

THE GEOGRAPHY OF MURDER: EXAMINING THE DEMOGRAPHICS AND
SPATIAL DISTRIBUTION OF DRUG-RELATED
KILLINGS IN MEXICO, 2009-2010
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THE GEOGRAPHY OF MURDER: EXAMINING THE DEMOGRAPHICS AND
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CHAPTER I.
INTRODUCTION

The communities along Mexico’s northern border with the United States (U.S.) have witnessed extreme violence associated with drug cartel¹ activities in the region, and in this light, have been in the news headlines for the last several years. Mexican officials claim in an Associated Press (AP) wire from early 2011 that 34,612 people have been killed in drug-related crimes in Mexico in the last four years, the time since Mexican President Felipe Calderon launched a military offensive against drug “cartels” operating in Mexico (Stephenson, 2011). It was reported that 15,273 drug-related murders occurred in Mexico in 2010, a tally 60 percent higher than the 9,616 that occurred in 2009 (Stephenson, 2011). The majority of the murders are believed to be attributable to territorial disputes between drug gangs operating in Mexico. The organizations are

¹ FOOTNOTE: Definition of Terms

In this paper, known criminal organizations, when referenced directly, will be referred to as *Cartel*, *Organization*, *Association*, or *Federation*, depending upon the names they have given to themselves. When the criminal organizations are being referred to generally, the term used will be *cartels*.

believed to be fighting for control of routes for smuggling of marijuana, cocaine, methamphetamine, and heroin into the U.S. Ciudad Juarez, Chihuahua, Mexico was the location of at least 3,000 murders in 2010, most believed to be associated with the drug trade and with cartel's influence in the area (Mexico, 2011).

The Brookings Institution reports that more than 2,000 firearms are trafficked across the Mexican border from the U.S. *every day* (Carl, 2009). These weapons are enabling violence associated with drug activities throughout Mexico. In December 2010, the Guatemalan government declared a state of emergency to provide federal troops with expanded powers, hoping to reestablish authority over communities in the northern portion of that country believed to be under the control of drug cartels (Ellingwood, 2011). Guatemala has long provided a smuggling route for U.S.-bound narcotics into Mexico.

Debate surrounds the claim that Mexico's drug violence continues to spill into the U.S., however suppressing the violence and its potential effects on businesses and communities along the U.S. border is an increasingly political issue (Carpenter, 2012; CBS 2011; Guidi and Rosenberg, 2011; Moore, 2011; Valdez, 2012). The U.S. government has worked with Mexico and has partially funded Mexico's war on the cartels. For example, the 2007 Merida Initiative provided a 1.5 billion USD package to help reduce violence related to drug cartel's activities (GAO, 2009).

The Merida Initiative seems to be a response to the violence, which in turn, is a response to a power struggle resulting from arrests and executions of cartel leaders, often resulting from territorial disputes. An understanding of key cartels, leaders, and regions under dispute is crucial for understanding the violence.

Researchers have examined several aspects of cartel violence in Mexico, such as the associated violence and corruption (Davis, 2006; Feldman and Perälä, 2004; Patenostro, 1995; Schulz, 1996), socioeconomic factors related to cartel recruitment (Feldman and Perälä, 2004), and the efficacy of efforts to control the violence and corruption associated with cartel activities (Carpenter, 2004; Davis, 2006; Feldman and Perälä, 2004; Friman, 2004; Godoy and Godoy, 2005). There are, however, no published studies that explicitly examine the spatial distribution of these violent acts in Mexico or how the patterns of violence relate to known patterns of cartel influence and territorial disputes.

In this study, a spatial assessment of the drug-related murders in Mexico in 2009 and 2010 is compared to the apparent spatial shifts of cartel power. The locations of arrests or assassinations of high-ranking cartel figures reflect the struggles for control in specific regions. Analysis of specific cartels, including which regions they primarily operate in, how long they have been operating, and who they key figures are within each organization, can help to contextualize the violence.

An analysis of violence can support or refute intelligence official's claims regarding the expected results of assassinations or arrests. Additionally, analysis of the settings of the murders could highlight the types of murders (assassination, execution, mass grave site, dumping, display, etc.) associated with specific settings (rural or urban, private or public). The products of these analyses may also provide a new perspective for scholars interested in the geographic aspects of crime scenes, organized crime, and homicide-offender psychology.

The drug trade-related murders in Mexico reported by the AP from January 1st, 2009 through December 31st, 2010 were collected and their details were assessed. A database was constructed in Microsoft Excel© to compile and evaluate the characteristics of the reported events. Furthermore, the murders were mapped. The available data were examined to answer the following questions: What is the spatial pattern of the drug-related murders from 2009 and 2010 in Mexico? Did the spatial pattern of drug-related murders change from 2009 to 2010, and if so, how? Did any spatial pattern of drug – related murders correlate with arrests and executions of high ranking cartel members during the study period? How do rural and urban settings relate to the specific details, characteristics or types of murders?

Spatial patterns can be identified if clustering or uneven (or unusual) distributions are evident. Beyond the basic descriptions of the locations (detailed with village, city, and state) of the murders, the spatial distributions of the characteristics of the crime scene are evaluated as well. These characteristics include whether murders were “execution-style,” if bystanders were also murdered, if police or military officials were murdered, if politicians were murdered, if there were victims younger than 15 years old, if the victims were of Mexican nationality or not, whether bodies were arranged in an apparently meaningful configuration or were intended to be a public display (to send messages of power), or if mass graves were dug to dispose of and/or hide bodies. The following details of the locations where victims were discovered were compiled: location type (urban, industrial, residential or rural), “public-ness” (i.e. a high- or low-traffic location), and proximity to other locations (or buildings) of significance. The spatial distributions

of these characteristics are also examined to determine whether killings are concentrated in areas possessing any of the previously listed characteristics. Also examined is whether there seems to be relationships between crime-scene characteristics and cartel power shifts. Finally, the characteristics of the murders and the sites where they were discovered are evaluated to determine the amount of change in the patterns during the study period.

CHAPTER II.

LITERATURE REVIEW

This large and complex topic has been studied from a number of perspectives. Factional conflict (Carpenter, 2010) is the primary conceptual foundation for this study. The relationships between cartel activity and patterns of corruption and police reform in Mexico (Davis, 2006), the forensics of gang violence (Bell, 1993), the social science of organized (criminal) activity (Anderson, et al., 2003; Brown and Maxwell, 1998; Erlanger, 1974; Fagan, 1998; Fishman, 1978; Menjívar, 2008; Oberschall, 1970; Papachristos, 2009; Rodgers, 2006), the changing economy of the illegal drug trade (Cata, 1996; Friman, 2004; Kerr, 2005; Richani, 1997, 2005), and cartel activity as related to U.S. and international drug policy (Feldman and Perala, 2004; Griffith, 1993; Naim, 2003; Patenostro, 1995; Peceny and Durman, 2006; Perl, 1990; Pinheiro, 2000) have established literatures. Research into the geography of genocide (O’Lear and Egbert, 2008) demonstrates the value of the geographic perspective for the study of criminal activity. While there have been numerous studies of crime scenes over many decades, scholars have more recently begun to examine the association of crime with specific landscapes using spatial analysis of landscape elements (nodes, paths, and edges, for instance) (Brantingham and Brantingham, 1993). Research has focused the connection of crime to development (Mcilwaine, 1999) or the economic landscape.

Analyses of crime scenes have yielded insights into criminal psychology (Pekka, et al. 2003). The spatial arrangement of disposal sites (Häkkinen, Hurme, and Liukkonen, 2007) and the landscapes of serial killers (Warf and Waddell, 2002) have been revealed. And gang activity, particularly the signs that mark territory, has been spatially analyzed (Ley and Cibriwsky, 1974).

This research attempts to extend aspects of the previous work in this area by applying a geographic perspective to cartel-driven violence and murders. While this research does not regard the *elements* (node, path, etc.) of the landscapes in which the murders occurred or those in which a body (or bodies) was (were) discovered, it does focus on the features that dominate the settings (i.e. the *classification* as rural or urban, public or private) of murder.

CHAPTER III.

METHODOLOGY

This is a study of the temporal and spatial distribution of drug-related murders in Mexico from 2009 to 2010 and the association of murders with the arrests or deaths of known high-ranking cartel members during that period. The LexisNexis Academic © database was searched for AP-wire reports between 1 January 2009 and 31 December 2010. The reports were compiled and characterized in a database.

The database contains the attributes that describe each murder or “murder set” reported in each article. The conditions and characteristics of the victims, the locations of the crime and other contextual factors were discerned. Victims’ attributes were recorded when available including: age(s) (under or over 15); sex(es); nationality(ies) (Mexican/foreign); cartel membership of victim (yes or no); bystander (yes/no), politician (yes/no), police officer (yes/no), or member of the military (yes/no). The characteristics of the murder act were recorded and these included whether the victim was killed “execution style” (yes/no); whether the victim was found in a “mass grave” (yes/no); and whether the body was mutilated (yes/no). The following site characteristics were compiled: location (village, city, and/or state), the characteristics of the location of discovery of the victim (urban, industrial, residential or rural), the level of automobile

traffic in the location of discovery, the vicinity of the site to other locations (or buildings) of significance, and the public or private nature (i.e. visibility) of the site. The distributions were analyzed using basic descriptive statistical methods and univariate analysis.

CHAPTER IV.

RESULTS

A search of the LexisNexis Academic© database for Associated Press© reports produced 945 articles, 587 of which contained detailed information useful to the present research. The content of these articles was analyzed to develop two databases for this study.

The first database was comprised of the reported drug-related murders in Mexico in 2009 and 2010 and contained the desired demographic characteristics for all of the victims. The second database was comprised of the arrests and detentions of high ranking cartel members during the study period, including: name, alias, whether they were arrested or executed, date and location of arrest or execution, cartel affiliation, and alleged status.

The total number of murders reported in these 587 reports was 2,427 (Table 1), far fewer than the 24,889 drug-related murders that have been reported as having occurred in 2009 and 2010 (Stephenson, 2011). Therefore, these reports apparently do not cover all of the murders or the entire death toll, indeed only approximately 1/10th of the total seems to be included in these reports. Some trends are apparent and though the data may be considered to be a representative sample of the larger murdered population.

Analysis of the percentages of each variable was employed to determine apparent changes in the patterns of violence, beyond whether the violence increased or decreased.

Table 1 shows the victims by year, and the associated percentages of each variable.

Though the majority of the victims (62.4%) were found

Table 1. Victims by Year

Variable	Tot. Victims	% Total	2009	% Total ('09)	2010	% Total ('10)
Victims	2427	100.0%	789	100.0%	1638	100.0%
Rural	668	27.5%	196	24.8%	472	28.8%
Urban	1514	62.4%	457	57.9%	1057	64.5%
Unknown (R/U)	245	10.1%	136	17.2%	109	6.7%
Residential	324	13.3%	73	9.3%	251	15.3%
Industrial	96	4.0%	9	1.1%	87	5.3%
Traffic	356	14.7%	123	15.6%	233	14.2%
Bldg. of Sig.	227	9.4%	57	7.2%	170	10.4%
Public	1647	67.9%	517	65.5%	1130	69.0%
Private	309	12.7%	95	12.0%	214	13.1%
Unknown (P/P)	471	19.4%	177	22.4%	294	17.9%
Mexican	2335	96.2%	778	98.6%	1557	95.1%
Foreign	92	3.8%	11	1.4%	81	4.9%
Police / Military	281	11.6%	123	15.6%	158	9.6%
Politician	26	1.1%	12	1.5%	14	0.9%
Teenage	22	0.9%	16	2.0%	6	0.4%
Bystander	52	2.1%	22	2.8%	30	1.8%
Body Dumped	674	27.8%	228	28.9%	446	27.2%
Body Mutilated	372	15.3%	169	21.4%	203	12.4%
Execution	367	15.1%	196	24.8%	171	10.4%
Mass Grave	415	17.1%	144	18.3%	271	16.5%

in urban places, a significant number (27.5%) were found in rural locations. The victims were most often Mexican nationals (96.2%), and were often found in public settings (67.9%). The bodies were sometimes dumped (27.8%), mutilated (15.3%), executed (15.1%) or left in mass graves (17.1%).

Rural and Urban Associations

Analysis of the rural and urban murders revealed a number of patterns. The rural murders involved a high percentage of police and military victims, more than two times the percentages of police and military victims killed in urban settings (Table 2). The

Table 2. Rural and Urban Associations

	Total	% of Total			Total	%of Total
Rural	668	100.0%		Urban	1514	100.0%
Police / Military	179	26.8%		Police / Military	201	13.3%
Body Dumped	325	48.7%		Body Dumped	280	18.5%
Body Mutilated	115	17.2%		Body Mutilated	193	12.7%
Execution	166	21.1%		Execution	167	11.0%
Mass Grave	254	38.0%		Mass Grave	126	8.3%
Public	375	54.5%		Public	1178	77.8%
Private	184	27.5%		Private	122	8.0%

rural murders were also more often associated with dumped bodies, mutilated bodies, executions, secluded locations, and the creation of mass graves. The more publicly visible murders were more likely to have occurred in urban settings.

Examination of Annual Patterns of Murders in the States of Mexico

The year 2010 was a far more violent year than 2009, as the number of victims rose from 789 to 1638, an increase of more than 113%. The percentage of victims found in residential areas and industrial areas, as well as those found near locations of significance all increased slightly in 2010. The percentage of mutilations dropped 9 %, and the percentage of victims killed “execution style” diminished 14.4%.

The proportion of the victims whose sex was reported was consistent from 2009 to 2010 in the reports: males comprised 61.6% in 2009 and 61.7% in 2010 and 6% of the victims in 2009 and 5.6% in 2010 were females. It is important to note that a significant proportion (32.3% and 32.7%) of the sexes of the victims was unknown or unreported. With victims dramatically skewed toward the male population, one might speculate that a large component of the unknown population was also likely to be male.

Examination of Patterns of Murders by Three - Month Periods

To evaluate temporal trends, the data for the study period were divided into eight equal three-month components: January 1st to March 31st, 2009; April 1st to June 30th, 2009; July 1st to September 30th, 2009; October 1st to December 31st, 2009; January 1st to March 31st, 2010; April 1st to June 30th, 2010; July 1st to September 30th, 2010; and October 1st to December 31st, 2010. The details that were reported (only a portion of the entire set of murders over the study period) were examined according to these periods.

The trends for each quarter-year period in terms of frequency of rural and urban murders are apparent: an upward trend in urban murders and a mostly steady rate of rural murders (Figure 1). The peak in reported rural victims in the seventh period is

attributable primarily to an event in August, 2010, when 72 migrants were killed, and their bodies were found in a rural location of the state of Tamaulipas (Stevenson, 2010). This incident accounts for the unusually high number of immigrants killed during the 7th period, and also comprises a large portion of the murders reported in Tamaulipas (Figure 2). The bodies of the victims were primarily found in public settings, though the spike in private settings during the 6th period coincided with a diminished percentage of victims found in public places (Figure 3).

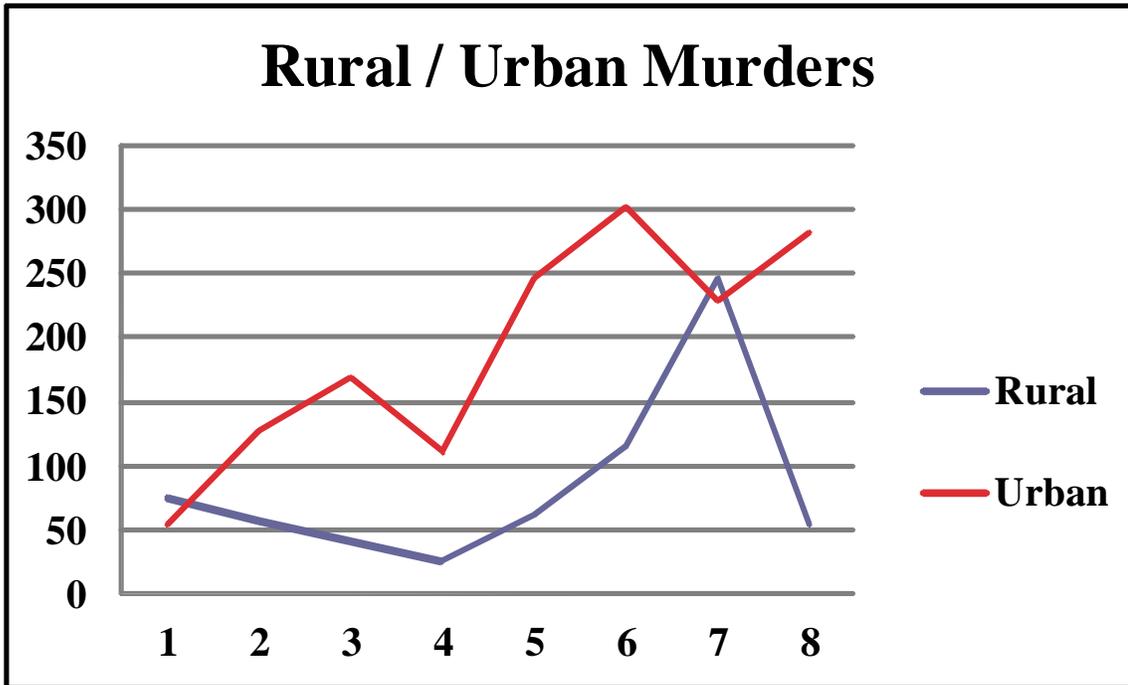


Figure 1. Rural and Urban Murder Frequencies by Period

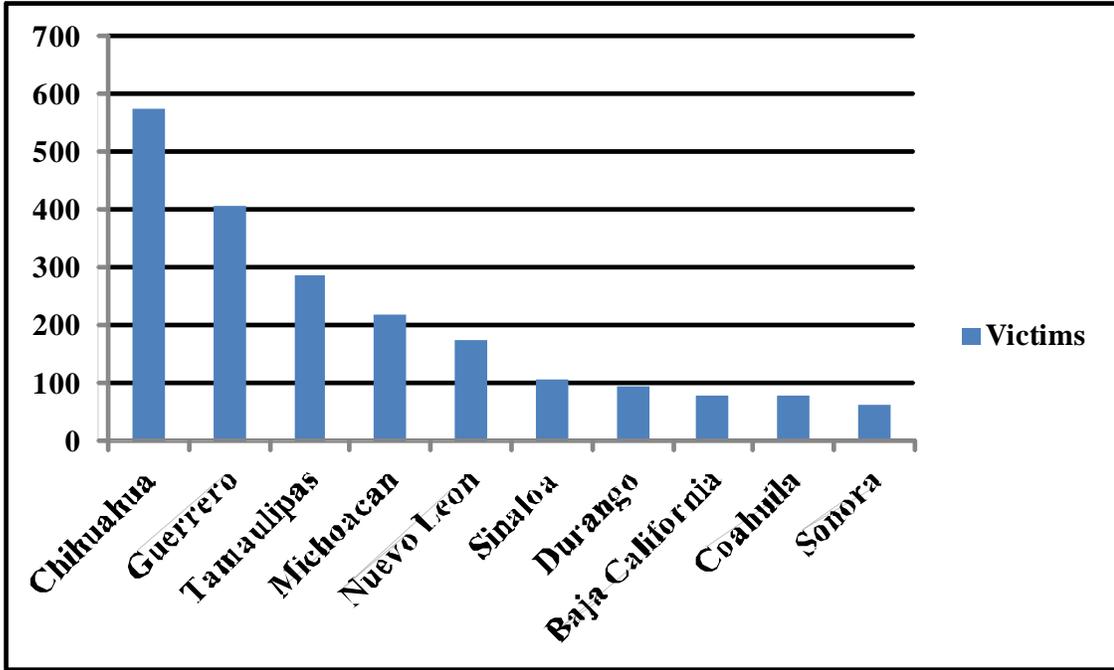


Figure 2. Murder Victims by State

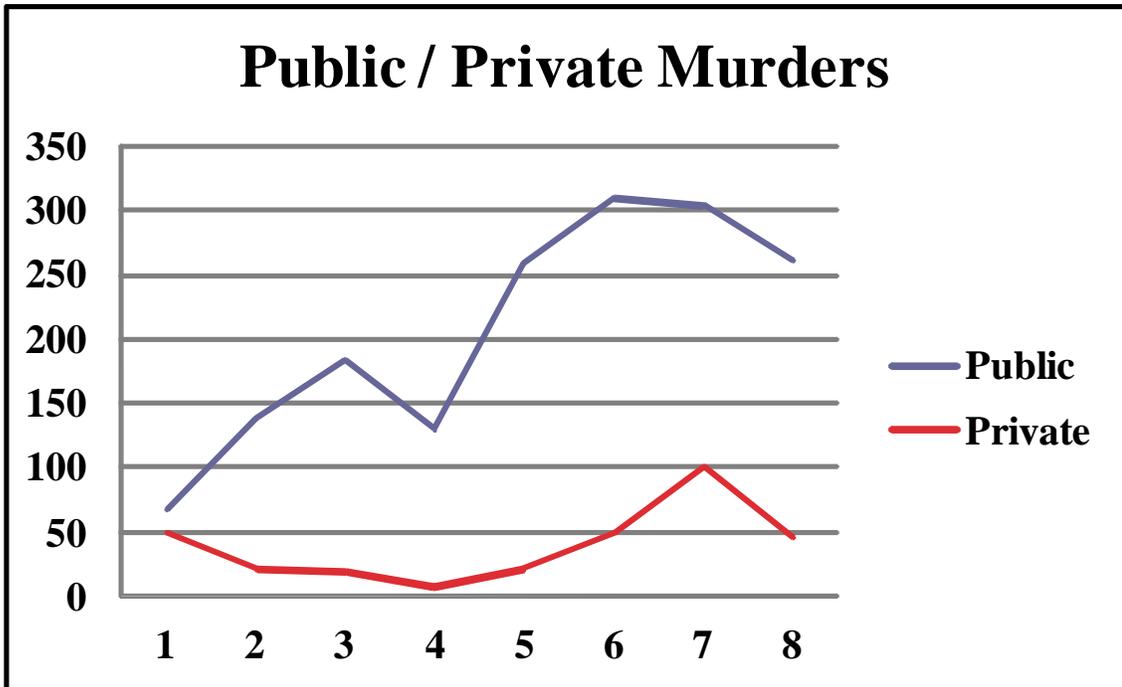


Figure 3. Public and Private Murder Frequency by Period

There was a rising percentage of residential victims, beginning during the 4th period, which coincided with a rising proportion of victims found in high-traffic locations and near buildings (or locations) of significance. During the 4th period, increasing fractions of the reported victims were police and/or members of the military coincided with increasing percentages of dumped victims and of victims found in mass graves. Small portions of the reported disposal locations included industrial locations throughout the study period, except during the 5th and 6th periods (Table 3). Small percentages of victims were teenaged or younger (3.2 % or lower) throughout the study period; six of the eight periods included less than 1.3% of the reports. The murder of police and/or soldiers decreased in the 7th period, as did the percentage of reported victims discovered in public places (conversely, at the same time the percentage of victims found in private places increased: the 72 migrants killed in Tamaulipas during this period were murdered at a private ranch). Victims found in residential areas, the number of victims who were executed, the reported dumping of bodies, and the number of victims found in mass graves also increased during this period. Period 7 had the highest number of victims (516) of any period of the study frame. This might reflect a period of significant warring between cartels, but the battles were being conducted clandestinely.

Table 3. Victims by Period

Variable	Vict. '09	Vict. '10	Vict. 1	Vict. 2	Vict. 3	Vict. 4	Vict. 5	Vict. 6	Vict. 7	Vict. 8
#Victims	789	1638	155	235	230	169	329	453	516	340
Rural	196	472	74	56	41	25	61	114	245	52
Urban	457	1057	52	127	168	110	246	302	227	282
Unknown (R/U)	136	109	29	52	21	34	22	37	44	6
Residential	73	251	11	21	15	26	43	51	93	64
Industrial	9	87	0	8	0	1	28	42	16	1
Traffic	123	233	21	29	28	45	61	48	48	76
Loc. of sig	57	170	11	15	12	19	68	65	18	19
Teenage	16	6	5	2	7	2	0	3	0	3
Mexican	778	1557	155	229	226	168	327	452	443	335
Foreign	11	81	0	6	4	1	2	1	73	5
Police / Military	123	158	27	32	36	28	33	50	31	44
Politician	12	14	1	3	6	2	2	4	6	2
Bystander	22	30	6	4	7	5	6	10	2	12
Body Dumped	228	446	40	67	62	59	79	71	210	86
Body Mutilated	169	203	39	53	46	31	63	53	58	29
Execution	196	171	83	44	49	20	22	20	89	40
Mass Grave	144	271	34	17	46	47	22	34	164	51
Public	517	1130	67	138	183	129	258	309	303	260
Private	95	214	49	21	18	7	21	49	100	44
Unknown (P/P)	177	294	39	76	29	33	50	95	113	36

Examination of the Annual and Quarterly Patterns of Murders by State

Examination of the totals by state for the entire study period revealed that the violence was concentrated in only a few states (Table 4). Of the 31 states in Mexico and the Federal District of Mexico City (Mexico D.F. was treated as if it were a “state”) the fifteen states with the highest numbers of murders accounted for 94.1% of all murders in the two years. The ten states with the most murders accounted for 86%. The five states with the most homicides accounted for 68.6%. The three top states had 52.3% of all murders. Chihuahua experienced the most homicides by a significant margin, accounting for 23.7% of the reported homicides. Contributing greatly to Chihuahua’s total was Ciudad Juarez where 414 murders, comprising 17.1% of all murders, occurred.

During 2009, the three states with the highest number of victims for 2009 accounted for 62.6% of murders. The five states with the most during the year accounted for 72.8%, the top ten accounted for 86.4%, and the top fifteen accounted for 96.8% of victims for that year. During 2010, the top three states with the most murders accounted for 55% of victims, the top five accounted for 69.4% of victims, the top ten for 88.4%, and the top fifteen for 96.7%. In both 2009 and 2010, the murders occurred almost entirely within fewer than half of Mexico’s states, and the majority in less than one third of the states. Only a slight expansion of territory involved in these crimes occurred from 2009 to 2010, despite a large increase in the total number of murders. The north-central Mexican states of Aguascalientes, Baja California Sur, Campeche, Queretaro, Tlaxcala, Yucatan, San Luis Potosi, and Zacatecas together accounted for only 4 percent of all murders during the study period. This is consistent with a pattern in which the central interior Mexican states accounted for less than 10% of all murders.

Table 4. States by Year and Period

State	Total	2009	2010		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8
Agascalientes	0	0	0		0	0	0	0	0	0	0	0
Baja California	79	46	33		9	24	7	6	3	6	3	21
Baja California Sur	0	0	0		0	0	0	0	0	0	0	0
Campeche	0	0	0		0	0	0	0	0	0	0	0
Chiapas	5	3	2		3	0	0	0	1	1	0	0
Chihuahua	575	213	362		44	26	96	47	77	88	91	106
Coahuila	78	20	58		14	2	3	1	20	14	18	6
Colima	8	0	8		0	0	0	0	0	8	0	0
Durango	96	18	78		0	18	0	0	24	15	20	19
Guanajuato	14	14	0		2	12	0	0	0	0	0	0
Guerrero	408	157	251		26	47	34	50	46	76	57	72
Hidalgo	21	12	9		0	0	12	0	0	2	7	0
Jalisco	38	27	11		16	1	6	4	0	0	0	11
Mexico	13	11	2		4	3	1	3	0	2	0	0
Mexico D.F.	16	8	8		2	1	0	5	0	2	0	6
Michoacan	219	124	95		16	65	33	10	36	27	17	15
Morelos	57	10	47		0	3	0	7	6	13	24	4
Nayarit	37	8	29		0	8	0	0	0	12	1	16
Nuevo Leon	175	34	141		0	0	13	21	28	21	80	12
Oaxaca	30	0	30		0	0	0	0	14	0	8	8
Puebla	13	0	13		0	0	0	0	10	0	3	0
Queretaro	0	0	0		0	0	0	0	0	0	0	0
Quintana Roo	33	3	30		3	0	0	0	0	18	8	4
San Luis Potosi	1	0	1		0	0	0	0	0	0	1	0
Sinaloa	107	20	87		3	2	12	3	29	33	9	16
Sonora	64	22	42		2	13	0	7	5	30	0	7
Tabasco	19	19	0		11	0	4	4	0	0	0	0
Tamaulipas	288	0	288		0	0	0	0	26	84	161	17
Tlaxcala	0	0	0		0	0	0	0	0	0	0	0
Veracruz	30	19	11		0	9	9	1	3	0	8	0
Yucatan	0	0	0		0	0	0	0	0	0	0	0
Zacatecas	3	1	2		0	1	0	0	1	1	0	0
Totals	2427	789	1638		155	235	230	169	329	453	516	340



Figure 4. Drug - Related Murders in Mexico, 2009

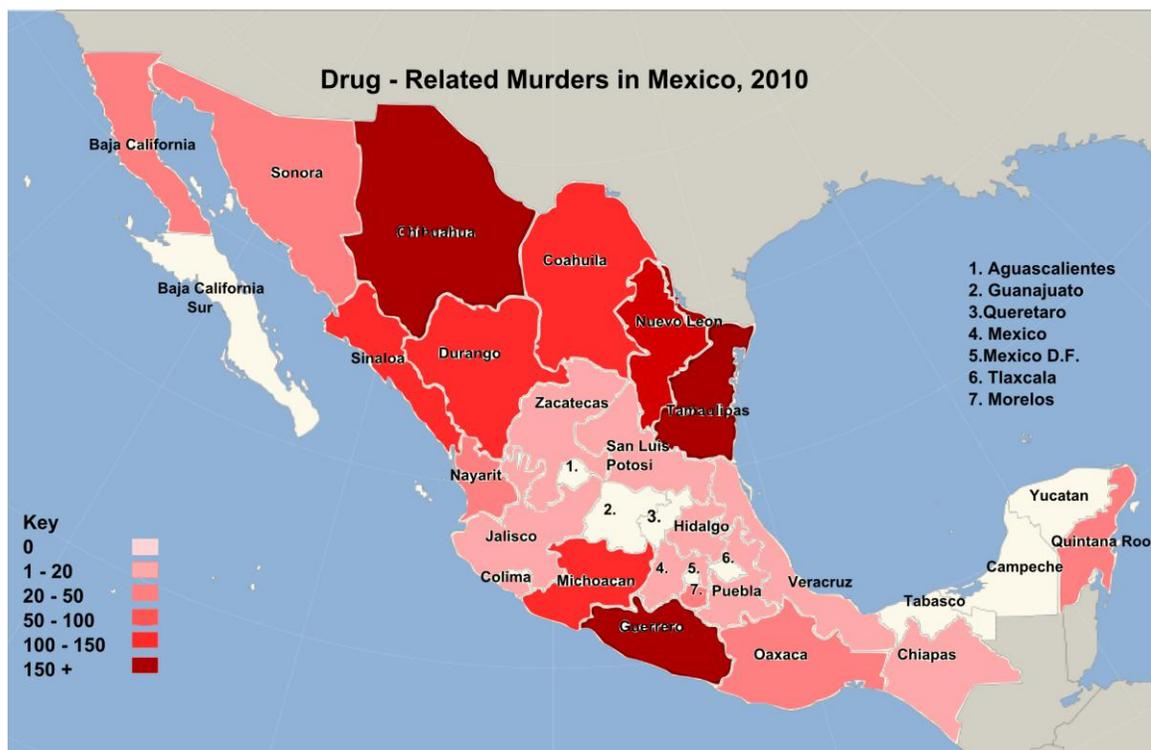


Figure 5. Drug - Related Murders in Mexico, 2010

When examining the states by section, a few trends reveal themselves. Chihuahua saw the highest number of murders during all of the 3-month segments, except for the 2nd period when Baja California, Durango, Guerrero, and Michoacan, all experienced spikes in violence.

In period 3, murders in all of those states reverted to near the numbers that had occurred during the first period in 2009, while Chihuahua saw 96 reported murders, the third highest number of any period in any state. During this same period, Nuevo Leon, Hidalgo, and Sinaloa all witnessed rising murder rates. At the end of 2009 (period 4), murders in Chihuahua decreased but rose in Guerrero and Nuevo Leon.

At the start of 2010, during the 5th period, reports from Chihuahua, Tamaulipas, Sinaloa, Oaxaca, Michoacan, Durango, and Coahuila reflected rising murder rates and no states reflected significant decreases. During the 6th period, Guerrero, Quintana Roo, Sonora, and Tamaulipas saw murder rates rising. Only Oaxaca decreased significantly. During the 7th period (the 3 months with the highest number of reported murders), Tamaulipas had the greatest number of killings, 161, which was the highest total of any state during any 3-month period. At this time, Nuevo Leon's murders also increased from the previous period, and Sonora, Sinaloa, and Guerrero saw death tolls diminish. During the final period, Baja California, Chihuahua, Guerrero, and Nayarit all saw increases in murder rates. Murder rates in Morelos, Nuevo Leon, and Tamaulipas all decreased significantly.

Examination of Murders by Region

An additional approach was taken in which groups of states comprising regions were examined. The Gulf of Mexico group was comprised of the states of Campeche, Quintana Roo, Tabasco, Tamaulipas, and Yucatan. The Pacific Ocean group included those states with either a Pacific Ocean or a Gulf of California coast (Baja California, Baja California Sur, Chiapas, Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca, Sinaloa, and Sonora). The third group was comprised of the states that border the United States (Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora, and Tamaulipas). The fourth group consisted of ‘interior’ states: those states that had neither coast nor border with the United States (Aguascalientes, Durango, Guanajuato, Hidalgo, Mexico, Mexico D.F., Morelos, Puebla, Queretaro, San Luis Potosi, Tlaxcala, and Zacatecas).

The examinations of regional patterns revealed that the states that border the United States were the most violent with 51.9 % of the murders. The states with a Pacific Ocean border contained 41 % of the murders, states on the gulf comprised 15.2 % and the ‘interior’ states comprised 9.6 % (Table 5). From 2009 to 2010, the percentages of murders increased 14.9 % in the Gulf of Mexico region, increased 13.9 % in the border region, and decreased 15.7 % in the Pacific region. The ‘interior’ states experienced a 0.4 % increase.

Table 5. Regions by Year

Group	Total	% of Total	Total	% of Total 2009	Total	% of Total 2010
Gulf	370	15.2%	41	5.2%	329	20.1%
Pacific	995	41.0%	407	51.6%	588	35.9%
Border	1259	51.9%	335	42.5%	924	56.4%
Interior	234	9.6%	74	9.4%	160	9.8%

Temporal Connections between Murders and Cartel Leader Detentions and Executions

The second database was concerned with arrests and detentions of known cartel members from January 1st, 2009 to December 31st, 2010. During this study period, the major cartels operating in Mexico were (in no certain order) ; the Beltran Leyva Cartel, operating primarily out of eastern Mexico, the Sinaloa Cartel (central and eastern Mexico), La Familia Michoacana (Michoacan), the Gulf Cartel (Tamaulipas, western Mexico), Juarez Cartel (Chihuahua), Tijuana Cartel (Baja California), Los Zetas (Eastern Mexico) (Figure 6) (Mcgirk, 2010; Stratfor, 2012; Tuckman, 2012; Radden Keefe, 2012).

The history of the cartels in Mexico begins in the mid-1930s, with the end of the prohibition of alcohol. Toward the end of the 1960s, as the appetite for drugs in the United States grew rapidly, so did the amount of drugs being smuggled and smugglers began to import drugs on a major scale. The trend intensified into the late 1980s, until the Mexican organizations that transported the drugs began to receive payment in product. As the infrastructure was already in place and the transporters had established ties to consumers, they soon became powerful distributors as well. The once powerful Florida and Caribbean routes long used by the Columbian cartels diminished in strength

in the 1990s (due to the focused efforts of the authorities) and this promoted the expansion of the Mexican routes, which in turn led to increased power and growth of the Mexican cartels, and soon a number of Mexican organizations emerged to share in the windfall of profits (Mcgirk 2010, Stratfor 2012).



Figure 6. Cartel Territory, 2010 (Source: Stratfor)

Cocaine is still *produced* exclusively in South America though, and this means that the Mexican organizations still only transport and distribute that product. This is significant in that, the Mexican organizations with the strongest connections to the Columbian networks will still control the largest portion of the trade. The Sinaloa and Gulf cartels have historically dominated the global cocaine trade.

The Gulf Cartel, based out of Matamoros, Tamaulipas, had long been thought to be the most powerful criminal organization in Mexico (Richardson). The Gulf Cartel weakened following a 2010 dispute with the enforcement arm of the cartel: a group of deserters from the Airmobile Special Forces Group ([GAFE](#)) and the Amphibian Group of Special Forces (GANFE) of the Mexican Army who call themselves Los Zetas. Los Zetas, lacking the political connections long held by the Gulf Cartel, still proved to be a formidable adversary, and they managed to gain much of the territory previously held by the Gulf Cartel. Los Zetas established themselves as one of the two most powerful cartels operating in Mexico today.

A popular phrase used by journalists, “plata o plomo” (“silver or lead”), refers to the two means used by the cartels to recruit allies: either accept a bribe from the cartels or risk assassination. Of these two, Los Zetas rose to power very rapidly through their preference for violence and intimidation.

The only cartel rivaling Los Zetas in power and influence is the Sinaloa Cartel. The Sinaloa Cartel is called by the United States intelligence community “the most powerful drug trafficking organization in the world” (Stratfor, 2012). From the state of Sinaloa, the cartel operates primarily in western and central Mexico. Following the death

of Ignacio “Nacho” Coronel, the cartel has been led by Juaquin “Chapo” Guzman Loera. Also known as “El Chapo,” Guzman is often cited as Mexico’s most wanted man (McGirk, 2010). With an estimated net worth of over US\$1 billion, a profile in *Forbes* magazine listed Guzman as the 55th most powerful man in the world (Radden Keefe, 2012). The Sinaloa Cartel had long been in conflict with Juarez Cartel, also known as the Vicente Carrillo Fuentes organization, over the lucrative and powerful Juarez corridor. Already powerful and extensive, the Sinaloa Cartel expanded their area of influence in 2009 and 2010 by exploiting the weakening of the former ally Beltran Leyva Cartel, the Tijuana Cartel (also known as the Arellano Felix Organization), and La Familia Michoacana.

Cartel members, when captured, have often provided valuable intelligence to law enforcement. Cartel members who seek to strike deals with law enforcement will often inform about rival cartels. It is speculated that the Sinaloa Cartel strategically employed this technique to exploit law enforcement resources to weaken rival cartels.

The territories undergoing the greatest struggle for control during the period of study were the Juarez corridor and the Gulf Coast which had been held by the Gulf Cartel. The dispute over the eastern coastal territory reflects the territorial struggle between the Gulf Cartel and Los Zetas; Los Zetas attempted to take over control of the entire territory of the Gulf Cartel.

The aggression between the Sinaloa Cartel and the Juarez Cartel over the Juarez corridor led the Juarez Cartel to enlist the allegiance of the Beltran Leyva Cartel, former Sinaloa Cartel allies. At the same time, the Sinaloa Cartel tried to gain control of the Tijuana corridor, and thus engaged in struggle against the Tijuana Cartel. The arrests and

executions of key members of the Beltran Leyva Cartel, the Tijuana Cartel, Gulf Cartel, and La Familia Michoacana led to the vast expansion of territory held by the Sinaloa Cartel. The cartel leaders that were arrested or executed during this period were from each of the major cartels operating in Mexico at the time. The reports listed arrested persons' accused status in a number of ways ("chief", "operative", "top lieutenant", "leader", etc.), thus, an analysis of their significance based on their titles is difficult. The titles analyzed here study were limited to "leader" and "chief."

The execution of Arturo Beltran Leyva, and the arrests of Carlos Beltran Leyva and Teodoro Garcia Simental coincided with the 48.7% increase in violence that occurred from period 4 to period 5 (Table 6). Additionally, the spike in overall violence during periods 6 and 7 followed the death of Ignacio "Nacho" Coronel, one of the three alleged leaders of the Sinaloa Cartel and allegedly one of the top cartel members in the country at the time, and the detentions of Edgar Valdez Villareal of the Sinaloa Cartel and Edgar Villareal Barragan of the Beltran Leyva and Sinaloa cartels who was another of the alleged top cartel members in the country at the time (Rodriguez, 2010; Stevenson, 2010; Weber, 2010). The arrest of Gregorio Saucedo Gamboa, leader of Los Zetas coincided with the spike in violence in Michoacan during the second period. Los Zetas had been engaged in a turf war with the La Familia Michoacana cartel based in Michoacan and with the Gulf Cartel (Castillo, 2010). The death of Gulf Cartel leader Antonio Ezequiel Cardenas Guillen during the 8th period corresponded with a rise in violence in Chihuahua. Furthermore, the death of La Familia Michoacana leader Nazario Moreno Gonzales during the last period coincided with increased violence in Jalisco, Mexico D.F., and Guerrero, neighbors of Michoacan.

Table 6. Detentions and Executions of High - Ranking Cartel Members

Date	Name	Affiliation	Status	Detained / Executed (D/E)
3/18/09	Vicente Zambada	Sinaloa	Leader	D
4/29/09	Gregorio Saucedo Gamboa	Zetas	Leader	D
8/10/09	Juan Daniel Carranco Salazar	Gulf	Leader	D
8/25/09	Luis Ricardo Magana	La Familia	Leader	D
10/27/09	Abel Valadez Oribe	La Familia	Leader	D
10/31/09	Oscar Orlando Nava Valencia	Valencia	Leader	D
12/17/09	Arturo Beltran Leyva	Beltran Leyva	Chief	E
1/3/10	Carlos Beltran Leyva	Beltran Leyva	Leader	D
1/12/10	Teodoro Garcia Simental	Tijuana	Leader	D
2/8/10	Manuel Garcia Simental	Tijuana	Leader	D
3/20/10	Alberto Mendoza	Beltran Leyva	Chief	D
7/29/10	Ignacio Coronel	Sinaloa	Leader	E
8/30/10	Edgar Valdez Villareal	Sinaloa / Beltran Leyva	Leader	D
9/12/10	Sergio Villareal Barragan	Beltran Leyva	Leader	D
11/4/10	Antonio Ezequiel Cardenas Guillen	Gulf	Leader	E
11/24/10	Carlos Montemayor	Beltran Leyva	Leader	D
11/27/10	Arturo Gallegos Castellon	Aztecas (Juarez hit men)	Chief	D
12/9/10	Nazario Moreno Gonzalez	La Familia	Leader	E

CHAPTER V.

DISCUSSION

The drug cartels and the Mexican government are engaged in an extremely violent, high-stakes conflict and in some ways the “game” seems to be changing. Successes achieved by law enforcement, like the detentions of key operatives discussed above, provoke violent responses, as cartels innovate to stay a step ahead of law enforcement. From innovations in armored car technology to innovations in smuggling techniques (e.g. smuggling drugs in the cavities of shipments of fish – which authorities wouldn’t want to inspect too thoroughly in the northern Mexico or south Texas heat), the cartels and authorities both are attempting to be one step ahead of each other.

This conflict is also a battle of public perception, as both sides engage in propaganda campaigns to smear the other’s reputation. As law enforcement attempts to convince the public that the cartels are preying upon them to achieve their fortunes, high-ranking cartel members often make charitable donations to local communities where they operate, to keep the public on their side. The cartels often hang banners (*narcomantas*) from highway overpasses to smear rival cartels or law enforcement. These are often in response to previously displayed banners.

Another dynamic in the propaganda war is the adoption of darker, more grisly aliases, or “nicknames”. Nicknames like “Lord of the Skies” (Armado Carrillo Fuentes), “The King” (Jesus Zambada Garcia), and “The Boss of Bosses” (Arturo Beltran Leyva) have been replaced by “The Rat,” “Worm Eater,” “The Pig,” “Garbage” and “The Bum.” These names may represent a deteriorating relationship with the public, a need to display a willingness to engage in whatever “dirty work” needs done, or perhaps they represent a response to escalating conflicts with other cartels. Experts claim that nickname changes are the result of arrests of higher ranking cartel leaders. The vacuums are filled by “lesser spawn” that are more apt to engage in “psychopathic, mass dismemberment-style killing” (AP, 2012). Broadcast media are also employed to send messages. Musicians have gotten involved, writing and recording *narcocorridos*, folk songs that often celebrate cartel culture, specific cartels or even specific members. Cartels often commission musicians or groups to write a *narcocorrido* for them (McGirk, 2010). In addition to *narcocorridos*, cartel members or those who might claim to be members, call radio stations to issue proclamations, and thus reach either the public or rival factions.

Another powerful innovation employed by cartels is to control the information written by journalists and by pronouncements by the public at-large. Attempts to control the “blogosphere” have resulted in murders, abductions and intimidation of journalists, radio personalities, and even musicians by cartels. Cartels also are employing the internet to get their messages out. The cartels, primarily Los Zetas, have used video-sharing websites (such as YouTube) to broadcast the killing and dismemberment of rivals, law enforcement officials, politicians, and informants. These campaigns reveal the intense desire among cartel leadership to make statements and to cultivate their images.

Limitations

This study was limited by a number of factors. The primary limitation was the number of reports, as well as the availability of details sought in the reports. As evidenced by the larger homicide figures reported to have occurred during this study period by Mexican officials, the AP reports did not represent every case, indeed, as stated previously, the AP reports represented only 1/10th of the homicides reported by Mexican officials. The AP reports also did not contain the level of detail sought, as most locations were reported at the city, or even state, level. Additionally, the designations of homicides occurring near a “location of significance”, “high traffic location”, or “industrial location” were likely underreported. The sources, were only English-language sources, in this case, Spanish-language sources might have provided valuable insight, perhaps providing greater contextualization of the violence.

Future Research

This methodology can be extended to longer time periods to evaluate longer-term trends. This could provide greater contextualization, and potentially reveal connections (causes and effects) not previously considered. This could provide law enforcement with greater understanding of, and thus greater tools for combating violence associated with these cartels. Furthermore, the study could include a greater number of sources. In particular, this study would have benefitted from Spanish-language sources in creating a more complete understanding of the context of this violence, and the culture surrounding it. A greater number of sources could provide a hybrid of perspectives, and analysis,

potentially revealing trends and connections not previously considered, or confirming present understanding of the violence.

While this research did not examine the coincidence of arrests of police or military members alleged to have been cooperating with cartels and syndicates and it did not evaluate the implications of the capture or elimination of cartel members of lower ranks, studies of these events might help to explain the timing of upwelling in murder rates around the country. Examination of middle-tier members rather than the top leaders might explain the occurrence of the patterns better in that murders of less-obvious cartel “captains” and street-level members might occur in very public violence, whereas the top leaders may stay out of the public eye and result in murders that take place in isolation but yield more public displays of victims’ remains. Future research could replicate this research with an examination of arrest and deaths of both middle – tier cartel members, and police and/or military members alleged to have been cooperating with cartels, and compare those figures with associated dynamic shifts in cartel activities.

An analysis of the temporal and spatial occurrence or appearance of *narcomantas*, *narcocorridos*, web videos and nicknames cross-referenced with homicide and arrest data of known cartel members or associates could also reveal the connections between cartel messages, culture, agendas and murders.

CHAPTER VI.

CONCLUSIONS

This study used a single, prominent news source to evaluate and explain the geography (spatial patterns) of violence in Mexico related to the country's drug wars during the period from 2009 to 2010. Though the sample size was 1/10th of the total number of murders that occurred during this period, the sample might adequately represent the entire catalog of events during the period. Two databases were generated and analyzed.

The first database was comprised of drug-related murders in Mexico in 2009 and 2010 and contained locational details, as well as the demographic characteristics for all of the victims that could be discerned. The second database was comprised of the arrests and detentions of high ranking cartel members during the study period, including: name, alias, whether they were arrested or executed, date and location of arrest or execution, cartel affiliation, and alleged status.

This research sought to answer the following questions: Did the spatial pattern of drug-related murders change from 2009 to 2010, and if so, how? Did any spatial pattern of drug-related murders correlate with arrests and executions of high ranking cartel members during the study period? How do rural and urban settings relate to the specific details, characteristics or types of murders?

Did the spatial pattern of drug-related murders change from 2009 to 2010, and if so, how? While 2010 was more violent than 2009, with a higher number of murder

victims, there were some interesting differences. There were, for instance, no victims reported in Tamaulipas during 2009; this is striking, as it is the state with the third highest number of victims over the study period. The very high murder rate in 2010 made up for the quietude of 2009 as it included a major spike in murders during the 7th period (the highest three-month count for any state throughout the study period). The percentages of victims found in residential areas, industrial areas and near locations of significance, all increased slightly in 2010. The percentages of mutilations of murder victims and of “execution style” murders decreased in that time.

The “interior” states accounted for less than 10% of all victims during the study period, and proved to be the least violent overall. The states bordering the United States, with 51.9 % of the murders, were the most violent overall. The violence seemed to shift from the Pacific region to the Gulf of Mexico and United States Border region.

Chihuahua had the most consistently high murder rates, and it exceeded all other states throughout the study period, with two exceptions: the 6th period when Guerrero and Michoacan murders surpassed it, and the 7th period when only Tamaulipas had greater reported carnage.

During 2009, the three states with the highest number of murders accounted for 62.6% of the total number of murders in that year. The five states with the highest number of murders in 2009 accounted for 72.8% of all murders in that year. In 2010, the three states with the highest murder rates accounted for 55% of all murders in that year. The five states with the most murders in 2010 accounted for 69.4% of all murders in that year. This research revealed that the spatial pattern of murders changed during the study period. The violence increased in the borderlands and Gulf of Mexico regions, while

violence decreased in the Pacific region. Murder rates in the interior remained rather stable, with a very small percentage of all murders. From 2009 to 2010, the percentages of murders increased 14.9 % in the Gulf of Mexico region, increased 13.9 % in the border region, and decreased 15.7 % in the Pacific region. The “interior” states (accounting for only 9.6% of the murders during the study period) experienced a 0.4 % increase. In terms of the concentration of murders, they seem to have become more dispersed during the second year. There was a slight expansion of the territory within which murders occurred between 2009 and 2010, despite the fact that there was a large increase in the total number of murders.

Did any spatial pattern of drug-related murders correlate with arrests and executions of high ranking cartel members during the study period? The deaths and detentions of then-Beltran Leyva Cartel leader Arturo Beltran Leyva in December of 2009, and a number of other cartel leaders including Teodoro Garcia Simental of the Tijuana Cartel, Ignacio Coronel of the Sinaloa Cartel, Edgar Valdez Villareal of the Beltran Leyva and Sinaloa cartels, and Antonio Ezequiel Cardenas Guillen of the Gulf Cartel in 2010, all corresponded with increases in violence. These temporal relationships represented the struggles for power that occur after “decapitations” of organized crime families.

How do rural and urban settings relate to the specific details, characteristics or types of murders? The majority of the murder victims were Mexican nationals who were found in urban areas. They were most often police or members of a military force and their bodies were often left in public. They were frequently executed, mutilated, and either dumped on a street or left in a mass grave.

This research examined a two-year period that witnessed a dramatic rise in the amount of drug-related violence and revealed that the Mexican states bordering the United States were the most violent overall. Additionally, from 2009 to 2010, the violence shifted from the western states with Pacific or Gulf of California coasts to those states with Gulf of Mexico coasts and those states bordering the United States. Analysis of rural and urban crimes revealed that rural victims were more likely to be police officers or military members, more likely to be dumped, killed execution-style, mutilated, found in a mass grave, or at a private location. Victims found in urban settings were more likely to be found in public locations.

Overall, the violence in Mexico at the time of this study was heavily concentrated, with over 96% of the murders happening in less than half of the states, and at least 55% of the murders concentrated in the three most violent states each year. Chihuahua was the most violent; Ciudad Juarez accounted for 17.1% of all murders occurring in the study period. Tamaulipas produced the sharpest rise in violence of any state, with no murders reported in 2009, and 288 reported in 2010. The violence was seen to parallel the detention and executions of a number of cartel leaders, most notably the sharp rise in violence from December 2009 to April 1st, 2010, the period following the death of Beltran Leyva Cartel leader Arturo Beltran Leyva, the period of the arrest of Tijuana Cartel leader Teodoro Garcia Simental, as well as the period that witnessed a split between the Gulf Cartel and Los Zetas.

This study revealed a strong concentration of the violence associated with drug cartels operating in Mexico. The states bordering the U.S. proved to be the most violent,

with the “interior” states, as well as the states of the Yucatan Peninsula remaining largely free from the violence. The violence in this study period was seen to parallel the detention or execution of a number of high ranking cartel members, potentially resulting from territorial disputes spawned by the “decapitations” of the organizations.

APPENDIX: LIST OF ASSOCIATED REPORTS OF MURDERS IN MEXICO, 2009-2010

Mexico border city has record drug killings in '10. 2011. *The Associated Press*, January 2.

2 men decapitated, 2 women killed on Mexico border. 2010. *The Associated Press*, January 9.

3 bodies found hanging from bridges in Mexico. 2010. *The Associated Press*, July 13.

3 bodies found hanging from bridges in Mexico. 2010. *The Associated Press*, July 14.

3 bodies found headless near Acapulco; 5 more shot. 2010. *The Associated Press*, May 8.

5 gunmen killed in shootout with Mexican soldiers. 2010. *The Associated Press*, April 2.

55 bodies recovered from old silver mine in Mexico. 2010. *The Associated Press*, June 7.

6 abducted police found slain in Mexican state. 2010. *The Associated Press*, September 19.

6 killed at bar in cartel -plagued Mexican state. 2010. *The Associated Press*, February 6.

6 killed in shootout on Acapulco's main shore road. 2010. *The Associated Press*, April 15.

6 men found decapitated in western Mexico state. 2010. *The Associated Press*, February 5.

7 bodies found in abandoned cars in south Mexico. 2010. *The Associated Press*, January 21.

7 killed in shootout in Mexican resort city. 2010. *The Associated Press*, September 24.

8 dead in fire at bar in Mexican resort of Cancun. 2010. *The Associated Press*, August 31.

Ambush kills 2 Mexican federal police, wounds 3. 2010. *The Associated Press*, March 6.

- Bodies dumped with vigilante warnings in Mexico. 2010. *The Associated Press*, January 17.
- Grisly find in Mexico: Dismembered police officers. 2010. *The Associated Press*, March 23.
- Gunbattle in northern Mexico kills 3 bystanders. 2010. *The Associated Press*, October 24.
- Gunmen fire on Mexican town hall; kill 3 police. 2010. *The Associated Press*, June 23.
- Gunmen kidnap 9 Mexican state lawmen, 2 found dead. 2010. *The Associated Press*, September 19.
- Gunmen kill 4 in attack on 2 Mexican rehab centers. 2010. *The Associated Press*, December 6.
- Gunmen kill 5, wound 9 in Ciudad Juarez bar. 2010. *The Associated Press*, November 15.
- Gunmen kill 8 at bar in northern Mexico. 2010. *The Associated Press*, May 15.
- Gunmen kill nephew of Mexican governor-elect. 2010. *The Associated Press*, July 16.
- Hundreds protest violence in Mexican border city. 2010. *The Associated Press*, February 13.
- Journalist killed, soldiers deployed to Tijuana. 2010. *The Associated Press*, January 16.
- Last police officer in Mexican border town missing. 2010. *The Associated Press*, December 29.
- Man's head found in Mexican town square. 2010. *The Associated Press*, January 27.
- Mexican border city hits 3,000 dead in drug war. 2010. *The Associated Press*, December 15.
- Mexican marines grab alleged drug gang lieutenant. 2010. *The Associated Press*, July 11.
- Mexican police find headless bodies in border city. 2010. *The Associated Press*, January 31.
- Mexican police neutralize car bomb in border city. 2010. *The Associated Press*, September 11.
- Mexican police say 5 suspects hacked up officer. 2010. *The Associated Press*, August 14.

- Mexican town's police force quits after ambush. 2010. *The Associated Press*, May 19.
- Mexico arrests 2 in ambush that killed 12 police. 2010. *The Associated Press*, June 18.
- Mexico arrests 2 reputed leaders of Tijuana gang. 2010. *The Associated Press*, February 9.
- Mexico captures an alleged leader of Aztecas gang. 2010. *The Associated Press*, November 28.
- Mexico catches drug lieutenant in border state. 2010. *The Associated Press*, May 18.
- Mexico deputy police chief slain at son's school. 2010. *The Associated Press*, February 26.
- Mexico detains suspected zetas leader for Cancun. 2010. *The Associated Press*, September 26.
- Mexico drug shootout leaves 5 dead, 13 detained. 2010. *The Associated Press*, December 29.
- Mexico nabs ally of reputed US-born drug smuggler. 2010. *The Associated Press*, June 14.
- Mexico police find Canadian's car; a body in trunk. 2010. *The Associated Press*, October 31.
- Mexico: 12 found dead in pacific coast state. 2010. *The Associated Press*, April 8.
- Mexico: 6 bodies in cave, 3 with hearts cut out. 2010. *The Associated Press*, June 7.
- Mexico: 9 killed in drug rehab center. 2010. *The Associated Press*, June 27.
- Mexico: Soldiers kill 6 gunmen in northern Mexico. 2010. *The Associated Press*, December 8.
- More police sent to crime-plagued Ciudad Juarez. 2010. *The Associated Press*, March 23.
- Newspaper: Mexican media defenseless against gangs. 2010. *The Associated Press*, September 17.
- Northern Mexico cops protest after ambush kills 3. 2010. *The Associated Press*, March 6.
- Northern Mexico shootouts kill 2 police, 7 gunmen. 2010. *The Associated Press*, May 21.
- Officials: US man found dead in northern Mexico. 2010. *The Associated Press*, May 11.

- Police capture drug lieutenant in northern Mexico. 2010. *The Associated Press*, July 29.
- Police capture drug lieutenant in northern Mexico. 2010. *The Associated Press*, July 29.
- Police chief killed in western Mexico town. 2010. *The Associated Press*, January 28.
- Police find 6 headless bodies in western Mexico. 2010. *The Associated Press*, January 30.
- Police find 8 severed heads in northern Mexico. 2010. *The Associated Press*, July 27.
- Police find bodies of 7 men in northern Mexico. 2010. *The Associated Press*, May 12.
- Severed head left at grave of Mexican drug lord. 2010. *The Associated Press*, January 18.
- Shootout in Mexico kills 2 soldiers, 4 gunmen. 2010. *The Associated Press*, January 25.
- US closes consulate after Mexico border gunfights. 2010. *The Associated Press*, February 26.
- Western Mexico: 5 decapitated men found. 2010. *The Associated Press*, February 16.
- Woman hanged from overpass in northern Mexico. 2010. *The Associated Press*, December 31.
- 10 arrested in Mexican police chief's killing. 2009. *The Associated Press*, November 6.
- 11 bodies found in Mexico, some with torture signs. 2009. *The Associated Press*, April 4.
- 12 dead from drug violence in Mexican state. 2009. *The Associated Press*, April 17.
- 2nd man killed in office probing reporter's death. 2009. *The Associated Press*, August 27.
- 4 decapitated bodies found in Mexican border city. 2009. *The Associated Press*, December 16.
- 4 mutilated bodies found in Mexican drug war state. 2009. *The Associated Press*, December 10.
- 4 US citizens found strangled in Tijuana. 2009. *The Associated Press*, May 15.
- 4-year-old, father killed near Mexico border city. 2009. *The Associated Press*, August 18.
- 5 bodies found dumped in landfill near Acapulco. 2009. *The Associated Press*, September 12.
- 5 human heads found in coolers in Mexico. 2009. *The Associated Press*, March 10.

- 5 men killed in shooting in Mexico border bar. 2009. *The Associated Press*, October 6.
- 5 police, 3 others killed in Mexico. 2009. *The Associated Press*, February 6.
- 5 police, 3 others killed in Mexico. 2009. *The Associated Press*, February 6.
- 5 police, 3 others killed in Mexico. 2009. *The Associated Press*, February 6.
- 9 decapitated bodies found in western Mexico. 2009. *The Associated Press*, October 16.
- At least 13 killed in shootouts in northern Mexico. 2009. *The Associated Press*, December 5.
- Attacks kill at least 16 in Mexican border cities. 2009. *The Associated Press*, September 16.
- Body encased in cement found in Mexican city. 2009. *The Associated Press*, October 29.
- Body found on fire outside Tijuana, Mexico. 2009. *The Associated Press*, April 22.
- Body with arms cut off found in Mexican city. 2009. *The Associated Press*, September 9.
- College student shot dead in Mexican border city. 2009. *The Associated Press*, December 10.
- Defense lawyer for Mexican drug kingpin killed. 2009. *The Associated Press*, August 30.
- GAO report highlights slow pace and lack of coordination of Merida initiative. 2009. *Congressional Documents and Publications*, December 3.
- Grenade attack wounds 5 in Mexican beach town. 2009. *The Associated Press*, February 21.
- Grenade attack wounds 5 in Mexican beach town. 2009. *The Associated Press*, February 21.
- Grenade attack wounds 5 in Mexican beach town. 2009. *The Associated Press*, February 21.
- Gunmen attack governor's convoy, kill guard. 2009. *The Associated Press*, February 24.
- Gunmen attack governor's convoy, kill guard. 2009. *The Associated Press*, February 24.
- Gunmen attack governor's convoy, kill guard. 2009. *The Associated Press*, February 24.

Gunmen kill 5 police in shootout in western Mexico. 2009. *The Associated Press*, August 28.

Gunmen kill 6 in Mexico border-city pool hall. 2009. *The Associated Press*, August 1.

Gunmen kill 9 in western Mexico, shoot horses. 2009. *The Associated Press*, May 10.

Gunmen kill Mexican army officer in bowling alley. 2009. *The Associated Press*, August 22.

Gunmen kill priest, 2 seminarians in Mexico. 2009. *The Associated Press*, June 15.

Gunmen kill US airman in attack on bar in Mexico. 2009. *The Associated Press*, November 5.

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VITA

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