the shooting, there were several students carrying concealed handguns on campus. But they recognized that an attempt to provide help may have confused law enforcement and decided not to intervene. As one student, a military veteran who was carrying a concealed gun at the time, explained: "Luckily, we made the choice not to get involved... not knowing where SWAT was on their response time, they wouldn't know who we were, and if we had our guns ready to shoot, they'd think we were the bad guys."¹⁵

CONCLUSION

Mass shootings have a devastating impact on our communities—from the victims killed, to the surviving witnesses, to the public at large. In order to prevent such tragic violence in the future, we must understand how and why these incidents unfold.

The true picture of mass shootings in the U.S. is different than headlines suggest. While there are prominent attacks on public places—like the Pulse nightclub in Orlando—the majority of these shootings occur in the home, between spouses, partners, and family members. Furthermore, the fatalities documented in this report were not unavoidable. Often, the shooters never should have had access to a gun in the first place—either because they were prohibited from possessing firearms or they had recently exhibited dangerous behavior. Policymakers across the country should examine their state's current laws, and address the gaps that make it too easy for dangerous individuals to arm themselves. This involves requiring background checks on all gun sales; ensuring that domestic abusers do not have access to firearms; and creating mechanisms that allow for the temporary removal of guns from individuals who have demonstrated a risk to themselves or others.

APPENDIX

For a complete list of the 156 mass shootings included in this analysis, please visit the appendix at: <http://every.tw/2nsib5P>.

ENDNOTES

- ¹ Bangor Daily News. Father of Saco man who murdered family says son was fighting alcoholism. <http://bit.ly/1NuuYej>. Published August 1, 2014. Accessed February 15, 2017.
- ² FBI. Serial Murder: Multi-Disciplinary Perspectives for Investigators. 2005. <http://bit.ly/1hWdFVU>. Accessed February 15, 2017.
- ³ Las Vegas Review-Journal. Mother killed in quadruple murder-suicide of family had quilt work, was 'scared for her life'. <http://bit.ly/29d52VV>. Published July 1, 2016. Accessed February 15, 2017.
- ⁴ Sorensen S, Schut R. Nonfatal Gun Use in Intimate Partner Violence: A Systematic Review of the Literature. *Trauma, Violence, & Abuse*. 2016. <http://bit.ly/2lbskQ6>. Accessed February 15, 2017.
- ⁵ Campbell JC, Webster D, Kozlowski J, et al. Risk Factors for Femicide in Abusive Relationships: Results From a Multisite Case Control Study. *American Journal of Public Health*. 2003; 93, 1089-1097.93
- ⁶ Zeoli A, Webster D. Effects of Domestic Violence Policies, Alcohol Taxes and Police Staffing Levels on Intimate Partner Homicide in Large U.S. Cities. *Journal of Injury Prevention*. 2010; 16(2), 90-95. <http://bit.ly/2kCaOTa>. Accessed February 15, 2017.
- ⁷ Consortium for Risk-Based Firearm Policy. Guns, Public Health, and Mental Illness: An Evidence-Based Approach for State Policy. <http://bit.ly/SFWP1a>. Accessed February 15, 2017.
- ⁸ For this analysis, dangerous behaviors that would qualify as a "red flag" include any of the following, if observed within 3 years of the shooting: a recent threat of violence, act of violence or attempted act of violence towards self or others; a conviction for certain firearms offenses (including unlawful and reckless use, display or brandishing); a violation of a protective order; evidence of ongoing abuse of controlled substances or alcohol.
- ⁹ The Washington Post. 'He was not a stable person': Orlando shooter showed signs of emotional trouble. <http://wapo.st/2lJMvyI>. Published June 12, 2016. Accessed February 15, 2017.
- ¹⁰ CNN. Omar Mateen: Angry, violent 'bigot' who pledged allegiance to ISIS. <http://cnn.it/1UQA2l5>. Published June 14, 2016. Accessed February 15, 2017.
- ¹¹ Cal. Penal Code § 18100, et. seq.; Conn. Gen. Stat. § 29-38c; Ind. Code § 35-47-14-1, et. seq.; Rev. Code Wash. § 7.94.010, et. seq.
- ¹² Karberg JC, Frandsen RJ, Durso JM, et al. Background Checks for Firearm Transfers, 2013-2014. Bureau of Justice Statistics. <http://bit.ly/2lSElEu>. Published June 2016. Accessed February 15, 2017.
- ¹³ CA, CO, CT, DE, HI, IA, IL, MD, MA, MI, NE, NV, NJ, NY, NC, OR, PA, RI, and WA.
- ¹⁴ Everytown for Gun Safety. Background checks prevent gun violence and save lives. <http://everytown.org/1U6gEd0>. Accessed February 15, 2017.
- ¹⁵ Think Progress. 'Good Guy With A Gun' Was On UCC Campus At Time Of Massacre. <http://bit.ly/2kUGaYM>. Published October 2, 2015. Accessed February 15, 2017.



ER2037

Exhibit 77

APPENDIX

MARCH 2017

Mass Shootings in the United States: 2009–2016



ER2039

Appendix

Mass shooting incidents, January 2009–December 2016

The following incidents are presented in reverse chronological order. Information comes from police and court records, or media reports when no records were available.

Chicago, IL, 12/17/2016

Four people were shot and killed and one person was shot and injured in a home in the Fernwood neighborhood of Chicago. The identity of the shooter remains unknown.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Los Angeles, CA, 10/15/2016

A dispute involving multiple shooters led to four people being fatally shot and 11 more being shot and injured. The shooting took place during a birthday party, at a home that also served as an underground restaurant in the West Adams neighborhood of Los Angeles. Though investigators suspect multiple shooters were involved, only Marlon Jones has been charged in connection with the crime.

Shooter name: Marlon Jones (alleged)

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Marlon Jones was likely prohibited from possessing firearms as he was believed to be living in the United States illegally, according to the FBI.

GVRO red flag: There is no evidence to suggest that Jones exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Burlington, WA, 09/23/2016

Arcan Cetin, 20, allegedly shot and killed five people at the Cascade Mall. Cetin fled the mall in a vehicle, and was arrested by police after a 24-hour manhunt.

Shooter name: Arcan Cetin, 20 (alleged)

Gun details: .22-caliber Ruger rifle

Gun acquired: Cetin's stepfather owned a .22-caliber Ruger rifle and told detectives the weapon was missing from his home.

Prohibiting criteria: Cetin was likely prohibited from possessing firearms. In November 2015, he attempted suicide and was involuntarily committed at Fairfax Hospital, an inpatient psychiatric facility in Kirkland, WA.

GVRO red flag: In addition to his November 2015 suicide attempt, Cetin exhibited several warning signs in advance of the shooting. In the spring of 2015, Cetin was accused of sexually touching two female classmates at Oak Harbor High. A month later, he was arrested for misdemeanor domestic violence assault after an argument with his stepfather.

Gun-free zone: Cascade Mall, which is owned by the Macerich Group, prohibits the carrying of all weapons, including firearms, on the property as a term of their corporate code of conduct.

Sinking Spring, PA, 08/06/2016

Mark Short, 40, fatally shot his wife and their three children –ages 2 to 8 –before fatally shooting himself.

Shooter name: Mark Short, 40

Gun details: Handgun

Gun acquired: Short bought the gun from a licensed dealer in Lancaster County, PA approximately two weeks before the shooting.

Prohibiting criteria: There is no evidence to suggest Short was prohibited from possessing firearms.

GVRO red flag: Approximately two weeks before the shooting, police responded to a call from Short's wife, who indicated she was afraid of her husband.

Not a gun-free zone: The shooting took place in a private home.

Dallas, TX, 07/07/2016

Micah Johnson, 25, fatally shot five police officers and shot and injured nine more people during a protest in downtown Dallas. After the shooting subsided, Johnson hid in a parking garage, holding off police for hours. The police killed him the following morning, using an explosive delivered by a remote-controlled robot.

Shooter name: Micah Johnson, 25

Gun details: Izhmash-Saiga 5.45mm rifle, 9mm handgun, .25-caliber handgun

Gun acquired: Investigators believe Johnson acquired the guns legally, either online or at a gun show.

Prohibiting criteria: There is no evidence to suggest that Johnson was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Johnson exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: Under Texas law, the open and concealed carrying of firearms was lawful at the protest. There were several armed individuals at the protest.

Las Vegas, NV, 06/29/2016

Jason Dej-Odum, 34, fatally shot his wife outside a Walgreens store. He then fatally shot their three children –ages 9 to 15 –in the family's apartment before fatally shooting himself.

Shooter name: Jason Dej-Odum, 34

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest Dej-Odum was prohibited from possessing firearms.

GVRO red flag: Dej-Odum's wife had applied for a protective order weeks before the shooting,

but it was denied. In the protective order application, she alleged that Dej-Odoum had threatened the family with guns many times in the past. The application also suggests that Dej-Odoum threatened his children in conversation with his wife approximately three weeks before the shooting.

Not a gun-free zone: The shootings took place outside a Walgreens store and in a private home. Neither location would prohibit the carrying of firearms.

Roswell, NM, 06/12/2016

Juan David Villegas-Hernandez, 34, allegedly shot and killed his wife and four children, ages 7 to 14, in the family's home.

Shooter name: Juan David Villegas-Hernandez, 34 (alleged)

Gun details: .22-caliber rifle

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Villegas-Hernandez was prohibited from possessing firearms.

GVRO red flag: Days before the shooting, Villegas-Hernandez threatened to kill his wife, according to her brother. There was a history of abuse in the relationship, and Villegas-Hernandez's wife had recently asked for a divorce.

Not a gun-free zone: The shooting took place in a private home.

Orlando, FL, 06/12/2016

Omar Mateen, 29, fatally shot 49 people and shot and wounded 53 more at Pulse, a gay nightclub in Orlando. After the initial attack, Mateen held the people inside the club hostage for approximately three hours before police raided the club. Over a dozen police officers and sheriff's deputies engaged in a shootout with Mateen, shooting him fatally.

Shooter name: Omar Mateen, 29

Gun details: Sig Sauer MCX assault rifle, 9mm handgun

Gun acquired: Mateen legally purchased the guns from a Florida gun store about a week before the shooting.

Prohibiting criteria: The FBI had investigated Mateen for possible ties to terrorism, but eventually closed the investigation because agents concluded he was not a threat. This would not have prevented the shooter from buying or having firearms as the FBI currently has no authority to block gun sales to suspected terrorists.

GVRO red flag: There were several signs that Mateen was potentially dangerous. His ex-wife alleged that Mateen beat her before their divorce in 2011. A man who was Mateen's colleague in 2014 and 2015 said that he had violent tendencies and that he threatened to kill people.

Gun-free zone: Pulse nightclub was a gun-free zone under Florida law, which prohibits permit holders from carrying concealed handguns in bars and other venues that primarily serve alcohol.

Appling, GA, 4/22/2016

Wayne Anthony Hawes, 50, fatally shot five adults before fatally shooting himself. The shooting was related to a domestic dispute, with Hawes killing three of his girlfriend's family members.

Shooter name: Wayne Anthony Hawes, 50

Gun details: .357 magnum revolver, and shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest Hawes was prohibited from possessing firearms.

GVRO red flag: Hawes' girlfriend reported a long and ongoing history of verbal and physical abuse, as well as alcohol abuse.

Not a gun-free zone: This shooting took place between three private homes.

Pike County, OH, 04/22/2016

Eight members of the same family were shot and killed between four homes in the Piketon, OH area. No arrests have been made, and the identity of the shooter(s) is unknown. There were marijuana grow operations found at three of the crime scenes, though it is unknown if this was related to the shooting.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shootings took place between 4 private homes.

Wilkinsburg, PA, 03/09/2016

Cheron Shelton, 29, and Robert Thomas, 27, allegedly shot and killed five people and shot and injured three more at a backyard cookout. Officials believe the shooting was retaliation for another shooting in 2013.

Shooter names: Cheron Shelton, 29, and Robert Thomas, 27 (alleged)

Gun details: 7.62-caliber assault rifle, .40-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Both Shelton and Thomas were prohibited from possessing firearm, because of their history of violent felony convictions. Shelton also had a 2009 felony drug conviction which prohibited him.

GVRO red flag: There is no evidence that Shelton or Thomas exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place at a private home.

Kansas City, KS, 03/07/2016

Pablo Antonio Serrano-Vitorino, 40, allegedly shot and killed four men in Kansas City, KS; at least one of these men lived in the house next door to him. The next day he fatally shot another man at that man's home in Montgomery County, MO. A police manhunt ended in his arrest.

Shooter name: Pablo Antonio Serrano-Vitorino, 40 (alleged)

Gun details: A shotgun was used in the Kansas City shootings; an assault rifle was used in the Montgomery County shootings.

Gun acquired: Unknown

Prohibiting criteria: Serrano-Vitorino was prohibited from possessing firearms because, according to media reports, he was in the United States illegally.

GVRO red flag: In June 2015, Serrano-Vitorino was charged after allegedly punching his brother in the face.

Not a gun-free zone: The shootings took place between two private homes.

Belfair, WA, 02/26/2016

David Wayne Campbell, 51, fatally shot his wife, her two sons, a neighbor, and then himself.

Shooter name: David Wayne Campbell, 51

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: Campbell was likely prohibited from possessing firearms due to past felony and misdemeanor convictions in Pennsylvania, including theft by deception and forgery.

GVRO red flag: One of Campbell's former employees alleged that Campbell pulled a gun on him, and threatened to kill him in July 2015.

Not a gun-free zone: The shooting took place in a private home.

Phoenix, AZ, 02/23/2016

Alex Arthur Buckner, 26, fatally shot his parents and his two sisters in the family's home. He set fire to the house before being fatally shot by responding police officers.

Shooter name: Alex Arthur Buckner, 26

Gun details: Unknown

Gun acquired: The gun used in the shooting belonged to Buckner's father, one of the victims.

Prohibiting criteria: There is no evidence to suggest that Buckner was prohibited from possessing firearms.

GVRO red flag: There is no evidence that Buckner exhibited recent behavior that would have qualified him for a GVRO. His family members noted that he had been treated for drug abuse in the past, but it is unclear exactly when this occurred.

Not a gun-free zone: The shooting took place in a private home.

Kalamazoo, MI, 02/20/2016

Jason Brian Dalton, 45, allegedly shot and killed six people and injured two more in a spree shooting. The first shooting took place in the parking lot of an apartment building; a woman was critically injured, but survived. The second shooting –in the parking lot of a car dealership –killed a man and his 17-year-old son. And the third shooting –in the parking lot of a Cracker Barrel restaurant –killed four women and injured a 14-year-old girl. Dalton was working as an Uber driver during the spree, telling investigators that the Uber app took over his body.

Shooter name: Jason Brian Dalton, 45 (alleged)

Gun details: Walther P99 9mm handgun, Glock 19 9mm handgun

Gun acquired: Both guns used in the shooting were purchased from a licensed dealer.

Prohibiting criteria: There is no evidence that Dalton was prohibited from possessing firearms.

GVRO red flag: There is no evidence that Dalton exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: There is no evidence to suggest that any of the three locations was a gun-free zone.

Chesapeake, VA, 01/27/2016

Cameron Dooley, 26, fatally shot his mother, father, brother, sister, and grandmother between two homes. He then fatally shot himself.

Shooter name: Cameron Dooley, 26

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest Dooley was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest Dooley exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shootings took place between two private homes.

San Bernardino, CA, 12/02/2016

Married couple Syed Rizwan Farook, 28, and Tashfeen Malik, 29, fatally shot 14 people and shot and injured 22 more at Farook's office holiday party. Farook and Malik fled in a vehicle, but were shot and killed by pursuing police officers. The FBI investigated the incident as terrorism, suggesting that Farook and Malik may have been inspired by ISIS.

Shooter names: Syed Rizwan Farook, 28, and Tashfeen Malik, 29

Gun details: Five firearms were used in the attack: two 9mm handguns, two .223-caliber assault rifles, and a .22-caliber rifle.

Gun acquired: Three of the guns were purchased legally by Farook between 2007 and 2012. The other two were purchased by Farook's friend and former neighbor in 2011 or 2012.

Prohibiting criteria: There is no evidence to suggest that Farook or Malik were prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Farook or Malik exhibited recent behavior that would have qualified for a GVRO.

Not a Gun-free zone: The shooting took place at the Inland Regional Center, which is a state-run facility for individuals with developmental disabilities, including children. According to California law, the carrying of firearms is prohibited in state or local public buildings. However, concealed carry permit holders are exempt from this prohibition. Everytown found no other evidence that firearms were prohibited in the facility.

Palestine, TX, 11/14/2015

William Hudson, 33, allegedly shot and killed six people at a campsite. Hudson lived next to the campsite, and appeared to know the victims, though the motive for the shooting is unclear.

Shooter name: William Hudson, 33 (alleged)

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest Hudson was prohibited from possessing firearms.

GVRO red flag: In the month before the shooting, Hudson was arrested for assault after an incident at a local convenience store.

Not a gun-free zone: The campsite was privately owned; there is no evidence to suggest that firearms were prohibited on the land.

Pendleton, SC, 11/01/2015

Four family members were fatally shot in the Pendleton home where they lived. The identity of the shooter(s) is unknown.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Roseburg, OR, 10/01/2015

Christopher Harper-Mercer, 26, fatally shot nine people and shot and injured nine more during an English class at Umpqua Community College. Two responding police officers engaged Harper-Mercer in a shootout, hitting him once in the right side. Harper-Mercer then went back into the classroom and fatally shot himself.

Shooter name: Christopher Harper-Mercer, 26

Gun details: Harper-Mercer had five handguns and one rifle at the scene of the crime. Seven more guns were found at Harper-Mercer's home.

Gun acquired: According to ATF, all of the guns recovered were purchased legally, either by Harper-Mercer or his family members.

Prohibiting criteria: There is no evidence to suggest that Harper-Mercer was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Harper-Mercer exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: Concealed carry permit holders were allowed to carry firearms on the Umpqua Community College campus.

Platte, SD, 09/17/2015

Scott Westerhuis, 41, fatally shot his wife and their four children before setting their home on fire and fatally shooting himself.

Shooter name: Scott Westerhuis, 41

Gun details: Shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence that Westerhuis was prohibited from possessing firearms.

GVRO red flag: There is no evidence that Westerhuis exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Greenwood, NM, 9/10/2015

Brian Short, 45, fatally shot his wife and their three children –ages 13, 15, and 17 –before fatally shooting himself. The shooting took place in the family's home.

Shooter name: Brian Short, 45

Gun details: Remington 870 Express 12-gauge shotgun

Gun acquired: Short legally purchased the gun at a local gun store 4 days before the shooting.

Prohibiting criteria: There is no evidence that Short was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest Short exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Harris County, TX, 08/08/2015

David Conley, 49, allegedly shot and killed the woman he formerly lived with, her husband, and her six children in his former home. Conley was arrested after a standoff with police.

Shooter name: David Conley, 49 (alleged)

Gun details: 9mm handgun

Gun acquired: Conley reportedly bought the gun online in a private sale within two weeks of the shooting.

Prohibiting criteria: Conley was likely prohibited from possessing firearms due to a lengthy criminal history, including a 1989 conviction for aggravated robbery and auto theft, and a 1994 conviction for possession of a controlled substance.

GVRO red flag: In July 2015, the woman Conley ultimately shot and killed called police claiming that Conley had threatened to strike her son with a belt, and pushed her head against the refrigerator multiple times.

Not a gun-free zone: The shooting took place in a private home.

Barre, VT, 08/07/2015

Jody Herring, 40, allegedly shot and killed a social worker in a public parking lot. She then allegedly shot and killed her aunt, and two of her cousins in their home.

Shooter name: Jody Herring, 40 (alleged)

Gun details: Remington 700 .270-caliber rifle

Gun acquired: Herring stole the rifle from her ex-boyfriend.

Prohibiting criteria: Herring was prohibited from possessing firearms. She had a lengthy criminal record with 11 misdemeanor convictions, including heroin possession, petit larceny, and driving under the influence. Approximately 5 months before the shooting, Herring, on two separate dates, attempted to buy handguns from two licensed dealers in Vermont. On both occasions, the dealers denied her after requesting background checks.

GVRO red flag: Approximately a week before the shooting, Herring told her ex-boyfriend that she was going to “shoot some people”. Her ex-boyfriend told investigators that Herring had a “hit list”.

Not a gun-free zone: The shootings took place between a public parking lot and a private home, neither of which are gun-free zones.

Chattanooga, TN, 07/16/2015

Mohammad Abdulazeez, 24, fired from a vehicle into an Army/Navy recruitment center. He then traveled to the U.S. Naval Reserve where he fatally shot four marines and one sailor, and shot and injured two others, including a police officer. Ultimately, he was fatally shot by responding police.

Shooter name: Mohammed Youssuf Abdulazeez, 24

Gun details: AK-47-style assault rifle, shotgun, 9mm handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Abdulazeez was prohibited from possessing firearms.

GVRO red flag: Approximately 3 months before the shooting, Abdulazeez was charged with a DUI. Abdulazeez's relatives also attempted to have him admitted to an in-patient drug and alcohol program.

Gun-free zone: Abdulazeez fired at the Army/Navy recruitment center from the parking lot. Under Tennessee law, permit holders are allowed to keep guns in their cars in public and private parking lots. Under Department of Defense regulations, it is likely that most service members and

personnel at the US Naval Reserve were prohibited from carrying firearms. But, this prohibition would not have applied to authorized personnel, including those acting as security personnel or law enforcement. Media reports suggest that there was at least one service member on the premises who had a personal firearm and used it to fire at Abdulazeez.

Holly Hill, SC, 07/15/2015

An unknown assailant entered a residence and fatally shot two teenage girls, an adult male, an adult female, and shot and injured a child.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Charleston, SC, 06/17/2015

Dylann Roof, 21, fatally shot nine people during Bible study at the Emanuel African Methodist Episcopal Church.

Shooter name: Dylann Roof, 21

Gun details: .45 caliber Glock handgun

Gun acquired: Roof bought the gun at a licensed gun store in April 2015.

Prohibiting criteria: In the six-month period before the shooting, Roof was convicted for misdemeanor trespass and was facing a charge of misdemeanor possession of a controlled substance. Though neither the trespassing conviction nor the drug arrest would have caused him to fail a gun background check, the police report of the drug arrest contained evidence that he was an admitted unlawful user of a controlled substance. According to the FBI, that admission prohibited him from possessing firearms, so when he tried to purchase a handgun at a licensed gun dealer and underwent a background check, the FBI operator would have denied the sale had they had the record. The FBI operator did delay the sale of the gun used in the shooting to examine the details of the drug arrest, but they did not locate the police report within the three-business-day limit provided under law, and after that period elapsed, the gun dealer lawfully sold Roof the gun.

GVRO red flag: According to the police report from his 2015 arrest, Roof was an unlawful user of a controlled substance. This is echoed by one of Roof's high school classmates, who also identified him as a heavy drug user.

Gun-free zone: According to South Carolina law, the carrying of handguns is generally prohibited in churches and other religious sanctuaries.

Columbus, OH, 06/12/2015

Robert Lee Adams, 27, fatally shot a man, his daughter, and two other victims inside the man's home. He also shot and injured a 16-year-old girl. Adams was accompanied by a 16-year-old boy who helped rob the victims, but did not shoot them.

Shooter name: Robert Lee Adams, 27

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: Adams was prohibited from possessing firearms due to a 2008 conviction for armed robbery.

GVRO red flag: There is no evidence to suggest that Adams exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Missoula, MT, 06/07/2015

Michael Bournes, 59, fatally shot his wife and their three children—ages 1, 4, and 5—in their home. He then set the house on fire and fatally shot himself.

Shooter name: Michael Bournes, 59

Gun details: .45-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Despite a previous criminal history, Bournes was likely not prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Bournes exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Waco, TX, 05/17/2015

A brawl between rival biker gangs escalated into a shootout in which nine bikers were fatally shot and 18 others were shot and injured. Police engaged in the shootout and fired on the bikers.

Shooter names: Multiple unknown shooters

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in the parking lot around a restaurant. There is no evidence to suggest that the parking lot prohibited the carrying of firearms.

Tucson, AZ, 05/13/2015

Christopher Carrillo, 25, fatally shot his parents, his brother, and his niece in the family's home. He then fatally shot himself.

Shooter name: Christopher Carrillo, 25

Gun details: 9mm handgun

Gun acquired: Carrillo legally purchased the gun five days before the shooting.

Prohibiting criteria: Carrillo was not prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest Carrillo exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Phoenix, AZ, 05/13/2015

Driss Diaddinne, 50, fatally shot his mother, two brothers, and a sister-in-law in the home they all shared. He then fatally shot himself.

Shooter name: Driss Diaddinne, 50

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Diaddinne was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Diaddinne exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Indianapolis, IN, 03/24/2015

An unknown assailant shot and killed a woman, her cousin, her son, and a friend of the family in a home.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Tyrone, MO, 02/26/2015

Joseph Jesse Aldridge, 36, drove from house to house in his neighborhood, fatally shooting two of his cousins, their wives, and three unrelated neighbors. He shot and injured another neighbor. He fled the scene and ultimately shot and killed himself in his car.

Shooter name: Joseph Jesse Aldridge, 36

Gun details: .45-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Aldridge was prohibited from possessing firearms due to a 2008 felony conviction for possession of a firearm by an unlawful user of a controlled substance.

GVRO red flag: There is no evidence to suggest that Aldridge exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shootings took place in private homes.

Douglasville, GA, 02/07/2015

Cedric G. Prather, 33, went to the home where his ex-wife lived and fatally shot her, their two sons, and the ex-wife's new boyfriend. He also shot and injured two other children, and then fatally shot himself.

Shooter name: Cedric G. Prather, 33

Gun details: .45-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Prather was prohibited from possessing firearms due to a 2011 felony conviction for possessing cocaine.

GVRO red flag: Prather's ex-wife had asked a judge for a temporary protective order in August 2013, alleging that Prather had forced his way into her locked home and sexually assaulted her.

Not a gun-free zone: The shooting took place in a private home.

La Grange, GA, 01/31/2015

Thomas Jesse Lee, 26, fatally shot his wife, mother-in-law, father-in-law, and a teenage family friend in the home he shared with his wife's family. Lee also strangled and killed his stepdaughter.

Shooter name: Thomas Jesse Lee, 26

Gun details: .22-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Lee was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Lee exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

San Francisco, CA, 01/09/2015

An unknown assailant fatally shot four young men while they sat in a parked car on the street.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: In California, persons with a concealed carry permit may carry a concealed firearm in a car and on a public street.

Rockford, IL, 12/20/2014

Calvin Carter, 22, allegedly shot and killed his ex-girlfriend, her boyfriend, and her two children—ages 4 and 6.

Shooter name: Calvin Carter, 22 (alleged)

Gun details: .45 caliber handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence that the shooter was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest Carter exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Souderton, PA, 12/15/2014

Bradley Stone, 35, fatally shot his ex-wife, mother-in-law, sister-in-law, brother-in-law, and grandmother-in-law. He also fatally stabbed his niece and stabbed and injured his nephew before killing himself with a drug overdose.

Shooter name: Bradley Stone, 35

Gun details: .40-caliber handgun, 9mm Beretta

Gun acquired: Unknown

Prohibiting criteria: It is unclear if Stone was prohibited from possessing firearms. He was arrested and charged for a third DUI offense in 2013, admitted to Veteran's Treatment Court, and sentenced to 23 months of supervision. He agreed not to possess firearms as a condition of his admission to the treatment program, though it is unclear whether Stone would have failed a criminal background check.

GVRO red flag: Stone has several DUI arrests on his record, including one about 18 months before the shooting.

Not a gun-free zone: The shootings took place between three private homes.

Morgantown, WV 12/01/2014

Jody Lee Hunt, 39, fatally shot four people at three different locations: a business rival at his towing company, his ex-girlfriend and her new boyfriend in their shared home, and his cousin at his home. Hunt then fatally shot himself in his vehicle.

Shooter name: Jody Lee Hunt, 39

Gun details: 9mm handgun

Gun acquired: ATF traced the shooter's gun to a Monongalia County resident, who sold Hunt the 9mm handgun in an unlicensed transfer one year prior to the shooting. He was able to purchase the handgun in a private sale after responding to an ad for the gun posted on Facebook. Authorities do not believe that Hunt and the seller previously knew each other, and the seller was not charged with a crime.

Prohibiting criteria: The shooter was prohibited from possessing firearms due to multiple felony convictions. In 1999 in Virginia, he was convicted of felony kidnapping for abducting a former girlfriend and holding her hostage at gunpoint.

GVRO red flag: There is no evidence to suggest that Hunt exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: Three of the victims were killed in private homes. There is no evidence to suggest that the towing company had a specific policy prohibiting firearms on the premises.

Cleveland, OH, 11/21/14

James Sparks-Henderson, 19, allegedly shot and killed his close friend, a woman who was seven months pregnant, and two other victims inside a residence. He also allegedly shot and injured a nine-year-old girl.

Shooter name: James Sparks-Henderson, 19 (alleged)

Gun details: 9mm handgun

Gun acquired: Unknown

Prohibiting criteria: The shooter was prohibited from possessing firearms due to a 2010 felony conviction for aggravated robbery.

GVRO red flag: There is no evidence to suggest that Sparks-Henderson exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Springfield, MO, 11/15/2014

Scott Goodwin-Bey, 47, is suspected of fatally shooting four people in a motel room because he thought they were acting as informants to the police. He was convicted for being a felon in possession of a firearm. The murder charges were dropped in December 2016; though

Goodwin-Bey remains the only suspect, and prosecutors anticipate re-filing charges after additional testing is complete.

Shooter name: Scott Goodwin-Bey, 47 (suspected)

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Goodwin-Bey was prohibited from possessing firearms due to multiple felony convictions. In 1992, he was convicted of three felonies: possession of a controlled substance, unlawful use of a weapon, and resisting arrest.

GVRO red flag: There is no evidence that Goodwin-Bey exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: In a phone conversation, a motel employee told Everytown that a person with a concealed carry permit could carry on the premises.

Marysville, WA, 10/24/2014

Jaylen Fryberg, 15, shot five of his friends and classmates as they sat eating lunch in the cafeteria of Marysville-Pilchuck high school, killing four and injuring one. Fryberg then fatally shot himself.

Shooter name: Jaylen Fryberg, 15

Gun details: .40-caliber Beretta handgun

Gun acquired: The gun used in the shooting was owned by Fryberg's father, who said he kept the gun in his pickup truck.

Prohibiting criteria: As a juvenile, the shooter was prohibited from possessing handguns.

GVRO red flag: There is no evidence that Fryberg exhibited recent behavior that would have qualified him for a GVRO.

Gun-free zone: Washington law prohibits any person from carrying firearms onto elementary or secondary schools.

Bell, FL, 09/18/2014

Don Charles Spirit, 51, fatally shot his daughter and his six grandchildren, ranging from two months to 11 years of age. He then fatally shot himself.

Shooter name: Don Charles Spirit, 51

Gun details: .45-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: The shooter was prohibited from possessing firearms due to multiple felony convictions. In 1998, Spirit was convicted of felony possession of marijuana. In 2001, he unintentionally shot and killed his 8-year-old son while on a hunting trip; he was convicted of possession of a firearm by a felon.

GVRO red flag: Florida's Department of Children and Families (DCF) had been alerted to problems in the family about two weeks before the shooting. Spirit was allegedly abusing drugs, and physically abusing his grandchildren.

Not a gun-free zone: The shooting took place in a private home.

Culpeper, VA, 08/04/2014

Clarence Washington, 35, fatally shot his wife and three daughters –ages 4, 6, and 13 –and then fatally shot himself inside their home.

Shooter name: Clarence Washington, 35

Gun details: A .380 Hi-Point handgun and .22-caliber rifle were found at the scene; it is unclear which weapons were used in the shooting.

Gun acquired: Unknown

Prohibiting criteria: There is no evidence that Washington was prohibited from possessing firearms.

GVRO red flag: There is no evidence that Washington exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Saco, ME, 07/26/2014

Joel Smith, 33, fatally shot his wife, their two children, ages 4 and 7, and his 12-year-old stepson in the family's home. He then fatally shot himself.

Shooter name: Joel Smith, 33

Gun details: Shotgun

Gun details: Smith's brother purchased the shotgun for him.

Prohibiting criteria: There is no evidence that Smith was prohibited from possessing firearms.

GVRO red flag: Smith's father indicated that Smith suffered from alcohol abuse. Smith's wife told a family friend that Smith had threatened suicide in the week before the shooting.

Not a gun-free zone: The shooting took place in a private home.

Spring, TX, 07/09/2014

Ronald Lee Haskell, 33, allegedly shot and killed the sister of his ex-wife, her husband, and four of their children, injuring a fifth, before being captured by police.

Shooter name: Ronald Lee Haskell, 33 (alleged)

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: Haskell was likely prohibited from possessing firearms. There was a mutual restraining order enacted as part of his divorce proceedings in February 2014. He had also been charged with simple assault and domestic violence in the presence of a child in 2008, but the charges were dismissed.

GVRO red flag: In July, weeks before the shooting, Haskell's family attempted to take out a protective order against him. According to media reports, the mother accused her son of choking her until she passed out and threatened to kill her. In November of 2013, he was accused of choking his sister and throwing her to the ground.

Not a gun-free zone: The shooting took place in a private home.

Fort Myers, FL, 6/8/2014

Sonny Medina, 36, shot and killed his girlfriend and three daughters –ages 2, 5, and 10 –before fatally shooting himself. The shooting took place after a party at Medina's home.

Shooter name: Sonny Medina, 36

Gun details: Ruger .22 handgun, Glock 9mm handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence that the shooter was prohibited from possessing firearms.

GVRO red flag: Medina's brother told police that Medina told him about an incident approximately two years before the shooting in which Medina shoved his girlfriend, causing bruising.

Not a gun-free zone: The shooting took place in a private home.

Indianapolis, IN, 02/20/2014

During an attempt to rob the home of a drug dealer, the shooters killed the drug dealer and three others.

Shooter names: Kenneth Rackemann, 24, and Valencia Williams, 21

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Rackemann had several felony convictions on his record, including battery and burglary, which prohibited him from possessing a gun. There is no evidence to suggest that Williams was prohibited from possessing firearms.

GVRO red flag: There is no evidence that the shooters exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Alturas, CA, 02/20/2014

Cherie Rhoades, 44, fatally shot four people, wounded another by gunshot, and wounded another with a knife at her eviction hearing at the Cedarville Rancheria Tribal Community Council. Among the fatalities were Rhoades' brother, niece, and nephew.

Shooter name: Cherie Rhoades, 44

Gun details: Two 9mm handguns

Gun acquired: Unknown

Prohibiting criteria: There is no evidence that Rhoades was prohibited from possessing firearms.

GVRO red flag: Rhoades' nephew told investigators that she had made statements for years that she was going to kill her brother.

Not a gun-free zone: The shooting took place at a public building called the Cedarville Rancheria Tribal Office and Community Center. According to California law, the carrying of firearms is prohibited in state or local public buildings. However, concealed carry permit holders are exempt from this prohibition. Everytown has found no other evidence that firearms were prohibited in the building.

Cypress, TX, 02/03/2014

An unknown assailant fatally shot a married couple and their two sons, ages 7 and 9, in their home.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Spanish Fork, UT, 01/16/2014

Joshua Boren, 34, an officer in the Lindon Police Department, fatally shot his wife, their two children, and his mother-in-law inside of their family home before fatally shooting himself.

Shooter name: Joshua Boren, 34

Gun details: Handgun

Gun acquired: The handgun used in the shooting was Boren's service weapon.

Prohibiting criteria: Boren was an actively serving as a police officer and there is no evidence to suggest he was prohibited from possessing firearms.

GVRO red flag: Boren repeatedly drugged and raped his wife, recording the incidents on videotape. His wife learned of the attacks in 2013, but did not report him.

Not a gun-free zone: The shooting took place in a private home.

Topeka, KS, 12/01/2013

An unknown assailant shot and killed four people –a woman whose body was found behind a strip mall, and her brother, ex-husband, and female friend, whose bodies were found in her house.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: Neither of the locations where bodies were found would have prohibited the carrying of firearms.

Tulsa, OK, 11/23/2013

An unknown assailant shot a woman and two married couples, killing four and leaving one male victim in critical condition.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Jacksonville, FL, 11/07/2013

An unknown assailant fatally shot two sisters and two other men in a home.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Callison, SC, 10/29/2013

Bryan Eugene Sweatt, 27, fatally shot the mother of his child, her parents, and her two nephews in their home before fatally shooting himself.

Shooter name: Bryan Eugene Sweatt

Gun details: .44 caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Sweatt was likely prohibited from possessing firearms. He had a lengthy arrest record and was out on bond at the time of the shooting.

GVRO red flag: In the month before the shooting, Sweatt posted increasingly troubling messages on Facebook. On October 9, he indicated a desire to crash his truck into a pole.

Not a gun-free zone: The shooting took place in a private home.

Terrell, TX, 10/28/2013

Charles Everett Brownlow, Jr., 36, fatally shot his mother, his aunt, two acquaintances, and a store clerk in a spree of attacks before being captured by police. He killed the first four victims in their respective homes and the final one –the clerk –at Ali's Market on W. Moore Avenue, apparently in an attempt to rob the store.

Shooter name: Charles Everett Brownlow, Jr., 36

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Brownlow had a criminal record that prohibited him from possessing firearms. He had convictions for drug possession, burglary, and assaulting a family member. In 2009, he was sentenced to three years in prison for being a felon in possession of a firearm.

GVRO red flag: Brownlow's brother told the Associated Press that Brownlow struggled with drug addiction.

Not a gun-free zone: The first four victims were killed in private homes. The final victim was fatally shot at Ali's Market; there is no evidence to suggest that firearms were prohibited on the premises.

Phoenix, AZ, 10/26/2013

Michael Guzzo, 56, entered his neighbor's' home and killed all four family members and their two dogs. Guzzo then tried to enter another nearby residence, firing twice into the door, but ultimately failed and returned home to fatally shoot himself. Other neighbors and family members pointed to Guzzo's annoyance at the dogs' barking as a possible motive for the shooting.

Shooter name: Michael Guzzo, 56

Gun details: Shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Guzzo was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Guzzo exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place between three private homes.

Paris, TX, 10/09/2013

In a Paris, TX home, an unknown assailant shot and killed four men who ranged in age from 18 to 32.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Rice, TX, 09/22/2013

Guadalupe Ronquillo-Ovalle, 33, fatally shot her husband and three children—ages 4, 8, and 10—before fatally shooting herself. The shooting took place at the family's home.

Shooter name: Guadalupe Ronquillo-Ovalle, 33

Gun details: .22-caliber rifle

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Ronquillo-Ovalle was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest Ronquillo-Ovalle exhibited recent behavior that would have qualified her for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Washington, DC, 09/16/2013

Aaron Alexis, 34, fatally shot 12 people and wounded three more in an attack on Building 197 at the Navy Yard. Alexis was a civilian contractor working to update computer systems at military installations.

Shooter name: Aaron Alexis, 34

Gun details: Alexis arrived with a shotgun, and also obtained a 9mm handgun from one of the security guards he killed.

Gun acquired: Two days before the incident, Alexis passed a background check and legally bought the shotgun at a licensed gun dealer in Lorton, VA.

Prohibiting criteria: There is no evidence to suggest Alexis was prohibited from possessing firearms. He passed a background check and legally bought a firearm two days before the shooting.

GVRO red flag: In September 2010, Alexis was arrested after he fired a bullet through his ceiling into a neighbor's apartment. He told police it was an accident, and he was never charged with a crime.

Not a gun-free zone: There were armed guards at the Washington Navy Yard, and Alexis was familiar with the premises, so he did not select it as a target on the presumption he would not face armed resistance.

Crab Orchard, TN, 9/12/13

The shooters killed a 22-year-old woman and three teenagers while attempting to rob them and steal marijuana. The victims' bodies were discovered in a parked car.

Shooter name: Jacob Allen Bennett, 26 and Brittany Lina Yvonn Moser, 25

Gun details: .40 caliber Glock handgun

Gun acquired: Unknown

Prohibiting criteria: Bennett was prohibited from possessing firearms. According to media reports, in 2010, he received a prison sentence for charges of theft, forgery, and being a felon in possession of a firearm, but was paroled on March 4, 2013.

GVRO red flag: Bennett received regular drug tests as a condition of his parole. He failed a drug test in prison in 2012 and again several months before the shooting, indicating that he had an ongoing drug problem.

Not a gun-free zone: There is no evidence that permit holders were prohibited from carrying guns in this area.

Oklahoma City, OK, 08/14/2013

Daniel Green, 40, allegedly shot and killed four of his family members, including a 4-month-old infant, in the family's home.

Shooter name: Daniel Green, 40 (alleged)

Gun details: .380-caliber handgun

Gun acquired: The handgun used in the shooting belonged to one of the residents of the house.

Prohibiting criteria: Though Green had a history of mental illness, there is no clear evidence to suggest that he was prohibited from possessing firearms.

GVRO red flag: Although his family reported some alcohol abuse in the past, the timeframe for this is unclear, so it is unclear if Green would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Dallas, TX, 08/07/2013

Erbie Lee Bowser, 44, allegedly shot and killed his ex-girlfriend and her daughter, and injured two others. Then, in a separate shooting, he allegedly shot and killed his estranged wife and her daughter, and injured two other children.

Shooter name: Erbie Lee Bowser, 44 (alleged)

Gun details: .380 handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Bowser was prohibited from possessing firearms. He had a domestic violence charge, but it was expunged from his record after he completed a court program for veterans in the summer of 2012.

GVRO red flag: According to Bowser's estranged wife, he shoved her and threatened to kill her in January 2011.

Not a gun-free zone: The shootings took place between two private homes.

Clarksburg, WV, 07/26/2013

Sidney Muller, 27, fatally shot four people after an argument related to a drug debt. Muller was trying to collect \$10,000 two men owed him for drugs when one of them aimed a handgun at him. Muller reportedly stripped the man of the weapon and used it to kill both men; he then fatally shot a father-son newspaper delivery team that happened to be outside the house.

Shooter name: Sidney Muller, 27

Gun details: 9mm Beretta handgun

Gun acquired: Gun apparently belonged to one of the victims

Prohibiting criteria: Muller had been convicted previously for driving under the influence and had been arrested for driving with a suspended license, but was not prohibited from possessing firearms. Muller was also a veteran of the U.S. Marine Corps and his lawyer indicated he had scored four out of five on a post-traumatic stress disorder test and had been diagnosed as bipolar. There is no evidence his mental illness rose to the level of prohibiting him from possessing guns.

GVRO red flag: There is no evidence that Muller exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home, and in the area directly outside the home.

Hialeah, FL, 07/26/2013

Pedro Alberto Vargas, 42, fatally shot the building manager of his apartment complex, the manager's wife, a bystander across the street, and three more occupants before police fatally shot him in a standoff.

Shooter name: Pedro Alberto Vargas, 42

Gun details: Glock 17 9mm semiautomatic handgun

Gun acquired: Vargas obtained a concealed weapons permit in the fall of 2010. In October 2010, he passed a background check and legally purchased a Glock 17 handgun, the firearm used in the shootings.

Prohibiting criteria: Vargas was not prohibited from possessing firearms.

GVRO red flag: The shooter had developed a pattern of anonymously harassing his former co-workers online, and was confronted about it three days before the shooting. His mother also expressed concerns about her son's behavior on a 911 call hours before the shooting, suggesting that he needed a psychiatric evaluation.

Not a gun-free zone: The shooting took place within an apartment complex.

Santa Monica, CA, 06/07/2013

John Zawahri, 23, fatally shot his father and brother, burned down their house, and shot and wounded a passing driver who tried to intervene. He then carjacked another vehicle and made the driver transport him to Santa Monica College, firing at a city bus and police cruiser along the way, injuring three. Once on the college's campus, he shot and killed three people outside and fired several rounds at individuals in the library before he was shot and killed by police.

Shooter name: John Zawahri, 23

Gun details: AR-15-style assault rifle, .44-caliber handgun

Gun acquired: Law enforcement sources believe that the assault rifle was put together from various parts, possibly in an attempt to circumvent California's restrictions on such guns.

Prohibiting criteria: Zawahri was not prohibited from possessing firearms. He had a history of mental illness and had previously been held for a short-term psychiatric evaluation, which would have prohibited him from possessing a firearm for five years, but the prohibition expired in 2011.

GVRO red flag: There is no evidence to suggest that Zawahri exhibited recent behavior that would have qualified him for a GVRO.

Gun-free zone: Part of the shooting took place at Santa Monica College, which prohibits the carrying of firearms by virtue of being a college in California.

Fernley, NV, 5/13/2013

Jeremiah Bean, 25, fatally shot five people over a three-day spree, in connection with multiple burglaries. Bean fatally shot an elderly couple in their Fernley, NV home, and proceeded to steal their jewelry and their truck. On his way to California, Bean fatally shot another man and stole his truck. He then returned to Fernley, where he broke into another home, stole a handgun, and fatally shot and stabbed two of the home's residents.

Shooter name: Jeremiah Bean, 25

Gun details: .22-caliber handgun, .38-caliber handgun

Gun acquired: It is unknown how Bean acquired the .22-caliber handgun; he stole the .38-caliber handgun from the residence of his last two victims.

Prohibiting criteria: As a convicted felon, Bean was prohibited from possessing firearms.

GVRO red flag: Bean's friend and former roommate told police that Bean once broke a window in his house with a rock or brick. He also said that Bean was a heroin user.

Not a gun-free zone: The shootings took place between two private homes, and on a highway overpass.

Waynesville, IN, 5/11/2013

Samuel Earl Sallee, 55, fatally shot four people in a home. He had initially gone to the home attempting to trade a gun for drugs. A confrontation ensued, resulting in the shootings.

Shooter name: Samuel Earl Sallee, 55

Gun details: .22-caliber rifle

Gun acquired: The gun used was owned by Sallee's son. Sallee had borrowed the gun about a year before the shooting and never returned it.

Prohibiting criteria: Sallee was prohibited from possessing firearms due to several prior felony convictions, including for intimidation.

GVRO red flag: There is no evidence to suggest that Sallee exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Ottawa, KS, 04/28/2013

Kyle Flack, 27, raped and fatally shot a woman at a farm in eastern Kansas. He also fatally shot her 18-month-old daughter, and two men who were with her at the farm.

Shooter name: Kyle Flack, 27

Gun details: 12-gauge shotgun

Gun acquired: Unknown

Prohibiting criteria: In 2005, Flack was convicted of attempted murder in the 2nd degree. This conviction prohibited him from possessing firearms.

GVRO red flag: There is no evidence that Flack exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Manchester, IL, 04/24/2013

Rick Odell Smith, 43, broke into a home and fatally shot the grandmother of his child and four of her family members, including two young children. Another young girl was shot and injured. Smith was subsequently shot and killed in a firefight with law enforcement.

Shooter name: Rick Odell Smith, 43

Gun details: Shotgun

Gun acquired: Unknown

Prohibiting criteria: Smith was likely prohibited from possessing firearms, as he had been previously convicted for reckless homicide, along with drug possession and writing bad checks.

GVRO red flag: There is no evidence to suggest that Smith exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Federal Way, WA, 04/21/2013

Dennis Clark III, 27, fatally shot his girlfriend inside the apartment they shared and then fatally shot two men in a nearby parking lot. When a neighbor called 911, the shooter broke down the man's door with a shotgun and killed him. He was subsequently shot and killed by police.

Shooter name: Dennis Clark III, 27

Gun details: .40-caliber handgun, shotgun

Gun acquired: Unknown

Prohibiting criteria: Clark was not prohibited from possessing firearms; he had a permit to carry a concealed weapon.

GVRO red flag: There is no evidence to suggest that Clark exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place inside two private homes and a public parking lot.

Akron, OH, 04/18/2013

Derrick Brantley and Deshanon Haywood fatally shot four people inside a townhouse; the initial motive for the crime was robbery.

Shooter name: Derrick Brantley, 21, and Deshanon Haywood, 21

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Both shooters were likely prohibited from possessing firearms due to their criminal histories. Brantley was free on bond awaiting trial on felony charges for heroin trafficking. Haywood was paroled from prison in February 2012 after serving part of a two-year sentence for cocaine trafficking and heroin possession. He immediately violated his parole and was sentenced to 45 days of house arrest.

GVRO red flag: There is no evidence to suggest either shooter exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Herkimer, NY, 04/13/2013

Kurt Myers, 64, fatally shot two people and wounded two people at a barbershop, and then fatally shot two more people at a car service center. He was fatally shot by responding officers.

Shooter name: Kurt Myers, 64

Gun details: Shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Myers was prohibited from possessing firearms. He was arrested in 1973 for drunk driving.

GVRO red flag: There is no evidence to suggest that Myers exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The car service center, Gaffey's Fast Lube, does not have a specific policy prohibiting guns. The barbershop, John's Barbershop, did not reopen following the shooting, but there is no evidence to suggest it had an explicit firearm policy or ban.

Albuquerque, NM, 1/19/2013

Nehemiah Griego, 15, fatally shot his parents and three siblings in their home. Griego was apprehended by police after speaking with the pastor of a local church and the church's head of security.

Shooter name: Nehemiah Griego, 15

Gun details: AR-15 assault rifle, .22-caliber rifle

Gun acquired: The guns were kept in Griego's parents' closet, and appear to belong to Griego's father.

Prohibiting criteria: As a juvenile, Griego was prohibited from purchasing firearms, but it was lawful for him to possess long guns like those used in the shooting.

GVRO red flag: A neighbor of Griego's saw him exhibit violent and threatening behavior a few months before the shooting. He observed Griego pretending to cut a dog's throat with an open knife in his hand, and then performing a similar gesture on his younger brother.

Not a gun-free zone: The shooting took place in a private home.

Tulsa, OK, 01/07/2013

During a robbery, Cedric Dwayne Poore and James Stanford Poore fatally shot four women in an apartment. A 3-year-old boy was in the apartment at the time of the incident but was unharmed.

Shooter names: Cedric Dwayne Poore, 39, and James Stanford Poore, 32

Gun details: .40-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Both shooters had extensive criminal histories: Cedric Poore received a 35-year prison sentence in 1995 for armed robbery, and James Poore received a 12-year sentence in 2000 for armed robbery with a firearm. Both were released in 2011, but likely remained prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that either shooter exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Newtown, Connecticut, 12/14/12

Adam Peter Lanza, 20, fatally shot his mother in her home and then traveled to a nearby elementary school where he shot twenty-eight people, killing twenty-six of them, including twenty children. He then fatally shot himself.

Shooter name: Adam Peter Lanza, 20

Gun details: A Bushmaster .223 assault-style rifle was used in the attack at the elementary school. A 10mm Glock handgun, a 9mm SIG Sauer handgun, and a shotgun were also recovered at the crime scene.

Gun acquired: The guns were legally registered to Lanza's mother, who he shot and killed earlier in the day and with whom he lived.

Prohibiting criteria: Under Connecticut law, Lanza would have been prohibited from possessing handguns because he had not reached the legal age, 21. However, he would not have been prohibited from possessing a long gun like the Bushmaster rifle used in the shooting. Lanza's mental health was also scrutinized after the shooting, and while his social isolation had been noted, there is no evidence that concerns had been brought to the attention of a public authority.

GVRO red flag: Lanza displayed symptoms of psychological distress, but there was no evidence that he voiced or gave indication that he intended to commit a crime prior to the shooting.

Gun-free zone: The shooting took place in an elementary school, which is a gun-free zone according to federal law.

Tule River Reservation, CA, 12/08/2012

Hector Celaya, 31, fatally shot his mother and two uncles, and shot and injured his young son in the trailer where they lived. He then shot his two daughters, one fatally, in a car while fleeing from police. Celaya died after a shootout with police in which he also shot himself in the head.

Shooter name: Hector Celaya, 31

Gun details: .38-caliber revolver

Gun acquired: Unknown

Prohibiting criteria: Celaya was prohibited from possessing firearms. He had been imprisoned in 2008 for an assault and battery charge, and was prohibited from having weapons as a condition of three years' probation. He was subsequently arrested multiple times for driving while intoxicated.

GVRO red flag: Celaya was arrested just two months before the shooting on suspicion of drunk driving and being under the influence of drugs. Celaya was a known drug user, according to the Tulare County Sheriff's Office.

Not a gun-free zone: The shootings took place between a private home and an automobile.

Detroit, MI, 12/04/2012

Three adults and one minor were shot to death in a house on the east side of the city before a fire broke out, apparently set by the shooter. There are no reports of arrests or suspects.

Shooter name: Unknown

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Northridge, CA, 12/02/2012

Ka Pasasouk, 31, fatally shot four people outside a boarding house in the Granada Hills neighborhood of Los Angeles County. The attack reportedly began as an attempted robbery.

Shooter name: Ka Pasasouk, 31

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: Pasasouk was prohibited from possessing firearms, having been convicted of car theft and robbery.

GVRO red flag: Pasasouk was a methamphetamine user. About three months before the shooting, Pasasouk pleaded no contest to methamphetamine possession, and was reportedly under the influence of alcohol and methamphetamine during the shooting.

Not a gun-free zone: The shooting took place on the street outside a boarding house; permit holders were not prohibited from carrying guns in this area.

New Town, ND, 11/18/2012

Kalcie Eagle, 21, fatally shot a woman and her three grandchildren in their home on Fort Berthold Indian Reservation. When confronted by police, he stabbed himself and died of his injuries.

Shooter name: Kalcie Eagle, 21

Gun details: .25-06 hunting rifle

Gun acquired: Unknown

Prohibiting criteria: In March 2012, Eagle was arrested in a stolen pickup truck after a high-speed chase with police. He pled guilty to felony unauthorized use of a vehicle and was sentenced to a year in jail. Because of this conviction, he was likely prohibited from possessing firearms.

GVRO red flag: Eagle was a user of methamphetamines, and was on methamphetamines at the time of the shooting.

Not a gun-free zone: The shooting took place in a private home.

Minneapolis, MN, 09/27/2012

Andrew John Engeldinger, 36, fatally shot six people and shot and injured two more at a signage business from which he was fired earlier in the day. He then fatally shot himself.

Shooter name: Andrew John Engeldinger, 36

Gun details: Glock 9mm handgun

Gun acquired: The handgun was legally purchased from a Minneapolis gun store.

Prohibiting criteria: Engeldinger had a concealed carry permit and was not prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Engeldinger exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: There is no evidence to suggest that the signage business had a specific policy prohibiting employees from carrying firearms on the premises.

Oak Creek, WI, 08/05/2012

Wade Michael Page, 40, fatally shot six people at a Sikh temple and injured three others, including a responding police officer, before fatally shooting himself.

Shooter name: Wade Michael Page, 40.

Gun details: 9mm semiautomatic handgun

Gun acquired: Page legally acquired the gun at a local gun shop a week before the shooting.

Prohibiting criteria: Page was not prohibited from possessing firearms. He received a less than honorable discharge from the army and was demoted from sergeant to specialist, but this did not affect his access to firearms. Federal officials investigated Page's ties to supremacist groups more than once prior to the shooting, but did not collect enough evidence to open an investigation.

GVRO red flag: Page received a citation for driving while impaired in North Carolina in 2010. Despite this, there is no evidence to suggest he suffered from ongoing alcohol abuse, and so would likely not qualify for a GVRO.

Not a gun-free zone: Wisconsin state law permits people to carry guns in places of worship unless there is a sign or they have been personally notified that carrying firearms is prohibited by the property owner or occupant. Amardeep Kaleka, whose father founded the temple and was killed during the attack, confirmed that there was no such sign on the property.

Aurora, CO, 07/20/2012

James Holmes, 24, fatally shot 12 and injured 70 in an attack on a suburban movie theater during a midnight screening of the new Batman movie.

Shooter name: James Holmes, 24

Gun details: Smith & Wesson M&P15 assault rifle, Remington 870 12-gauge shotgun, and two Glock .40-caliber handguns.

Gun acquired: Holmes legally acquired the guns at local gun shops.

Prohibiting criteria: Holmes was not prohibited from purchasing firearms. While a student at the University of Colorado, he was treated by the school psychiatrist, who expressed concern about his behavior and referred him to the university Behavioral Evaluation and Threat Assessment (BETA) team. They took no further action and he was never adjudicated mentally ill. He had no prior criminal record.

GVRO red flag: On March 16th, he told a social worker that he had regular thoughts of killing people. During a psychiatric examination on March 21, 2012, Holmes indicated that he thought about homicide three to four times daily. He repeatedly expressed homicidal ideations to a variety of mental health professionals.

Gun-free zone: In Colorado, businesses determine whether concealed carry permit holders can carry guns on their private property. The Cinemark theater in Aurora was a gun-free zone.

Newton Falls, OH, 07/06/2012

Robert Brazzon, 55, fatally shot his girlfriend, another couple, and their son in two separate shootings. He was then cornered by police and fatally shot himself. Brazzon was allegedly a heavy user of illegally obtained prescription drugs, and thought that his girlfriend and the man he killed were stealing pills from him.

Shooter name: Robert Brazzon, 55

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Brazzon had previously pled guilty to felony drug trafficking charges. In 1999, police found 47 guns, 100,000 rounds of ammunition, homemade bombs, 7,400 pills, and \$27,000 cash inside his home. He was also convicted of domestic violence in 1984, and of sexual battery and gross sexual imposition in 1987. But due to Ohio laws that provide for the restoration of felons' firearm rights, it is unclear whether Brazzon was prohibited from possessing firearms at the time of the shooting.

GVRO red flag: Brazzon was a heavy user of illegally obtained prescription drugs. Investigators found that Brazzon consumed painkillers, Valium, and heroin on the day of the shootings.

Not a gun-free zone: The shootings took place between two private homes.

Tempe, AZ, 06/02/2012

James Butwin, 47, fatally shot his wife and three children inside of their home. He then drove the bodies to a location in the Vekol Valley desert, where he lit the car on fire and fatally shot himself.

Shooter name: James Butwin, 47

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Butwin was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Butwin exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Seattle, WA, 5/20/2012

Ian Lee Stawicki, 40, fatally shot four people and wounded one in a restaurant. Less than an hour later, he fatally shot a woman in a parking lot, stealing her car. Later in the afternoon, as police officers closed in on him, Stawicki shot and killed himself.

Shooter name: Ian Lee Stawicki, 40

Gun details: Two .45-caliber semi-automatic handguns

Gun acquired: Stawicki was a concealed carry permit holder, and bought the guns used in the shooting legally.

Prohibiting criteria: As a concealed carry permit holder, Stawicki was not prohibited from possessing firearms.

GVRO red flag: Approximately two years before the shooting, Stawicki was charged with misdemeanor assault for attacking his brother, but prosecutors dropped the charges. Stawicki's father and brother said that he had battled mental illness for a long time, but they never pushed for a mental health intervention.

Gun-free zone: According to Gun Free Seattle, Cafe Racer, where the first shootings took place, is a gun free zone.

Leivasy, WV, 05/19/2012

James Roy Belknap, 27, fatally shot a man, his girlfriend, and his two children after a dispute over a debt for drugs.

Shooter name: James Roy Belknap, 27

Gun details: Shotgun

Gun acquired: Unknown

Prohibiting criteria: In 2007, Belknap pled guilty to charges of conspiracy to deliver cocaine and was sentenced to 1 to 5 years in prison. In exchange, prosecutors dismissed a grand jury indictment charging him with murder. He was therefore prohibited from possessing a gun.

GVRO red flag: Belknap had a history of drug abuse, and illegally purchased prescription drugs from one of the shooting victims.

Not a gun-free zone: The victims were shot in their car while it was on Belknap's property.

Port St. John, FL, 5/15/12

Tonya Thomas, 33, fatally shot her four children –ages 12, 13, 15, and 17 –before fatally shooting herself. The shooting took place in the family's home.

Shooter name: Tonya Thomas, 33

Gun details: Taurus .38-caliber revolver

Gun acquired: Thomas legally purchased the gun used in the shooting from a local licensed gun dealer.

Prohibiting criteria: There is no evidence to suggest Thomas was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest Thomas exhibited recent behavior that would have qualified her for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Gilbert, AZ, 05/02/2012

Jason Todd ("J.T.") Ready, 39, fatally shot four people including his girlfriend, her daughter, and her granddaughter, before fatally shooting himself. Ready was a former member of the U.S. Marine Corps, and a founder of a border militia group. At the time of the incident, he was running for the office of Pinal County Sheriff.

Shooter name: Jason Todd ("J.T.") Ready, 39

Gun details: Two handguns and a shotgun were found at the scene.

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Ready was prohibited from possessing firearms.

GVRO red flag: On February 28, 2012, Ready's girlfriend went to police headquarters and told police about two domestic violence incidents. But no charges were filed, and Ready's girlfriend did not go to court to file for an order of protection.

Not a gun-free zone: The shooting took place in a private home.

Oakland, CA, 04/02/2012

One L. Goh, 43, allegedly shot and killed 7 people at a Oikos University, a Christian college affiliated with a Korean-American church, where he had formerly been a student.

Shooter name: One L. Goh, 43 (alleged)

Gun details: .45-caliber handgun

Gun acquired: Goh legally bought the handgun at a gun store in California in early 2012.

Prohibiting criteria: There is no evidence that Goh was prohibited from possessing firearms; he was able to legally purchase a firearm in early 2012.

GVRO red flag: Though Goh reportedly had disputes with his classmates and administrators at Oikos University, there is no evidence to suggest that he exhibited recent behavior that would have qualified him for a GVRO.

Gun-free zone: According to California law, the carrying of firearms is generally prohibited on private or public college or university campuses.

Norcross, GA, 2/20/2012

Jeong Soo Paek, 59, fatally shot two of his sisters and both of their husbands before fatally shooting himself. The shooting took place in a health spa which Paek had invested in.

Shooter name: Jeong Soo Paek, 59

Gun details: .45-caliber handgun

Gun acquired: Paek legally purchased the gun in Maryland in 2002.

Prohibiting criteria: Paek does not appear to have been prohibited from possessing firearms. In 2006, he was arrested on charges of simple battery for striking one of his sisters in the face, but the charges were ultimately dropped.

GVRO red flag: There is no evidence to suggest Paek exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: There is no evidence that the spa prohibited firearms on the premises.

Birmingham, AL, 01/29/2012

During an attempted robbery at a home, three shooters fatally shot five men.

Shooter names: Rashad Stoves, 17, Artavius Underwood, 16, Reginald Mims, 16

Gun details: Two 9mm handguns and a .38-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: All three shooters were prohibited from possessing handguns due to their age.

GVRO red flag: There is no evidence to suggest that any of the shooters exhibited recent warning signs that would have qualified them for a GVRO.

Not a gun-free zone: The shooting took place at a private home.

Villa Park, IL, 01/17/2012

Cedric Anderson, 42, fatally shot his girlfriend, her two sons, and her niece while they slept. After leaving the scene of the crime he fatally shot himself.

Shooter name: Cedric Anderson, 42

Gun details: .357 Magnum handgun.

Gun acquired: Unknown.

Prohibiting criteria: Anderson has several drug-related offenses dating back to 1990, and in 2008 received probation for possessing a firearm without the required license. On December 29, 2011, he was convicted of felony heroin possession, and was awaiting sentencing at the time of the massacre. He was therefore prohibited from possessing a gun.

GVRO red flag: Anderson's multiple convictions related to controlled substances indicate that he suffered from ongoing drug abuse. In 2009, he was ordered to undergo treatment for substance abuse after he failed a random drug test that was part of his probation.

Not a gun-free zone: The shooting took place in a private home.

Grapevine, TX, 12/25/2011

Aziz Yazdanpanah, 56, fatally shot his estranged wife, two children, and three other family members as they opened their Christmas presents. He then fatally shot himself.

Shooter name: Aziz Yazdanpanah, 56

Gun details: 9mm and .40-caliber handguns

Gun acquired: The 9mm handgun was purchased in 1996 and owned by Yazdanpanah.

Prohibiting criteria: There is no evidence to suggest that Yazdanpanah was prohibited from possessing firearms.

GVRO red flag: There is no evidence that Yazdanpanah exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Emington, IL, 12/16/2011

Sara McMeen, 30, fatally shot her boyfriend and her three children before fatally shooting herself in the backyard of their home.

Shooter name: Sara McMeen, 30

Gun details: Semiautomatic handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that McMeen was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that McMeen exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Gargatha, VA, 12/15/2011

Esteban Quintero-Gonzales, 37, fatally shot two of his children, their mother, and the man they were living with before fatally shooting himself. Quintero-Gonzales was reportedly in a custody dispute with the woman at the time of her death.

Shooter name: Esteban Quintero-Gonzales, 37

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Quintero-Gonzales was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Quintero-Gonzales exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Bay City, TX, 11/20/2011

Jose Avila-Alva, 27, shot and injured his wife and fatally shot his four children, ages 2 to 5, before fatally shooting himself.

Shooter name: Jose Avila-Alva, 27

Gun details: .22-caliber handgun

Gun acquired: The handgun was reported stolen in 2010. It is unclear how Avila-Alva came to possess it.

Prohibiting criteria: Avila-Alva was not a legal resident of the U.S., and had been deported to Mexico in 2006 for unlawful entry, which would have prohibited him from purchasing firearms.

GVRO red flag: The week before the shooting, Avila-Alva was reported to police for domestic assault. His wife was taken to a women's crisis center, but she did not file charges.

Not a gun-free zone: The shooting took place in a private home.

Greensboro, NC, 11/20/2011

Mary Ann Holder, 36, fatally shot five children, shot and injured a man, and fatally shot herself in a shooting spree. The first shooting took place at Holder's home, where she fatally shot her older son, his girlfriend, a niece, and a nephew. The second shooting took place in the parking lot of the Guilford Technical Community College Aviation Center, where Holder shot and injured a married man she had been having an affair with. Finally, Holder went to pick up her younger son from a sleepover, and fatally shot him in the car, before fatally shooting herself.

Shooter name: Mary Ann Holder, 36

Gun details: .38-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence that Holder was prohibited from possessing firearms. The wife of the man Holder was having an affair with sought a restraining order against her; Holder responded by requesting a restraining order against the man and his wife. These restraining orders were dismissed or had expired.

GVRO red flag: There is no evidence that Holder exhibited recent behavior that would have qualified for a GVRO.

Gun-free zone: The shootings took place in a private home, the parking lot of a community college aviation center, and in a car. Guns were prohibited by law on the property of the community college at the time of the shooting.

Liberty, SC, 10/14/2011

Susan Diane Hendricks, 48, fatally shot her ex-husband, their two sons, and her stepmother. She admitted that she had murdered her family members so that she could collect \$700,000 in life insurance policies.

Shooter name: Susan Diane Hendricks, 48

Gun details: .380-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: In April 2006, Hendricks fatally shot a man after he allegedly entered her trailer without permission. She claimed self-defense and was not charged with a crime. There is no evidence that she was prohibited from possessing a firearm.

GVRO red flag: There is no evidence that Hendricks exhibited recent behavior that would have qualified her for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Seal Beach, CA, 10/12/2011

Scott Evans Dekraai, 41, fatally shot eight people, including his ex-wife, and injured one more at a hair salon.

Shooter name: Scott Evans Dekraai, 41

Gun details: Three handguns

Gun acquired: All three guns were purchased legally and registered in accordance with California law.

Prohibiting criteria: Dekraai was not prohibited from possessing firearms at the time of the shooting. He had been subject to a protection order that prohibited him from possessing firearms, but it expired in 2008.

GVRO red flag: There is no evidence to suggest that Dekraai exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: According to California law, the business owners would have been free to carry guns at the salon.

Laurel, IN, 9/25/2011

David E. Ison, 46, killed a man, the man's estranged wife, their two children, and one of their neighbors. The murdered father had sold the prescription pain-reliever Oxycontin to Ison in the past, and on the day of the shooting they argued over the terms of the sale.

Shooter name: David E. Ison, 46

Gun details: .357-caliber revolver, .380-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Ison was prohibited from possessing firearms due to a lengthy criminal record with at least twenty convictions, including armed robbery. He was on probation at the time of the shooting.

GVRO red flag: Ison was illegally buying prescription medication from one of the men he fatally shot. Despite this, there is no evidence to suggest that Ison exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Carson City, NV, 09/06/2011

Eduardo Sencion, 32, fatally shot four people at an IHOP restaurant, including three National Guard members, before fatally shooting himself. Seven others were shot and wounded.

Shooter name: Eduardo Sencion, 32

Gun details: Norinko Mak 90 assault rifle, .38-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Sencion was taken into protective custody during a mental health commitment in April 2000, but no court order was involved and it remains unclear if the incident would have prohibited Sencion from possessing firearms.

GVRO red flag: Family members reported that Sencion had paranoid schizophrenia, and was hearing voices telling him to do “bad things” to people in the months before the shooting.

Not a gun-free zone: According to Nevada law, a permit holder can carry a concealed firearm in restaurants. There is no evidence to suggest that this IHOP had a specific policy prohibiting firearms.

Monongalia County, WV, 09/06/2011

Shayne Rigglesman, 22, fatally shot five people in a rural West Virginia home. Fleeing from police, he shot and injured a gas station attendant and eventually fatally shot himself.

Shooter name: Shayne Rigglesman, 22

Gun details: A rifle was used. A second rifle and .22-caliber handgun were also recovered.

Gun acquired: Unknown

Prohibiting criteria: In 2008, Rigglesman was convicted of armed robbery, and served 14 months at a state prison for young offenders. This offense would have prohibited him from possessing firearms, though it is possible his rights were restored under West Virginia law.

GVRO red flag: According to Rigglesman's mother, he suffered from bipolar disorder and schizophrenia, and had stopped taking his medications. Despite this, there is no evidence to suggest Rigglesman exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place primarily in a private home, with a subsequent shooting occurring at a Pennsylvania gas station.

Chesterfield, VA, 08/27/2011

Leonard Eglund, 37, fatally shot his ex-wife, her boyfriend, his son, and another woman at a home. He then went to another home and fatally shot his former mother-in-law. As police chased him, he fired at several officers, wounding two. He then proceeded to fatally shoot himself.

Shooter name: Leonard Eglund, 37

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Eglund was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Eglund exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place between two private homes.

Copley Township, OH, 08/07/2011

Michael Hance, 51, fatally shot seven of his girlfriend's neighbors and family members, and shot and wounded his girlfriend. He was fatally shot by a responding police officer.

Shooter name: Michael Hance, 51

Gun details: Two handguns

Gun acquired: Hance legally bought one of the handguns at a pawn shop five days before the shooting.

Prohibiting criteria: There is no evidence to suggest that Hance was prohibited from possessing firearms. He passed a background check to buy a gun days before the shooting.

GVRO red flag: There is no evidence to suggest that Hance exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in the area around a private home.

Marion County, FL, 08/05/2011

James Edward Bannister, 31, allegedly shot and killed his girlfriend, her mother, and his two children who lived in the house. He then set the house on fire. Bannister reportedly told a friend that he had smoked synthetic marijuana laced with cocaine before the shooting.

Shooter name: James Edward Bannister, 31 (alleged)

Gun details: Believed to be a handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Bannister was prohibited from possessing firearms.

GVRO red flag: Bannister reportedly told a friend that he had smoked synthetic marijuana laced with cocaine before the shooting.

Not a gun-free zone: The shooting took place in a private home.

Wheatland, Wyoming, 07/07/11

Everett E. Conant III, 35, fatally shot his three sons and his brother, and shot and injured his wife before surrendering to police. His sons were 11, 13, and 18. His wife later reported he had become upset because he wanted to keep the curtains of their home drawn to prevent the neighbors from looking inside.

Shooter name: Everett E. Conant III, 35

Gun details: Two semiautomatic handguns

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to indicate that Conant was prohibited from possessing firearms.

GVRO red flag: Media reports suggest that Conant attempted suicide a few months before the shooting.

Not a gun-free zone: The shooting took place in a private home.

Grand Rapids, MI, 07/07/2011

Rodrick Shonte Dantzler, 34, fatally shot seven people between two homes, including his ex-girlfriend, wife, and their daughter. He fatally shot himself after leading police on car chase, and taking three hostages at a nearby home.

Shooter name: Rodrick Shonte Dantzler, 34

Gun details: .40-caliber handgun

Gun acquired: The gun was reportedly stolen from a home in Kent County, MI.

Prohibiting criteria: Dantzler was prohibited from possessing firearms due to his past felony conviction for felony assault. He also had previous convictions for domestic violence, property destruction, and assault and battery.

GVRO red flag: There is no evidence to suggest that Dantzler exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place between two private homes.

Wagener, SC, 07/03/2011

Kenneth Myers, 46, fatally shot his wife, her twin sister, their mother, and his ex-girlfriend in two different residences. He was then confronted by law enforcement and fatally shot himself.

Shooter name: Kenneth Myers, 46

Gun details: Shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Myers was prohibited from possessing firearms.

GVRO red flag: Myers exhibited threatening behavior in the past. His friend said that Myers pointed a handgun at his head and threatened to kill him in October 2009.

Not a gun-free zone: The shootings took place between two private homes.

Grand Prairie, TX, 06/23/2011

Tan Do, 35, fatally shot his wife and four of her family members at his daughter's birthday party before fatally shooting himself. Four others were shot and wounded in the incident.

Shooter name: Tan Do, 35

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Do was prohibited from possessing firearms.

GVRO red flag: Do had a history of domestic violence. His wife filed a protective order against him in December 2010 because he had threatened her three times with a gun over the course of the year. But, she asked that the protective order be dismissed weeks later.

Gun-free zone: In a call with Forum Roller World, they confirmed to Everytown that they prohibit firearms on the premises, and have explicit signage indicating this.

Medford, NY, 06/19/2011

David Laffer, 33, fatally shot four people at a pharmacy, Haven Drugs, and stole thousands of pain pills, mostly hydrocodone, before fleeing in a vehicle. His wife participated in the robbery as a driver and lookout.

Shooter name: David Laffer, 33

Gun details: .45-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: The gun was legally registered to Laffer and there is no evidence to suggest he was prohibited from possessing firearms.

GVRO red flag: Months before the shooting, a Suffolk County detective was concerned about Laffer having guns. Five months before the shooting, a Suffolk County detective investigated an identity theft claim made by Laffer's mother, who said Laffer had stolen her debit card. After questioning Laffer and his mother, the detective advised the Suffolk County Pistol License Bureau that Laffer was dangerous and that his guns should be confiscated. Despite the detective's report, the guns were not removed.

Not a gun-free zone: There is no evidence to suggest that Haven Drugs posted a sign or had a policy prohibiting the carrying of firearms.

Yuma, AZ, 06/02/2011

Carey H. Dyess, 73, fatally shot his ex-wife, her lawyer, and three of her friends. He shot and injured another of his ex-wife's friends. Ultimately, Dyess fatally shot himself.

Shooter name: Carey H. Dyess, 73

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Dyess was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Dyess exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place over multiple locations, including private homes and an office building. There is no evidence to suggest that any of the locations prohibited the carrying of firearms.

Ammon, ID, 05/11/2011

Gaylin Leirmoe, 26, fatally shot his two infant children, their mother, and her sister before setting fire to the house and fatally shooting himself. He had separated from the victim several months before the incident.

Shooter name: Gaylin Leirmoe, 26

Gun details: .45-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Leirmoe was prohibited from possessing firearms.

GVRO red flag: In October 2009, Leirmoe was charged with misdemeanor battery for domestic violence with no traumatic injury. The charges were dismissed by the court.

Not a gun-free zone: The shooting took place in a private home.

Oak Harbor, OH, 04/16/11

Alan Atwater, 31, fatally shot his wife and their three children –ages 1, 2, and 4 –before fatally shooting himself. The shooting took place in the family's home.

Shooter name: Alan Atwater, 31

Gun details: .22-caliber rifle, shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest Atwater was prohibited from possessing a firearm.

GVRO red flag: Atwater had exhibited violent and threatening behavior in the past. Both he and his wife separately reported to friends that he had held her up against a wall and choked her. Five days before the shooting, Atwater reportedly told a friend that if his wife cheated on him he would kill her.

Not a gun-free zone: The shooting took place in a private home.

Willowbrook, CA, 02/11/2011

Three brothers and their cousin were shot and killed by an unknown assailant on the backyard patio of their home.

Shooter name: Unknown

Gun details: Unknown

Prohibiting criteria: Unknown

GVRO red flag: Unknown

Not a gun-free zone: The shooting took place in a private home.

Minot, ND, 01/28/2011

Omar Mohamed Kalmio, 28, fatally shot his ex-girlfriend in her home; he then fatally shot her brother, her mother, and her mother's boyfriend at a nearby home. The gun was never recovered.

Shooter name: Omar Mohamed Kalmio, 28

Gun details: Believed to be a 9mm handgun

Gun acquired: Unknown

Prohibiting criteria: Kalmio was prohibited from possessing firearms due to a 2006 felony conviction for second-degree assault with a dangerous weapon.

GVRO red flag: In the weeks leading up to the shooting, Kalmio threatened to kill his ex-girlfriend's mother and her entire family.

Not a gun-free zone: The shootings took place between two private homes.

Tucson, AZ, 01/08/2011

Jared Loughner, 22, attacked a constituent event hosted by Congresswoman Gabrielle Giffords, killing six and wounding 13, including Giffords, before he was apprehended.

Shooter name: Jared Loughner, 22

Gun details: Glock semiautomatic handgun

Gun acquired: Loughner passed a background check and purchased the Glock handgun at Sportsman's Warehouse in Tucson two months before the attack.

Prohibiting criteria: There is no evidence to suggest that Loughner was prohibited from possessing firearms; he purchased the gun used in the shooting legally.

GVRO red flag: Loughner had exhibited troubling behavior in the months before the shooting. He was dismissed from Pima Community College after making a video in which he railed against the college. Loughner's parents were also concerned about his behavior, suggesting that he had been laughing or talking to himself, and that he was growing increasingly angry with the government. As a result, they took away his shotgun, and forbade him from using the family vehicle after dark.

Not a gun-free zone: The shooting took place in a public parking lot where the carrying of firearms was lawful according to Arizona law.

Boston, MA, 09/28/2010

Dwayne Moore, 33, fatally shot four people including a 2-year-old boy, and wounded one more. The shooting occurred after a drug-related robbery.

Shooter name: Dwayne Moore, 33

Gun details: 9mm handgun, .40-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Moore was likely prohibited from possessing firearms. He had been convicted of manslaughter in 1996 after fatally stabbing someone, and was sentenced to 16 to 18 years in prison.

GVRO red flag: There is no evidence to suggest that Moore exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place on a public street.

Riviera Beach, FL 9/27/2010

Patrick Dell, 41, fatally shot his estranged wife and four of his stepchildren, ages 10, 11, 13, and 14. He shot and injured another one of his stepchildren, 15. As police arrived on the scene, Dell fatally shot himself.

Shooter name: Patrick Dell, 41

Gun details: Ruger .357 Magnum Revolver

Gun acquired: The gun had previously been reported stolen, but it is not clear how Dell came to possess the gun.

Prohibiting criteria: Based on a May 2010 protective order sought by his wife, active at the time of the shooting, Dell was prohibited from possessing firearms and required to relinquish any firearms in his possession.

GVRO red flag: Less than a year before the shooting, Dell was arrested for threatening his wife and another woman with a knife.

Not a gun-free zone: The shooting took place in a private home.

Jackson, KY, 09/10/2010

Stanley Neace, 46, fatally shot his wife, his step-daughter, and three neighbors following a domestic dispute with his wife. Neace then fatally shot himself. The shootings took place between three trailer homes.

Shooter name: Stanley Neace, 46

Gun details: Shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence that the shooter was prohibited from possessing firearms.

GVRO red flag: A neighbor reported that, a year before the shooting, Neace shot at his wife and put a hole in the bathtub.

Not a gun-free zone: The shooting took place between three private homes.

Chicago, IL, 09/02/2010

Raul Segura-Rodriguez, 36, allegedly shot and killed four people in a garage. Officials believe he was part of a drug-trafficking crew that had been involved in at least 10 killings.

Shooter name: Raul Segura-Rodriguez, 36 (alleged)

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Segura-Rodriguez was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Segura-Rodriguez exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: There is no evidence to suggest that the carrying of firearms was prohibited in the garage where the shooting took place.

Lake Havasu City, AZ, 08/29/2010

Brian Diez, 26, fatally shot his ex-girlfriend, her new boyfriend, and three other adults at a Lake Havasu City house. The house belonged to his ex-girlfriend, and she lived there with their 4-year-old daughter and 1-year-old son. Diez proceeded to drive the two children to his sister's house before fatally shooting himself in his car.

Shooter name: Brian Diez, 26

Gun details: .40 caliber handgun

Gun acquired: Unknown

Prohibiting criteria: Diez was prohibited from possessing firearms at the time of the shooting due to a prior conviction. In July 2010, one month before the killings, he was convicted of assaulting his infant son.

GVRO red flag: Diez was convicted of assaulting his infant son in the year before the shooting.

Not a gun-free zone: The shooting took place in a private home.

Buffalo, NY, 08/14/2010

Riccardo McCray, 23, opened fire on a group of people outside a restaurant, killing four and wounding four others.

Shooter name: Riccardo McCray, 23

Gun details: 9mm handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that McCray was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that McCray exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place on a public street outside of a restaurant.

Lanham, MD, 08/06/2010

Darrell Lynn Bellard, 43, fatally shot two children, their mother, and their paternal aunt in the home where they resided. Police say Bellard was involved in drug trafficking and the victims owed him money. Bellard's girlfriend helped commit the crime by blocking the door to prevent anyone from escaping.

Shooter name: Darrell Lynn Bellard, 43

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Bellard was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Bellard exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Manchester, CT, 08/03/2010

Omar Thornton, 34, fatally shot 8 of his coworkers at his place of employment, Hartford Distributors Inc; two other coworkers were seriously injured. Thornton proceeded to shoot and kill himself as police officers closed in. The shooting occurred immediately after Thornton was forced

to resign from his job as a truck driver; management had discovered evidence that he was stealing product from his delivery truck.

Shooter name: Omar Thornton, 34

Gun details: Two Ruger SR9 9mm handguns

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest Thornton was prohibited from possessing a gun.

GVRO red flag: The night before the shooting, Thornton made a disturbing comment to his uncle. He was showing his uncle a Ruger 9mm handgun, and made the comment, "that's 34 bullets...those guys at work".

Not a gun-free zone: The shooting took place at a distribution center; there is no evidence to suggest that the carrying of firearms was prohibited on site.

Hialeah, FL, 06/06/2010

Gerardo Regalado, 38, fatally shot his wife and three other women at a restaurant before fatally shooting himself.

Shooter name: Gerardo Regalado, 38

Gun details: .45-caliber handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Regalado was prohibited from possessing firearms. He had a permit to carry concealed handguns.

GVRO red flag: There is no evidence to suggest that Regalado exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: Under Florida law, the carrying of concealed firearms by permit holders is lawful in restaurants, except in areas primarily devoted to the serving of alcohol.

Chicago, IL, 4/14/2010

James A. Larry, 32, fatally shot his mother, his pregnant wife, their infant son, and two of his nieces in his sister's home. He also shot and injured his nephew. Larry was apprehended by police; investigators determined that he had converted to Islam in prison and committed the shootings because his family members would not go along with his conversion.

Shooter name: James A. Larry, 32

Gun details: Hi-Point 9mm semi-automatic pistol

Gun acquired: The gun belonged to an acquaintance of Larry's in Madison, WI. He did not know how Larry came into possession of the gun.

Prohibiting criteria: Larry was almost certainly prohibited from possessing firearms, having recently served a prison term in Wisconsin for a weapons conviction.

GVRO red flag: Approximately six months before the shooting, Larry attacked his wife in the parking lot of a Walmart. He pled no contest to misdemeanor battery.

Not a gun-free zone: The shooting took place in a private home.

Los Angeles, CA, 04/03/10

Nerses Arthur Galstyan, 28, fatally shot four and injured two at a San Fernando Valley restaurant after a dispute with other patrons. He was indicted in a separate investigation for selling firearms without a license, and possessing a firearm with the serial number removed.

Shooter name: Nerses Arthur Galstyan, 28

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Galstyan was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Galstyan exhibited recent behavior that would have qualified him for a GVRO.

Gun-free zone: There is no evidence to suggest that the restaurant prohibited permit holders from carrying concealed firearms.

Washington, DC, 03/30/2010

Four assailants shot 10 people, killing four and wounding six. The shootings were retaliation for an earlier shooting.

Shooter names: Nathaniel D. Simms, Orlando Carter, Robert Bost, and Jeffrey Best

Gun details: Glock 9mm handgun, .45-caliber handgun, AK-47 assault rifle

Gun acquired: Jeffrey Best provided the Glock 9mm handgun, Robert Bost provided the .45-caliber handgun, and another co-conspirator who was not present for the shooting provided the AK-47 assault rifle. It is unclear how each of these individuals acquired their gun.

Prohibiting criteria: Simms was likely prohibited from possessing firearms. He had four prior misdemeanor convictions, three for drug offenses and one for a violation of the Bail Reform Act. The criminal histories of the other shooters is unclear; there is no evidence to suggest they were prohibited from possessing firearms.

GVRO red flag: Three of the shooters were involved in committing another fatal shooting approximately 8 days before this mass shooting.

Gun free zone: The shooting likely took place in a gun free zone. According to DC law, the carrying of concealed firearms is prohibited in all areas within 1000 feet of a day care center, school, public swimming pool or playground, video arcade, youth center, public library, or public housing. It appears that there was public housing within this vicinity.

New Orleans, LA, 03/26/2010

Damian Jordan, 22, fatally shot his uncle's girlfriend, her two children, and her sister in their home.

Shooter name: Damian Jordan, 22

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: In 2009, Jordan pled guilty to burglary, a felony, prohibiting him from possessing firearms.

GVRO red flag: About a year before the shooting, Jordan struck his girlfriend in the face with the butt of a rifle, resulting in charges for home invasion and aggravated battery.

Not a gun-free zone: The shooting took place in a private home.

Appomattox, VA, 1/19/2010

Christopher Speight, 39, fatally shot 8 family members and acquaintances, including his sister, brother-in-law, niece, and nephew. He then fired at responding police officers before surrendering.

Shooter name: Christopher Speight, 39

Gun details: High-powered rifle

Gun acquired: Unknown

Prohibiting criteria: Speight was not prohibited from possessing firearms. He was a concealed carry permit holder.

GVRO red flag: There is no evidence to suggest that Speight exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home, immediately outside the home, and in the middle of a nearby road. It was lawful to carry a firearm in all of these places.

Belleville, TX, 01/16/2010

Maron Thomas, 20, fatally shot his mother, stepfather, sister, brother, and niece after a household argument.

Shooter name: Maron Thomas, 20

Gun details: Handgun and shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Thomas was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Thomas exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Madison, WI, 12/03/2009

Tyrone Adair, 38, fatally shot two women and each of their infant daughters. Adair was involved in paternity disputes with both women. Approximately four days after the shootings, Adair was found dead in his car with a self-inflicted gunshot wound.

Shooter name: Tyrone Adair, 38

Gun details: Two handguns were found inside the vehicle where Adair died, one believed to be the same caliber used in the shootings.

Gun acquired: Police reported that Adair bought one of the guns, a 9mm handgun, on the online site Craigslist.

Prohibiting criteria: Adair was prohibited from possessing firearms due to an active restraining order involving a third woman.

GVRO red flag: Approximately a year and a half before the shooting, Adair got into a fight with one of the women he eventually shot. Charges were referred to the District Attorney, but were not filed.

Not a gun-free zone: The bodies were found in the garage of a duplex and the trunk of a car. There is no evidence that either of the shootings took place in an area where the carrying of firearms was prohibited.

Lakewood, WA 11/29/2009

Maurice Clemmons, 37, fatally shot four police officers in a coffee shop. He eluded capture for two days before being shot and killed by police.

Shooter name: Maurice Clemmons

Gun details: Glock 17 9mm handgun, Smith and Wesson .38-caliber revolver

Gun acquired: The Glock 9mm was reported stolen in Seattle approximately three years before the shooting. The .38-caliber revolver could not be traced. It is not known how Clemmons came to possess either weapon.

Prohibiting criteria: Clemmons was prohibited from possessing firearms due to a long history of felony convictions. Just six days before the shooting, he was released on bail in connection with a child rape charge.

GVRO red flag: In an interview with investigators, Clemmons' cousin indicated that Clemmons threatened to kill police officers on Thanksgiving, days before the shooting.

Not a gun-free zone: There is no evidence that the coffee shop prohibited the carrying of firearms. The police officers were armed at the time of the shooting.

Osage, KS, 11/28/2009

James Kahler, 46, fatally shot his estranged wife, her grandmother, and their two daughters in the grandmother's home.

Shooter name: James Kahler, 46

Gun details: .223-caliber assault rifle

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Kahler was prohibited from possessing firearms. In March 2009, he was charged with misdemeanor domestic assault, but the case had not yet been adjudicated at the time of the shooting.

GVRO red flag: Kahler's wife alleged abuse in the past, including a New Year's Eve 2008 fight during which Kahler pushed her hard enough that she hit her head on the street.

Not a gun-free zone: The shooting took place in a private home.

Jupiter, FL, 11/26/2009

Paul Merhige, 35, fatally shot his two sisters, his aunt, and his 6-year-old cousin during a Thanksgiving celebration. Two other family members were shot and injured. Merhige fled the scene and eluded capture for over a month before police arrested him.

Shooter name: Paul Merhige, 35

Gun details: Semi-automatic handgun

Gun acquired: According to media reports, Merhige bought two handguns and a rifle from a licensed gun dealer in Fort Lauderdale the day before the shooting, although it is unclear if any of the handguns were the gun he used in the shooting.

Prohibiting criteria: According to media reports, the shooter was involuntarily committed to mental health facilities at least three times in the decade before the killing, which, according to state, federal, and county officials, prohibited him under federal law from possessing guns. According to press reports, however, the relevant records were not submitted to the NICS database.

GVRO red flag: Although Merhige had a history of mental illness, there is no evidence to suggest that he exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Pearcy, AR, 11/12/2009

Three shooters—Samuel Conway, 23, Marvin Lamar Stringer, 22, and Jeremy Pickney, 23—fatally shot five people in connection with a robbery. Surviving family members reported missing guns, tires and rims, televisions, and two checkbooks. Stringer was shot and killed by police officers as they attempted to enter his hotel room; one officer was shot and injured in the exchange. Conway and Pickney were arrested during traffic stops.

Shooter names: Samuel Conway, 23; Marvin Lamar Stringer, 22; and Jeremy Pickney, 23

Gun details: .22, .25, and .45-caliber handguns

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that the shooters were prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that any of the shooters exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shootings took place on a private residence.

Oklahoma City, OK, 11/09/2009

Multiple shooters fatally shot four people in a house before setting the house on fire. Two of the victims were pregnant. Four men have been convicted for planning and committing the crime—David Allen Tyner, Jonathan Allen Cochran, Denny Edward Phillips, and Russell Lee Hogshooter. The shooting was tied to a drug-related robbery.

Shooter names: David Allen Tyner, Jonathan Allen Cochran, Denny Edward Phillips, and Russell Lee Hogshooter. All four men were in their thirties.

Gun details: .40 caliber & .380 caliber handguns

Gun acquired: Unknown

Prohibiting criteria: Phillips was prohibited from possessing firearms due to a lengthy criminal history including multiple felony convictions. Phillips was convicted in 1996 for assault with a deadly weapon, and other crimes including a jail escape. He was also convicted in 2010 for possession of a firearm by a felon. Cochran was prohibited because of a conviction for second degree burglary in 2002. There is no indication that Tyner or Hogshooter were prohibited, though they were reportedly involved with a local gang.

GVRO red flag: In the months leading up to the shooting, the conspirators discussed the crime in front of multiple witness.

Not a gun-free zone: The shooting took place in a private home.

Fort Hood, TX, 11/05/2009

Nidal Malik Hasan, 39, fatally shot 13 and wounded 32 soldiers during an attack at the Fort Hood army base.

Shooter name: Nidal Malik Hasan, 39

Gun details: An FN Herstal 5.7 semiautomatic handgun was used in the attack. A Smith and Wesson .357 revolver was also recovered.

Gun acquired: The FN Herstal 5.7 semiautomatic handgun used in the attack was purchased legally at a local gun store.

Prohibiting criteria: Hasan was investigated by the FBI for ties to terrorist organizations, but the inquiry was reportedly closed in early 2009. Hasan was not prohibited from possessing firearms, and bought the gun used in the attack legally.

GVRO red flag: There is no evidence to suggest that Hasan exhibited recent behavior that would have qualified him for a GVRO.

Gun-free zone: Due to Department of Defense regulations, it is likely that most personnel at the Fort Hood army base were prohibited from carrying firearms. But this prohibition would not have applied to authorized personnel, including those acting as security personnel or law enforcement. It is unclear from news reports the extent of armed law enforcement presence at the base.

Mount Airy, NC, 11/01/2009

Marcos Chavez Gonzalez, 29, fatally shot four people outside a television store before eventually surrendering to police.

Shooter name: Marcos Chavez Gonzalez, 29

Gun details: Assault rifle

Gun acquired: Unknown

Prohibiting criteria: Gonzalez was prohibited from possessing firearms having been convicted of kidnapping a minor, a felony, in 2002.

GVRO red flag: There is no evidence to suggest that Gonzalez exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a parking lot outside a television store. There is no evidence to suggest that the carrying of firearms was prohibited in this area.

Lawrenceville, GA, 08/27/2009

Richard Ringold, 44, fatally shot his girlfriend, her daughter, and two others in a domestic dispute. Another 4-year-old girl was shot and injured in the incident.

Shooter name: Richard Ringold, 44

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Ringold was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Ringold exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Kansas City, KS, 06/22/2009

Adrian Burks, 37, fatally shot his ex-girlfriend, and three others at the house where she was staying.

Shooter name: Adrian Burks, 37

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: Burks was prohibited from possessing firearms. He had served about 10 years in Kansas prisons for robbery and aggravated assault. He also fatally shot a man in March 2009, but was not charged in the incident, which his cousin later described as self-defense. In April 2009, he was charged with battery and a criminal threat against a woman and was ordered not to possess firearms.

GVRO red flag: Burks exhibited violent and threatening behavior in the months before the shooting, including the April 2009 charge for battery and criminal threatening.

Not a gun-free zone: The shooting took place in a private home.

Middletown, MD, 04/19/2009

Christopher Alan Wood, 34, fatally shot his wife and three children before fatally shooting himself. The incident took place in the family's home.

Shooter name: Christopher Alan Wood, 34

Gun details: .25-caliber pistol, shotgun

Gun acquired: The .25-caliber pistol was given to Wood twelve years before the shooting, by his

former girlfriend's father in Florida. It is unknown how Wood acquired the shotgun.

Prohibiting criteria: There is no evidence to suggest that Wood was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest Wood exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Green Hill, AL, 04/06/2009

Kevin Garner, 45, fatally shot his estranged wife, their teenage daughter, his sister, and his nephew a day before his divorce proceedings were scheduled to take place. He then lit the house on fire and fatally shot himself.

Shooter name: Kevin Garner, 45

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Garner was prohibited from possessing firearms.

GVRO red flag: In Garner's divorce proceedings, his estranged wife alleged that he had been both physically and emotionally abusive. Despite this, it is unclear when the alleged abuse occurred, and hence unclear if Garner would have qualified for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Graham, WA, 04/04/2009

After a dispute with his wife in which she told him she was ending their relationship, James Harrison, 34, returned home and fatally shot his five children, ages 7 to 16. Police believe he then made an unsuccessful attempt to find his wife again, before fatally shooting himself in his car.

Shooter name: James Harrison, 34

Gun details: Unspecified rifle

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Harrison was prohibited from possessing firearms.

GVRO red flag: The North Carolina State Children's Administration found that Harrison had abused one of his children in February 2007, but none of the children were removed from the home. Neighbors also reported that Harrison frequently threatened his children.

Not a gun-free zone: The shooting took place in a private home.

Binghamton, NY, 4/3/2009

Jiverly Wong, 42, fatally shot thirteen people and wounded four others before fatally shooting himself. The shooting took place at the American Civic Association, where Wong had been taking English classes.

Shooter name: Jiverly Wong, 42

Gun details: 9mm Beretta handgun, .45-caliber Beretta handgun

Gun acquired: The guns were purchased legally and registered to Wong's New York State pistol license.

Prohibiting criteria: Wong was not prohibited from possessing firearms, and had a New York State pistol license.

GVRO red flag: There is no evidence to suggest that Wong exhibited recent behavior that would have qualified him for a GVRO.

Gun-free zone: Because the American Civic Association offered a full range of educational programs, it is a gun-free zone according to New York state law.

Carthage, NC, 03/29/2009

Robert Stewart, 45, opened fire at a nursing home where his estranged wife worked, killing eight and injuring three before he was shot and arrested by responding police officers.

Shooter name: Robert Stewart, 45

Gun details: .357-caliber handgun, .22-caliber handgun, 12-gauge shotgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Stewart was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Stewart exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: There is no evidence to suggest that the nursing home prohibited the carrying of firearms.

Santa Clara, CA, 03/29/2009

Devan Kalathat, 45, fatally shot five family members, including three children, before fatally shooting himself. He also shot and wounded his wife. The shooting took place in the family's home.

Shooter name: Devan Kalathat

Gun details: Two .45-caliber handguns

Gun acquired: Kalathat legally bought the handguns in the weeks before the shooting.

Prohibiting criteria: Kalathat was not prohibited from purchasing firearms.

GVRO red flag: There is no evidence to suggest that Kalathat exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

East Oakland, CA, 03/21/2009

Lovelle Mixon, 26, fatally shot two police officers who pulled him over during a routine traffic stop. He then fled to a nearby apartment, where he fatally shot two SWAT officers and injured a third. Mixon was eventually shot and killed by responding SWAT officers.

Shooter name: Lovelle Mixon, 26

Gun details: Semiautomatic handgun, assault rifle

Gun acquired: Unknown

Prohibiting criteria: Mixon was prohibited from possessing firearms. He was convicted in 2002 of assault with a deadly weapon after an armed robbery in San Francisco, serving time in San Francisco County Jail and Corcoran State Prison. Mixon was released on parole in 2007 and remanded back to prison in 2008 after a parole violation.

GVRO red flag: According to the Oakland Police Department, Mixon had become the main suspect in a rape that occurred in February 2009.

Not a gun-free zone: Two of the victims were shot on a public roadway –the 7400 block of Macarthur Boulevard in East Oakland –where no state law prohibits a citizen with appropriate permit to carry a firearm.

Miami, FL, 03/15/2009

At a birthday party, Guillermo Lopez, 49, fatally shot his estranged wife, her mother, her daughter, and her daughter's boyfriend. He then returned to his house where he set the building on fire and fatally shot himself.

Shooter name: Guillermo Lopez, 49

Gun details: Semiautomatic handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Lopez was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Lopez exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Catawba, NC, 03/12/2009

Chiew Chan Saevang, 38, shot and stabbed a woman and her three children in their home. The killings were related to a drug robbery. Saevang later fatally shot himself and his girlfriend as police officers closed in on their car in Utah.

Shooter name: Chiew Chan Saevang, 38

Gun details: Unknown

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Saevang was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Saevang exhibited recent behavior that would have qualified for a GVRO.

Not a gun-free zone: The shootings took place in a private home and an automobile.

Geneva County, AL, 3/10/2009

Michael Kenneth McLendon, 28, fatally shot 10 people and wounded 6 in a spree-style shooting, before fatally shooting himself. Several of the victims were members of McLendon's family, including his mother and his uncle.

Shooter name: Michael Kenneth McLendon, 28

Gun details: Two assault rifles, one handgun, one shotgun

Gun acquired: Unknown.

Prohibiting criteria: McLendon was not prohibited from possessing firearms. According to the Geneva Police Chief, McLendon was licensed to carry a handgun.

GVRO red flag: There is no evidence to suggest that McLendon exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shootings took place between two private homes, a public street, and outside a convenience store. It was lawful to carry a firearm in all of these places.

Cleveland, OH, 03/05/2009

Davon Crawford, 33, fatally shot his wife and four of her relatives, before fatally shooting himself.

Shooter name: Davon Crawford, 33

Gun details: At least one handgun

Gun acquired: Unknown

Prohibiting criteria: Crawford was likely prohibited from possessing a firearm. He was convicted of manslaughter in 1995, and of felonious assault with a firearm in 2002; though Ohio enables felons to restore their gun rights, so it is possible he was no longer prohibited.

GVRO red flag: There is no evidence to suggest that Crawford exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Brockport, NY, 02/14/2009 Frank Garcia, 34, fatally shot a nurse in the parking lot of the Lakeside Memorial Hospital. He also fatally shot a motorist who intervened, and wounded the motorist's girlfriend. He then drove to Canandaigua and fatally shot another nurse and her husband in their home. Both nurses killed by Garcia had filed sexual harassment complaints against him.

Shooter Name: Frank Garcia, 34

Gun details: .40-caliber Glock handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Garcia was prohibited from possessing firearms. He had applied for concealed carry permits and been denied three times because of previous arrests on his record. But, in 2007, a judge reversed the denial and granted Garcia a concealed weapon permit.

GVRO red flag: A former coworker and friend of Garcia testified that Garcia told her about his plan to kill the couple in Canandaigua.

Not a gun-free zone: We found no indication that permit holders were prohibited from carrying guns in this area at the time of the incident.

Wilmington, CA, 1/27/2009

Ervin Lupoe, 40, fatally shot his wife and their five children, before fatally shooting himself.

Shooter name: Ervin Lupoe, 40

Gun details: Handgun

Gun acquired: Unknown

Prohibiting criteria: There is no evidence to suggest that Lupoe was prohibited from possessing firearms.

GVRO red flag: There is no evidence to suggest that Lupoe exhibited recent behavior that would have qualified him for a GVRO.

Not a gun-free zone: The shooting took place in a private home.

Exhibit 78

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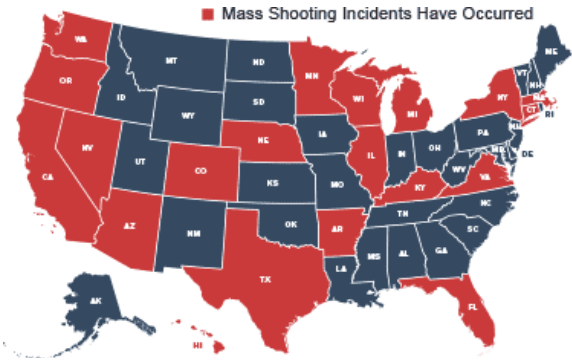
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INITIATIVE

Mass Shooting Incidents in America (1984-2012)

Mass shootings are a unique feature of American life which have occurred consistently throughout history in every region of the country. The increased lethality of such incidents is made possible by the use of large capacity ammunition magazines (defined as more than 10-rounds) which enable a shooter to rapidly fire off as many as 100-rounds without having to reload the firearm. Designed for military use to kill greater numbers of people more effectively, large capacity ammunition magazines have facilitated some of the worst mass murders ever committed in the United States. As these incidents occur in every region of the country, restricting civilian access to these weapons is not a state specific problem. The federal government needs to take action to protect all Americans by reinstating the ban on large capacity ammunition magazines.



This database provides an overview of significant mass shooting incidents in America (defined by the FBI as four or more victims killed), all of which involved large capacity ammunition magazines. *

December 14, 2012

Sandy Hook Elementary School

Newtown, CT

Incident

Shooter
Adam Lanza, 20

On December 14, 2012, Adam Lanza armed with a .22-caliber rifle killed his mother in her home in Newtown, CT. Lanza then stocked his mother's car with firearms and drove to Sandy Hook Elementary School. He shot his way into the school and opened fire with a Bushmaster XM15 .223-caliber semiautomatic assault rifle equipped with a 30-round large capacity ammunition magazine, killing 26, including 20 students' ages six and seven. As police closed in Lanza committed suicide by shooting himself with a GLOCK 10mm handgun. He fired over 154 shots in less than five minutes.

Ammo Magazine
Capacity
30-rounds

Shots Fired >154
Killed 27 (plus shooter = 28)
Wounded unknown

Weapons

An unknown make and model .22-caliber rifle, a Bushmaster XM15 .223-caliber semiautomatic assault rifle equipped with a 30-round large capacity ammunition magazine, and a GLOCK 10mm handgun were used. According to the Danbury State's Attorney, police also recovered in Lanza's possession a SIG SAUER P226 9mm handgun and three loaded 30-round large capacity ammunition magazines for the Bushmaster. Six additional 30-round large capacity ammunition magazines were recovered at the scene. A loaded unknown make and model 12-gauge shotgun was found in the passenger compartment of the car (later moved to the trunk by police). All of the guns used in the shooting were purchased by Lanza's mother.

Outcome
Suicide.

September 27, 2012	Accent Signage Systems
Minneapolis, MN	Incident
Shooter Andrew John Engeldinger, 36	On September 27, 2012, after working his shift at Accent Signage Systems, Andrew Engeldinger was told by two company managers that he was being fired for chronic tardiness and poor performance. Upon hearing this news, Engeldinger pulled out a semiautomatic handgun equipped with a 15-round large capacity ammunition magazine, the managers tried to get the gun from him, unable to both mangers were shot. The large capacity ammunition magazine was dropped during the struggle; Engeldinger reinserted the magazine into the firearm and began to move through the office, shooting at some employees but not others. Over approximately 15 minutes, Engeldinger shot seven employees and a UPS driver before turning the gun on himself. Four victims died at the scene, two died at the hospital (one the following day and the other two weeks later), and two others were injured.
Ammo Magazine Capacity 15-rounds	Weapons
Shots Fired >46 Killed 6 (plus shooter = 7) Wounded 2	GLOCK 19 9mm semiautomatic pistol equipped with a 15-round large capacity ammunition magazine. Engeldinger purchased the firearm one year before the shooting at KGS Guns and Ammo in Minneapolis after passing a background check and obtaining a permit to purchase. Police reportedly found packaging for 10,000 rounds of ammunition and another handgun in Engeldinger's home.
	Outcome
	Suicide.
August 5, 2012	Sikh Temple of Wisconsin
Oak Creek, WI	Incident
Shooter Wade Michael Page, 40	Around 10:30 AM, Wade Michael Page, a U.S. Army veteran, opened fire in the parking lot of a Sikh temple, then entered the building shooting congregants gathering for Sunday meditation. Police officers arrived on the scene in response to 911 calls, and exchanged fire with the shooter. Page killed six and injured three, including a responding officer, before committing suicide.
Ammo Magazine Capacity 19-rounds	Weapons
Shots Fired unknown Killed 6 (plus shooter = 7) Wounded 3	Springfield Armory XD(M) 9mm semiautomatic handgun equipped with a 19-round large capacity ammunition magazine. Weeks before the shooting, Wade legally purchased the handgun and three 19-round large capacity ammunition magazines from a federal firearms licensed dealer in nearby West Allis, WI. According to media reports, Wade served in the U.S. Army from 1992 until 1998, when he was given an other-than-honorable discharge or general discharge. In 1994, while stationed at Fort Bliss in Texas, he was arrested by El Paso police, and pled guilty to a misdemeanor charge of criminal mischief. Federal law does not prohibit persons with convictions for misdemeanors other than domestic violence misdemeanors or persons who have been discharged from the military for reasons other than "dishonorably" from purchasing firearms.
	Outcome
	Wade committed suicide after being shot by police at the scene. The FBI is leading the investigation which is being treated as a possible act of domestic terrorism .
July 20, 2012	The Dark Knight Rises: Movie theatre Shooting
Aurora, CO	Incident
Shooter James Holmes, 24	Shortly after the start of the midnight premiere screening of <i>Batman: The Dark Knight Rises</i> on July 20, 2012, at the Century Aurora 16 movie theatre in Aurora, CO, James Holmes exited the theatre through an emergency exit. He returned through the propped open emergency exit door, clad in ballistic body armor, wearing a gas mask, and armed with multiple firearms. After

Ammo Magazine
Capacity
100-rounds

Shots Fired >80
Killed 12
Wounded 70

tossing two canisters of tear gas into the theatre he began firing upon the audience. He first used an AR-15-type assault rifle equipped with a 100-round drum large capacity ammunition magazine, after the assault rifle jammed, he then continued with a 12-gauge shotgun and a handgun--killing 12 and wounding 70 (including three wounded when bullets went through a wall into an adjacent theatre).

Weapons

A Smith & Wesson M&P15 assault rifle equipped with a 100-round drum large capacity ammunition magazine, a Remington Model 870 12-gauge pump shotgun, and two GLOCK .40-caliber handguns, were recovered at the scene by police. In the months leading to the shooting, Holmes purchased the weapons and 6,000-rounds of ammunition at gun shops and over the Internet. In addition to the weapons used in the shooting, Holmes booby-trapped his apartment, rigging trip wire to detonate 30 plastic shells stuffed with gunpowder, several glass jars filled with gasoline and gunpowder, and 10 gallons of gasoline in canisters.

Outcome

Holmes was apprehended by the police in the theatre's rear parking lot within seven minutes of the first 911 calls from moviegoers. On July 30, 2012, Holmes appeared before the District Court of Arapahoe County, CO for formal charging on 142 counts. Later in the court process, the prosecution amended the charges to include 24 counts of murder in the first degree (two counts for each of the 12 victims killed); 140 counts of attempted murder in the first degree (two counts for each of the 70 victims injured); one count of possession of explosive or incendiary devices; and one count of unlawful use of a deadly weapon in the commission of a violent crime. On June 4, 2013, Holmes changed his original plea of not guilty to a plea of not guilty by reason of insanity. Trial began on April 27, 2015, and on July 16, 2015, the jurors found Holmes guilty on 24 counts of murder in the first degree, 134 counts of attempted murder in the first degree, 6 counts of the lesser included offense of attempted murder in the second degree, one count of possession of explosive or incendiary devices; and one count of unlawful use of a deadly weapon in the commission of a violent crime. On August 27, 2015, Holmes was sentenced to 12 consecutive life imprisonment sentences without the possibility of parole plus 3,318 years imprisonment.

September 6, 2011

Carson City, NV

Shooter
Eduardo Sencion, 32

Ammo Magazine
Capacity
30-rounds

Shots Fired unknown
Killed 4 (plus shooter = 5)
Wounded 7

Carson City IHOP

Incident

At about 9 AM, Sencion entered an IHOP restaurant and began shooting at a table of uniformed National Guard members. He hit all 5 of the members, in addition to 5 civilians inside the restaurant. He eventually moved out into the parking lot, where he shot one woman before turning the gun on himself. Though his eight-minute rampage seemed focused on the Guardsmen, Sencion had no known association with the military and his motives remain unknown. He had no criminal record, but his family has indicated that he had a history of mental illness.

Weapons

AK-47 type assault rifle equipped with a 30-round large capacity ammunition magazine. Two additional guns and two more magazines were found in his vehicle.

Outcome

Suicide.

July 7, 2011

Grand Rapids, MI

Shooter

Grand Rapids

Incident

On a Thursday afternoon, Dantzler went to two homes on a shooting rampage, killing two ex-girlfriends and members of their families, including his own ten-year-old daughter and

Rodrick Shonte Dantzler,
34

Ammo Magazine
Capacity
30-rounds

Shots Fired >10
Killed 7 (plus shooter = 8)
Wounded 2

another child. He then led police on a high-speed chase, shooting two bystanders before crashing his car into an embankment. Dantzler fled, forced his way inside a nearby home, and held three occupants hostage for four hours before shooting himself in the head at about 11:30 PM. He had been arrested once before for assault with intent to do great bodily harm.

Weapons
GLOCK 9mm semiautomatic pistol (unknown model) equipped with a 30-round large capacity ammunition magazine.

Outcome
Suicide.

January 8, 2011

Tucson, AZ

Shooter
Jared Lee Loughner, 22

Ammo Magazine
Capacity
33-rounds
15-rounds

Shots Fired 33
Killed 6
Wounded 13

U.S. Rep. Gabriel Giffords Congress on Your Corner

Incident

During an outdoor constituent meet-and-greet at a Tucson grocery store, Loughner allegedly attempted to assassinate Rep. Giffords, and in the process murdered 6 and wounded 12 others. He first shot Rep. Giffords in the head from about three feet away and then turned to the crowd, firing over 30 rounds in just 15 seconds. Among those killed include a federal judge, Hon. John M. Roll, congressional staff, and civilians ranging in age from 9 to 79.

Weapons
GLOCK 19 9mm semiautomatic pistol equipped with a 33-round large capacity ammunition magazine. Loughner was also carrying two 15-round large capacity ammunition magazines, and a knife. The ATF determined Loughner legally purchased the GLOCK pistol with an extended magazine and one box of Winchester ammunition on November 30, 2010, from Sportsman's Warehouse in Tucson.

Outcome

Loughner was tackled while attempting to reload his firearm with another large capacity ammunition magazine. He was later taken into custody by Sheriff's deputies at the scene. The day following the shooting, Loughner was charged with five federal counts to which he pleaded not guilty. On March 4, 2011, he was charged with an additional 49 federal charges, to which he also pleaded not guilty. On May 25, 2011, Loughner was found not mentally competent to stand trial. A federal judge ruled on September 28, 2011, that efforts to treat him for mental illness in a federal facility should continue until he is mentally fit to be tried. Loughner was diagnosed with and treated for schizophrenia. After he was found mentally competent to stand trial, Loughner pleaded guilty on August 7, 2012, to 19 counts related to the date of the shooting. On November 8, 2012, Loughner was sentenced to seven consecutive life terms, plus 140 years in prison without the possibility of parole (one life term for the attempted assassination of Congresswoman Gabrielle Giffords; two life terms for the murder of two federal employees; four life terms for the murders of four participants at the event; two 20 year terms for the attempted murders of two federal employees; and ten 10 year terms for causing the injuring through the use of a firearm of ten participants at the event).

August 3, 2010	Hartford Beer Distributor
Manchester, CT	Incident
Shooter Omar Thornton, 34	Thornton arrived at work early in the morning for a meeting with his employers. During the meeting he was shown video surveillance which proved he had been stealing beer from the company. Thornton was offered the choice to either resign from his position as a truck driver or be fired. Following the meeting, Thornton went into the employee kitchen to retrieve two handguns equipped with 17-round large capacity ammunition magazines he had previously hidden. He then traveled through the Distributor warehouse shooting deliberately. During the rampage, he murdered eight co-workers and wounded two more. Thornton eventually hid in a far office where he called the police to explain his motive prior to committing suicide. In his 911 call, Thornton claimed that the Hartford Beer Distributor was a "racist place." As he told the 911 dispatcher, "They treat me bad over here and they treat all the other black employees bad over here too."
Ammo Magazine Capacity 17-rounds	
Shots Fired >11 Killed 8 (plus shooter = 9) Wounded 2	
	Weapons
	Two Ruger SR9 9mm semiautomatic pistols equipped with 17-round magazines. Thornton purchased both firearms legally from an East Windsor, CT gun dealer.
	Outcome
	Suicide.
November 5, 2009	Fort Hood
Fort Hood, TX	Incident
Shooter Nidal Malik Hasan, 39	On the afternoon of November 5, 2009, Major Nidal Malik Hasan—an army psychiatrist—walked into a medical processing center and began firing upon those inside. The rampage began at 1:20 pm, and lasted for about four minutes, during which Hasan fired off about 214 shots, killing 13 and wounding 32 more. After running outside the building to chase down a wounded soldier, Hasan was confronted by a police officer. Engaging in a brief firefight, the officer managed to down Hasan with a shot to the torso. Reports have linked the incident to domestic terrorism .
Ammo Magazine Capacity 30-rounds 20-rounds	
Shots Fired 214 Killed 13 Wounded 32	Weapons
	FN Herstal 5.7 Tactical Pistol equipped with 20-round large capacity ammunition magazine. When Hasan was apprehended, investigators found in his possession 177-rounds in 30-round and 20-round large capacity ammunition magazines, another handgun, a revolver, and two gunsights (for different lighting conditions). Hasan purchased the FN Herstal 5.7 Tactical Pistol legally at Guns Galore, a shop in Killeen, TX.
	Outcome
	After he was shot, Hasan was arrested. In 2009, he was charged with 13 counts of premeditated murder and 32 counts of attempted murder under the Uniform Code of Military Justice. In August 2013, following a 22-day court-martial, during which he represented himself, Hasan was convicted of all charges. He was sentenced to the death penalty.
April 3, 2009	American Civic Association
Binghamton, NY	Incident
Shooter Jiverly Wong, 41	Armed with two handguns and 30- and 15-round large capacity ammunition magazines, Wong drove to the American Civic Association building, where he previously took classes. He first barricaded the back entrance of the building with a borrowed car, then entered through the front entrance and began firing. He first opened fire on the association's receptionists, killing one and wounding the other. The surviving receptionist, Shirley DeLucia, feigned death and, after Wong moved further into the building, called 911. Meanwhile, Wong entered a classroom and resumed
Ammo Magazine Capacity	

30-rounds 15-rounds	fire, killing 12 and wounding 3 students and association workers, before eventually turning his gun on himself. His exact motives remain unclear; however, a letter he wrote a month prior to the attack indicates great frustration both with the police and with his lack of employment.
Shots Fired 99 Killed 13 (plus shooter = 14) Wounded 4	Weapons Beretta .45-caliber semiautomatic pistol, Beretta 9mm semiautomatic pistol (models unknown), and two 30-round large capacity ammunition magazines and two 15-round large capacity ammunition magazines.
	Outcome Suicide.
February 14, 2008	Northern Illinois University
DeKalb, IL	Incident
Shooter Steven Phillip Kazmierczak, 27	Armed with four firearms and 33- and 15-round large capacity ammunition magazines, graduate student Steven Kazmierczak kicked in the door of a Cole Hall lecture room and began firing on the 162-person class. Firing approximately 54 shots, he killed 5 students and wounded 17 others, before taking his own life. Kazmierczak had a history of mental illness, erratic behavior, and self-mutilation, and had reportedly stopped taking his medication in the weeks leading up to the shooting.
Ammo Magazine Capacity 33-rounds 15-rounds	Weapons SIG SAUER Kurz 9mm semiautomatic pistol, Hi-Point CF380 .380 caliber semiautomatic pistol, GLOCK 19 9mm semiautomatic pistol, Remington Sportsman 48 12-gauge shotgun, and 33-round and 15-round large capacity ammunition magazines. Kazmierczak purchased all four weapons from Tony's Gun & Ammo in Champaign, IL between August 3, 2007 and February 9, 2008. Kazmierczak also purchased gun accessories from a website operated by TGSCOM, Inc., the same company patronized by the VA Tech shooter .
Shots Fired 54 Killed 5 (plus shooter = 6) Wounded 21	Outcome Suicide.
December 5, 2007	Westroads Mall
Omaha, NE	Incident
Shooter Robert Hawkins, 19	Armed with an assault rifle and two 30-round large capacity ammunition magazines, Hawkins opened fire from the third floor balcony of the Westroads Mall. He killed six employees and two customers, and wounded five more, before taking his own life. Police arrived on the scene about six minutes after the shooting began, by which time it was already over. Hawkins had a history of mental illness and a criminal record. Police say the shooting was random.
Ammo Magazine Capacity 30-rounds	Weapons WASR-10 semiautomatic assault rifle and two 30-round large capacity ammunition magazines.
Shots Fired >14 Killed 8 (plus shooter = 9) Wounded 5	Outcome Suicide.
April 16, 2007	Virginia Polytechnic Institute and State University
Blacksburg, VA	Incident
Shooter	At about 7 AM, Cho entered West Ambler Johnston dormitory, shot and killed two students,

Seung-Hui Cho, 23

Ammo Magazine
Capacity
15-rounds

Shots Fired 176
Killed 32 (plus shooter = 33)
Wounded 17

then returned to his dormitory to change out of his bloody clothes. At approximately 9:40 AM, he entered Norris Hall and began shooting at students and faculty in classrooms on the second floor. The rampage—during which 30 more people were killed and 17 wounded—lasted until approximately 9:51 AM, when Cho committed suicide. Exact motives remain unclear. Cho had a long history of mental and physical illness, depression, selective mutism, and wrote "dark and troubling" papers for his classes, which included fantasies about the [Columbine shooting](#).

Weapons
GLOCK 19 9mm semiautomatic pistol and Walther P22 .22-caliber semiautomatic pistol. Investigators found a total of 17 empty magazines at the scene of the shooting, a mix of several 15-round, and 10-round magazines loaded with hollow-point rounds (bullets with the tip hollowed out, designed to expand upon impact). He possessed over 400 rounds of ammunition. Cho ordered the Walther P22 from a website operated by TGSCOM, Inc. Kazmierczak patronized the same company before the [NIU shooting](#). On February 9, 2007, Cho picked up the pistol from J-N-D Pawn-brokers, located across the street from the VA Tech campus. In compliance with the state law limiting handgun purchases to one every 30 days, Cho purchased the GLOCK 19 on March 13, 2007. He also purchased five 10-round magazines from eBay in March. Cho's purchase of these firearms was in violation of federal law; he was disqualified from purchasing or possessing a firearm and ammunition, because a special justice of the Montgomery County General District Court had found him to be a danger to himself on December 14, 2005.

Outcome
Suicide.

January 30, 2006

Goleta, CA

Shooter
Jennifer San Marco, 44

Ammo Magazine
Capacity
15-rounds

Shots Fired unknown
Killed 7 (plus shooter = 8)
Wounded 0

Santa Barbara Postal Processing and Distribution Center

Incident
On the night of January 30, 2006, Jennifer San Marco sneaked into a Santa Barbara condominium where she shot and killed a former neighbor. Less than an hour later, her rampage continued at the Santa Barbara Postal Processing and Distribution Center where she had worked for about six years. Armed with a semiautomatic handgun equipped with a 15-round large capacity ammunition magazine, San Marco shot six postal employees (two in the parking lot and four in the building), before turning the gun on herself. Five victims died at the scene and one died in the hospital two days later. San Marco's employment at the postal facility ended in 2003 when she was placed on retirement disability for psychological reasons. No suicide note was left to explain her motive, but police reportedly found writings in San Marco's New Mexico home (where she moved in 2004) alluding to a conspiracy plot involving the postal facility where the shooting occurred, a local medical facility, and the Santa Barbara County Sheriff's Department.

Weapons
Smith & Wesson 915 9mm semiautomatic handgun equipped with a 15-round large capacity ammunition magazine. San Marco purchased the firearm at a pawn shop in New Mexico in August 2005.

Outcome
Suicide.

November 21, 2004	Hunting Camp
Meteor, WI	Incident
Shooter Chai Vang, 36	On a hunting trip in Northwest Wisconsin, at about noon on a Sunday, Vang was sitting in a hunting stand used to look out for deer, when he encountered a group of other hunters who informed him that he was trespassing on private property. Police report that Vang began to walk away, then turned, and opened fire. During the course of the shooting, he shot nine people, five of whom died during the incident (the sixth victim succumbed to the gunshot wounds the following day). One of the wounded victims recorded the hunting license number posted on Vang's orange vest and supplied it to police.
Ammo Magazine Capacity 20-rounds	
Shots Fired 20 Killed 6 Wounded 3	Weapons SKS 7.62mm semiautomatic assault rifle equipped with a 20-round large capacity ammunition magazine.
	Outcome At about 5 PM that same day, police arrested Vang. At Vang's preliminary hearing, he pleaded not guilty to six counts of murder and three counts of attempted murder. During the trial, which lasted from September 11 to 18, 2005, Vang's defense argued that he had felt "under siege" from the other hunters, and that they had been using racial slurs against him. Vang was convicted of murder and eventually sentenced to six life sentences without the possibility of parole.
December 26, 2000	Edgewater Technology Office
Wakefield, MA	Incident
Shooter Michael McDermott, 42	Armed with multiple firearms and a 60-round large capacity ammunition magazine, McDermott arrived at his workplace at about 9 AM. After about two hours, he began his rampage by walking to the reception desk and shooting and killing the office manager. He moved throughout the building continuing to shoot at specific coworkers, firing 37 shots over the course of five to six minutes before he stopped firing, returned to the reception area and sat down. Authorities speculated that McDermott's motive centered on anger that his wages were to be collected by the IRS for the payment of back taxes.
Ammo Magazine Capacity 60-rounds	
Shots Fired 37 Killed 7 Wounded 0	Weapons AK-47-type semiautomatic assault rifle, unknown make and model 12-gauge shotgun, unknown make and model .32-caliber semiautomatic pistol, and 60-round large capacity ammunition magazine.
	Outcome McDermott was arrested at the scene. He was charged with seven counts of murder, to which he pleaded not guilty. Over the course of a 14-day trial in April 2002, McDermott's defense was based on insanity. During his testimony, he expressed a belief that he had been sent back in time to kill Nazis, a move which the prosecution claimed to be a fabricated "psychic alibi." At the end of the trial, McDermott was convicted of seven counts of murder and received seven life sentences.
November 2, 1999	Xerox Office Building
Honolulu, HI	Incident
Shooter Byran Uyesugi, 40	Armed with a handgun and three 17-round large capacity ammunition magazines, Uyesugi entered offices of the Xerox corporation in Honolulu and commenced firing. After firing approximately 28 shots, killing 7 people (he missed an 8th), Uyesugi promptly left and drove to the Hawaii Nature Center. After a 5-hour standoff with police, he surrendered. Uyesugi is said to have been a disgruntled employee—with a history of anger issues—who at the time was feeling work-related pressure.
Ammo Magazine Capacity	

17-rounds	
Shots Fired 28	Weapons
Killed 7	GLOCK 17 9mm semiautomatic pistol and three 17-round large capacity ammunition magazines, loaded with hollow point bullets (bullets with the tip hollowed out, designed to expand upon impact). Uyesugi legally purchased the GLOCK in 1989.
Wounded 0	
	Outcome
	On November 9, 1999, Uyesugi was indicted on nine felony counts, including one count of first degree murder, seven counts of murder in the second degree, and one count of attempted murder in the second degree. On May 15, 2000, the trial against Uyesugi began. He pleaded not guilty by reason of insanity, but the jury rejected that plea and found him guilty. Uyesugi was sentenced to life without the possibility of parole. In 2002, he appealed his conviction but the State of Hawai'i Supreme Court upheld his conviction.
September 15, 1999	Wedgwood Baptist Church
Fort Worth, TX	Incident
Shooter Larry Gene Ashbrook, 47	Armed with two handguns and three 15-round large capacity ammunition magazines, Ashbrook walked into Wedgwood Baptist Church during a teen rally and began shooting. He killed 7 people (three of whom were teenagers) and wounded 7 more. Over the course of the attack, he fired approximately 30 shots and threw a pipe bomb in the church. Ashbrook then committed suicide. According to witnesses, during the shooting Ashbrook was yelling anti-religious invectives. In addition, a news report described him as one who "seethed with hostility, distrusted neighbors, and sometimes victimized the vulnerable."
Ammo Magazine Capacity 15-rounds	
Shots Fired 30	Weapons
Killed 7 (plus shooter = 8)	Ruger P85 9mm semiautomatic pistol, unknown make and model .380 caliber semiautomatic pistol, and three 15-round large capacity ammunition magazines. Ashbrook legally acquired both weapons from federally licensed firearms dealers in 1992.
Wounded 7	
	Outcome
	Suicide.
April 20, 1999	Columbine High School
Littleton, CO	Incident
Shooter Eric Harris, 18 Dylan Klebold, 17	On the morning of April 20th, Harris and Klebold entered Columbine High School and placed two propane bombs in the cafeteria. They then returned to their cars, awaiting detonation. After the bombs failed to detonate, Harris and Klebold gathered their guns and large capacity ammunition magazines ranging from 28- to 52-rounds, they then approached the school's west entrance. At approximately 11:20 AM, they begin shooting at students outside the school. After entering the school, they commenced shooting and throwing pipe bombs at random, eventually proceeding to the library where they killed 10 and injured 12 more. Leaving the library, they continued wandering about the school, occasionally firing through windows at law enforcement, until—at around noon—they committed suicide. In less than an hour, Harris and Klebold killed 13 and wounded 24.
Ammo Magazine Capacity 52-rounds 32-rounds 28-rounds	
Shots Fired 188	Weapons
Killed 13 (plus shooters = 15)	Savage Springfield 67H 12-gauge pump-action shotgun, Savage Stevens 311D 12-gauge sawed-off shotgun, Hi-Point 995 9mm semiautomatic rifle, INTRATEC TEC-DC9 9mm semiautomatic pistol, and thirteen 10-round magazines, one 52-, one 32-, one 28-round large capacity ammunition magazines. Harris and Klebold illegally acquired the shotguns and Hi-Point rifle through a "straw purchase" (a transaction in which a legal buyer makes a purchase for someone who cannot legally purchase the firearm). Their friend, Robyn Anderson, purchased the three firearms at the Tanner Gun Show from unlicensed sellers in December of
Wounded 24	

1998. A pizza shop employee, Mark Manes, illegally sold them the INTRATEC TEC-DC9.

Outcome
Suicide.

May 20-21, 1998

Thurston High School

Springfield, OR

Incident

Shooter
Kipland Philip "Kip"
Kinkel, 15

At about 3 PM, Kinkel, who had earlier been suspended from school for illegal possession of a firearm, loaded a .22-caliber rifle and shot his father in the back of the head. Roughly 3 hours later, Kinkel's mother returned home and he fatally shot her six times. The next morning, Kinkel armed himself with multiple weapons including a 50-round large capacity ammunition magazine, then drove to his school, arriving at about 7:55 AM. Walking through a school hallway, he shot 27 students, killing 2 of them, before he was finally tackled to the ground by other students while trying to reload.

Ammo Magazine
Capacity
50-rounds

Weapons

Shots Fired >50
Killed 4
Wounded 25

GLOCK 19 9mm semiautomatic pistol, Ruger (unknown model) .22-caliber semiautomatic pistol, Ruger (unknown model) .22-caliber rifle, and a 50-round large capacity ammunition magazine. The GLOCK and rifle were legally purchased by Kinkel's father.

Outcome

Kinkel was taken into custody by the police at the scene. On the 16th of June, Kinkel was indicted on 58 charges, 4 of which were for aggravated murder. In September of the following year, Kinkel pleaded guilty to the aggravated murder charges and 25 counts of attempted murder, and pleaded no contest to one attempted murder count. During his sentencing hearing, psychiatrists testified that Kinkel showed signs of schizophrenia. Evidence was also presented that he expressed admiration for the [Westside Middle School shooting](#) which occurred two months earlier. On November 2nd, Kinkel was sentenced to 111 years and 8 months in prison without the possibility of parole. In 2002, he appealed his sentence, but the Court of Appeals of Oregon found the sentence did not violate the Oregon Constitution. In 2007, he petitioned for a new trial, but a Marion County judge denied the motion. Kinkel then appealed that decision but on January 12, 2011, the Oregon Court of Appeals affirmed the trial court decision denying his motion for a new trial.

March 24, 1998

Westside Middle School

Jonesboro, AR

Incident

Shooter
Andrew Golden, 11
Mitchell Johnson, 13

On the morning of March 24, Golden and Johnson stole a van owned by the Johnson family, drove to Golden's grandparents' house to acquire weaponry, including multiple 30- and 15-round large capacity ammunition magazines, and then continued on to Westside Middle School. Golden entered the school and pulled the fire alarm, then ran back outside to wait with Johnson. As students and teachers came running out of the school, the two boys opened fire, killing 5 (one of whom was a teacher) and wounding 10 (9 students and 1 teacher). Johnson claims Golden came up with the plan just to scare the kids who had bullied him.

Ammo Magazine
Capacity
30-rounds
15-rounds

Weapons

Shots Fired >26
Killed 5
Wounded 10

Universal M1 Carbine .30-caliber replica, Davis Industries .38-caliber two-shot derringer, Double Deuce Buddie .22-caliber two-shot derringer, Charter Arms .38-caliber revolver, Star .380-caliber pistol, FIE .380-caliber pistol, Ruger Security Six .357-caliber revolver, Ruger .44 magnum rifle, Smith & Wesson .38-caliber revolver, Remington 742 .30-06-caliber rifle, 15-round large capacity ammunition magazines, three 30-round large capacity ammunition magazines, and over 150-rounds of ammunition.

Outcome

After the shooting, Golden and Johnson ran into the woods and were eventually caught by police. The boys were convicted as juveniles to the maximum sentence possible under state law, imprisonment until they turned 18. Prior to their 18th birthdays, they were convicted of a federal crime for bringing a gun to school. They were then transferred to federal prisons until their 21st birthdays. Upon release they would have no criminal record, making them legally eligible to purchase a firearm. Johnson was released on August 11, 2005, and Golden was released on May 25, 2007.

March 6, 1998

Newington, CT

Shooter
Matthew Beck, 35

**Ammo Magazine
Capacity**
19-rounds

Shots Fired >5
Killed 4 (plus shooter = 5)
Wounded 0

Connecticut State Lottery Headquarters

Incident

Nearly two weeks after retuning to work following several months of "stress-related" medical leave, Beck, a State Lottery employee, arrived at work armed with a handgun equipped with a 19-round large capacity ammunition magazine. He shot and killed four of his bosses. As police arrived, Beck shot and killed himself. Beck had a history of depression and was disgruntled with his employer over a salary dispute and being passed over for a promotion.

Weapons

GLOCK model unknown 9mm semiautomatic pistol equipped with a 19-round large capacity ammunition magazine. Beck had a permit for the 9mm pistol used in the shooting.

Outcome

Suicide.

December 18, 1997

Orange, CA

Shooter
Arturo Reyes Torres, 41

**Ammo Magazine
Capacity**
30-rounds

Shots Fired 144
Killed 4 (plus shooter = 5)
Wounded 2

Caltrans Maintenance Yard

Incident

Armed with an assault rifle and five 30-round large capacity ammunition magazines, Torres fired 144 rounds in just over two minutes upon his former co-workers. He killed four, including his former supervisor, and wounded two more. Torres had recently been accused of stealing and selling government-owned materials and subsequently fired from his job at Caltrans. He is believed to have been seeking revenge against his former supervisor, who Torres felt set him up.

Weapons

Chinese-made AK-47-type 7.62mm semiautomatic assault rifle and five 30-round large capacity ammunition magazines. Torres legally purchased the rifle on April 30, 1988, from B&B Gun Sales in Orange County, CA.

Outcome

Torres was shot and killed by police.

June 20, 1994

Fairchild Air Force Base,
WA

Shooter
Dean Allen Mellberg, 20

**Ammo Magazine
Capacity**
75-rounds

Fairchild Air Force Base

Incident

Weeks after receiving an involuntary honorable discharge from the Air Force, Dean Allen Mellberg took a cab to the Fairchild Air Force Base hospital armed with a Mak-90 semiautomatic assault rifle equipped with a 75-round drum large capacity ammunition magazine. He shot and killed two doctors, who he reportedly blamed for his discharge from the military. Mellberg then fired upon others in the hospital, chasing some outside the building. Once outside he encountered a military police officer who fatally shot him. In the few minutes Mellberg was shooting, he killed 5 and wounded 23.

Shots Fired unknown	Weapons
Killed 5 (plus shooter = 6)	Chinese-made Mak-90 semiautomatic assault rifle equipped with a 75-round drum large capacity ammunition magazine. He purchased the assault rifle on June 15, 1994, five days before the shooting, and the following day purchased 80 rounds of 7.62x39mm ammunition and a 75-round drum large capacity ammunition magazine.
Wounded 23	

Outcome
Shot and killed by military police.

December 7, 1993	Long Island Railroad
Long Island, NY	Incident
Shooter Colin Ferguson, 35	Armed with a handgun and four 15-round large capacity ammunition magazines, Ferguson boarded a 5:33 PM Long Island bound commuter train from NYC's Pennsylvania Station. During the journey he began firing on passengers. He emptied approximately 30 rounds upon 25 people, killing 6. Ferguson's motives for the shooting are believed to stem from a variety of complaints. Police discovered a notebook in which Ferguson vented his hatred for "Caucasians and Uncle Tom Negroes," then-Governor Mario Cuomo, and the state Workers' Compensation Board.
Ammo Magazine Capacity 15-rounds	
Shots Fired 30	Weapons
Killed 6	Ruger P89 9mm semiautomatic pistol and four 15-round large capacity ammunition magazines. Ferguson legally acquired the weapon in California at an outlet of Turner's Outdoorsman.
Wounded 19	
	Outcome
	Stopping to reload, Ferguson was tackled by three train passengers. Ferguson was indicted on January 19, 1994. A lengthy and controversial trial ensued, during which Ferguson's lawyers —William Kunstler and Ronald Kuby—insisted that he was overcome with "black rage." Ferguson rejected that defense and eventually dismissed Kunstler and Kuby. Maintaining his plea of not guilty, Ferguson was finally convicted of murder on February 17, 1995.

July 1, 1993	101 California Street Office of Pettit & Martin Law Firm
San Francisco, CA	Incident
Shooter Gian Luigi Ferri, 55	Armed with three firearms and 40- and 50-round large capacity ammunition magazines, Ferri opened fire on the offices of the law firm Pettit & Martin on the 34th floor of a San Francisco high-rise. He fired between 75 to 100 rounds, killing eight and wounding six, before killing himself. Ferri—a real estate speculator undergoing major financial trouble—had previously hired the law firm. His exact motives remain unclear, but police found a letter written by Ferri indicating frustrations with Pettit & Martin over real estate advice they had given him in 1981.
Ammo Magazine Capacity 50-rounds 40-rounds	Weapons
Shots Fired >75	Two INTRATEC TEC-DC9 semiautomatic pistols, Colt (unknown model) .45-caliber semiautomatic pistol, and 40-round and 50-round large capacity ammunition magazines loaded with a mix of Black Talon and standard ammunition. According to the Las Vegas Metropolitan Police Department, Ferri purchased the pistols from two stores in Las Vegas: Super Pawn and Pacific Tactical Weapons.
Killed 8 (plus shooter = 9)	
Wounded 6	Outcome
	Suicide.

October 16, 1991	Luby's Cafeteria
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Killeen, TX

Shooter
George Hennard, 35

Ammo Magazine
Capacity
17-rounds
15-rounds

Shots Fired 100
Killed 23 (plus shooter =
24)
Wounded 20

Incident

Armed with two handguns and 17-round and 15-round large capacity ammunition magazines, Hennard crashed his pickup into Luby's Cafeteria during a busy lunch hour. Stepping out of the vehicle, he began shooting randomly, killing 23 and wounding 20. After firing approximately 100 shots over 10 minutes, Hennard shot himself in the head. His motives remain unclear, but neighbors described him as "combative and unstable."

Weapons

GLOCK 17 9mm semiautomatic pistol, Ruger P89 semiautomatic pistol, and 17-round and 15-round large capacity ammunition magazines. Hennard legally purchased the weapons from Mike's Gun Shop in Henderson, NV, in February and March of 1991.

Outcome
Suicide.

June 18, 1990

Jacksonville, FL

Shooter
James Edward Pough, 42

Ammo Magazine
Capacity
30-rounds

Shots Fired >14
Killed 9 (plus shooter =
10)
Wounded 4

General Motors Acceptance Corporation Office

Incident

Armed with two firearms and a 30-round large capacity ammunition magazine, Pough opened fire in offices of General Motors. He killed nine and wounded four before taking his own life. It is believed Pough was angered by having his 1988 Pontiac Grand Am repossessed by the Corporation.

Weapons

Universal M1 .30-caliber semiautomatic assault rifle, unknown make and model .38-caliber revolver, and a 30-round large capacity ammunition magazine.

Outcome
Suicide.

September 14, 1989

Louisville, KY

Shooter
Joseph Wesbecker, 47

Ammo Magazine
Capacity
30-rounds

Shots Fired >21
Killed 8 (plus shooter = 9)
Wounded 12

Standard Gravure Corporation

Incident

Armed with a duffle-bag full of firearms and 30-round large capacity ammunition magazines, Wesbecker opened fire at the offices of his former employer, shooting and killing 8 and wounding 12, before taking his own life. Wesbecker had been placed on permanent disability leave due to mental illness.

Weapons

Chinese-made AK-47-type semiautomatic assault rifle, two INTRATEC MAC-11 semiautomatic assault pistols, SIG SAUER unknown model 9mm semiautomatic pistol, unknown make and model .38-caliber revolver, and 30-round large capacity ammunition magazines. Wesbecker legally purchased the AK-47-type assault rifle from Tilford's Gun Sales in Louisville.

Outcome
Suicide.

January 17, 1989	Cleveland Elementary School
Stockton, CA	Incident
Shooter Patrick Purdy, 24	Armed with two firearms and multiple 75- and 35-round large capacity magazines, Purdy first set his car on fire in the parking lot of Cleveland Elementary School. He then entered school grounds and began shooting. Over the course of the rampage, Purdy killed 5 students and wounded 30 others, including one teacher. After firing approximately 106 shots with an AK-47-type assault rifle over less than two minutes, he shot himself in the head with a pistol. Purdy's former acquaintances reported that he "developed a hate for everybody" including an intense dislike of Asian Americans. Of the five fatalities incurred during the Cleveland School Massacre, four were born in Cambodia and one in Vietnam.
Ammo Magazine Capacity 75-rounds 35-rounds	
Shots Fired 106 Killed 5 (plus shooter = 6) Wounded 30	Weapons Chinese-made AK-47-type semiautomatic assault rifle, Taurus unknown model 9mm semiautomatic pistol, a 75-round large capacity ammunition drum magazine, a 75-round large capacity ammunition rotary magazine, and four 35-round large capacity ammunition banana magazines. Purdy legally purchased the AK-47-type rifle at Sandy Trading Post, in Sandy, OR on August 3, 1988, and the Taurus 9mm pistol at Hunter Loan and Jewelry Co. in Stockton, CA on December 28, 1988.
	Outcome Suicide.
April 23, 1987	Palm Bay shopping center
Palm Bay, FL	Incident
Shooter William Cruse, Jr., 59	On April 23, 1987, William Cruse, Jr., loaded his car with a Strum, Ruger Mini-14 semiautomatic assault rifle equipped with a 30-round large capacity ammunition magazine, five 30-round large capacity ammunition magazines, 180 rounds of ammunition, a shotgun, and a pistol, and began to drive to a local shopping center. He first stopped at a neighbor's driveway, opened the car window, picked up his shotgun and opened fire upon two brothers and their father and mother, wounding one of the brothers. Cruse then continued on to the Palm Bay Center where he shot and killed three people and wounded three others with the assault rifle. He then drove across the street to the Sabal Palm Square shopping center, exited his car and again opened fire. As officers approached, Cruse reloaded his assault rifle and fired into the police car killing an officer. Another officer arrived and exited his police car, Cruse continued firing upon the officers, killing another officer. Cruse then fled into a grocery store firing upon the shoppers inside, killing one and wounding several more. He then found two women hiding in the restroom; he let one out of the store to negotiate with police and kept the other hostage. After several hours, Cruse released the hostage. Police then fired tear gas and stun grenades into the store, forcing Cruse out of the store and allowing officers to take him into custody. During the over 7 hour rampage, Cruse killed 6, including 2 police officers, and wounded 10 more. Police officers were so outgunned that a neighbor provided police an AR-15 assault rifle to help match Cruse's firepower.
Ammo Magazine Capacity 30-rounds	
Shots Fired unknown Killed 6 Wounded 10	Weapons Strum, Ruger Mini-14 semiautomatic assault rifle equipped with a 30-round large capacity ammunition magazine, five 30-round large capacity ammunition magazines, 180 rounds of ammunition, a shotgun (unknown make and model), and a pistol (unknown make and model). Cruse ordered the assault rifle on March 21, 1987. On April 17, 1987, he purchased 100-rounds of ammunition and six 30-round large capacity ammunition magazines.
	Outcome Cruse was arrested at the scene. He pleaded not guilty by reason of insanity. In 2009, a jury in Polk County, FL, convicted Cruse of 6 counts of first-degree murder, 22 counts of attempted first-degree murder, 2 counts of attempted second-degree murder, 1 count of false imprisonment, and 1 count of kidnapping. In 1989, Cruse was sentenced to the death penalty for

the murders of the two officers and sentenced to consecutive life sentences for the other four murders and attempted murders. While on death row, Cruse died of natural causes in 2009.

July 18, 1984	McDonald's Restaurant
San Ysidro, CA	Incident
Shooter James Oliver Huberty, 41	Armed with multiple firearms and 25-round large capacity ammunition magazines, Huberty entered the McDonald's restaurant and opened fire. He shot 40 people, killing 21 and wounding 19. He expended 257 rounds over 77 minutes, before being killed by a police sniper. No motive has been established. Prior to the shooting, Huberty told his wife, "I'm going hunting humans."
Ammo Magazine Capacity 25-rounds	Weapons Browning P-35 9mm semiautomatic pistol, Winchester 1200 pump-action 12-gauge shotgun, Israeli Military Industries 9mm Model A Carbine (Uzi), and 25-round large capacity ammunition magazines.
Shots Fired 257 Killed 21 (plus shooter = 22) Wounded 19	Outcome Huberty was shot and killed by police.
June 29, 1984	Ianni's Club
Dallas, TX	Incident
Shooter Abdelkrim Belachheb, 39	On June 29, 1984, after offending his dancing partner at a Dallas night club, Abdelkrim Belachheb, a Moroccan in the U.S. illegally, left the club and returned with a Smith & Wesson 9mm semiautomatic pistol equipped with a 14-round large capacity ammunition magazine. He emptied the magazine into his dance partner, reloaded and fired into the crowd. Belachheb killed his dance partner, five others, and wounded one more.
Ammo Magazine Capacity 14-rounds	Weapons Smith & Wesson (unknown model) 9mm semiautomatic pistol and two 14-round large capacity ammunition magazines.
Shots Fired unknown Killed 6 Wounded 1	Outcome Belachheb surrendered to police hours later. He pleaded not guilty by reason of insanity. On November 15, 1984, a jury found Belachheb guilty of the six murders. He was sentenced to six consecutive life sentences plus 20 years, and \$70,000 in fines.

** Disclaimer:* Information for this database has been compiled from publicly available news sources. Every effort has been made to obtain the most accurate information, however, contradictions may exist between this database and other sources. As the ATF does not require police departments to collect data related to the capacity of a firearm's ammunition magazine, this database is not an exhaustive list of mass shootings involving large capacity ammunition magazines.

Exhibit 79

ER2106



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 Washington, DC 20036 www.vpc.org web

High-Capacity Ammunition Magazines are the Common Thread Running Through Most Mass Shootings in the United States



Columbine shooter armed with Intratec TEC-DC9 assault pistol equipped with high-capacity ammunition magazine

Since 1980, there have been at least 55 mass shootings (3 or more fatalities) where the shooter used high-capacity ammunition magazines. A total of 503 people were killed in these shootings and 495 were wounded. This number is likely a significant undercount of actual incidents since there is no consistent collection or reporting of this data. Even in many high-profile shootings information on magazine capacity is not released or reported.

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
House party Mukilteo, Washington July 30, 2016 Shooter: Allen Christopher Ivanov	3 dead, 1 wounded	Sturm Ruger AR-15 assault rifle	30-round magazine

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
Baton Rouge, Louisiana July 17, 2016 Shooter: Gavin Long	3 law enforcement officers dead, 3 wounded	Tavor SAR assault rifle, Stag Arms M4 variant assault rifle, Springfield XD 9 mm semiautomatic pistol	High capacity ammunition magazines
Dallas, Texas July 7, 2016 Shooter: Micah Johnson	5 law enforcement officers dead, 9 officers and two citizens wounded	Saiga AK-74 assault rifle, Glock 19 Gen 4 and Fraser .25 semiautomatic pistols	Multiple high-capacity ammunition magazines
Pulse nightclub Orlando, Florida June 12, 2016 Shooter: Omar Mateen	50 dead (including shooter), 53 wounded	Sig Sauer MCX assault rifle	Multiple 30 round magazines, some taped together for faster reloading
Kalamazoo Michigan Multiple parking lots February 20, 2016 Shooter: Jason Dalton	6 dead, 2 wounded	Glock 19 semiautomatic pistol, Walther P99 9mm semiautomatic pistol	Extended magazine
Inland Regional Center San Bernardino, California December 2, 2015 Shooters: Syed Farook and Tashfeen Malik	14 dead, 21 wounded	Smith&Wesson M&P assault rifle, DPMS A15 assault rifle	4 30-round magazines
Navy Operational Support Center and Marine Corps Reserve Center Chattanooga, Tennessee July 16, 2015 Shooter: Muhammad Youssef Abdulazez	6 dead (including shooter), 2 wounded	AK-variant assault rifle, Saiga assault shotgun, handgun	multiple 30-round magazines
Emanuel African Methodist Episcopal Church Charleston, South Carolina June 17, 2015 Shooter: Dylann Roof	9 dead	Glock .45 Model 41 pistol	13-round magazines

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
Marysville-Pilchuck High School, Marysville, Washington October 24, 2014 Shooter: Jaylen Fryberg	5 dead (including shooter)	Beretta .40 semiautomatic pistol	High-capacity, number of rounds unstated
Apartment complex Hialeah, Florida July 26, 2013 Shooter: Pedro Vargas	6 dead	Glock 17 semiautomatic pistol	17-round magazine
Santa Monica, California June 7, 2013 Shooter: John Zawahri	6 dead, (including shooter)	AR-type assault rifle built from parts	40 30-round magazines
Sandy Hook Elementary School Newtown, Connecticut December 14, 2012 Shooter: Adam Lanza	28 dead, (including shooter)	Bushmaster XM15 assault rifle, Glock 10mm pistol, 9mm Sig Sauer pistol	30-round magazines
Accent Signage Systems Minneapolis, Minnesota September 27, 2012 Shooter: Andrew Engeldinger	7 dead (including shooter), 3 wounded	Springfield XDM semiautomatic pistol	2 15-round magazines
Sikh Temple Oak Creek, Wisconsin August 5, 2012 Shooter: Wade Michael Page	7 dead (including shooter), 2 wounded	Glock 9mm semiautomatic pistol	3 19-round magazines
Café Racer Seattle, Washington May 30, 2012 Shooter: Ian Stawicki	6 dead (including shooter)	Colt .45 semiautomatic pistol	Extended magazine
Century Aurora 16 movie theater Aurora, Colorado July 20, 2012 Shooter: James Holmes	12 dead, 58 wounded	Smith & Wesson M&P15 assault rifle, .40 Glock pistol, Remington model 870 12 gauge shotgun	100-round magazine
IHOP Carson City, Nevada September 6, 2011 Shooter: Eduardo Sencion	5 dead, (including shooter), 7 wounded	MAK-90 assault rifle (illegally converted to full-auto)	20- and 30-round magazines

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
Safeway parking lot Tucson, Arizona January 8, 2011 Shooter: Jared Loughner	6 dead, 13 wounded	Glock 19 semiautomatic pistol	Two 31-round magazines Two 15-round magazines
Shreveport, Louisiana August 16, 2010 Shooter: Marcus Donte Reed	3 dead	Assault weapon	30-round magazine
Hartford Distributors Manchester, Connecticut August 3, 2010 Shooter: Omar Thornton	9 dead (including shooter), 2 wounded	Sturm, Ruger SR9 semiautomatic pistol	17- and 15-round magazines
ABB, Inc. St. Louis, Missouri January 7, 2010 Shooter: Timothy Hendron	4 dead (including shooter), 5 wounded	Romarm AK-47 assault rifle, Tristar 12 gauge shotgun, Hi-Point .40 pistol	Two “banana-style” high- capacity magazines (capacity not stated)
Fort Hood Fort Hood, Texas November 5, 2009 Shooter: Nidal Hasan	13 dead, 34 wounded	FN Five-seven 5.7mm semiautomatic pistol	30- and 20-round magazines
LA Fitness Center Collier, Pennsylvania August 4, 2009 Shooter: George Sodini	4 dead (including shooter), 9 wounded	Two 9mm semiautomatic pistols, .45 pistol, .32 pistol	30-round magazines
American Civic Association Binghamton, New York April 3, 2009 Shooter: Jiverly Wong	14 dead (including shooter), 4 wounded	9mm Beretta semiautomatic pistol, .45 handgun	30-round magazine
Oakland, California March 21, 2009 Shooter: Lovelle Mixon	4 dead	SKS assault rifle	Large capacity magazine
Alabama, multiple locations March 10, 2009 Shooter: Michael McLendon	11 dead (including shooter)	Two assault rifles	High-capacity magazines taped together
Walt Lou Trailer Park Stafford, Virginia May 5, 2008 Shooter: Aaron Poseidon Jackson	4 dead (including shooter)	WASR-10 assault rifle, Smith & Wesson .38 revolver	30-round magazines

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
Northern Illinois University DeKalb, Illinois February 14, 2008 Shooter: Steven Phillip Kazmierczak	6 dead (including shooter), 21 wounded	Glock 19 9mm pistol, Hi-Point 380, Remington 12 gauge Sportsman 48 shotgun	33- and 15-round magazines
Westroads Mall Omaha, Nebraska December 5, 2007 Shooter: Robert Hawkins	9 dead (including shooter), 5 wounded	WASR-10 assault rifle	Two 30-round magazines taped together
Virginia Tech Blacksburg, Virginia April 16, 2007 Shooter: Seung-Hui Cho	33 dead (including shooter), 17 wounded	Glock 19 semiautomatic pistol, Walther P22 pistol	15-round magazines
Mail Processing Plant Goleta, California January 30, 2006 Shooter: Jennifer San Marco	7 dead	Smith & Wesson 9mm model 915 semiautomatic pistol	15-round magazine
Living Church of God Brookfield, Wisconsin March 13, 2005 Shooter: Terry Ratzmann	8 dead (including shooter)	Beretta 9mm semiautomatic pistol	2 13-round magazines
Hunting Camp Birchwood, Wisconsin November 21, 2004 Shooter: Chai Vang	6 dead, 3 wounded	SKS assault rifle	20-round magazine
Edgewater Technology Inc. Wakefield, Massachusetts December 26, 2000 Shooter: Michael McDermott	7 dead	AK-47 assault rifle, 12 gauge pump-action shotgun	60-round, large-capacity feeding device
Xerox Honolulu, Hawaii November 2, 1999 Shooter: Byran Uyesugi	7 dead	Glock 17 9mm semiautomatic pistol	Three 15-round magazines
Wedgewood Baptist Church Fort Worth, Texas September 15, 1999 Shooter: Larry Gene Ashbrook	8 dead (including shooter), 7 wounded	Sturm, Ruger P85 9mm semiautomatic pistol, .380 pistol	Three 15-round magazines

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
Columbine High School Littleton, Colorado April 20, 1999 Shooters: Eric Harris and Dylan Klebold	15 dead (including shooters), 23 wounded	Intratec TEC-DC9 assault pistol, Hi-Point 9mm Carbine, Savage 67H pump-action shotgun, Savage 311-D 12-gauge shotgun	High-capacity magazines (capacity unstated)
Thurston High School Springfield, Oregon May 21, 1998 Shooter: Kip Kinkel	4 dead, 22 wounded	9mm Glock semiautomatic pistol, .22 Sturm Ruger rifle, .22 Sturm Ruger pistol	50-round magazine
Westside Middle School Jonesboro, Arkansas March 24, 1998 Shooters: Andrew Golden and Mitchell Johnson	5 dead, 10 wounded	M-1 rifle, Remington .30-06 rifle, various handguns	15-round magazine
Connecticut State Lottery Headquarters Newington, Connecticut March 6, 1998 Shooter: Matthew Beck	5 dead (including shooter)	Glock 9mm semiautomatic pistol	19-round magazine
Caltrans Maintenance Yard Orange, California December 18, 1997 Shooter: Arturo Reyes Torres	5 dead (including shooter), 2 wounded	AK-47 assault rifle	Five 30-round magazines
Piper Technical Center Los Angeles, California July, 19, 1995 Shooter: Willie Woods	4 dead	Glock semiautomatic pistol	19-round magazine
DC Police Headquarters Washington, DC November 22, 1994 Shooter: Bennie Lee Lawson	4 dead (including shooter), 1 wounded	Cobray —11 assault pistol	Extended magazine

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
Fairchild Air Force Base hospital Spokane, Washington June 20, 1994 Shooter: Dean Mellberg	5 dead (including shooter), 23 wounded	MAK-90 assault rifle	75-round drum magazine
Long Island Railroad Long Island, New York December 7, 1993 Shooter: Colin Ferguson	6 dead, 19 wounded	Sturm, Ruger P-89 9mm semiautomatic pistol	Four 15-round magazines
Pettit & Martin Law Offices San Francisco, California July 1, 1993 Shooter: Gian Luigi Ferri	9 dead (including shooter), 6 wounded	Two Intratec TEC-DC9 assault pistols, .45 pistol	40- to 50-round magazines
Luby's Cafeteria Killeen, Texas October 16, 1991 Shooter: George Hennard	24 dead (including shooter), 20 wounded	Sturm, Ruger P-89 9mm semiautomatic pistol, Glock 9mm semiautomatic pistol	17- and 15-round magazines
General Motors Acceptance Corp. Jacksonville, Florida June 18, 1990 Shooter: James Pough	10 dead (including shooter), 4 wounded	M-1 rifle, .38 revolver	30-round magazines
Standard Gravure Corporation Louisville, Kentucky September 14, 1989 Shooter: Joseph Wesbecker	9 dead (including shooter), 12 wounded	AK-47 assault rifle, 2 MAC-11 assault pistols, .38 revolver, Sig Sauer 9mm pistol	30-round magazines
Cleveland Elementary School Stockton, California January 17, 1989 Shooter: Patrick Purdy	6 dead (including shooter), 30 wounded	AK-47 assault rifle, Taurus 9mm pistol, unidentified pistol	75-round drum magazine
Palm Bay shopping center Palm Bay, Florida April 23, 1987 Shooter: William Cruse	6 dead (including 2 police officers)	Sturm, Ruger Mini-14 assault rifle	Five 30-round magazines
McDonald's San Ysidro, California July 18, 1984 Shooter: James Huberty	22 dead (including shooter), 19 wounded	Uzi Carbine, Browning 9mm pistol, Winchester 1200 pump-action 12-gauge shotgun	25-round magazine

Mass Shooting Incident	Casualties	Firearm(s)	High-Capacity Ammunition Magazine(s)
Ianni's Nightclub Dallas, Texas June 29, 1984 Shooter: Abdelkrim Belachheb	6 dead, 1 wounded	Smith & Wesson 9mm semiautomatic pistol	Two 14-round magazines
Pennsylvania, multiple locations September 25, 1982 Shooter: George Emil Banks	13 dead, 1 wounded	AR-15 semiautomatic assault rifle	30-round magazines
Oregon Museum Tavern Salem, Oregon May 7, 1981 Shooter: Lawrence Moore	4 dead, 19 wounded	Browning 9mm semiautomatic pistol	Two 14-round magazines

Exhibit 91

Senate Bill No. 1446

CHAPTER 58

An act to amend Sections 32310, 32400, 32405, 32410, 32425, 32430, 32435, and 32450 of, to add Section 32406 to, and to repeal Section 32420 of, the Penal Code, relating to firearms.

[Approved by Governor July 1, 2016. Filed with Secretary of State July 1, 2016.]

LEGISLATIVE COUNSEL'S DIGEST

SB 1446, Hancock. Firearms: magazine capacity.

(1) Existing law prohibits the sale, gift, and loan of a large-capacity magazine. A violation of this prohibition is punishable as a misdemeanor with specified penalties or as a felony.

This bill would, commencing July 1, 2017, make it an infraction punishable by a fine not to exceed \$100 for the first offense, by a fine not to exceed \$250 for the 2nd offense, and by a fine not to exceed \$500 for the 3rd or subsequent offense, for a person to possess any large-capacity magazine, regardless of the date the magazine was acquired. The bill would require a person in lawful possession of a large-capacity magazine prior to July 1, 2017, to dispose of the magazine, as provided.

By creating a new crime, this bill would impose a state-mandated local program.

(2) Existing law creates various exceptions to the crime described in paragraph (1) above, which include, but are not limited to, the sale of, giving of, lending of, importation into this state of, or purchase of, any large-capacity magazine to or by the holder of a special weapons permit for use as a prop for a motion picture, or any federal, state, county, city and county, or city agency that is charged with the enforcement of any law, for use by agency employees in the discharge of their official duties, whether on or off duty, and where the use is authorized by the agency and is within the course and scope of their duties.

This bill would make conforming changes to those exceptions by including possession of a large-capacity magazine in those provisions and would establish additional exceptions to the crime described in paragraph (1) above, including exceptions to allow licensed gunsmiths and honorably retired sworn peace officers to possess a large-capacity magazine.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

The people of the State of California do enact as follows:

SECTION 1. Section 32310 of the Penal Code is amended to read:

32310. (a) Except as provided in Article 2 (commencing with Section 32400) of this chapter and in Chapter 1 (commencing with Section 17700) of Division 2 of Title 2, any person in this state who manufactures or causes to be manufactured, imports into the state, keeps for sale, or offers or exposes for sale, or who gives, lends, buys, or receives any large-capacity magazine is punishable by imprisonment in a county jail not exceeding one year or imprisonment pursuant to subdivision (h) of Section 1170.

(b) Except as provided in Article 2 (commencing with Section 32400) of this chapter and in Chapter 1 (commencing with Section 17700) of Division 2 of Title 2, commencing July 1, 2017, any person in this state who possesses any large-capacity magazine, regardless of the date the magazine was acquired, is guilty of an infraction punishable by a fine not to exceed one hundred dollars (\$100) upon the first offense, by a fine not to exceed two hundred fifty dollars (\$250) upon the second offense, and by a fine not to exceed five hundred dollars (\$500) upon the third or subsequent offense.

(c) A person who, prior to July 1, 2017, legally possesses a large-capacity magazine shall dispose of that magazine by any of the following means:

(1) Remove the large-capacity magazine from the state.

(2) Prior to July 1, 2017, sell the large-capacity magazine to a licensed firearms dealer.

(3) Destroy the large-capacity magazine.

(4) Surrender the large-capacity magazine to a law enforcement agency for destruction.

(d) For purposes of this section, "manufacturing" includes both fabricating a magazine and assembling a magazine from a combination of parts, including, but not limited to, the body, spring, follower, and floor plate or end plate, to be a fully functioning large-capacity magazine.

(e) The provisions of this section are cumulative and shall not be construed as restricting the application of any other law. However, an act or omission punishable in different ways by different provisions of this code shall not be punished under more than one provision.

SEC. 2. Section 32400 of the Penal Code is amended to read:

32400. Section 32310 does not apply to the sale of, giving of, lending of, possession of, importation into this state of, or purchase of, any large-capacity magazine to or by any federal, state, county, city and county, or city agency that is charged with the enforcement of any law, for use by agency employees in the discharge of their official duties, whether on or off duty, and where the use is authorized by the agency and is within the course and scope of their duties.

SEC. 3. Section 32405 of the Penal Code is amended to read:

32405. Section 32310 does not apply to the sale to, lending to, transfer to, purchase by, receipt of, possession of, or importation into this state of, a large-capacity magazine by a sworn peace officer, as defined in Chapter

4.5 (commencing with Section 830) of Title 3 of Part 2, or a sworn federal law enforcement officer who is authorized to carry a firearm in the course and scope of that officer's duties.

SEC. 4. Section 32406 is added to the Penal Code, to read:

32406. Subdivisions (b) and (c) of Section 32310 do not apply to the following:

(a) An individual who honorably retired from being a sworn peace officer, as defined in Chapter 4.5 (commencing with Section 830) of Title 3 of Part 2, or an individual who honorably retired from being a sworn federal law enforcement officer, who was authorized to carry a firearm in the course and scope of that officer's duties. For purposes of this section, "honorably retired" has the same meaning as provided in Section 16690.

(b) A federal, state, or local historical society, museum or institutional society, or museum or institutional collection, that is open to the public, provided that the large-capacity magazine is unloaded, properly housed within secured premises, and secured from unauthorized handling.

(c) A person who finds a large-capacity magazine, if the person is not prohibited from possessing firearms or ammunition, and possessed it no longer than necessary to deliver or transport it to the nearest law enforcement agency.

(d) A forensic laboratory, or an authorized agent or employee thereof in the course and scope of his or her authorized activities.

(e) The receipt or disposition of a large-capacity magazine by a trustee of a trust, or an executor or administrator of an estate, including an estate that is subject to probate, that includes a large-capacity magazine.

(f) A person lawfully in possession of a firearm that the person obtained prior to January 1, 2000, if no magazine that holds 10 or fewer rounds of ammunition is compatible with that firearm and the person possesses the large-capacity magazine solely for use with that firearm.

SEC. 5. Section 32410 of the Penal Code is amended to read:

32410. Section 32310 does not apply to the possession, sale, or purchase of any large-capacity magazine to or by a person licensed pursuant to Sections 26700 to 26915, inclusive.

SEC. 6. Section 32420 of the Penal Code is repealed.

SEC. 7. Section 32425 of the Penal Code is amended to read:

32425. Section 32310 does not apply to either of the following:

(a) The lending or giving of any large-capacity magazine to, or possession of that magazine by, a person licensed pursuant to Sections 26700 to 26915, inclusive, or to a gunsmith, for the purposes of maintenance, repair, or modification of that large-capacity magazine.

(b) The return to its owner of any large-capacity magazine by a person specified in subdivision (a).

SEC. 8. Section 32430 of the Penal Code is amended to read:

32430. Section 32310 does not apply to the possession of, importation into this state of, or sale of, any large-capacity magazine by a person who has been issued a permit to engage in those activities pursuant to Section

32315, when those activities are in accordance with the terms and conditions of that permit.

SEC. 9. Section 32435 of the Penal Code is amended to read:

32435. Section 32310 does not apply to any of the following:

(a) The sale of, giving of, lending of, possession of, importation into this state of, or purchase of, any large-capacity magazine, to or by any entity that operates an armored vehicle business pursuant to the laws of this state.

(b) The lending of large-capacity magazines by an entity specified in subdivision (a) to its authorized employees, and the possession of those large-capacity magazines by those authorized employees, while in the course and scope of employment for purposes that pertain to the entity's armored vehicle business.

(c) The return of those large-capacity magazines to the entity specified in subdivision (a) by those employees specified in subdivision (b).

SEC. 10. Section 32450 of the Penal Code is amended to read:

32450. Section 32310 does not apply to the purchase or possession of a large-capacity magazine by the holder of a special weapons permit issued pursuant to Section 31000, 32650, or 33300, or pursuant to Article 3 (commencing with Section 18900) of Chapter 1 of Division 5 of Title 2, or pursuant to Article 4 (commencing with Section 32700) of Chapter 6 of this division, for any of the following purposes:

(a) For use solely as a prop for a motion picture, television, or video production.

(b) For export pursuant to federal regulations.

(c) For resale to law enforcement agencies, government agencies, or the military, pursuant to applicable federal regulations.

SEC. 11. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

Exhibit 92

ER2120

SENATE THIRD READING
SB 1446 (Hancock)
As Amended March 28, 2016
Majority vote

SENATE VOTE: 22-15

Committee	Votes	Ayes	Noes
Public Safety	5-2	Jones-Sawyer, Lopez, Low, Quirk, Santiago	Melendez, Lackey

SUMMARY: Prohibits the possession of large-capacity magazines, with specified exceptions. Specifically, **this bill:**

- 1) Makes it an infraction, commencing July 1, 2017, for any person who possesses a large-capacity magazine punishable as follows:
 - a) A fine not to exceed \$100 for the first offense;
 - b) A fine not to exceed \$250 for the second offense; and,
 - c) A fine not to exceed \$500 for the third or subsequent offense.
- 2) Requires a person who, prior to July 1, 2017, legally possesses a large-capacity magazine to dispose of that magazine by any of the following means:
 - a) Remove the large-capacity magazine from the state;
 - b) Prior to July 1, 2017, sell the large-capacity magazine to a licensed firearms dealer;
 - c) Destroy the large-capacity magazine; or,
 - d) Surrender the large-capacity magazine to a law enforcement agency for destruction.
- 3) Specifies the following exceptions:
 - a) An individual who honorably retired from being a sworn peace officer, or an individual who honorably retired from being a sworn federal law enforcement officer, who was authorized to carry a firearm in the course and scope of that officer's duties;
 - b) A federal, state, or local historical society, museum or institutional society, or museum or institutional collection, that is open to the public, provided that the large-capacity magazine is unloaded, properly housed within secured premises, and secured from unauthorized handling;
 - c) A person who finds a large-capacity magazine, if the person is not prohibited from possessing firearms or ammunition, and possessed it no longer than necessary to deliver or transport it to the nearest law enforcement agency;

- d) A forensic laboratory, or an authorized agent or employee thereof in the course and scope of his or her authorized activities;
- e) The receipt or disposition of a large-capacity magazine by a trustee of a trust, or an executor or administrator of an estate, including an estate that is subject to probate, that includes a large-capacity magazine; or,
- f) A person lawfully in possession of a firearm that the person obtained prior to January 1, 2000, if no magazine that holds 10 or fewer rounds of ammunition is compatible with that firearm and the person possesses the large-capacity magazine solely for use with that firearm.

EXISTING LAW:

- 1) Defines a "large-capacity magazine" as any ammunition feeding device with the capacity to accept more than 10 rounds, but shall not be construed to include any of the following:
 - a) A feeding device that has been permanently altered so that it cannot accommodate more than 10 rounds;
 - b) A .22 caliber tube ammunition feeding device; or,
 - c) A tubular magazine that is contained in a lever-action firearm.
- 2) States, except as provided, commencing January 1, 2000, any person in California who manufactures or causes to be manufactured, imports into the state, keeps for sale, or offers or exposes for sale, or who gives, or lends, any large-capacity magazine is punishable by imprisonment in the county jail for either a misdemeanor or a felony.
- 3) Provides the following exceptions to the prohibition against manufacturing or causing to be manufactured, importing into the state, keeping for sale, or offering or exposing for sale, or giving, or lending, any large-capacity magazine:
 - a) Government agency charged with law enforcement;
 - b) Sworn peace officer who is authorized to carry a firearm in the course and scope of that officer's duties ;
 - c) Sale or purchase by a licensed person;
 - d) Loan under specified circumstances;
 - e) Importation by a person in legal possession prior to January 1, 2000;
 - f) Delivery to a gun smith;
 - g) Person with permit to sell to an out-of-state client;
 - h) Entity that operates armored vehicle business;
 - i) Manufacture for government agency or military;

- j) Use as a prop; or,
 - k) Holder of a special weapons permit for specified purposes.
- 4) Declares large-capacity magazines to be a nuisance.
- 5) Provides that the Attorney General, district attorney, or city attorney may bring an action to enjoin the manufacture of, importation of, keeping for sale of, offering or exposing for sale, giving, lending, or possession of, any item that constitutes a nuisance under any of the specified code sections, including the code section relating to large-capacity magazines.
- 6) States that the weapons listed in the specified code sections constituting a nuisance shall be subject to confiscation and summary destruction whenever found within California.

FISCAL EFFECT: Unknown. This bill is keyed non-fiscal by the Legislative Counsel.

COMMENTS: According to the author, "In 1999, the Legislature passed SB 23 (Perata) [Chapter 129, Statutes of 1999] which prohibited the possession of assault weapons, such as the AK-47 and created a generic definition of an assault weapon. As part of that legislation, the importation, manufacture and sale of large capacity ammunition magazines was strictly prohibited. However, the possession of high capacity magazines was not prohibited.

"Federal law also outlawed possession of high capacity magazines as part of the 1994 federal assault weapons ban but allowed current owners to keep them under a 'grandfathering' provision. The federal assault weapons ban was allowed to expire in 2004. Research has shown that, prior to the implementation of the federal assault weapons ban, these high capacity magazines were used in between 14 and 26% of guns used in crime.

"High capacity ammunition magazines are ammunition feeding devices that hold more than ten rounds of ammunition. These mega-magazines can hold upwards of 100 rounds of ammunition and allow a shooter to rapidly fire without reloading.

"High capacity magazines are not designed for hunting or target shooting. High capacity magazines are military designed devices. They are designed for one purpose only – to allow a shooter to fire a large number of bullets in a short period of time.

"This bill will make clear that possession of these 'mega-magazines' is also prohibited. Law enforcement officers have told us that, because the Penal Code currently fails to specifically prohibit possession, the law is very difficult to enforce. This needs to be fixed and this measure addresses that by prohibiting the possession."

Analysis Prepared by: Stella Choe / PUB. S. / (916) 319-3744 FN: 0003530

Exhibit 93



California Code of Regulations

[Home](#) [Table of Contents](#)

§ 5480. Requirements for Large-Capacity Magazine Permits Pursuant to Penal Code Section 32315.

11 CA ADC § 5480

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations [Currentness](#)

Title 11. Law

Division 5. Firearms Regulations

Chapter 39. Assault Weapons and Large- Capacity Magazines

Article 4. Large-Capacity Magazine Permits

11 CCR § 5480

§ 5480. Requirements for Large-Capacity Magazine Permits Pursuant to Penal Code Section 32315.

(a) This article applies to Penal Code section 32315 permits for the out-of-state importation and exportation of large-capacity magazines as defined in Penal Code section 16740. Importation and exportation includes the transportation of magazines as necessary to complete a transfer to or from an out-of-state source.

(b) No permit shall be issued to any person who fails to establish "good cause" for issuance of the permit and that the permit would not endanger public safety. "Good cause" shall be established by the following:

(1) A statement from the applicant that a large-capacity magazine marketplace exists for their dealership; and

(2) Compliance with The Dangerous Weapons Control Law comprised of the provisions listed in Penal Code section 16580 relative to large-capacity magazines and record keeping requirements specified in section 5483 of these regulations.

(c) Large-capacity magazine permit applications shall be filed on a DOJ form, BOF 050 (Rev. 01/2012) which requires the following information: California Firearms Dealership (CFD) number; dealership name; dealership mailing address; statement of good cause; signature of dealership licensees; and date.

Note: Authority cited: Section 32315, Penal Code. Reference: Sections 16740, 32310, 32315, 32400, 32405, 32410, 32415, 32420, 32425, 32430, 32435, 32440, 32445 and 32450, Penal Code.

HISTORY

1. Change without regulatory effect renumbering section 978.40 to section 5480, including amendment of subsection (b)(2), filed 6-28-2006 pursuant to section 100, title 1, California Code of Regulations (Register 2006, No. 26).

2. Change without regulatory effect amending article heading, section heading, section and Note filed 12-27-2011 pursuant to section 100, title 1, California Code of Regulations (Register 2011, No. 52).

This database is current through 5/19/17 Register 2017, No. 20

11 CCR § 5480, 11 CA ADC § 5480

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California Code of Regulations

[Home](#) [Table of Contents](#)

§ 5482. Term Length of Large-Capacity Magazine Permits.

11 CA ADC § 5482

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Title 11. Law

Division 5. Firearms Regulations

Chapter 39. Assault Weapons and Large- Capacity Magazines

Article 4. Large-Capacity Magazine Permits

11 CCR § 5482

§ 5482. Term Length of Large-Capacity Magazine Permits.

(a) The term of a large-capacity magazine permit shall be from January 1 through December 31. It is the responsibility of the permittee to submit a completed renewal application prior to December 31 of each year in order to maintain uninterrupted status as a large-capacity magazine permittee. Renewal applications shall be submitted on the form BOF 050 (Rev. 01/2012) prescribed in section 5480, subdivision (b) of these regulations.

(b) If at any time a permittee is not among the licensed firearms dealers on the DOJ Centralized List of Firearms Dealers, the large-capacity magazine permit is no longer valid and shall be canceled.

Note: Authority cited: Section 32315, Penal Code. Reference: Sections 16740, 32310, 32315, 32400, 32405, 32410, 32415, 32420, 32425, 32430, 32435, 32440, 32445 and 32450, Penal Code.

HISTORY

1. Change without regulatory effect renumbering section 978.42 to section 5482, including amendment of subsection (a), filed 6-28-2006 pursuant to section 100, title 1, California Code of Regulations (Register 2006, No. 26).

2. Change without regulatory effect amending section heading, section and Note filed 12-27-2011 pursuant to section 100, title 1, California Code of Regulations (Register 2011, No. 52).

This database is current through 5/19/17 Register 2017, No. 20

11 CCR § 5482, 11 CA ADC § 5482

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California Code of Regulations

[Home](#) [Table of Contents](#)

§ 5483. Large-Capacity Magazine Permit Record Keeping.

11 CA ADC § 5483

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations [Currentness](#)

Title 11. Law

Division 5. Firearms Regulations

Chapter 39. Assault Weapons and Large- Capacity Magazines

Article 4. Large-Capacity Magazine Permits

11 CCR § 5483

§ 5483. Large-Capacity Magazine Permit Record Keeping.

Permittees shall maintain acquisition and disposition transaction records of the importation and exportation of large-capacity magazines. Records shall include transaction date, transaction volume; and the name, address, and Federal Firearms License number (if any) of the out of state transferee or transferor. Records must be maintained at the dealership for three years and be made available to representatives of the DOJ or any other law enforcement agency upon request.

Note: Authority cited: Section 32315, Penal Code. Reference: Sections 16740 and 32315, Penal Code.

HISTORY

1. Change without regulatory effect renumbering section 978.43 to section 5483 filed 6-28-2006 pursuant to section 100, title 1, California Code of Regulations (Register 2006, No. 26).
2. Change without regulatory effect amending section heading, section and Note filed 12-27-2011 pursuant to section 100, title 1, California Code of Regulations (Register 2011, No. 52).

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11 CCR § 5483, 11 CA ADC § 5483

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California Code of Regulations

[Home](#) [Table of Contents](#)

§ 5484. Large-Capacity Magazine Permit Revocations.

11 CA ADC § 5484

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations [Currentness](#)

Title 11. Law

Division 5. Firearms Regulations

Chapter 39. Assault Weapons and Large- Capacity Magazines

Article 4. Large-Capacity Magazine Permits

11 CCR § 5484

§ 5484. Large-Capacity Magazine Permit Revocations.

(a) Large-capacity magazine permits shall be subject to revocation for failure to comply with record keeping requirements specified in section 5483 of these regulations or for failure to comply with The Dangerous Weapons Control Law comprised of the provisions listed in Penal Code section 16580 relative to large-capacity magazines.

(b) All procedures and hearings related to the revocation of a large-capacity magazine permit shall be conducted in accordance with Government Code sections 11500 et seq.

Note: Authority cited: Section 32315, Penal Code. Reference: Sections 16740 and 32315, Penal Code.

HISTORY

1. Change without regulatory effect renumbering section 978.44 to section 5484, including amendment of subsection (a), filed 6-28-2006 pursuant to section 100, title 1, California Code of Regulations (Register 2006, No. 26).

2. Change without regulatory effect amending section heading, section and Note filed 12-27-2011 pursuant to section 100, title 1, California Code of Regulations (Register 2011, No. 52).

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11 CCR § 5484, 11 CA ADC § 5484

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Exhibit 94



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SB-1446 Firearms: magazine capacity. (2015-2016)

Date	Action
07/01/16	Chaptered by Secretary of State. Chapter 58, Statutes of 2016.
07/01/16	Approved by the Governor.
06/30/16	Enrolled and presented to the Governor at 1:30 p.m.
06/30/16	In Senate. Ordered to engrossing and enrolling.
06/30/16	Read third time. Passed. (Ayes 44. Noes 31. Page 5575.) Ordered to the Senate.
06/23/16	Ordered to third reading.
06/23/16	Withdrawn from committee.
06/23/16	Assembly Rule 96 suspended. (Ayes 50. Noes 27. Page 5473.)
06/15/16	From committee: Do pass and re-refer to Com. on APPR. (Ayes 5. Noes 2.) (June 14). Re-referred to Com. on APPR.
06/01/16	Referred to Com. on PUB. S.
05/19/16	In Assembly. Read first time. Held at Desk.
05/19/16	Read third time. Passed. (Ayes 22. Noes 15. Page 3901.) Ordered to the Assembly.
05/17/16	Read second time. Ordered to third reading.
05/16/16	From committee: Be ordered to second reading pursuant to Senate Rule 28.8.
05/11/16	Set for hearing May 16.
04/28/16	May 2 hearing postponed by committee.
04/22/16	Set for hearing May 2.
04/20/16	From committee: Do pass and re-refer to Com. on APPR. (Ayes 4. Noes 3. Page 3615.) (April 19). Re-referred to Com. on APPR.
04/01/16	Set for hearing April 19.
03/30/16	April 5 hearing postponed by committee.
03/28/16	From committee with author's amendments. Read second time and amended. Re-referred to Com. on PUB. S.
03/15/16	Set for hearing April 5.
03/10/16	Referred to Com. on PUB. S.
02/22/16	Read first time.
02/22/16	From printer. May be acted upon on or after March 23.
02/19/16	Introduced. To Com. on RLS. for assignment. To print.

CERTIFICATE OF SERVICE

Case Name: **Duncan, Virginia et al v.
Xavier Becerra**

No. **17-56081**

I hereby certify that on October 12, 2017, I electronically filed the following documents with the Clerk of the Court by using the CM/ECF system:

APPELLANT'S EXCERPTS OF RECORD, VOLUME IX, ER 1849-2130

I certify that **all** participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on October 12, 2017, at San Francisco, California.

N. Newlin
Declarant

s/ N. Newlin
Signature