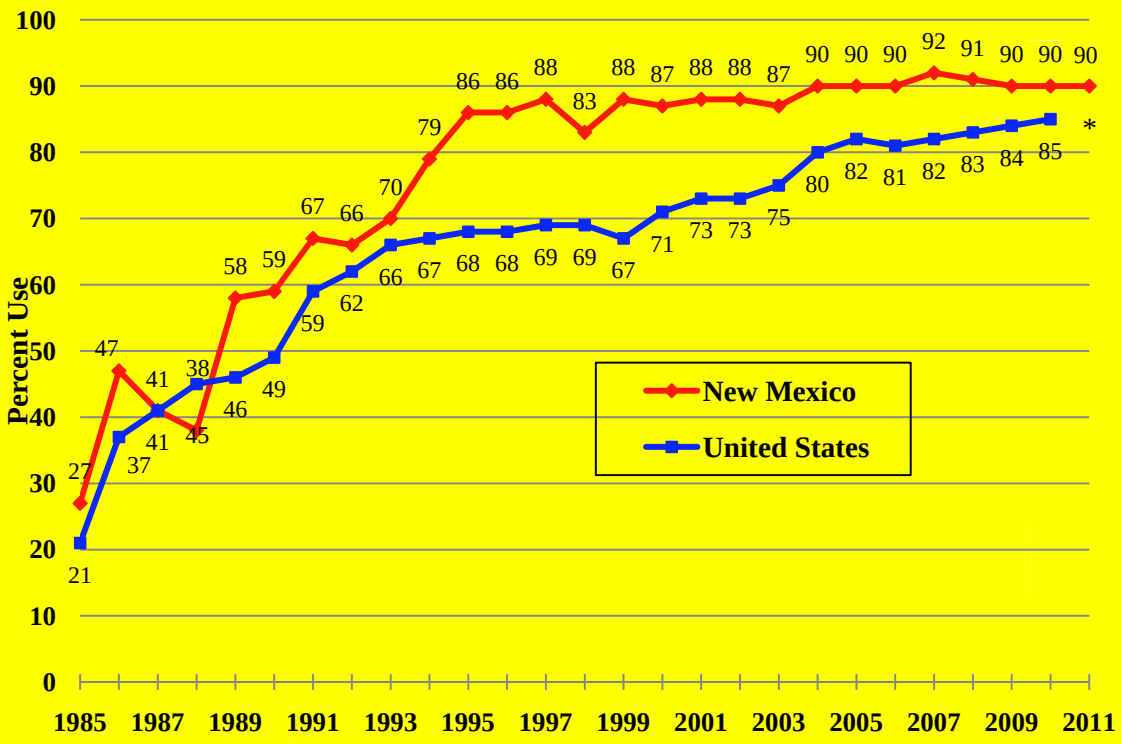
NEW MEXICO SAFETY BELT SURVEY 2011 REPORT

*** US Data for 2011 is not available**



Prepared by the Office of Injury Prevention Epidemiology and Response Division for the N.M. Department of Transportation, Traffic Safety Bureau
Project Agreement No. 11-OP-02-P02

Issued September 2011

State of New Mexico

Governor

The Honorable Susana Martinez

New Mexico Department of Transportation

Cabinet Secretary
Alvin Dominguez, P.E.
Cabinet Secretary

Traffic Safety Bureau
Michael Sandoval
Traffic Safety Bureau Chief

New Mexico Department of Health

Cabinet Secretary
Catherine D. Torres, M.D**.**

Epidemiology and Response Division

C. Mack Sewell, DrPH, MS, Director and State Epidemiologist
Michael Landen, MD, MPH, Deputy Director and Deputy State Epidemiologist

Injury and Behavioral Epidemiology Bureau
Toby Rosenblatt, MPA, Chief

Report prepared by Office of Injury Prevention, Injury Epidemiology Unit
Isaac Romero, B.A., Management Analyst

TABLE OF CONTENTS

FIGURES:

APPENDICES:

EXECUTIVE SUMMARY

New Mexico (NM) began tracking safety belt use in 1982. Since 1993, the NM Department of Transportation (NMDOT), Traffic Safety Bureau (TSB) has contracted with the New Mexico Department of Health, Epidemiology and Response Division, Office of Injury Prevention to evaluate motor vehicle seatbelt use in NM as required of all states by the National Highway Traffic Safety Administration (NHTSA). The findings of this annual study demonstrate the impact of New Mexico's primary seatbelt laws.

Since 2004, TSB has contracted for an additional "pre-enforcement" observation survey to be performed in April as well as the "official" seatbelt survey, which is conducted in June. The two surveys are scheduled before and after the annual May enforcement campaign in order to document observed seatbelt usage prior to and immediately following this major public awareness event. Also since 2004, TSB has contracted with the Office of Injury Prevention for separate collection of observed seatbelt use data on passengers in pickup trucks. The same NHTSA-approved protocol established for the NM "official" seatbelt use observation survey is used for the "pre-enforcement" and pickup truck surveys. For these studies, trained observers record front shoulder belt use by drivers and front outboard passengers (sitting by the right front door). The 108 observation sites are a sample of public roadway locations that were selected by a random sampling process in 1998. The same sites have been used annually.

Key Findings

Pre-enforcement Results for 2011 Survey

From April 1 through April 25, 2011, the four-person observer team collected the pre-enforcement observations from each of the 108 regular study sites. These are the weighted Seat belt usage percentages in the pre-enforcement study.

Pre-enforcement overall seat belt usage was 89.3%. Driver usage was 90.3% compared to front outboard passengers at 85.5% (see table below and appendix). The 95% confidence interval for all passengers does not overlap with that for drivers, indicating that passengers actually had a lower seat belt usage rate. Pickup truck occupants, who comprised 25.8% of the observations, had 85.3% seat belt usage with drivers at 86.4% and front seat passengers at 81.6%.

Official Post-Enforcement Results for 2011 Survey

In June 2011, the official overall observed front seat (driver and passenger) seatbelt use obtained during the post-enforcement period wa**s 90.5%** (Table 1). The observed New Mexico seatbelt use had increased from 14% in 1982 to a relatively stable level of 87% to 89% beginning in 1997. The 2009 use rate was 90.1% reaching that level or more for the third year in a row. The overall observed use in 2011 was 1.0 percentage points higher in the official survey than during the pre-enforcement period.

Driver seat belt usage was recorded at 91.3%. Front seat outboard passenger usage (persons sitting by the right door) was recorded at 87.3%. Driver usage has been measured at 2-6

percentage points higher than front seat passengers each year, except in 1999. The passenger use rate at 87.3% in 2011 was up 1.8 percentage points from pre-enforcement observed usage of 85.5%.

Pickup truck occupants, who comprised 34.7% of the observations, had observed seatbelt usage of 86.3%, with drivers at 86.9% and passengers at 84.0%. Pickup truck belt usage increased 1.0 percentage point from the pre-enforcement survey, with the greatest increase (2.4%) noted in the passenger group.

New Mexico's overall seatbelt use percentage at 90.5% continues to be above the national percentage (85% in 2010), as it has for many years. In 2010 NM ranked 17th among states, down from number 14th in 2009.

Seat belt use in the U.S. increased between 2000 and 2010, ranging from 71% to 85%. NHTSA reported notable increases beginning in 2000 and posted a new national high at 85%, achieved in 2010.

Table 1. Seatbelt Usage from Pre-and Post Enforcement Surveys, New Mexico, 2011

Type of Vehicle	Pre-enforcement Results*			Post-enforcement Results**		
	Number of Occupants Observed	Seatbelt Use Percent	95% Confidence Interval	Number of Occupants Observed	Seatbelt Use Percent	95% Confidence Interval
All Vehicles	17,141	89.3	86.6% to 92.0%	16,588	90.5	89.6 to 91.3
Driver	13,359	90.3	87.8% to 92.8%	12,633	91.3	90.2 to 92.4
Passenger	3,782	85.5	82.0% to 89.0%	3,192	87.3	85.1 to 89.5
Pickup Truck Front Seat Occupants	4,424	85.3	81.9% to 88.8%	4,457	86.3	84.0 to 89.7
Driver	3,476	86.4	84.0% to 88.9%	3,482	86.9	84.7 to 89.0
Passenger	948	81.6	73.4% to 89.8%	975	84.0	80.2 to 87.8

Note: Seatbelt use is established with a weighted percent calculated from observations taken at a randomly selected sample of public roadway locations.

*Pre-enforcement surveys were conducted from April 1, 2011 to April 25, 2011

**Post-enforcement surveys were conducted from June 7, 2010 to June 28, 2011. During this period, as in 2010, NM again operated its special enforcement program, "Click it or Ticket."

INTRODUCTION

New Mexico began tracking safety belt use in 1982. Since 1993, the Traffic Safety Bureau (TSB) of the New Mexico Department of Transportation Department (NMDOT) has contracted with the New Mexico Department of Health, Epidemiology and Response Division, Office of Injury Prevention, to conduct observational studies of motor vehicle seatbelt use using protocols and procedures approved by the National Highway Traffic Safety Administration (NHTSA) in 1998 (Appendices A and B). For these surveys trained observers record front shoulder belt use by drivers and front outboard passengers (sitting by the right door).

Observed seatbelt use evaluation with two observation periods was conducted in New Mexico in spring 2011. The first observation period preceded the annual May awareness and enforcement campaign, and this was followed by the official seatbelt usage study in June.

METHODOLOGY

Background on New Mexico Seatbelt Use Observation Studies

New Mexico's safety belt observation methodology has changed and been refined several times since the first surveys in 1982. Therefore the results from different survey periods should be compared with caution.

The first surveys were conducted by the TSB from 1982-1984 to promote usage before the NM Child Restraint act was passed in 1983 and for tracking its impact thereafter. More rigorous observations of seatbelt use began in 1985 when Zia Research started surveying for the TSB, and the University of New Mexico's Division of Government Research (DGR) did the analysis. During this period the vehicle type—car, truck and/or pickup—was identified in the data collection.

From 1985-1993 the NM seatbelt survey was conducted in five cities: Albuquerque, Farmington, Las Cruces, Roswell, and Santa Fe. In December 1993, the TSB changed the protocol by expanding to seventeen cities with the addition of Alamogordo, Carlsbad, Clovis, Española, Gallup, Hobbs, Las Vegas, Los Alamos, Los Lunas, Raton, Rio Rancho and Silver City. The locations were selected to sample in areas where the majority of the state's population lives. The limitation of this method was that sparsely populated rural areas were not included and statistical estimates of variation could not be calculated.

The survey from 1993 through 1997 used a revised methodology developed by the DOH Injury Epidemiology Unit, and administered by the Safer New Mexico Now organization. Eighteen surveyors were trained to collect the observational data for Operation Buckle Down (OBD) in 1993. In subsequent years this approach continued to be used although the number of observers was reduced to five in 1995. The frequency of surveys conducted during a year was also decreased from eight in 1994 to two per year since 1998.

Survey Sample Since 1998

The current sampling methodology was implemented in 1998 and has been used for all subsequent NM official surveys. Beginning in 1998, NHTSA required all states to perform an annual safety belt survey in accordance with federal guidelines [63 F.R. 46389]. The criteria included drawing the observation sites with a random sampling method that permits estimation of sampling error. Since that time, 95% confidence intervals have been calculated for the seatbelt use rates. To meet these requirements, a new sampling plan was designed by the University of New Mexico, Division of Government Research (DGR) and the New Mexico Department of Health, Office of Injury Prevention. The new sample was drawn from a universe of road segments defined for all state and federal roads in the state. The proportion of total traffic volume on the segment determined probability of inclusion. Details of the New Mexico methodology are provided in the *Seatbelt Observation Sampling Plan for New Mexico* (Appendix A). The plan received NHTSA approval in September 1998 and was implemented in the survey conducted in late fall of 1998.

Since 1998 the same 108 road segments have been used for observation, and the survey is always conducted on the same day of the week and same time of day. To avoid visibility problems associated with darkness early and late in the day, the official observation period is scheduled in June. The road segments vary in length permitting the observer to adjust for vantage point in case of unsafe conditions at the usual observation location. If unable to use the regular site, the observer checks with the study manager in the Office of Injury Prevention and is given the next alternate location designated in the sampling procedure. Observations have always been limited to the driver and the front outboard passenger (sitting by the right door). Seatbelt use by the middle front seat passenger could not be captured because this position does not have a three-point shoulder belt that can be observed.

Addition of Collection Periods and Pickup Trucks

Since 2004, TSB has funded an additional pre-enforcement data collection period each year prior to the May enforcement campaign. The state's annual official post-enforcement survey continues to be conducted in June. The observers using the official approved protocol and procedures conduct both surveys. Each observer is assigned a set of 25 to 30 sites and conducts observations at those locations in both the pre-enforcement and official post-enforcement surveys.

The NHTSA standard does not require collecting information on safety belt use for trucks and cars separately, and this activity was dropped from the New Mexico survey in 1998. However, beginning in 2004, pickup trucks (defined as a small truck with a bed) were again identified and reported as a separate category in the state survey.

Exclusions (Exempt Vehicles)

Trucks over 10,000 pounds and passenger vehicles and pickup trucks built before 1968, that is before three-point shoulder belts were standard front seat equipment, have never been included in the New Mexico surveys, referred to as exempt vehicles

.

Reliability Checks

In 2001, a change was made in the survey procedure to count the number of vehicles in exempt categories passing an observation point in order to gather information on the total traffic volume. Also since 2003, reliability checks were added to the process. In 2003, 25% of the sites were separately re-observed by a second observer using the official protocol to test the impact of inter-observer differences. Since 2004, comparisons have been made between the pre-enforcement and official post-enforcement observations by each observer (see Evaluation section above).

Traffic Volume

During the 2011 official survey, 14,531 vehicles passed through the observation sites; these included 12,633 eligible vehicles on which observations were made; 627 that were treated as "unknown" and excluded because seatbelt use could not be observed for technical reasons, such as dark-tinted windows or glare; and 1,291 exempts that did not meet the vehicle inclusion criteria. Total traffic volume increased by 0.45% from 2010 (Table 2). A technical factor that has been tracked since 2006 is variation of numbers in the "unknown" vehicle category, ranging annually from 358 in 2006, to as high as 627 in 2011.

Table 2. Vehicles and Occupants Observed in Official Seatbelt Surveys
New Mexico, 2004-2011

	2005	2006	2007	2008	2009	2010	2011
Number of Observers	5	5	5	5	4	4	4
Total Vehicles Observed*	15,540	15,362	15,085	15,153	14,756	14,977	14,531
Total Number of Occupants Observed	18,378	17,836	17,593	17,525	17,314	17,411	16,588

*Count includes eligible vehicles that were subsequently classified as "unknown" because impediments such as tinted windows or glare prevented making observations on them. In 2011, 627 vehicles were excluded.

In the 2011 official seatbelt survey, 1,291 exempt vehicles passed through the observation points, adding 8.9% to the total volume that the observers had to process—that is to decide that the vehicles were ineligible and not make seatbelt observations on them (Table 3). Of these, 65.5% were found on interstate highways.

Table 3. Exempt Vehicles Observed in Official Study by Highway Type, New Mexico, 2009-2011

	2009		2010		2011	
	Number	**Percent**	**Number**	**Percent**		
Interstate Highways	1046	66.9	653	51.1	845	65.5
Other Roadways	517	33.1	625	48.9	446	34.5
Total	1,563	100.0	1,278	100.0	1,291	100.0

Observer Selection, Training, and On-site Procedures

One observer started in 1998, two in 2002 and the other one in 2003. The same observers have conducted the surveys since 2003. They work under contract with the Office of Injury Prevention to do annual pre-enforcement and official surveys. All are retired police officers. They meet the New Mexico-established criteria of a) demonstrated ability to observe seatbelt use in moving vehicles and in high traffic areas, b) ability to work safely in the roadside environment, and c) have extensive knowledge of the exempt vehicle classes.

All returning observers participate in a four-hour refresher training conducted by the Office of Injury Prevention staff prior to the first survey period of the year. Prior to the training, the observers complete three practice surveys using the data collection form and 3 of their assigned sites and submit these in to the Office of Injury Prevention. During the training class, checks for inter-observer consistency are performed by having all observers stand in the same location of a major arterial boulevard and observe all vehicles passing on the curbside lane in time intervals of various lengths ranging from 2-10 minutes, and then comparing their observations. One trainer counts the number of eligible cars that go through the observation point while the observers note and record seatbelt use. These numbers are compared among the entire group for total counts and consistency in recording seatbelt use. At the review class each observer receives site assignments and survey forms. They keep a large survey sign to be set up at the site to advise motorists of the event in progress. Data from all sites are recorded on the standard form (Appendix C).

In 2011, observers worked the same set of sites for both the pre-enforcement and the official post-enforcement surveys. All observers used audiotape recorders to record observations in high traffic volume segments and then transcribed them to the data collection form. In low volume areas some observers marked the forms directly during the observation period.

Data File Preparation and Weighting

Completed data forms were faxed or hand delivered to the Office of Injury Prevention for key entry into the *Epi Info* software package. After data entry and checking for accuracy, a Microsoft Excel program was used to calculate the weighted estimates of safety belt use by drivers and front outboard passengers**.**

Two persons cross-reading the key-entered data against the original data forms did a quality control check of 2,373 vehicles including driver and front seat passenger from 8 survey sites

(2 randomly picked sites from each surveyor). A total of 6 individual datum errors were discovered and corrected immediately for a per vehicle error rate of 0.25%. Both the raw data and the final usage rate calculations were checked further by checking the data base for numbers that appeared to be outliers and empty spaces where data should be located (Appendices D and E). The raw data were then transferred to the Excel spreadsheet for weighting and calculation of 95% confidence intervals.

RESULTS

New Mexico Official Seatbelt Use Study

Overall Seatbelt Use: Official Study

The official 2011 New Mexico seatbelt observation survey was conducted from June 7 through June 28, 2011. A total of 14,551 vehicles passed through the 108 study sites during the observation period. This total included 1,291exempt (i.e. too old for shoulder strap belt or a truck over 10,000 pounds) and 627 unknown (observations could not be included in survey results). Shoulder belt use status was observed and recorded on a total of 14,551 front seat occupants (drivers and front outboard passengers).

Overall, New Mexico drivers and front outboard passengers had a combined weighted seatbelt use of 90.5% (Table 1, Figure 1 and 2, and Appendix D). Driver usage was recorded at 91.3%, and front seat outboard passenger usage at 87.3% (Figure 3a). In 2011, passengers accounted for 23.8% of front seat occupants.

Pickup Truck Seatbelt Use: Official Study

In the official survey, a total of 3,679 pickup trucks passed through the 108 study sites and included 197 unknowns (use and non-use could not be determined). Observations were made on 3,482 eligible vehicles. Shoulder belt use status was observed on front seat occupants with an observed usage of 86.3% (Table 1). Pickup driver usage was recorded at 86.9%, and front seat outboard passenger usage at 84.0% (Figure 3b). Passengers accounted for 28.0 % of the persons observed in pickups.

Pre-enforcement Seatbelt Survey

Overall Seatbelt Use: Pre-enforcement

The 2011 pre-enforcement New Mexico seatbelt observation survey was conducted from April 1 through April 25, 2011. A total of 15,307 vehicles (including 1,363 exempt and 585 unknown, those about which seat belt use could not be determined) passed through the 108 study sites. There were a total of 13,359 eligible vehicles on which observations were made. Shoulder belt use status was observed and recorded on 17,141 front seat occupants.

Overall, New Mexico drivers and front outboard passengers had a combined weighted seatbelt use of 89.3% (Table 1 and Appendix D). Driver usage was recorded as 90.3%, and front seat outboard passenger usage at 85.5%. Passengers accounted for 25.8% of persons observed.

Pickup Truck Seatbelt Use: Pre-enforcement

In 2011, pre-enforcement observations for seatbelt use were collected on a total of 3,476 eligible pickup trucks plus 184 unknowns (use or non-use could not be determined) for a total of 3,660 vehicles observed (Table 1 and Appendix D). Shoulder belt use status was observed and recorded for 4,424 front seat pickup truck occupants (driver + passenger) with an overall use of 85.3%. Pickup driver usage was recorded at 86.4%, and front passenger usage at 81.6%. Passengers accounted for 27.3% of the persons observed in pickups.

Trends in Observed Seatbelt Usage

A progressive increase in seatbelt use has been tracked since the state started collecting this information in 1982 (Figure 1). The only recent exception was in 1998 when the current sampling methodology was implemented; that year the survey was conducted in October and November, which was later than the normal summer observation period. New Mexico's observed use of seat belts ranged between 87% and 89% from 1997 through 2006; NM achieved the 90% range in 2003. In 2007, the NM observed use actually exceeded 90% for the first time and continued in 2008 and 2009. In 2011, the observed seat belt use was up slightly to 90.5%.

The New Mexico seatbelt sample is drawn from four geographic sampling regions with sites in 14 counties (Table 4a and Figure 4). The South Central region had the highest seatbelt usage at 93.8% in 2011. The lowest seatbelt usage was observed in the Northwest region at 86.8% up from 85.2% in 2010. As in the previous four years these two Regions respectively have had the highest and lowest observed usage respectively. Comparing the "all vehicles" usage between the pre-enforcement and official periods showed increases in two of the four sampling regions. These increases ranged from 1.6% in the Northwest region to 0.7 percentage point in the Southeast region. For the first time in the past 5 years the South Central had a 0.7% decrease from the previous year. (Table 4b and Figure 2, 4a and 4b). For pickup trucks, the comparison showed that the Central region and the Northwest region had a 2.4 percentage point increase in seatbelt usage and the Southeast region showed a decrease of 2.0 percentage points and the South central had a 0.6 percentage points between the two survey periods.

Table 4a. Official Observed Seatbelt Use by Sampling Regions, New Mexico, June, 2007 to 2011

Sampling Region	2007		2008		2009		2010		2011	
	# of People Observed	Weighted Percent Belt use	# of People Observed	Weighted Percent Belt use	# of People Observed	Weighted Percent Belt use	# of People Observed	Weighted Percent Belt use	# of People Observed	Weighted Percent Belt use
Central [A]	6,046	91.6	5,555	91.0	4,934	90.4	4,708	90.6	4,857	91.2
Northwest [B]	4,530	90.0	4,580	88.1	4,272	87.6	4,903	85.2	4,788	86.8
South Central [C]	4,154	94.0	4,241	94.7	5,069	94.3	4,947	94.5	4,160	93.8
Southeast [D]	2,863	91.0	3,149	92.9	3,039	92.1	2,853	91.2	2,783	91.9
Statewide Total	**17,593**	**91.5**	**17,525**	**91.1**	**17,314**	**90.1**	**17,411**	**89.8**	**16,588**	**90.5**

Note: People observed are the combined driver and front outboard seat occupants on which seatbelt use observations were made. The observation sites within each stratum were drawn in accordance with the NHTSA-approved randomized sampling plan for New Mexico.

[A] Includes Bernalillo, Sandoval and Valencia counties.
[B] Includes San Juan, McKinley, Rio Arriba and Santa Fe counties.
[C] Includes Doña Ana, Luna and Otero counties.
[D] Includes Curry Eddy, Lea and Chaves counties.

Table 4b. Pre-enforcement and Official Surveys by Sampling Region and Vehicle Type, New Mexico, 2011

Sampling Region	All Vehicles				Pickup Trucks			
	Pre-enforcement		Official		Pre-enforcement		Official	
	# of People Observed	Weighted Percent Belt use	# of People Observed	Weighted Percent Belt use	# of People Observed	Weighted Percent Belt use	# of People Observed	Weighted Percent Belt use
Central [A]	4,841	89.0	4,857	91.2	1,079	85.5	1,200	87.9
Northwest [B]	4,131	84.7	4,488	86.8	991	77.9	1,214	80.3
South Central [C]	5,238	94.5	4,160	93.8	1,156	92.7	952	92.1
Southeast [D]	2,931	92.9	2,783	91.9	1,198	91.1	1,091	89.1
Statewide Total	**17,141**	**89.3**	**16,588**	**90.5**	**4,424**	**85.3**	**4.457**	**86.3**

Note: People observed are the combined driver and front outboard seat occupants on which seatbelt use observations were made. The observation sites within each stratum were drawn in accordance with the NHTSA-approved randomized sampling plan for New Mexico.

[A] Includes Bernalillo, Sandoval and Valencia counties.
[B] Includes San Juan, McKinley, Rio Arriba and Santa Fe counties.
[C] Includes Doña Ana, Luna and Otero counties.
[D] Includes Curry Eddy, Lea and Chaves counties.

EVALUATION

In 2011, each observer collected data on the same set of observation sites in the April pre-enforcement and the June "official," post-enforcement surveys. For evaluation purposes raw use percentages from the two periods were compared to review consistency among the observers. Note that these percentages differed from the final result after a weighting formula was applied to generalize from the sample to the entire state.

For both All Vehicles and Pickup Trucks, the raw seatbelt usage increased between the pre-enforcement and the post-enforcement surveys according to three out of four observers. One observer reported a decrease of seatbelt usage of 0.7% between pre- and post-enforcement observations (Table 5, Appendix E). Seatbelt use changes between pre- and post-enforcement ranged from -3.1 percentage points to +3.6 percentage points for All Vehicles. For Pickup Trucks the range was -0.7 percentage points to +1.6 percentage points. The benchmark for acceptable variation was set at 5 percentage points. All observers were within that range for both All Vehicle and Pickup truck categories.

The mix of road types in the sites assigned to each observer varies considerably. To further examine variation among observers, the differences between each observer's raw use percents were compared with the overall raw percentage for each observation period. This comparison for All Vehicles showed differences on the pre-enforcement survey ranging from -2.2 to -0.7 percentage points; and on the post-enforcement survey from –0.7 to +2.2 percentage points (Appendix E, Table A). This test was done also for pickup trucks with these results: differences on the pre-enforcement survey total ranged from –0.7 to +2.1 percentage points, and on the post-enforcement survey ranged from –0.7 to +2.4 percentage points (Appendix E, Table B).

For both vehicle categories, fewer vehicles were observed in the official post-enforcement observation period than in the initial pre-enforcement period (Appendix E, Table B). On an individual observer basis these differences ranged from -171 to +117 for All Vehicles. The differences ranged from -2 to +2 in Pickup Trucks.

Table 5. Comparisons between Pre-enforcement and Official Survey Seatbelt Use Observations by Observer for All Vehicle Occupants, and Truck Occupants, New Mexico, 2011

Evaluation Factors	Total Raw Percent*	Observers			
		1	2	3	4
All Vehicles					
Pre-enforcement Raw percent use*	90.6	85.1	89.0	94.9	97.5
Official Raw Percent Use*	91.1	88.5	90.4	94.0	92.4
Percentage point difference in usage between observation periods		+0.5	-0.2	+3.4	+1.8
Pickup Trucks Only					
Pre-enforcement Raw percent use*	87.9	79.3	86.9	94.2	92.0
Official Raw Percent Use*	87.5	83.4	86.6	92.3	89.5
Percentage point difference in usage between observation periods		+4.1	-0.3	-1.9	-3.4

*Percent use is raw percent from the sites assigned to each observer. These vary slightly from the final usage rates produced by weighting the raw rates to factor in roadway volume.
Note: Each observer was assigned 21 or 22 sites and conducted observations on each of their sites during the Pre-enforcement survey (April 1-25, 2011) and again during the Official survey (June 7-28, 2011)

DISCUSSION

New Mexico has been promoting occupant protection in motor vehicles for over twenty-five years and documenting seatbelt usage with observational studies. The data from these surveys show conditions before new occupant restraint laws were passed, and their impact afterwards.

Other data sources, when available, are compared with the observation study and track quite closely with the official observation study.

- The Behavioral Risk Factor Surveillance System (BRFSS), a household telephone interview survey of persons 18 years and older on health risks and behaviors, found that 90.0% of respondents reported always using seatbelts in 2010. This self-reported seatbelt use was the same as the observed seatbelt use in 2010.

- The Operation Buckledown Program (OBD), initiated in 1994, supports seatbelt use enforcement by police in participating communities. OBD is monitored by documenting adult seatbelt citations issued by police. Reported seatbelt non-use citations exhibit a cyclic pattern characterized by years such as 1994, 1999 and 2004 with many tickets issued followed by several years with far fewer. In 2004, 20,662 tickets were written for a 32.6% increase over 2003. Since 2004 the number of citations issued dropped moderately but steadily through 2008 when 15,939 citations were issued (Figure 5). However, in 2009 there was a significant reduction as only 3,890 citations were issued for non-seatbelt use. In 2010 there was another reduction to 3,124 citations issued.

Another data source compares New Mexico's observed seatbelt use with observed seatbelt use from neighboring states (Table 6 and Figure 6). Of these states only New Mexico, Texas and

Oklahoma have primary seatbelt laws (meaning citations can be issued when "not using a restraint" is the only violation). In 2010 New Mexico ranked 17th nationwide for seatbelt use (Figure 7). In 2010, seventeen states achieved seatbelt use levels at or over 90% following a national campaign that began in 2003. Washington was number 1 in 2010 with 97.6%, and several others were just below that figure. Sustained state and national high-visibility law enforcement activities coordinated with media campaigns and public education programs appeared to be likely reasons for this increase.

Table 6. Front Seatbelt Use in New Mexico and Neighboring States 2001 – 2010

Year	Percent of Seatbelt Use					
	Arizona	**Colorado**	**New Mexico***	**Oklahoma***	**Texas***	**Utah**
2001	74	72	88	68	76	78
2002	74	73	88	70	81	80
2003	86	78	87	77	84	85
2004	95	79	90	80	83	86
2005	94	79	90	83	90	87
2006	79	80	90	84	90	89
2007	81	81	92	83	92	87
2008	80	82	91	84	91	86
2009	81	81	90	84	93	86
2010	82	83	90	86	94	89

*States with primary seatbelt laws
Source: NHTSA, Traffic Safety Facts Published July 2011
Table: Seat Belt Use in U.S. Territories and Nationwide, 2001 – July 2011

RECOMMENDATIONS

The recommendations listed below are based on extensive experience with the New Mexico seatbelt observation study. Recommendations 1 and 2 remain the ones that need the most improvement.

1. Target prevention activities toward pickup truck drivers and passengers, as they lag in observed seatbelt use when compared to overall occupant usage.

2. Increase seatbelt enforcement and use of seatbelts by all drivers and passengers statewide, giving special attention to enforcement in the northwest area, and central New Mexico.

3. Increase documentation of seatbelt use in communities with current Operation Buckle Down (OBD) programs in order to assess the effect of local publicity. There are very

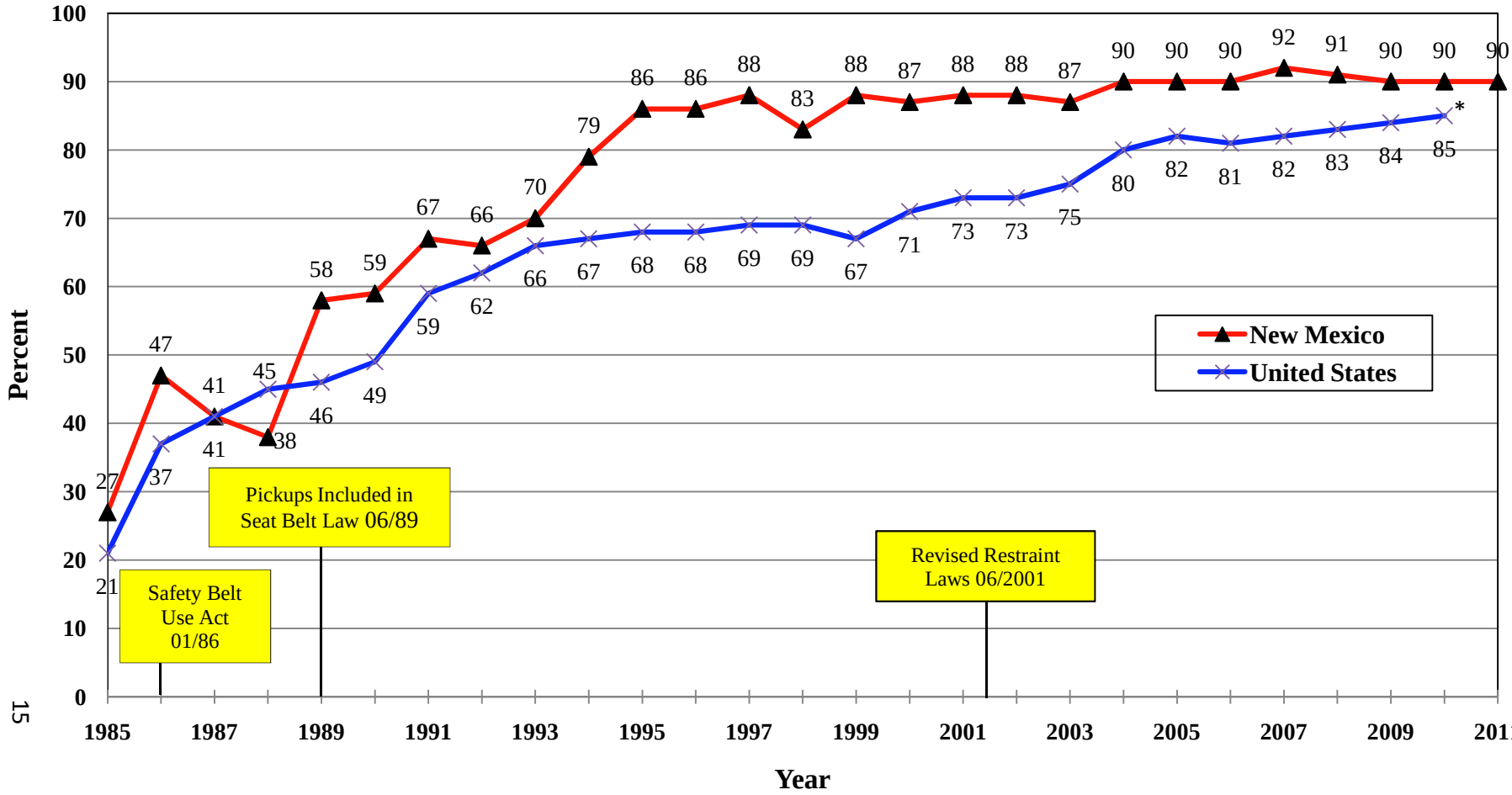
few programs left, mostly operated by the state police. However, they don't document locations or cities where citations are issued.

4. Raise public awareness about driver's license penalty points and fines that are associated with traffic citations given for non-use of seatbelts or child safety restraints.

5. Provide public information on effectiveness of seatbelts in preventing injuries and saving lives.

This report is provided for the New Mexico Department of Transportation, Traffic Safety Bureau, under Project Agreement Number 11-OP-05-P02.
Please call Isaac Romero at (505) 827-2724 or e-mail at Isaac.romero@state.nm.us with any questions or comments.

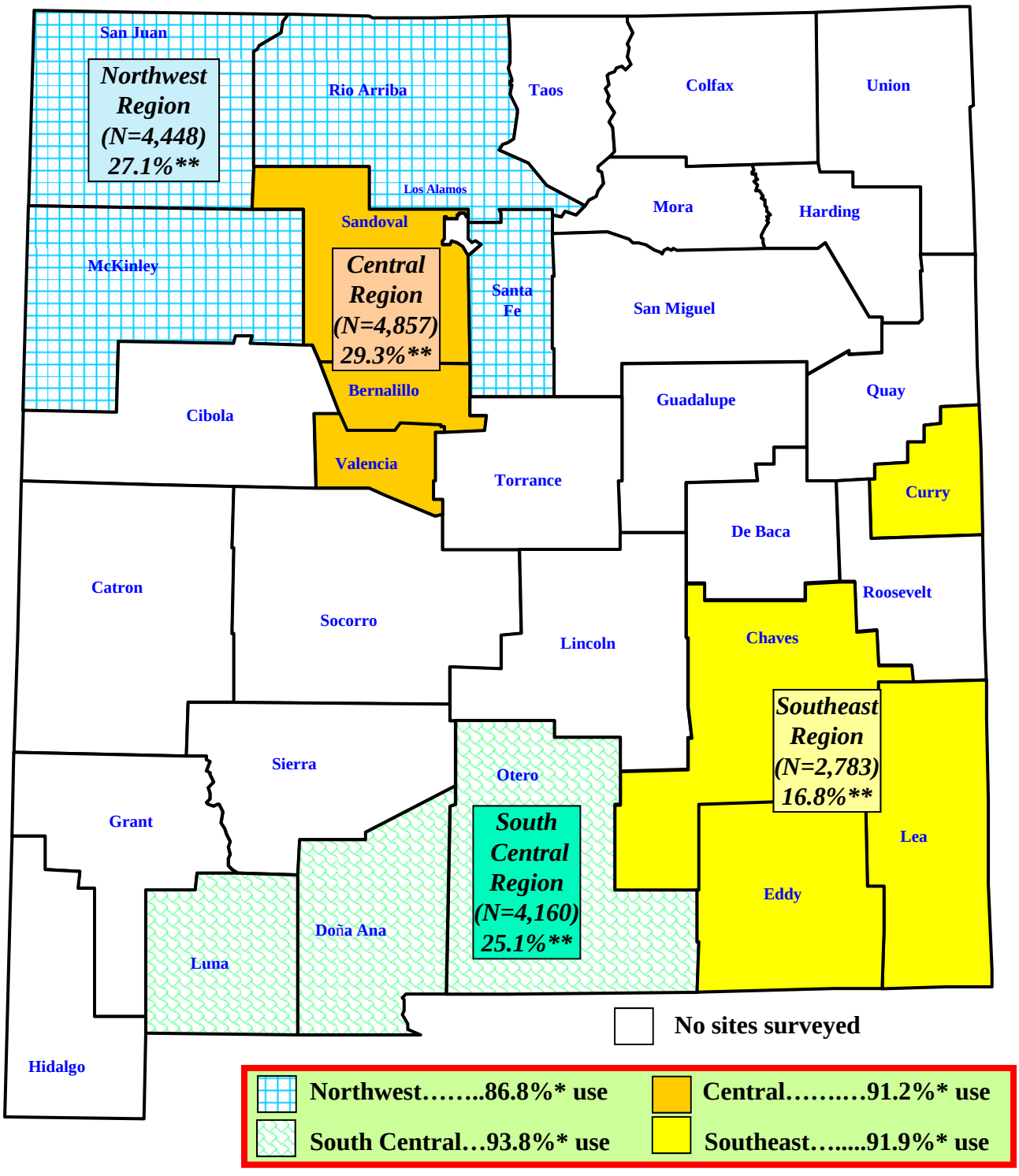
Figure 1. Official Observed Seat Belt Use
N.M. and U.S. 1985 - 2011



Note: In 1983 N observed seatbelt use was 12%. NM's first child restraint law was enacted in June 1983.
Source: NHTSA Traffic Safety Facts July 2011, Annual New Mexico Official Seat Belt Observation Survey.
Office of Injury Prevention, Epidemiology & Response Division, NMDOH. *U.S. 2011 Data not available

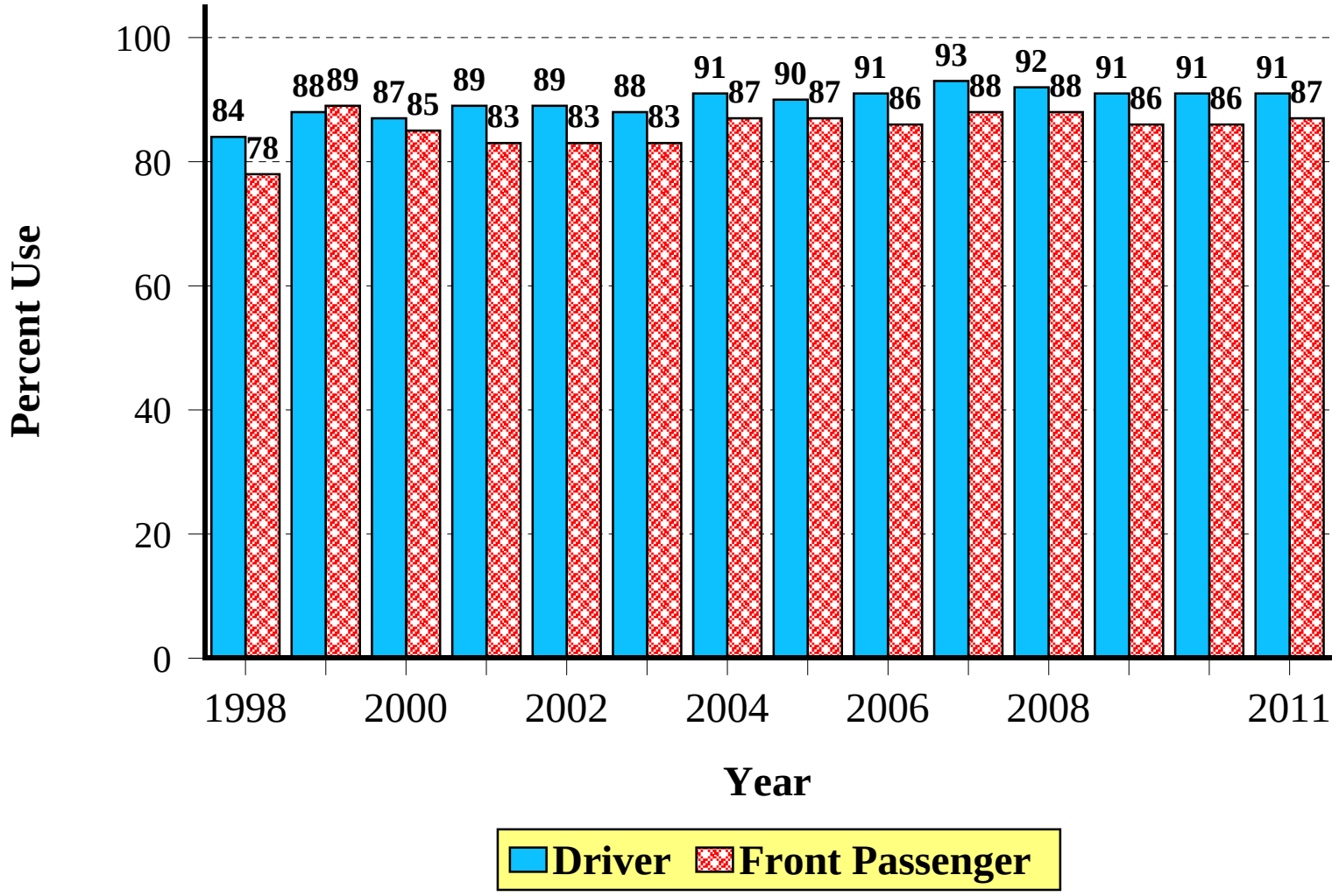
Figure 2. Seatbelt Use by Region, New Mexico, 2011

N= Number of Front Seat people observed



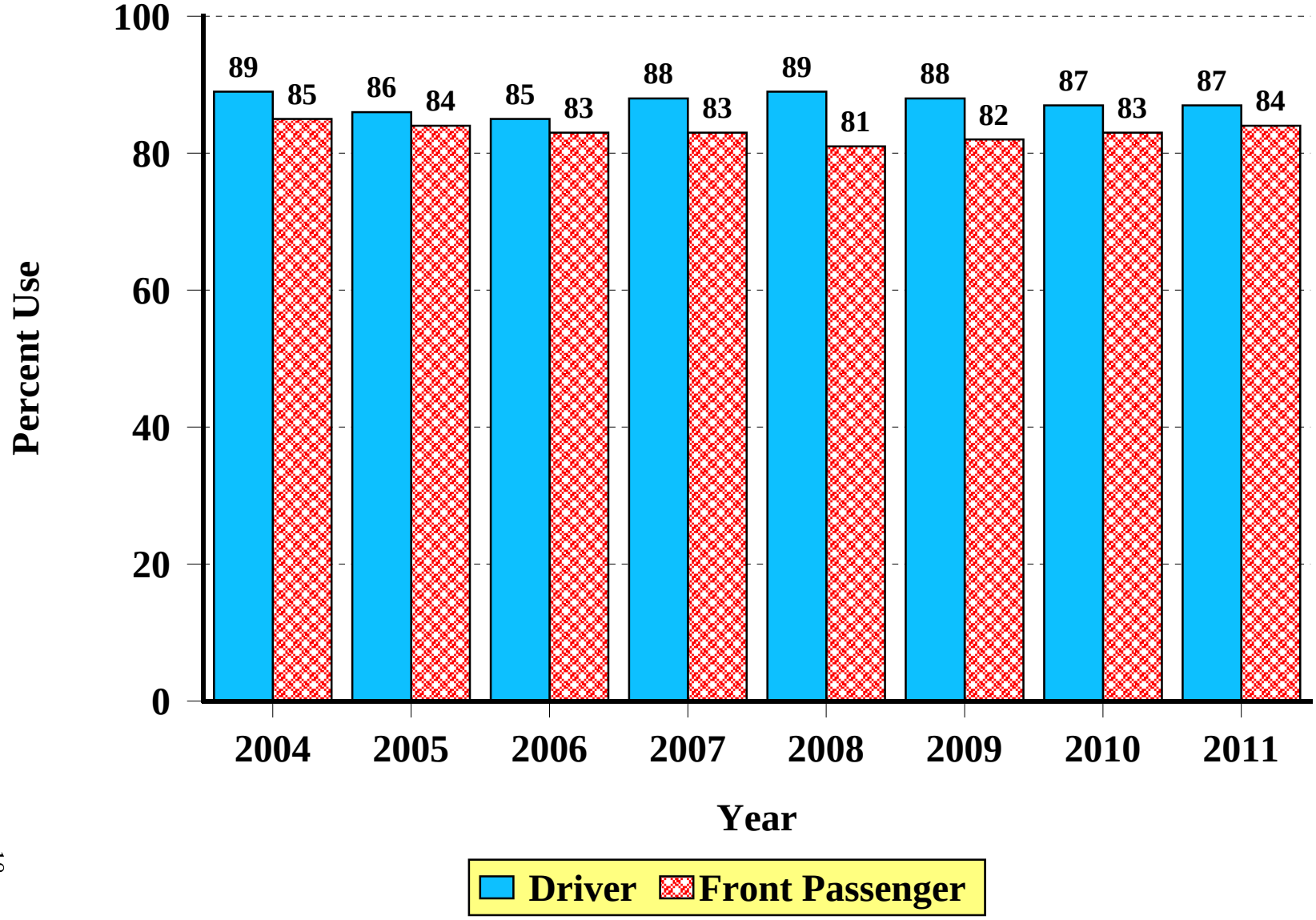
Source: Annual New Mexico Official Seatbelt Observation Survey
Office of Injury Prevention, Epidemiology & Response Division, NMDOH
* Weighted percent use ** Percent of observations

Figure 3a. Official Observed All Vehicles Seatbelt Use New Mexico, 1998 - 2011



Source: Annual New Mexico Official Seatbelt Observation Survey
Office of Injury Prevention, Epidemiology & Response Division, NMDOH

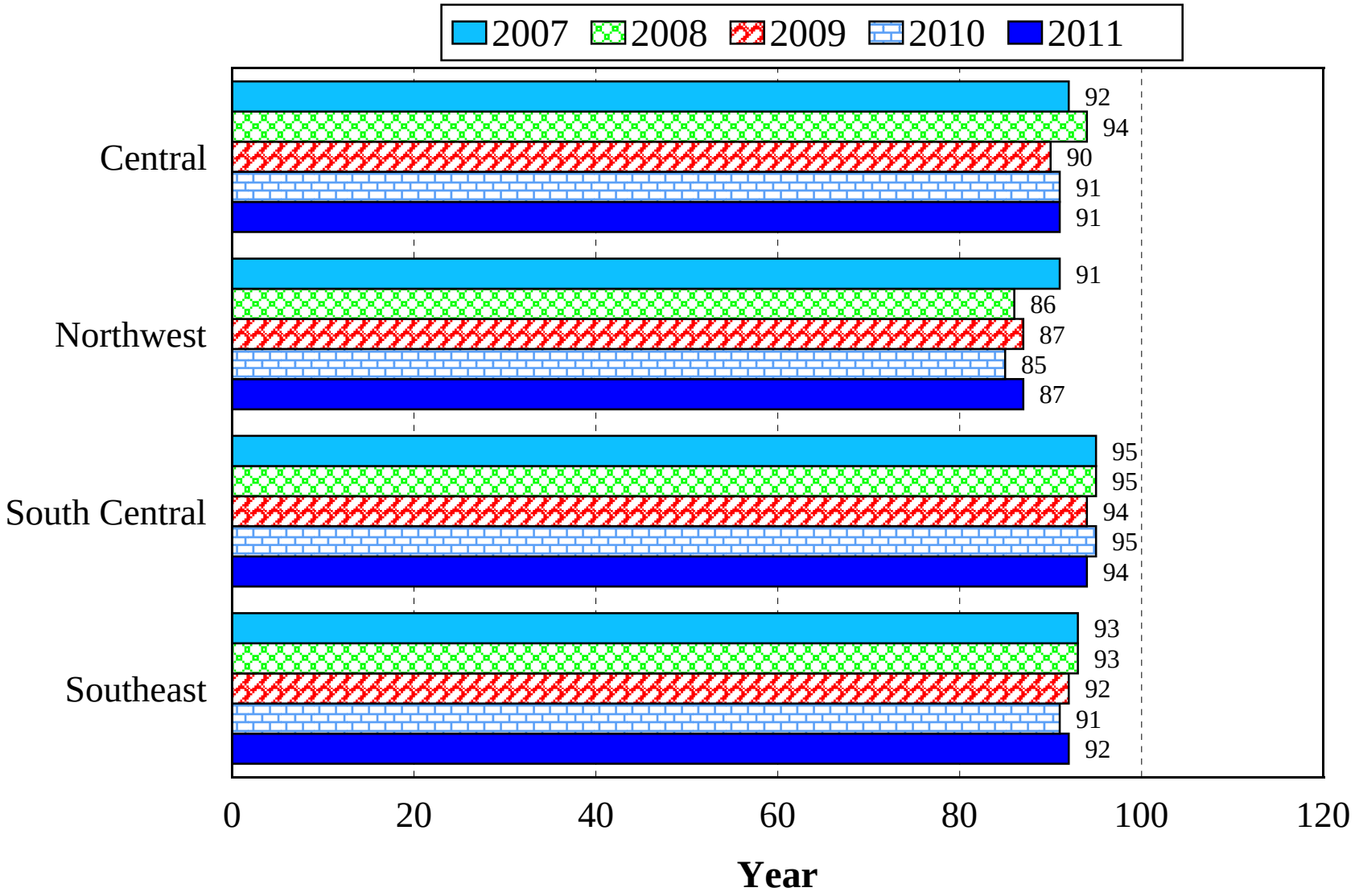
Chart 3b. Official Observed Pickup Truck Seatbelt Use
New Mexico, 2004 - 2011



Source: Annual New Mexico Official Seatbelt Observation Survey
Office of Injury Prevention, Epidemiology & Response Division, NMDOH

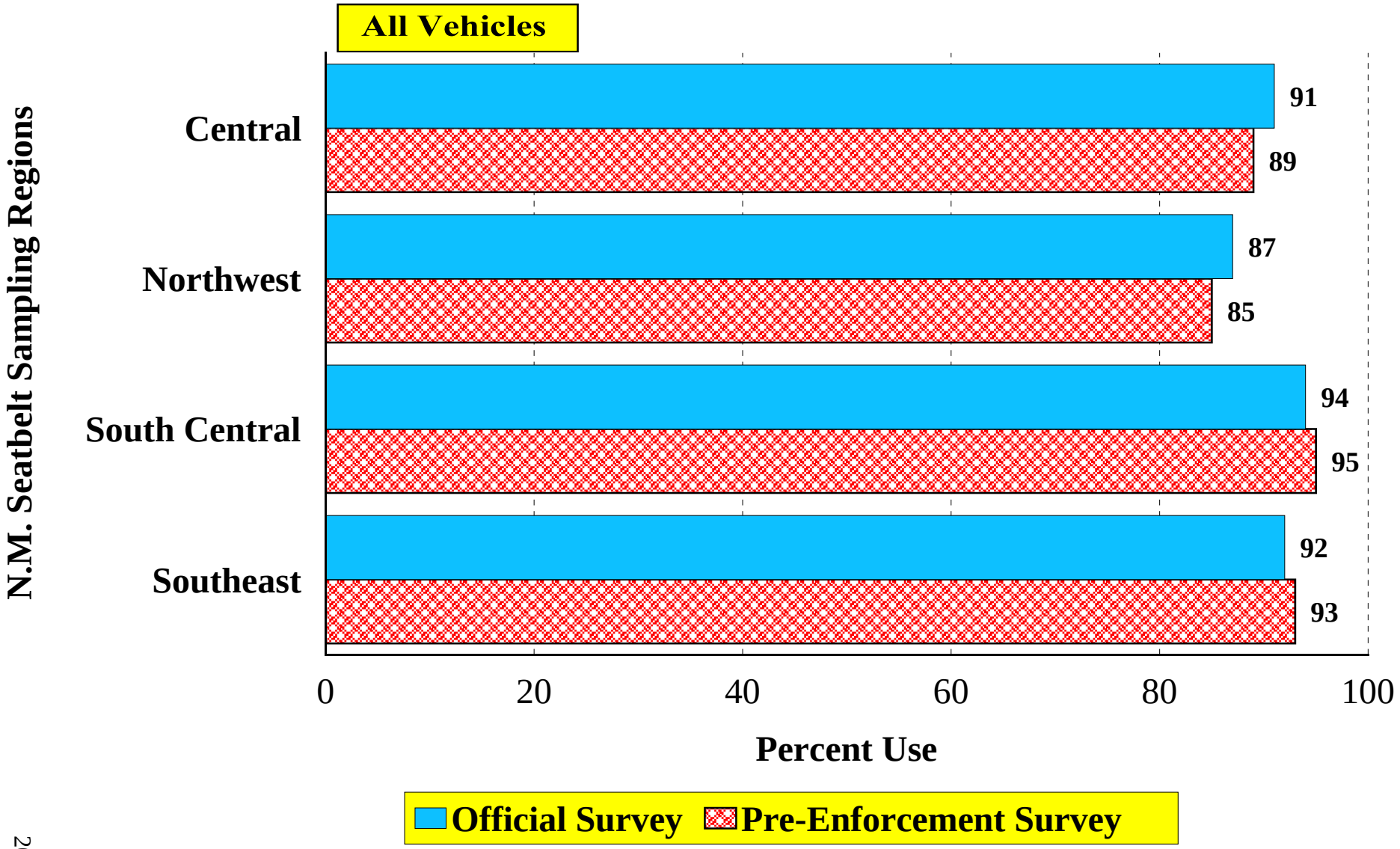
Chart 4. Official Observations by Sampling Regions

All Vehicles, New Mexico, 2007 - 2011



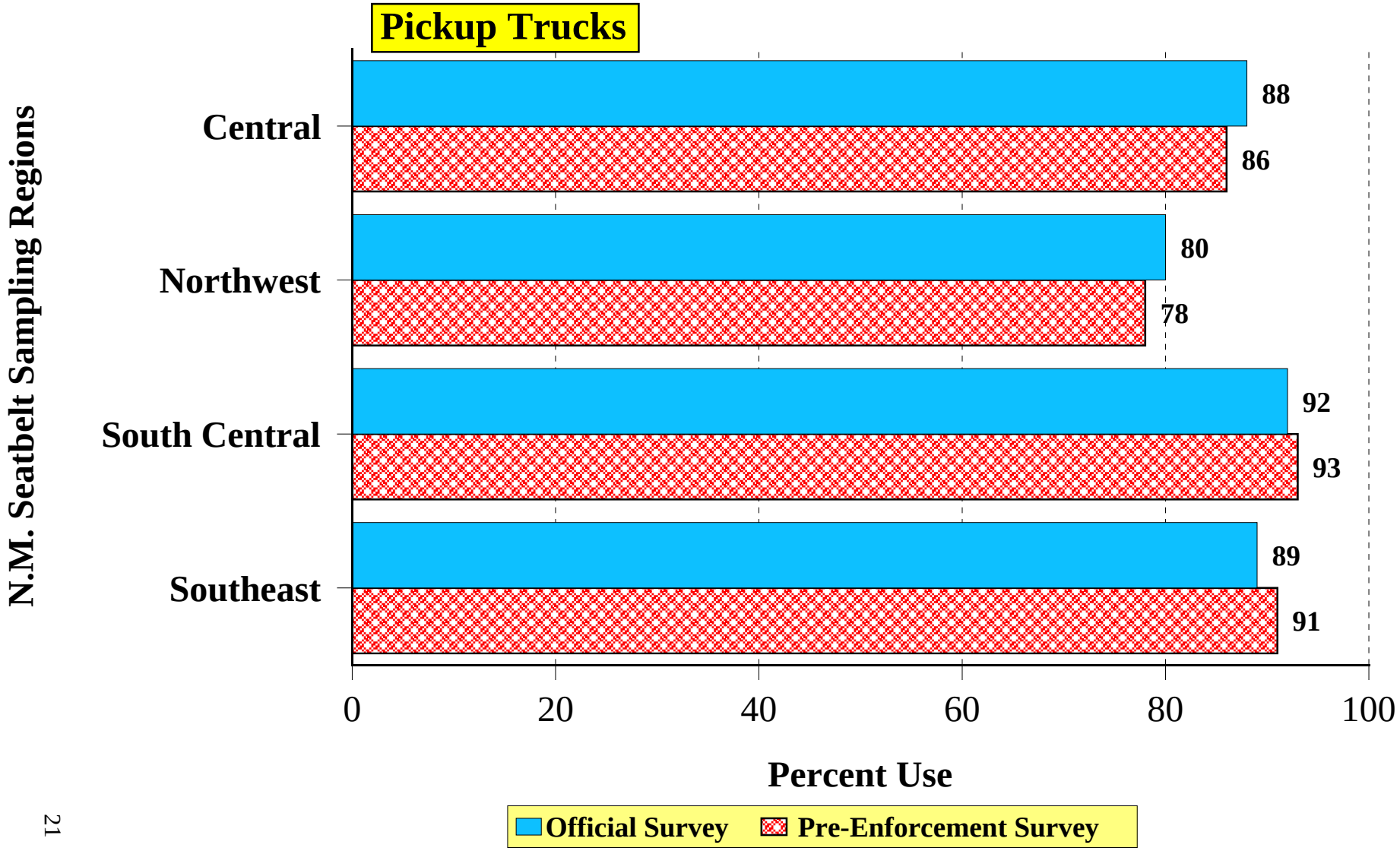
Source: Annual New Mexico Official Seatbelt Observation Survey
Office of Injury Prevention, Epidemiology & Response Division, NMDOH

Chart 4a. Pre-Enforcement and Official Survey Comparison by Sampling Regions, New Mexico, 2011



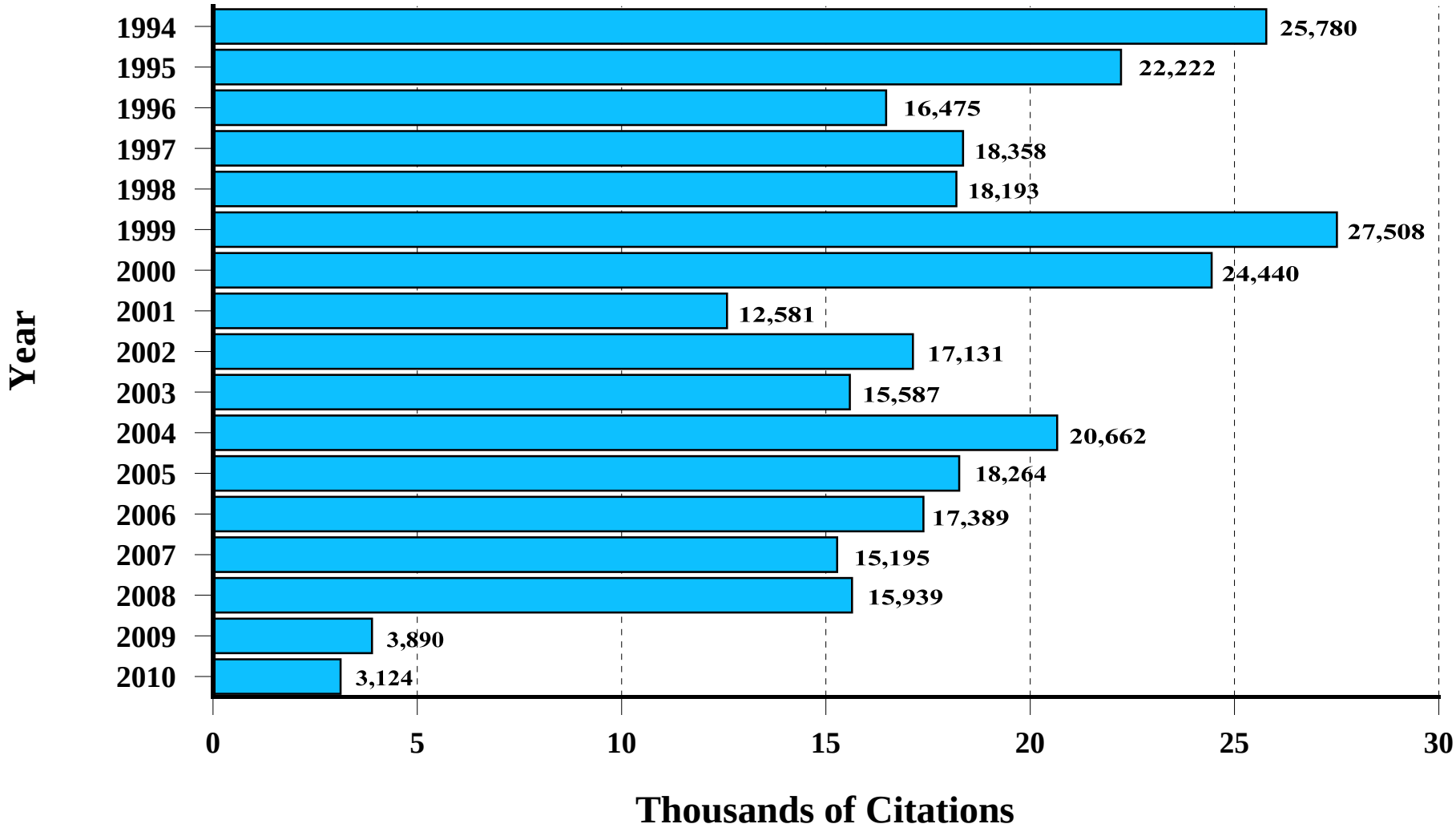
Source: Annual New Mexico Official Seatbelt Observation Survey
Office of Injury Prevention, Epidemiology & Response Division, NMDOH

Chart 4b. Pre-Enforcement and Official Survey Comparison by Sampling Regions, New Mexico, 2011



Source: Annual New Mexico Official Seatbelt Observation Survey
Office of Injury Prevention, Epidemiology & Response Division, NMDOH

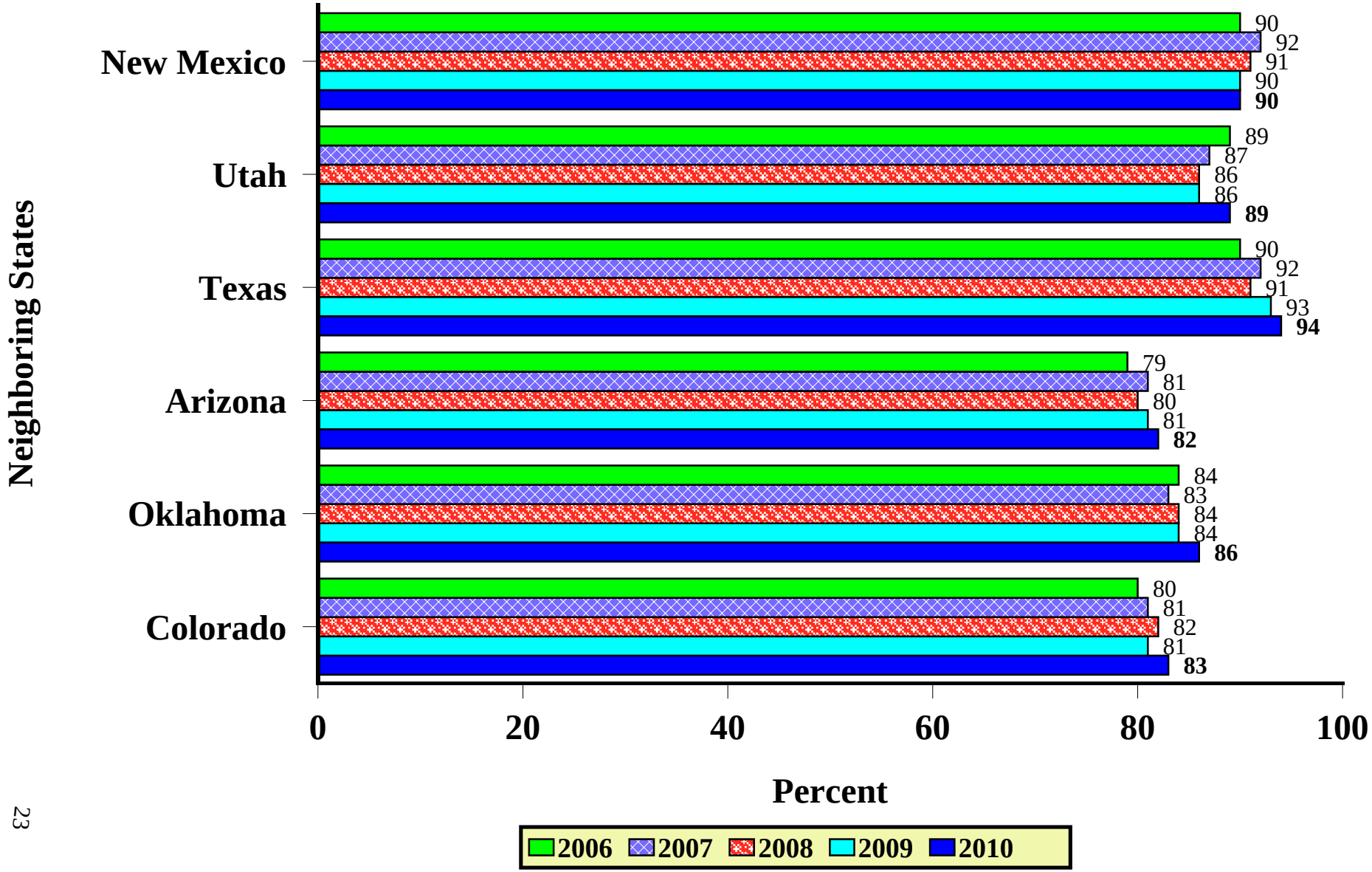
Chart 5. Seatbelt Violation Citations in Operation Buckledown Cities, New Mexico, 1994 - 2010



Note: * 2011 Data not available yet
Source: Operation Buckle Down, Safer New Mexico Now
Office of Injury Prevention, Epidemiology & Response Division, NMDOH

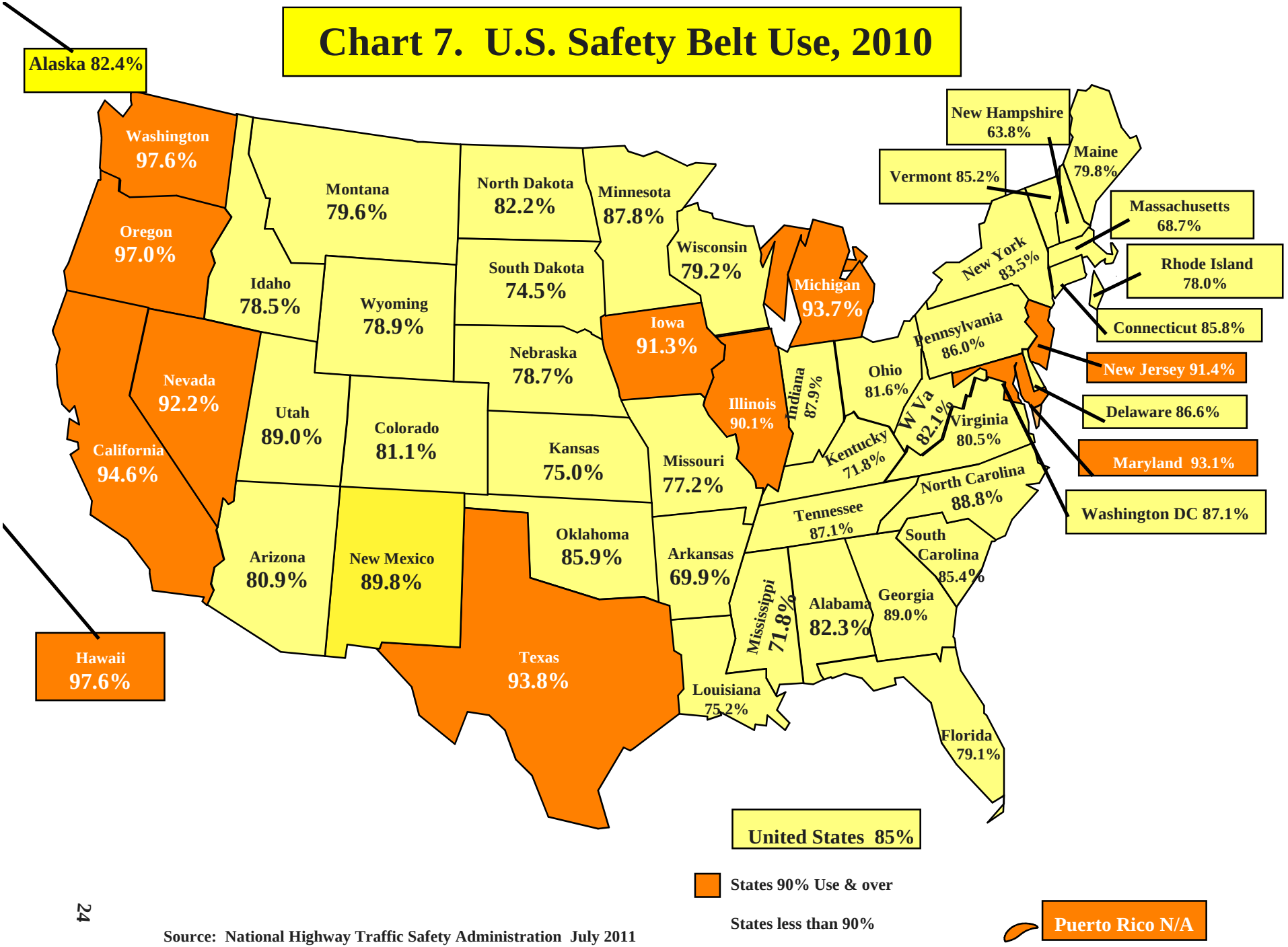
Chart 6. Official Observed Seatbelt Use

Arizona, Colorado, New Mexico, Oklahoma, Texas and Utah, 2005 - 2009



Source: NHTSA Traffic Safety Facts May 2009, Office of Injury Prevention, Epidemiology & Response Division, NMDOH

Chart 7. U.S. Safety Belt Use, 2010



Source: National Highway Traffic Safety Administration July 2011

APPENDIX A

U.S. Department
of Transportation
National Highway
Traffic Safety
Administration

400 Seventh St., S.W.
Washington, D.C. 20590

Mr. Pete K. Rahn, Secretary
NM Highway & Transportation Dept.
P.O. Box 1149
1120 Cerrillos Road
Santa Fe, NM 87503-1149

Dear Mr. Rahn:

The National Highway Traffic Safety Administration (NHTSA) has completed review of the New Mexico seat belt survey design submitted by your office on August 14, 1998. I am pleased to notify you that NHTSA has determined that the New Mexico survey design complies with the *Uniform Criteria for State Observational Surveys of Seat Belt Use*, published in the Federal Register on September 1, 1998 (63 F.R. 46389). For your information, I have enclosed the checklist used in reviewing your survey design. Should you have any questions, please contact NHTSA Regional Administrator Georgia S. Chakiris at (817)978-3653.

Sincerely,

Adele Derby
Associate Administrator for
State & Community Services

cc: Georgia S. Chakiris,
NHTSA Region VI
Donna Dossey,
NM Traffic Safety Bureau

Enclosure

APPENDIX A PART 2

Seat Belt Observation Sampling Plan for New Mexico

James W. Davis
Division of Government Research
University of New Mexico

for the
Traffic Safety Bureau
Transportation Programs Division
New Mexico State Highway and Transportation Department

9/8/98
(Edited 9/14/2010)

1. All observation sites will be within the 14 counties that make up 86.3% of New Mexico's population, as shown below.

County	2008 Pop	% Pop	% VMT
BERNALILLO	651,612	31.3	23.4
DONA ANA	209,224	10.1	9.2
SANTA FE	147,869	7.1	6.9
SAN JUAN	130,093	6.2	5.7
SANDOVAL	127,928	6.1	4.8
MCKINLEY	80,387	3.9	5.0
CHAVES	77,545	3.7	2.5
VALENCIA	67,472	3.2	2.3
LEA	64,087	3.1	2.1
OTERO	59,711	3.3	2.7
EDDY	52,903	2.5	3.3
CURRY	48,005	2.3	1.6
RIO ARRIBA	44,167	2.1	1.8
LUNA	28,319	1.4	3.1
Total	1,789,322	86.3	74.4

2. Road segments (sampling units) eligible for sampling will be those classified as collector and above for which volume data is available from the Consolidated Highway Database maintained by the State Highway and Transportation Department. These segments account for approximately 60% of all vehicle miles traveled (measure of size) in New Mexico. The CHDB contains all state roads and those local roads and streets that were built with Federal funds. This includes most urban arterials and many urban collector routes. Volume data on a segment basis does not exist in any central location for the roads not included in the CHDB. Estimates of total statewide VMT include aggregate travel on roads not included in the CHDB. Contiguous segments with similar characteristics will be combined. Segments with an annual average daily traffic of less than 300 vehicles per day will be excluded. These segments account for 0.5% of total VMT in the CHDB. To the extent possible, rural segments will be defined to have an endpoint in a place of at least 4,000 population, where traffic should be slow enough to permit observation.

3. Counties will be divided into 4 groups: Central (Bernalillo, Sandoval, Valencia) Northwest(Santa Fe, San Juan, McKinley, Rio Arriba), Southeast(Chaves, Eddy, Lea, Curry), and South Central(Dona Ana, Otero, Luna). The sample will be stratified by county group yielding four strata. The strata are intended to guarantee representation of each area of the state and to simplify the process of selecting specific observation sites. There will be 27 sample segments per stratum, for a total of 108 observation sites.

Stratum	Total Segments	Percent Statewide VMT	Percent CHDB VMT	Sample Sites
Central	693	26.6	35.2	27
Northwest	453	21.7	19.4	27
South Central	313	13.3	12.9	27
South East	294	10.3	7.9	27
Total	1,753	71.9	74.8	108

4. Within each stratum, a sample of segments will be drawn with probability proportional to VMT. In operational terms, each segment will get one chance of selection for each 1,000 daily vehicle miles. In each stratum, additional alternate segments will be drawn to allow for the rejection of unsafe or unusable sample sites. The list of segments will be presented in random order within strata to minimize any bias that may be introduced by site rejection (see 6, below).

5. Each segment selected above will be randomly assigned a day of week, time of day, and direction of travel to be observed. All daylight hours during the week will be eligible for selection. It appears that observations will be done in the late summer and fall, so the hours of 7am through 7pm will be considered daylight hours. The assigned time will be the beginning of the hour, so start times between 7am and 6pm will be assigned.

6. Observers will select the specific observation site on each segment, taking into account safety and ease of observation. If no suitable site exists on a segment, the segment may be rejected and the first available alternate used. Observers may change the direction of travel to be observed if lighting conditions or safety dictate [observing Eastbound traffic at sunset is likely to produce poor results]. Some alterations of day of week or time of day will be allowed to improve the efficiency of data collection, especially in outlying areas. These changes must be approved by the agency responsible for data collection and analysis. Observers will document the exact site location and any changes in direction, day of week, or time of day. The documentation will include the number of through lanes in the observed direction.

Once these initial adjustments have been made, the same sites, directions and times will be used for subsequent surveys. In the event of unavailability of a site (due to construction, etc.), a

similar site on the same segment may be used. Scheduled observations that cannot be completed due to weather or other temporary obstacles will be rescheduled for the same day of week and time of day as soon as reasonably possible. If a site becomes permanently unavailable and no similar site exists on the segment, the next available alternate segment will be used. All changes in observation sites will be documented.

7. All vehicles under 10,000 pounds are subject to the New Mexico Safety Belt Use Act. All passenger vehicles (cars, vans, pickups, and sport utilities) will be observed. At each site, observers will record every vehicle that passes in 20 minutes. Observers will record belt use for the driver and outboard front passenger separately. If traffic is too heavy or too fast to observe every vehicle, the observer will observe only the nearest through lane, and note this fact on the data collection sheet. Observers will use tape recorders to avoid having to look away from the traffic stream. Experienced observers report that it is possible to record every vehicle in a single lane even in very heavy or very fast traffic.

Written instructions covering site selection, clustering and observation have been prepared.

8. The statewide usage rate will be computed as follows:
[Column and Cell references are to the Excel spreadsheet used for analysis - detail sheet
See the summary sheet for overall estimates and notes.]

The state is divided into four strata (r) and in each stratum there are 27 sample segments (i).

Let:
V_r = the total Vehicle Miles of Travel in stratum r.
VC_r = the total Vehicle Miles of Travel in stratum r represented in the CHDB
V_{ri} = the total Vehicle Miles of Travel on segment i determined from the CHDB

The probability of selection is approximately $(V_{ri} \div VC_r)*27$

S_{ri} = sampling weight for segment i in stratum r = $VC_r \div (V_{ri}*27)$
[one over the probability of selection][Column U]

O_{ri} = the number of occupants observed on segment i in stratum r.
[Column R plus Column S]
B_{ri} = the number of belted occupants observed on segment i in stratum r.
[Column R]
L_{ri} = the lane weight for segment i in stratum r = (total lanes)÷(observed lanes).
[Column M over Column L]

P_r = the usage rate estimate for stratum r = $3(S_{ri}*L_{ri}*B_{ri}) \div 3(S_{ri}*L_{ri}*O_{ri})$
[the sums are over all sites i in stratum r]
[Weighted totals for each site in Columns V and W, lane weight computed in formula]
[Stratum estimates are Cells X33, X64, X95, X126]

W_r = the weight for each stratum = V_rЭ3(V_r)
P = the statewide usage rate estimate= 3(W_r*P_r)
[Cell Y1, weights incorporated in formula]

The variance of P will be estimated with the jacknife method:

Let P_{ri*} = P above computed excluding segment i in stratum r
P_{ri} = 108(P) - 107(P_{ri*}) Jacknife estimate
[P_{ri*} in Column Z, P_{ri} in Column AA]

The sample variance of the P_{ri} will be used to estimate the variance of P.
[Standard deviation in Cell AB1, Standard error in Cell AC1 = SD/SQRT(N),
N is in cell AD1, Standard Error as a percentage of the estimate in Cell AC2,
Overall estimate re-expressed as a percentage is in Cell AC3, 95% confidence limits
In AC11 and AC12 -- These cells are copied to the summary sheet]

The statewide usage rate estimate from the current survey is 88%. The current survey uses a convenience sample, so generalization is hazardous, but the overall usage rate estimate is not expected to change greatly. The current survey collects about 5,200 observations in 17 urban areas twice per year. The results have been quite stable over time, and correlate well with injury probabilities derived from crash data.

9. Observer training, quality control, data entry, data analyses and reporting has been contracted from the Highway and Transportation Department, Traffic Safety Bureau to the NM Department of Health, Public Health Division, Office of Epidemiology.

Observer training: For the 1998 survey only five experienced observers will be utilized. Prior to commencement of the survey, all observers will be required to attend a one day training session. This protocol will be carefully reviewed, observers will then conduct an observation of a predetermined roadway (all observers will observe the same vehicles). Following the observation, the class will review their results and discuss any discrepancies. Steps will be taken to correct any major differences among observers.

Quality Control: Data forms submitted by observers will be carefully reviewed by employees from the office of Epidemiology, and any problems discussed with the observers.

Data Entry: Entry will be performed by two employees using the *Epi. Info. 6.04* software package. The data entry program includes internal edits for legitimate characters. Data entry is reviewed by a third person.

Data Analyses: Analyses will be performed using the *Epi. Info. 6.04* software, and with an Excel spreadsheet..

Report: A written report will be produced for each survey. Use rates will be shown for

each observation site. Data will be aggregated by geographic strata, or area, and a statewide total. When possible, data will be aggregated by metropolitan area. Use rates for driver, front passenger and frontseat occupant will be shown. Both raw counts and weighted rates will be presented.

APPENDIX B

Official New Mexico Safety Belt Observation Study Protocol 2011

- On every cover letter of the seatbelt observation forms for your site number location is space to draw a map of exactly where you are standing, direction of traffic you observe and number of lanes you are observing. This assures that the site is observed at the same location each year.

- Choose a location in your assigned site where you are safe to observe vehicles through the front windshield. Observations through the front windshield do not depend on visual inspection through side or rear windows because they are frequently too tinted to allow inspection. If you miss through the front windshield, make an attempt to see if you can see the strap through the back window as he proceeds.

- Record an observation for every vehicle which passes the observation point during the continuous 20 minute period.
    a. If the vehicle is prior to 1968 and does not have shoulder straps, mark as an **exempt vehicle.** If it's a truck 10,000 pounds and over also mark this as an **exempt vehicle**.
    b. Count restraint use for both driver and front outboard passengers. Do not count passengers in the middle front seat or rear seats.
    c. If a driver is observed with the shoulder belt behind the back, or other improper location, that should be recorded as **"NSB"**
    d. Mark children as A**SB**≅, A**NSB**≅, or A**UNK**≅ depending on whether or not they are in a child restraint device. Do not attempt to determine correct or incorrect child seat use.

- Be sure to observe **every** vehicle passing your observation point. **Do not** let yourself selectively seek out those vehicles in which you can see a safety belt. If you are not able to observe seatbelt use**, mark it as unknown.**

- When observing, recording or transcribing the actual site observations use a **highlighter pen** such as yellow, light green or other light colors to indicate seatbelt use or non use.

- Once you have selected an observation location in the site assigned to you, plan to repeat all future observations at the same location, same day and same time of the week. Make changes only in the event of construction or inclement weather, but only in the stretch of road which the site number is assigned, such as from "**Wyoming from Phoenix to Comanche**."

- Some sites, especially those with high volume traffic, will require observations to be recorded into a recorder and later be transcribed to the official form. Others with less traffic can be recorded directly on the form.

Count front passenger children as using, or not using restraints (Safety Belts).

SUMMER 2011
SEAT BELT OBSERVATION FORM

City & County_____ Date _____Day of Week _____

Location _____ Site Number_____Time _____

Lane Observed_____ Direction _____
(Curbtside, median, Center) (North, South, East, West)

Observer _____ Phone Number _____

PLEASE DESCRIBE YOUR **OBSERVATION LOCATION, LANE OF TRAFFIC BEING**

OBSERVED, AND INDICATE DIRECTION OF TRAFFIC FLOW BELOW:

KEY: **SB = SEAT BELT** **NSB = NO SEAT BELT**
UNK = Use UNKNOWN - for older vehicles or poor visibility due to windshield tinting.
TRUCK = a Pickup truck with a bed, not an SUV

EXEMPT VEHICLES = Trucks 10,000 lbs. and over and cars prior to 1968 models. Mark a hatch on the right side of the form such as "llll llll llll". 4 slashes and 1 crossing them indicate a total of 5 vehicles.

Please **Hi light** usage or non-usage for **driver** and **front outboard passenger** with a light colored hi-light pen.

Note: Count front passenger children as using, or not using restraints (that is a Seat Belt).

APPENDIX B 2011

Location_____ Observer _____ Date _____

	TRUCK		DRIVER			FRONT PASSENGER			EXEMPT
1	T	SB	NSB	UNK		SB	NSB	UNK	1 hatch mark per vehicle
2	T	SB	NSB	UNK		SB	NSB	UNK	
3	T	SB	NSB	UNK		SB	NSB	UNK	
4	T	SB	NSB	UNK		SB	NSB	UNK	
5	T	SB	NSB	UNK		SB	NSB	UNK	
6	T	SB	NSB	UNK		SB	NSB	UNK	
7	T	SB	NSB	UNK		SB	NSB	UNK	
8	T	SB	NSB	UNK		SB	NSB	UNK	
9	T	SB	NSB	UNK		SB	NSB	UNK	
10	T	SB	NSB	UNK		SB	NSB	UNK	
11	T	SB	NSB	UNK		SB	NSB	UNK	
12	T	SB	NSB	UNK		SB	NSB	UNK	
13	T	SB	NSB	UNK		SB	NSB	UNK	
14	T	SB	NSB	UNK		SB	NSB	UNK	
15	T	SB	NSB	UNK		SB	NSB	UNK	
16	T	SB	NSB	UNK		SB	NSB	UNK	
17	T	SB	NSB	UNK		SB	NSB	UNK	
18	T	SB	NSB	UNK		SB	NSB	UNK	
19	T	SB	NSB	UNK		SB	NSB	UNK	
20	T	SB	NSB	UNK		SB	NSB	UNK	
21	T	SB	NSB	UNK		SB	NSB	UNK	
22	T	SB	NSB	UNK		SB	NSB	UNK	
23	T	SB	NSB	UNK		SB	NSB	UNK	
24	T	SB	NSB	UNK		SB	NSB	UNK	
25	T	SB	NSB	UNK		SB	NSB	UNK	Total Exempt _____

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April-May 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw % Belted	Sampling Weight	Stratum Raw %
1	146	82	9	13	3	95	12	88.79	12.65	
1	159	99	12	40	5	139	17	89.10	15.53	
1	1954	148	19	30	7	178	26	87.25	18.16	
1	2662	187	25	16	7	203	32	86.38	33	
1	525	70	7	4	1	74	8	90.24	46.24	
1	25	87	8	28	6	115	14	89.15	15.04	
1	1541	127	14	39	8	166	22	88.30	11.4	
1	1959	42	2	17	2	59	4	93.65	10.24	
1	2410	67	4	13	2	80	6	93.02	8.43	
1	177	141	18	8	3	149	21	87.65	134.32	
1	1564	244	20	26	6	270	26	91.22	10.22	
1	1870	95	17	24	8	119	25	82.64	10.1	
1	1957	49	4	17	2	66	6	91.67	11.15	
1	1544	234	15	46	6	280	21	93.02	13.88	
1	1693	334	36	70	6	404	42	90.58	10.77	
1	2666	160	4	56	1	216	5	97.74	15.45	
1	1576	225	30	71	13	296	43	87.32	93.5	
1	2554	82	10	21	5	103	15	87.29	17.36	
1	2660	133	8	47	2	180	10	94.74	20.74	
1	174	91	11	13	5	104	16	86.67	19.19	
1	1984	124	13	28	3	152	16	90.48	8.54	
1	2416	72	9	35	2	107	11	90.68	241.84	
1	683	137	18	25	6	162	24	87.10	12.67	
1	1538	113	17	74	9	187	26	87.79	17.67	
1	105	77	9	17	2	94	11	89.52	27.51	
1	144	124	18	38	7	162	25	86.63	13.85	
1	45	134	14	43	6	177	20	89.85	20.42	89.38

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April-May 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw % Belted	Sampling Weight	Stratum Raw %
2	1642	105	8	51	10	156	18	89.66	3.9	
2	1732	115	8	39	3	154	11	93.33	4.78	
2	2344	88	17	27	12	115	29	79.86	5.71	
2	402	149	22	35	2	184	24	88.46	30.43	
2	1632	118	17	54	11	172	28	86.00	7.95	
2	1088	20	1	2	0	22	1	95.65	912.58	
2	1882	75	9	17	2	92	11	89.32	5.72	
2	1589	146	18	45	6	191	24	88.84	2.68	
2	274	72	12	19	9	91	21	81.25	10.85	
2	2393	40	12	12	0	52	12	81.25	14.5	
2	1964	47	4	18	3	65	7	90.28	5.71	
2	2212	51	11	11	5	62	16	79.49	89.44	
2	3018	204	24	63	8	267	32	89.30	5.3	
2	2037	82	24	12	6	94	30	75.81	15.22	
2	1628	108	10	68	8	176	18	90.72	5.07	
2	2627	70	4	25	2	95	6	94.06	5.56	
2	3029	142	43	33	18	175	61	74.15	11.84	
2	263	81	12	21	6	102	18	85.00	15.22	
2	1587	183	24	61	7	244	31	88.73	2.87	
2	2908	15	6	2	6	17	12	58.62	16.81	
2	1626	39	3	20	2	59	5	92.19	4.75	
2	3021	171	12	93	11	264	23	91.99	4.24	
2	2889	122	40	28	17	150	57	72.46	7	
2	399	104	34	19	5	123	39	75.93	17.98	
2	3089	19	9	5	2	24	11	68.57	18.26	
2	299	74	25	27	17	101	42	70.63	70.15	
2	1596	215	32	39	11	254	43	85.52	2.68	84.75

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April-May 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw % Belted	Sampling Weight	Stratum Raw %
3	1926	79	2	16	1	95	3	96.94	5.93	
3	2100	222	12	51	3	273	15	94.79	7.5	
3	959	198	12	52	3	250	15	94.34	43.43	
3	1469	81	2	43	2	124	4	96.88	1.16	
3	1461	17	1	8	1	25	2	92.59	2.23	
3	329	160	11	28	1	188	12	94.00	7.05	
3	1491	302	17	32	1	334	18	94.89	4.7	
3	2597	130	8	29	2	159	10	94.08	9	
3	321	66	3	9	1	75	4	94.94	20.37	
3	2276	73	2	23	0	96	2	97.96	11.65	
3	2099	118	7	18	2	136	9	93.79	7.04	
3	1492	270	5	33	2	303	7	97.74	5.77	
3	2934	44	1	15	0	59	1	98.33	5.54	
3	2941	168	4	47	2	215	6	97.29	6.29	
3	1487	269	11	107	14	376	25	93.77	4.77	
3	2363	98	8	41	2	139	10	93.29	11.47	
3	2805	152	9	39	6	191	15	92.72	3.15	
3	334	314	16	57	5	371	21	94.64	35.09	
3	1486	141	2	28	3	169	5	97.13	1.67	
3	2806	89	4	30	2	119	6	95.20	3.74	
3	1484	181	4	33	1	214	5	97.72	3.12	
3	2948	50	0	27	2	77	2	97.47	3.79	
3	333	84	7	15	0	99	7	93.40	29.37	
3	2944	262	18	61	6	323	24	93.08	3.54	
3	2241	257	15	102	20	359	35	91.12	7.77	
3	1496	79	0	32	0	111	0	100.00	3.58	
3	1479	64	2	27	2	91	4	95.79	5.1	93.8

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April-May 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw % Belted	Sampling Weight	Stratum Raw %
4	2269	80	11	13	1	93	12	88.57	2.82	
4	2278	26	4	8	2	34	6	85.00	13.88	
4	1910	156	10	59	6	215	16	93.07	15.05	
4	2066	8	1	1	1	9	2	81.82	13.34	
4	2965	53	1	14	1	67	2	97.10	2.76	
4	226	72	6	10	0	82	6	93.18	9.61	
4	2862	57	4	21	3	78	7	91.76	16.44	
4	2171	71	1	16	3	87	4	95.60	8.39	
4	1900	67	5	22	3	89	8	91.75	1.92	
4	2867	104	7	30	4	134	11	92.41	2.01	
4	3056	192	7	38	7	230	14	94.26	4.22	
4	2877	20	1	9	0	29	1	96.67	2.05	
4	2969	218	8	56	10	274	18	93.84	4.08	
4	2881	31	2	5	1	36	3	92.31	1.89	
4	3072	81	8	34	3	115	11	91.27	8.93	
4	3102	28	0	13	0	41	0	100.00	16.03	
4	2601	19	0	3	0	22	0	100.00	8.05	
4	2262	22	0	4	2	26	2	92.86	6.39	
4	2874	202	6	72	7	274	13	95.47	4.65	
4	745	41	4	12	3	53	7	88.33	13.94	
4	2868	89	7	20	5	109	12	90.08	4.71	
4	2885	75	2	23	4	98	6	94.23	8.77	
4	3070	54	3	15	0	69	3	95.83	2.61	
4	2964	50	0	13	2	63	2	96.92	6.97	
4	3099	34	7	10	0	44	7	86.27	4.73	
4	304	174	11	37	9	211	20	91.34	4.53	
4	2865	112	11	27	6	139	17	89.10	5.13	92.84

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
1	146	13	3	2	1	15	4	78.95	12.65	
1	159	16	4	4	1	20	5	80.00	15.53	
1	1954	48	9	10	4	58	13	81.69	18.16	
1	2662	43	7	2	0	45	7	86.54	33	
1	525	8	0	2	0	10	0	100.00	46.24	
1	25	13	1	3	1	16	2	88.89	15.04	
1	1541	39	3	15	0	54	3	94.74	15.46	
1	1959	11	2	6	1	17	3	85.00	10.24	
1	2410	24	1	5	1	29	2	93.55	8.43	
1	177	18	4	0	0	18	4	81.82	134.32	
1	1564	54	9	9	1	63	10	86.30	10.22	
1	1870	22	6	7	3	29	9	76.32	10.1	
1	1957	15	0	7	0	22	0	100.00	11.15	
1	1544	53	6	11	2	64	8	88.89	13.88	
1	1693	72	9	16	1	88	10	89.80	10.77	
1	2666	32	0	9	0	41	0	100.00	15.45	
1	1576	48	10	15	6	63	16	79.75	93.5	
1	2554	18	3	6	2	24	5	82.76	17.36	
1	2660	28	2	10	1	38	3	92.68	20.74	
1	174	16	3	1	1	17	4	80.95	19.19	
1	1984	29	6	10	2	39	8	82.98	8.54	
1	2416	24	4	8	1	32	5	86.49	241.84	
1	683	25	4	4	1	29	5	85.29	12.67	
1	1538	26	7	20	1	46	8	85.19	17.67	
1	105	18	3	6	0	24	3	88.89	27.51	
1	144	12	1	4	0	16	1	94.12	13.85	
1	45	19	1	4	0	23	1	95.83	20.42	
									87.12	

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
2	1642	19	2	8	1	27	3	90.00	3.9	
2	1732	34	3	9	1	43	4	91.49	4.78	
2	2344	21	6	6	6	27	12	69.23	5.71	
2	402	16	6	4	0	20	6	76.92	30.43	
2	1632	32	4	10	3	42	7	85.71	7.95	
2	1088	2	0	1	0	3	0	100.00	912.58	
2	1882	11	2	1	0	12	2	85.71	5.72	
2	1589	25	3	7	2	32	5	86.49	2.68	
2	274	28	4	7	4	35	8	81.40	10.85	
2	2393	13	4	4	0	17	4	80.95	14.5	
2	1964	17	3	3	1	20	4	83.33	5.71	
2	2212	21	6	4	2	25	8	75.76	89.44	
2	3018	39	10	5	2	44	12	78.57	5.3	
2	2037	25	10	2	1	27	11	71.05	15.22	
2	1628	27	6	15	3	42	9	82.35	5.07	
2	2627	10	2	6	0	16	2	88.89	5.56	
2	3029	33	11	3	6	36	17	67.92	11.84	
2	263	33	5	7	2	40	7	85.11	15.22	
2	1587	44	9	12	2	56	11	83.58	2.87	
2	2908	8	4	1	3	9	7	56.25	16.81	
2	1626	11	2	8	0	19	2	90.48	4.75	
2	3021	30	1	18	1	48	2	96.00	4.24	
2	2889	47	10	3	6	50	16	75.76	7	
2	399	18	4	2	2	20	6	76.92	17.98	
2	3089	3	2	0	0	3	2	60.00	18.26	
2	299	27	12	8	9	35	21	62.50	70.15	
2	1596	32	10	8	5	40	15	72.73	2.68	

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
3	1926	31	1	3	0	34	1	97.14	5.93	
3	2100	34	4	10	1	44	5	89.80	7.5	
3	959	42	4	8	1	50	5	90.91	43.43	
3	1469	27	0	13	0	40	0	100.00	1.16	
3	1461	7	0	3	0	10	0	100.00	2.23	
3	329	29	1	5	0	34	1	97.14	7.05	
3	1491	50	6	6	0	56	6	90.32	4.7	
3	2597	40	3	8	0	48	3	94.12	9	
3	321	17	0	4	0	21	0	100.00	20.37	
3	2276	17	1	7	0	24	1	96.00	11.65	
3	2099	31	3	4	0	35	3	92.11	7.04	
3	1492	61	1	5	0	66	1	98.51	5.77	
3	2934	19	0	3	0	22	0	100.00	5.54	
3	2941	34	2	8	1	42	3	93.33	6.29	
3	1487	52	5	19	2	71	7	91.03	4.77	
3	2363	17	3	6	1	23	4	85.19	11.47	
3	2805	44	2	9	0	53	2	96.36	3.15	
3	334	52	6	10	2	62	8	88.57	35.09	
3	1486	29	0	6	0	35	0	100.00	1.67	
3	2806	32	0	9	0	41	0	100.00	3.74	
3	1484	40	0	5	1	45	1	97.83	3.12	
3	2948	4	0	1	0	5	0	100.00	3.79	
3	333	21	1	5	0	26	1	96.30	29.37	
3	2944	57	2	15	0	72	2	97.30	3.54	
3	2241	53	5	21	6	74	11	87.06	7.77	
3	1496	23	0	5	0	28	0	100.00	3.58	
3	1479	22	1	6	1	28	2	93.33	5.1	
								94.20		

APPENDIX C

PRE-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
4	2269	27	8	6	0	33	8	80.49	2.82	
4	2278	8	1	4	1	12	2	85.71	13.88	
4	1910	61	8	23	2	84	10	89.36	15.05	
4	2066	6	1	1	1	7	2	77.78	13.34	
4	2965	18	1	4	1	22	2	91.67	2.76	
4	226	29	1	4	0	33	1	97.06	9.61	
4	2862	16	3	6	1	22	4	84.62	16.44	
4	2171	38	1	9	1	47	2	95.92	8.39	
4	1900	40	4	15	2	55	6	90.16	1.92	
4	2867	42	6	7	2	49	8	85.96	2.01	
4	3056	78	3	15	5	93	8	92.08	4.22	
4	2877	6	1	2	0	8	1	88.89	2.05	
4	2969	65	3	17	5	82	8	91.11	4.08	
4	2881	25	2	3	1	28	3	90.32	1.89	
4	3072	27	2	45	0	72	2	97.30	8.93	
4	3102	16	0	7	0	23	0	100.00	16.03	
4	2601	15	0	2	0	17	0	100.00	8.05	
4	2262	7	0	0	0	7	0	100.00	6.39	
4	2874	84	3	27	2	111	5	95.69	4.65	
4	745	22	2	6	1	28	3	90.32	13.94	
4	2868	33	6	7	4	40	10	80.00	4.71	
4	2885	37	1	8	1	45	2	95.74	8.77	
4	3070	25	3	4	0	29	3	90.63	2.61	
4	2964	15	0	4	0	19	0	100.00	6.97	
4	3099	18	6	3	0	21	6	77.78	4.73	
4	304	52	6	7	5	59	11	84.29	4.53	
4	2865	33	6	5	1	38	7	84.44	5.13	
								90.48		

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, June - July 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	Raw % Belted	Sampling Weight	Stratum Raw %
1	146	79	4	7	2	86	6	93.48	12.65	
1	159	119	11	35	5	154	16	90.59	15.53	
1	1954	146	10	31	7	177	17	91.24	18.16	
1	2662	182	12	20	3	202	15	93.09	33	
1	525	64	5	11	1	75	6	92.59	46.24	
1	25	75	10	25	5	100	15	86.96	15.04	
1	1541	128	20	47	6	175	26	87.06	11.4	
1	1959	49	6	16	2	65	8	89.04	10.24	
1	2410	65	6	11	2	76	8	90.48	8.43	
1	177	116	10	10	2	126	12	91.30	134.32	
1	1564	233	16	33	2	266	18	93.66	10.22	
1	1870	79	7	18	3	97	10	90.65	10.1	
1	1957	81	3	34	5	115	8	93.50	11.15	
1	1544	244	22	46	5	290	27	91.48	13.88	
1	1693	323	37	89	12	412	49	89.37	10.77	
1	2666	166	5	56	4	222	9	96.10	15.45	
1	1576	234	32	100	8	334	40	89.30	93.5	
1	2554	84	6	24	2	108	8	93.10	17.36	
1	2660	131	6	57	4	188	10	94.95	20.74	
1	174	45	6	14	4	59	10	85.51	19.19	
1	1984	86	13	31	4	117	17	87.31	8.54	
1	2416	60	3	25	4	85	7	92.39	241.84	
1	683	149	19	36	9	185	28	86.85	12.67	
1	1538	97	11	40	4	137	15	90.13	17.67	
1	105	62	6	15	7	77	13	85.56	27.51	
1	144	115	14	30	4	145	18	88.96	13.85	
1	45	139	16	59	5	198	21	90.41	20.42	90.72

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, June - July 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	Raw % Belted	Sampling Weight	Stratum Raw %
2	1642	121	7	52	6	173	13	93.01	3.9	
2	1732	156	13	51	8	207	21	90.79	4.78	
2	2344	78	17	41	17	119	34	77.78	5.71	
2	402	182	19	52	4	234	23	91.05	30.43	
2	1632	116	19	67	6	183	25	87.98	7.95	
2	1088	14	3	3	0	17	3	85.00	912.58	
2	1882	59	7	9	4	68	11	86.08	5.72	
2	1589	203	16	63	4	266	20	93.01	2.68	
2	274	96	13	38	9	134	22	85.90	10.85	
2	2393	38	3	10	0	48	3	94.12	14.5	
2	1964	67	5	30	3	97	8	92.38	5.71	
2	2212	55	4	22	1	77	5	93.90	89.44	
2	3018	229	24	68	8	297	32	90.27	5.3	
2	2037	91	24	30	4	121	28	81.21	15.22	
2	1628	103	9	65	0	168	9	94.92	5.07	
2	2627	74	2	45	3	119	5	95.97	5.56	
2	3029	159	34	54	14	213	48	81.61	11.84	
2	263	93	17	24	7	117	24	82.98	15.22	
2	1587	216	25	79	8	295	33	89.94	2.87	
2	2908	29	6	8	5	37	11	77.08	16.81	
2	1626	95	7	50	4	145	11	92.95	4.75	
2	3021	211	16	117	23	328	39	89.37	4.24	
2	2889	118	31	33	13	151	44	77.44	7	
2	399	130	23	29	5	159	28	85.03	17.98	
2	3089	29	6	12	1	41	7	85.42	18.26	
2	299	91	18	37	9	128	27	82.58	70.15	
2	1596	222	25	56	9	278	34	89.10	2.68	88.14

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, June - July 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	Raw % Belted	Sampling Weight	Stratum Raw %
3	1926	78	4	23	5	101	9	91.82	5.93	
3	2100	155	9	26	6	181	15	92.35	7.5	
3	959	174	8	49	2	223	10	95.71	43.43	
3	1469	66	2	22	2	88	4	95.65	1.16	
3	1461	22	1	13	0	35	1	97.22	2.23	
3	329	139	10	43	2	182	12	93.81	7.05	
3	1491	206	13	47	4	253	17	93.70	4.7	
3	2597	166	7	40	6	206	13	94.06	9	
3	321	84	5	11	2	95	7	93.14	20.37	
3	2276	63	1	30	2	93	3	96.88	11.65	
3	2099	106	10	23	2	129	12	91.49	7.04	
3	1492	209	6	55	6	264	12	95.65	5.77	
3	2934	23	1	0	0	23	1	95.83	5.54	
3	2941	175	8	54	2	229	10	95.82	6.29	
3	1487	109	8	53	4	162	12	93.10	4.77	
3	2363	81	2	35	1	116	3	97.48	11.47	
3	2805	134	5	34	6	168	11	93.85	3.15	
3	334	128	16	25	1	153	17	90.00	35.09	
3	1486	112	2	35	4	147	6	96.08	1.67	
3	2806	66	3	25	0	91	3	96.81	3.74	
3	1484	127	10	34	1	161	11	93.60	3.12	
3	2948	27	0	1	0	28	0	100.00	3.79	
3	333	82	4	11	3	93	7	93.00	29.37	
3	2944	259	18	69	6	328	24	93.18	3.54	
3	2241	146	12	62	4	208	16	92.86	7.77	
3	1496	65	0	24	3	89	3	96.74	3.58	
3	1479	47	7	17	4	64	11	85.33	5.1	93.99

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, June - July 2011: Site results ALL VEHICLES

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	Raw % Belted	Sampling Weight	Stratum Raw %
4	2269	40	6	18	2	58	8	87.88	2.82	
4	2278	20	3	2	1	22	4	84.62	13.88	
4	1910	140	12	26	9	166	21	88.77	15.05	
4	2066	6	1	1	0	7	1	87.50	13.34	
4	2965	55	3	13	0	68	3	95.77	2.76	
4	226	52	4	5	1	57	5	91.94	9.61	
4	2862	59	5	37	0	96	5	95.05	16.44	
4	2171	78	3	14	3	92	6	93.88	8.39	
4	1900	54	3	12	3	66	6	91.67	1.92	
4	2867	47	13	14	2	61	15	80.26	2.01	
4	3056	131	9	40	8	171	17	90.96	4.22	
4	2877	27	2	5	1	32	3	91.43	2.05	
4	2969	185	5	70	10	255	15	94.44	4.08	
4	2881	59	7	11	1	70	8	89.74	1.89	
4	3072	76	6	32	2	108	8	93.10	8.93	
4	3102	32	1	13	4	45	5	90.00	16.03	
4	2601	19	0	4	0	23	0	100.00	8.05	
4	2262	31	2	6	2	37	4	90.24	6.39	
4	2874	206	16	70	8	276	24	92.00	4.65	
4	745	40	1	9	2	49	3	94.23	13.94	
4	2868	72	8	35	3	107	11	90.68	4.71	
4	2885	97	6	25	4	122	10	92.42	8.77	
4	3070	69	4	14	2	83	6	93.26	2.61	
4	2964	52	2	10	1	62	3	95.38	6.97	
4	3099	30	1	9	0	39	1	97.50	4.73	
4	304	186	8	46	7	232	15	93.93	4.53	
4	2865	80	12	28	4	108	16	87.10	5.13	91.99

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
1	146	17	3	5	1	22	4	84.62	12.65	
1	159	21	3	12	1	33	4	89.19	15.53	
1	1954	35	2	14	3	49	5	90.74	18.16	
1	2662	51	9	11	1	62	10	86.11	33	
1	525	9	1	1	0	10	1	90.91	46.24	
1	25	11	2	4	1	15	3	83.33	15.04	
1	1541	42	8	11	2	53	10	84.13	15.46	
1	1959	16	1	8	1	24	2	92.31	10.24	
1	2410	24	4	10	1	34	5	87.18	8.43	
1	177	26	1	5	2	31	3	91.18	134.32	
1	1564	67	7	7	1	74	8	90.24	10.22	
1	1870	31	3	8	2	39	5	88.64	10.1	
1	1957	34	2	9	2	43	4	91.49	11.15	
1	1544	60	8	13	5	73	13	84.88	13.88	
1	1693	88	18	17	6	105	24	81.40	10.77	
1	2666	39	4	6	0	45	4	91.84	15.45	
1	1576	27	5	10	0	37	5	88.10	93.5	
1	2554	28	3	8	2	36	5	87.80	17.36	
1	2660	38	2	11	1	49	3	94.23	20.74	
1	174	11	2	1	0	12	2	85.71	19.19	
1	1984	39	1	7	0	46	1	97.87	8.54	
1	2416	21	2	8	2	29	4	87.88	241.84	
1	683	21	4	7	1	28	5	84.85	12.67	
1	1538	32	2	7	4	39	6	86.67	17.67	
1	105	23	2	8	1	31	3	91.18	27.51	
1	144	12	3	2	0	14	3	82.35	13.85	
1	45	20	2	2	1	22	3	88.00	20.42	87.32

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
2	1642	34	2	8	3	42	5	89.36	3.9	
2	1732	38	7	9	4	47	11	81.03	4.78	
2	2344	33	11	20	10	53	21	71.62	5.71	
2	402	23	4	5	2	28	6	82.35	30.43	
2	1632	36	10	16	3	52	13	80.00	7.95	
2	1088	1	1	0	0	1	1	50.00	912.58	
2	1882	11	2	2	1	13	3	81.25	5.72	
2	1589	33	6	8	1	41	7	85.42	2.68	
2	274	43	5	16	4	59	9	86.76	10.85	
2	2393	5	1	1	0	6	1	85.71	14.5	
2	1964	21	2	6	0	27	2	93.10	5.71	
2	2212	21	2	6	0	27	2	93.10	89.44	
2	3018	44	11	16	2	60	13	82.19	5.3	
2	2037	29	9	7	1	36	10	78.26	15.22	
2	1628	30	3	14	0	44	3	93.62	5.07	
2	2627	14	0	8	1	22	1	95.65	5.56	
2	3029	40	10	15	5	55	15	78.57	11.84	
2	263	31	8	7	3	38	11	77.55	15.22	
2	1587	49	11	15	3	64	14	82.05	2.87	
2	2908	11	2	1	1	12	3	80.00	16.81	
2	1626	28	3	13	0	41	3	93.18	4.75	
2	3021	40	4	20	5	60	9	86.96	4.24	
2	2889	45	18	15	7	60	25	70.59	7	
2	399	19	6	5	2	24	8	75.00	17.98	
2	3089	8	1	3	0	11	1	91.67	18.26	
2	299	23	5	10	1	33	6	84.62	70.15	
2	1596	35	8	9	3	44	11	80.00	2.68	
								82.31		82.37

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
3	1926	24	3	9	0	33	3	91.67	5.93	
3	2100	27	2	6	0	33	2	94.29	7.5	
3	959	25	1	6	1	31	2	93.94	43.43	
3	1469	17	1	6	1	23	2	92.00	1.16	
3	1461	3	0	1	0	4	0	100.00	2.23	
3	329	27	4	10	1	37	5	88.10	7.05	
3	1491	50	2	9	3	59	5	92.19	4.7	
3	2597	37	5	5	2	42	7	85.71	9	
3	321	25	1	2	1	27	2	93.10	20.37	
3	2276	17	0	8	1	25	1	96.15	11.65	
3	2099	30	5	4	0	34	5	87.18	7.04	
3	1492	49	4	12	1	61	5	92.42	5.77	
3	2934	9	0	0	0	9	0	100.00	5.54	
3	2941	49	4	10	0	59	4	93.65	6.29	
3	1487	17	2	5	1	22	3	88.00	4.77	
3	2363	21	1	7	0	28	1	96.55	11.47	
3	2805	39	1	7	2	46	3	93.88	3.15	
3	334	28	2	5	0	33	2	94.29	35.09	
3	1486	25	1	3	0	28	1	96.55	1.67	
3	2806	17	0	8	0	25	0	100.00	3.74	
3	1484	32	2	6	0	38	2	95.00	3.12	
3	2948	4	0	0	0	4	0	100.00	3.79	
3	333	19	2	3	0	22	2	91.67	29.37	
3	2944	64	5	16	2	80	7	91.95	3.54	
3	2241	31	5	14	1	45	6	88.24	7.77	
3	1496	18	0	5	1	23	1	95.83	3.58	
3	1479	7	1	1	1	8	2	80.00	5.1	92.33

APPENDIX C

POST-ENFORCEMENT Seatbelt Survey, New Mexico, April, 2011 Site Results PICKUPS

Stratum	Site #	Belted Drivers	Unbelted Drivers	Belted Passengers	Unbelted Passengers	Number Belted	Number Unbelted	raw Percent Belted	Sampling Weight	Stratum Raw %
4	2269	31	5	8	1	39	6	86.67	2.82	
4	2278	6	1	0	0	6	1	85.71	13.88	
4	1910	55	8	3	3	58	11	84.06	15.05	
4	2066	6	1	1	0	7	1	87.50	13.34	
4	2965	26	3	3	0	29	3	90.63	2.76	
4	226	20	2	3	0	23	2	92.00	9.61	
4	2862	19	1	8	0	27	1	96.43	16.44	
4	2171	36	2	6	3	42	5	89.36	8.39	
4	1900	31	2	7	3	38	5	88.37	1.92	
4	2867	19	7	1	1	20	8	71.43	2.01	
4	3056	47	4	11	3	58	7	89.23	4.22	
4	2877	12	2	2	1	14	3	82.35	2.05	
4	2969	57	4	22	6	79	10	88.76	4.08	
4	2881	40	4	4	1	44	5	89.80	1.89	
4	3072	31	2	10	1	41	3	93.18	8.93	
4	3102	13	1	2	3	15	4	78.95	16.03	
4	2601	15	0	4	0	19	0	100.00	8.05	
4	2262	14	2	2	1	16	3	84.21	6.39	
4	2874	75	11	20	5	95	16	85.59	4.65	
4	745	20	1	6	1	26	2	92.86	13.94	
4	2868	30	3	12	1	42	4	91.30	4.71	
4	2885	44	3	10	1	54	4	93.10	8.77	
4	3070	21	3	4	2	25	5	83.33	2.61	
4	2964	14	2	5	1	19	3	86.36	6.97	
4	3099	18	1	3	0	21	1	95.45	4.73	
4	304	60	2	13	0	73	2	97.33	4.53	
4	2865	29	7	8	2	37	9	80.43	5.13	88.63

APPENDIX D

NM POST-ENFORCEMENT OFFICIAL SEATBELT OBSERVATION SURVEY
ALL VEHICLES

Observations done JUNE 2011
Total Sites Observed 108

16,588 Overall - drivers and front passengers
90.46 % Overall Usage
0.45 Standard Error (in %)
2.04 % Relative Error
89.58 % Lower Bound 95% Confidence Interval
91.34 % Upper Bound

12,633 Drivers
91.31 % Driver Usage
0.58 Standard Error (in %)
0.63 % Relative Error
90.18 % Lower Bound 95% Confidence Interval
92.44 % Upper Bound

3,955 Passengers
87.29 % Passenger Usage
1.14 Standard Error (in %)
1.30 % Relative Error
85.05 % Lower Bound 95% Confidence Interval
89.52 % Upper Bound

APPENDIX D

N M PRE-ENFORCEMENT SEATBELT OBSERVATION SURVEY
ALL VEHICLES

Observations done April 2011
Total Sites Observed 108

17,141 Overall - drivers and front passengers
89.30 % Overall Usage
1.36 Standard Error (in %)
2.04 % Relative Error
86.63 % Lower Bound 95% Confidence Interval
91.97 % Upper Bound

13,359 Drivers
90.31 % Driver Usage
1.26 Standard Error (in %)
1.40 % Relative Error
87.83 % Lower Bound 95% Confidence Interval
92.78 % Upper Bound

3,782 Passengers
85.50 % Passenger Usage
1.79 Standard Error (in %)
2.10 % Relative Error
81.98 % Lower Bound 95% Confidence Interval
89.01 % Upper Bound

APPENDIX D

NM PRE-ENFORCEMENT SEATBELT OBSERVATION SURVEY
PICKUP TRUCKS

Observations done April 2011
Total Sites Observed 108

4,424 Overall - drivers and front passengers
85.34 % Overall Usage
1.78 Standard Error (in %)
2.08 % Relative Error
81.85 % Lower Bound 95% Confidence Interval
88.82 % Upper Bound

3,476 Drivers
86.42 % Driver Usage
1.25 Standard Error (in %)
1.45 % Relative Error
83.97 % Lower Bound 95% Confidence Interval
88.87 % Upper Bound

948 Passengers
81.61 % Passenger Usage
4.17 Standard Error (in %)
5.11 % Relative Error
73.43 % Lower Bound 95% Confidence Interval
89.79 % Upper Bound

APPENDIX E

Table A. Comparisons between Pre-Enforcement and Official Survey Seatbelt Use By Observer for All Occupants, New Mexico, 2011

Evaluation Factors	Total Raw Percent*	Observers			
		1	2	3	4
Pre-Enforcement—All Occupants					
`Raw percent use*	90.6	85.1	89.0	94.9	97.5
Observer difference from total raw percent use		-5.5	-1.6	+4.3	+6.9
Post-Enforcement Official—All Occupants					
Raw Percent Use*	91.1	88.5	90.4	94.0	92.4
Observer difference from raw percent use		-2.6	-0.7	+2.9	+1.3
Comparison within observers between the observation periods					
Absolute difference in percent usage between observation periods for each observer		2.9	1.4	1.7	1.8
Percent difference in usage between observation periods		-3.4	+1.4	+0.9	+5.1
Comparison of number of eligible vehicles between the observation periods**					
Pre-enforcement	13,359	3,346	3,464	4,151	2,398
Official	12,633	3,460	3,579	3,221	2,373
Absolute difference in number of vehicles between observation periods	-726	+114	-115	-930	-25
Percent difference in number of vehicles between observation periods		+3.3	-3.3	-2.6	-1.1

Note: Each observer was assigned from21 up to 30 sites and conducted observations on each of their sites during the Pre-enforcement survey (April 1-23, 2011) and again during the Official survey (June 7-28, 2011)

*Percent use is raw percent from the sites assigned to each observer

**Eligible vehicles on which observations were made

Table B. Comparison between Pre-Enforcement and Official Survey Seatbelt Use by Observer for Pickup Trucks, New Mexico, 2011

Evaluation Factors	Total Raw* Percent	Observers			
		1	2	3	4
Pre-enforcement—All Truck Occupants					
Raw percent use*	87.9	79.3	86.9	94.2	92.0
Observer difference from total raw percent use		-8.6	-1.0	+6.3	+4.1
Official—All Truck Occupants					
Raw Percent Use*	87.5	83.1	86.6	92.3	89.5
Observer difference from raw percent use		-4.4	-0.9	+4.8	+2.0
Comparison within observers between the observation periods					
Absolute difference in percent usage between observation periods for each observer		3.8	0.3	1.9	2.5
Percent difference in usage between observation periods		1.0	0.10	-0.1	0.1
Vehicles observed	**Total**				
Pre-enforcement	3,480	896	779	936	869
Official	3,482	947	896	765	874
Absolute difference in number of vehicles between observation periods		+51	+117	-171	+5
Percent difference in number of vehicles between observation periods		+5.7	-13.1	-18.3	+0.6

Note: Each observer was assigned 25 or 30 sites and conducted observations on each of their sites during the Pre-enforcement survey (April 1-23, 2011) and again during the Official survey (June 7-28, 2011)

* Percent use is Raw Percent and is not weighted

**Eligible vehicles on which observations were made

ACKNOWLEDGMENTS

The difficult and important task of making the observations was accomplished by Jim Allison, Jerry Fariss, Leon Warren and Karl Wiese. We appreciate their ongoing efforts and support by continuing to provide the data to make this report possible. Special thanks to Dorothy Romero for keeping the survey forms in order when they were returned, and assisting with the quality control checks on the 2011 Official Seat Belt Survey Report.