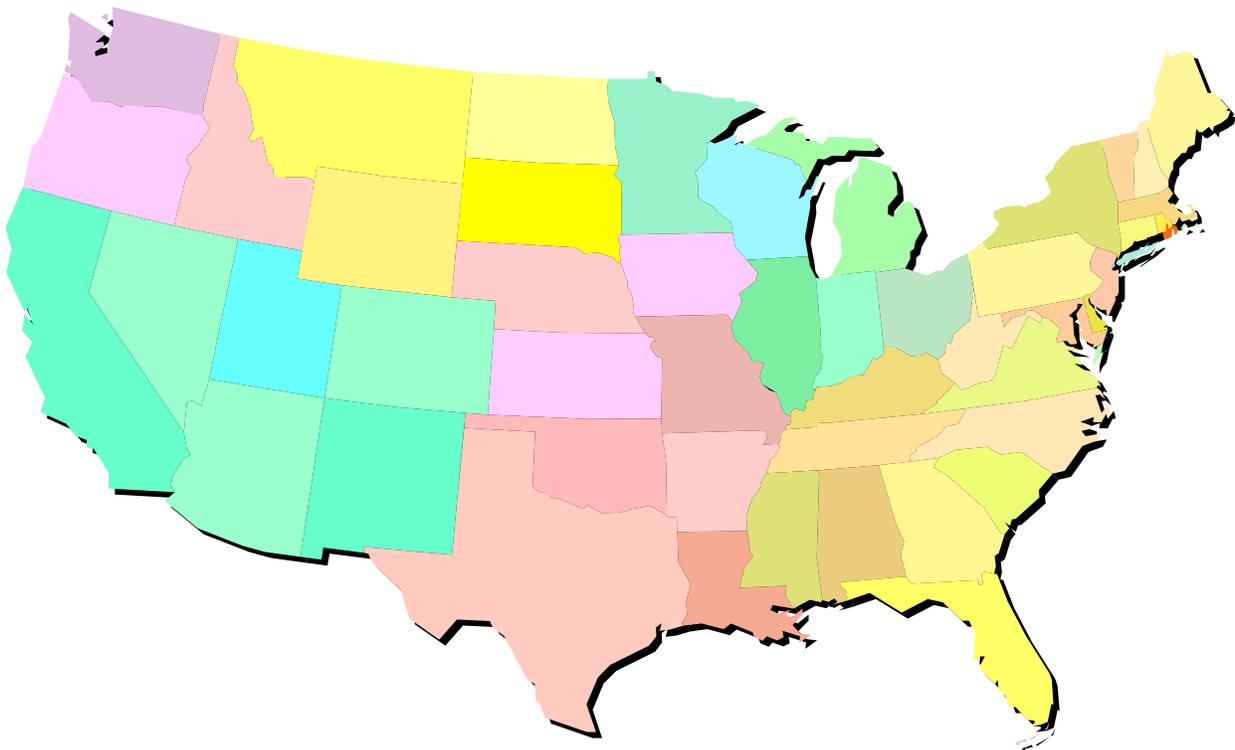


October 2014

Final Report

2014 Safety Belt Use Estimate for the Indian Nations



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1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle 2014 Safety Belt Use Estimate for the Indian Nations		5. Report Date October 2014	
		6. Performing Organization Code	
7. Author(s) R.H.B. Chaffe, W.A. Leaf, and M.G. Solomon		8. Performing Organization Report No.	
9. Performing Organization Name and Address Preusser Research Group, Inc. 7100 Main Street Trumbull, CT 06611		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No. A12PC00567	
12. Sponsoring Agency Name and Address Bureau of Indian Affairs Indian Highway Safety Program 1001 Indian School Road NW Albuquerque, NM 87104		13. Type of Report and Period Covered Final Report July - September 2014	
		14. Sponsoring Agency Code	
15. Supplementary Notes The Contracting Officer's Technical Representative for this project was Lawrence G. Robertson, SSA.			
16. Abstract <p>The National Highway Traffic Safety Administration (NHTSA) and the Bureau of Indian Affairs (BIA), Indian Highway Safety Program, co-sponsored a project in Fall 2004 to (a) establish the first baseline tribal reservation safety belt use rate, and (b) develop a methodology to use in the future to track trends and specific program effects. The planned sample included 18 reservations with 151 sites on these reservations. Ultimately, data were collected from 120 sites on 16 tribal reservations. A subsequent and comparable survey was requested by NHTSA for Fall 2006 and completed September 2006-March 2007. In 2009, BIA requested a third measurement as part of an effort to continue highway safety programs and evaluations in the Indian Nations. For this iteration Navajo Nation participated, bringing the total number of reservations to 17 and the number of sites to 147. This survey was conducted over 2009-2010, and replicated for both 2011 and 2012. The two most recent iterations of the survey (August-December 2013 and July-September 2014) were equivalent to the first two measurements, with the original 16 reservations included for a total of 120 sites. For these tribal reservations, all subject to tribal law and tribal traffic law enforcement, the overall safety belt use rate for 2014 was 73.4 percent; the highest measured rate to date. A very high variation in belt use was documented across reservations, ranging from a low of 44.3 percent to a high of 92.3 percent. Ten tribal reservations had primary safety belt laws; in them, 76.0 percent of vehicle occupants were belted. By comparison, four tribal reservations had secondary belt laws; they averaged 72.6 percent belt use. For the two tribal reservations with no belt use law of any kind, only 61.4 percent of occupants were belted. Tribal policy and procedures are likely responsible for current levels of safety belt use and changes in them may be the most effective way to continue to improve safety belt usage.</p>			
17. Key Words Seat belt Safety belt Belt use rate Native American Primary belt use law Section 157 Secondary belt use law		18. Distribution Statement Document is available through the Bureau of Indian Affairs 1001 Indian School Road NW Albuquerque, NM 87104	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

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BUREAU OF INDIAN AFFAIRS
INDIAN HIGHWAY SAFETY PROGRAM

TECHNICAL SUMMARY

CONTRACTOR Preusser Research Group, Inc.	CONTRACT NUMBER A12PC00567
REPORT TITLE 2014 Safety Belt Use Estimate for the Indian Nations	REPORT DATE October 2014
REPORT AUTHOR(S) R.H.B. Chaffe, W.A. Leaf, and M.G. Solomon	

Background

Unintentional injuries sustained by motor vehicle crashes are the leading cause of death for American Indians aged 1 to 44.¹ From 1975 to 2002, over three-fourths of the vehicle occupants who died in motor vehicle crashes on tribal lands were unrestrained at the time of impact.² The use of safety belts is one of the most preventative measures to further reduce these deaths. Furthermore, enacting and enforcing seat belt laws have proven effective in increasing safety belt use.³

This paper documents the seventh application of the process to determine the national tribal reservation safety belt use rate. The National Highway Traffic Safety Administration (NHTSA) and the Bureau of Indian Affairs (BIA) Indian Highway Safety Program sponsored a project in 2004 to (a) establish the first baseline tribal reservation safety belt use rate, and (b) develop a methodology to use in the future to track trends and specific program effects (Leaf and Solomon, 2005). This is similar to NHTSA's National Occupant Protection Usage Survey (NOPUS), a probability-based survey that reports a single belt use rate for the nation. The goal was to gather a single belt use rate for tribal reservations that could track progress towards increasing belt use. Overall belt use in the 2004 survey was 55.4 percent. The procedure was repeated in 2006 and produced an overall belt use rate of 61.8 percent. In 2009-2010, yet another iteration of the survey yielded a rate of 64.8 percent. The 2011 and 2012 measurements saw the rate increase further to 68.5 and 68.8 percent, respectively, and the most recently reported measure for 2013 surpassed all previous rates with a rate of 69.6 percent. In all cases, belt use rates for individual reservations varied widely. The 2014 survey effort described here is the next step in documenting safety belt use across Indian Nations over time.

¹ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-Based Injury Statistics Query and Reporting System (<http://www.cdc.gov/injury/wisqars>) 2002-2012.

² Department of Transportation (US), National Highway Traffic Safety Administration (NHTSA). Fatal Motor Vehicle Crashes on Indian Reservations 1975-2002. April 2004. DOT HS 809 727.

³ Centers for Disease Control and Prevention. Motor-vehicle Occupant Injury: Strategies for Increasing Use of Child Safety Seats, Increasing Use of Safety Belts, and Reducing Alcohol-Impaired Driving. A Report on Recommendations of the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-7).

Methods

The sampling plan developed in 2004 was designed to provide a reliable estimate of belt use in passenger vehicles across all the tribal reservations subject to tribal law and tribal traffic law enforcement. The sampling procedure weighted all tribal reservations proportional to their populations, and it included the criteria that the sample of the tribal reservations:

- be limited to tribal reservations with populations of 2,000 or more;
- represent varying environmental conditions;
- be from all areas of the country; and
- include enough sites per reservation so that the final combined safety belt use rate would be reliable.

The objective was a sample from each of six geographic areas at a rate of approximately 1 in 4 reservations or 1 reservation per 30,000 population. The planned sample included 18 reservations with 151 sites on these reservations. For the first two studies, the Navajo reservation in the Southwest, which has 22 percent of the total Native American population, did not permit safety belt observations to be made in its territory. Ultimately, data were collected from 120 sites on 16 tribal reservations for both the initial study and the 2006 replication. In 2010, Navajo Nation chose to participate in the study, resulting in a revised total of 147 sites over 17 reservations. Data collected from Navajo have been included in rate estimate calculations from then up until 2013 when formal permission to measure was never established. Additionally, the Cattaraugus Reservation in New York State was selected for inclusion but has never participated. Efforts to include both Cattaraugus and Navajo in the 2014 survey resumed, but the process for gaining permission was not completed in time for inclusion.

Within each reservation, sites were divided into collector roads within “urban” areas and rural arterials which carried traffic between population centers. Observations at each site were for 1-hour periods, and the schedule was pre-established so that observations at each reservation were balanced over day of week and daylight hour. Observers recorded type of vehicle and gender and seat belt use for the driver and for the outboard front seat passenger if one was present. Scoring was done using an Excel spreadsheet which computed belt use, for each reservation, overall, for drivers and passengers, and for subsets of vehicle type, occupant sex, and road type. Results from individual reservations were combined by weighting to account for population differences in the tribal areas represented by the reservations.

Results

Safety belt use on tribal reservations subject to tribal law and tribal traffic law enforcement was observed on 16 reservations between July and September 2014. Overall, nearly 42 percent of the vehicles were cars, 32 percent were pickups, 19 percent were SUVs, and 7.5 percent were vans. Sixty-one percent of the drivers were male and 39 percent were female, while just 40 percent of the passengers were male and 60 percent were female. Known belt use could be coded for nearly all (over 99 percent) of the drivers and passengers observed in the survey.

For the tribal reservations subject to tribal law and tribal traffic law enforcement, the overall safety belt use rate was 73.4 percent. High variations in belt use rates were observed across individual reservations, ranging from a low of 44.3 percent to a high of 92.3 percent.

Safety Belt Use by Vehicle, Occupant, Area & Road Type

	Drivers		Passengers		Drivers and Passengers	
	Percent Belted	Number ¹	Percent Belted	Number ¹	Percent Belted	Number ¹
All Cases	73.6%	10,557	73.2%	3,485	73.4%	14,042
Vehicle Type						
Auto	77.4%	4,397	78.3%	1,479	77.5%	5,876
Pickup	65.7%	3,377	63.6%	920	65.3%	4,297
SUV	76.8%	1,989	75.5%	714	76.1%	2,703
Van	80.2%	794	80.9%	372	79.1%	1,166
Occupant Sex						
Male	70.9%	6,448	70.7%	1,405	70.7%	7,853
Female	77.9%	4,109	76.8%	2,080	77.5%	6,189
Area & Road Type						
Urban/ Collector	68.0%	5,478	67.9%	1,801	67.8%	7,279
Rural/ Arterial	77.4%	5,079	78.0%	1,684	77.5%	6,763

¹Included total number where belt use was observed and recorded; does not include cases in which belt use was unknown.

Differences in belt use were observed by vehicle type and occupant sex for drivers and passengers, and are consistent with patterns seen in State and national belt use results. Rates were higher for cars (77.5 percent), SUVs (76.1 percent) and vans (79.1 percent) and lower for pickup trucks (65.3 percent). Males were less likely to use safety belts than females (70.7 percent versus 77.5 percent). Drivers were somewhat more likely to be belted (73.6 percent) than passengers (73.2 percent). The lowest overall belt use sub-group measured was for male passengers in pickups (64.3 percent), while the highest belt use levels were for female drivers of vans (at 84.3 percent).

Belt use also varied with road type. Within towns on collector roads, overall occupant belt use was 67.8 percent, while the rate on more rural (between-town) arterials was 77.5 percent.

Three of the six geographic areas had multiple reservations in the sample. The Northern Plains area had the four lowest belt use rates and collectively averaged just 56.5 percent belt use across all five reservations represented. Of the five reservations in the Southwest area, all had rates above the overall estimate. The Northwest region and the Great Lakes area had the highest overall regional use rates.

Another indicator of belt use is the type of safety belt law. There are two kinds of belt use laws that may affect use rates: the safety belt law of the reservation itself and the safety belt law of the State in which the tribal reservation is located. Data were examined in both ways. Ten reservations had primary safety belt laws; in them, 76.0 percent of vehicle occupants were belted. By comparison, four tribal reservations had secondary belt laws; they averaged 72.6 percent belt use. For the two reservations with no belt use laws of any kind, only 61.4 percent of the vehicle occupants were belted. In addition, nine reservations were located in States with primary belt use laws. All measured above the overall estimate rate, with six of those reservations having use rates among the highest observed. The nine reservations in States with a primary law averaged 82.7 percent belt usage. The remaining seven reservations, in States with secondary belt use laws averaged just 61.6 percent buckled occupants.

Overall, safety belt use in tribal reservations subject to tribal law and tribal traffic law enforcement varies greatly. The recorded figures ranged from 44.3 percent to 92.3 percent, a difference so large as to make it unmistakable that different reservations are fundamentally different in their approach to and success at encouraging safety belt use.

Conclusions

This is the seventh time safety belt use has been systematically measured across a representative sample of Indian reservations. Procedures used were identical to those used in the previous studies, providing a consistent moving picture of safety belt use for Indian Nations. Due to this stability, this survey measurement continues to be a useful tool in assessing the impacts of continuing safety belt initiatives.

All seven surveys that estimated belt use across Indian Nations found that the tribal reservations with the highest belt use rates had usage rates comparable to general U.S. belt use rates, providing evidence that tribal governments can be effective in achieving high levels of belt use. Figures for low usage tribal reservations suggest that their governments may have done little or nothing toward achieving high belt use. Reservations with primary safety belt laws typically had the highest use rates, followed by reservations with secondary safety belt laws. Reservations with no safety belt laws had the lowest use rates. States that add a safety belt law, or change from a secondary law to a primary law, have shown increased safety belt use when these laws are enforced. Upgrading the belt laws in tribal reservations lacking them has been shown to initiate improvements in belt use as well. Tribal policy and procedures are likely responsible for current levels of safety belt use, and it is in these areas that tribal efforts can be most effective in establishing and improving safety belt usage levels.

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	1
II. Methods.....	3
Tribal Reservation Selection.....	3
Site Selection	6
Data Collection	7
Observers	7
Scheduling	7
Observations	7
Calculation of Overall Safety Belt Usage Rate and Variability.....	8
Overall Rates.....	8
The Standard Error of the Overall Safety Belt Use Rate	9
III. Results.....	10
Areas	11
Belt Use Laws.....	11
IV. Discussion.....	12
References.....	13
Appendix A. Safety Belt Observation Instructions.....	A-1
Appendix B. Native American Safety Belt Observation Data Collection Form.....	B-1
Appendix C. “Indian Country” Reservations with 2000+ Population.....	C-1
Appendix D. “Indian Country” Reservations with Less Than 2000 Population.....	D-1

List of Tables

<u>Table Number</u>	<u>Page</u>
1. Indian Country Area Distribution of Tribal Reservations and Population.....	4
2. Final Sample of 18 Tribal Reservations.....	5
3. Observation Sample Overview	10
4. Safety Belt Use, by Vehicle, Occupant, Area, and Road Type.....	11

List of Figures

<u>Figure Number</u>	<u>Page</u>
1. Native American Areas.....	2
2. Native American Use Rate Trend Graph	12

I. Introduction

This report examines the state of safety belt use in Indian Country for 2014, and can be considered a tool for use in problem identification as well as comparison with national and State safety belt use rates.

There are 562 federally recognized tribal governments in the United States. The 562 tribal nations collectively make up the “Indian Country” that is eligible for Section 402 funding under Chapter 4 of the Title 23, United States Code.⁴ The Bureau of Indian Affairs (BIA) administers the Indian Highway Safety Program (IHSP) and serves as the equivalent of States’ Governor’s Highway Safety Representatives and the focal point of coordination for highway safety across the Indian Nation “State.” The Indian Nation State is appropriated highway safety grant funds in the same manner as all the 50 States and eligible U.S. Territories and is subject to setting performance-based programming goals for reducing motor vehicle crashes, fatalities, and injuries and for reporting progress in achieving those goals.

Effective for 1998, NHTSA established revised guidelines for State Safety Belt Use Survey designs to measure progress in increasing safety belt use rates in a comparative and consistent manner throughout the country. In 2004, following this methodology, a survey was designed to measure safety belt use across the Indian Nations (Leaf and Solomon, 2005). The purposes were to provide a survey design comparable to individual State surveys and to determine a baseline safety belt use rate for Indian Country. This design was also meant to be replicated to document changes in safety belt use over time.

The sampling plan developed in 2004 sought to measure seat belt use across reservations that are responsible for setting and enforcing safety belt use laws for their roadways. Although all Indian reservations are sovereign entities, the governments of a number of the tribal reservations, and for a number of roadways within other tribal reservations, did not set or enforce safety belt use requirements. In order to focus on Indian-controlled belt use, we limited our safety belt use observations to areas subject to tribal law and tribal law enforcement. It is in those areas that tribal policy and procedures are directly responsible for current levels of safety belt use, and it is in these areas that tribal efforts can be most effective in establishing and improving safety belt usage levels.

In 2004, approximately 180 federally recognized tribal reservations within the 48 contiguous States were subject to tribal law and tribal traffic law enforcement and were therefore eligible for the sample. Total population on these tribal reservations was approximately 712,000 people, which represents 75 percent of the total 944,000 population for all American Indian Reservation and Off-Reservation Trust Lands in the 2000 U.S. Census.

Individual tribal reservations vary greatly in terms of population. The largest is the Navajo Nation, which spans parts of Arizona, New Mexico and Utah (population 155,214). The next largest is the Osage Tribe in Oklahoma (44,437). These two tribal reservations contain 28 percent of the population of Indian Country. Eleven tribal reservations have fewer than 100 residents.

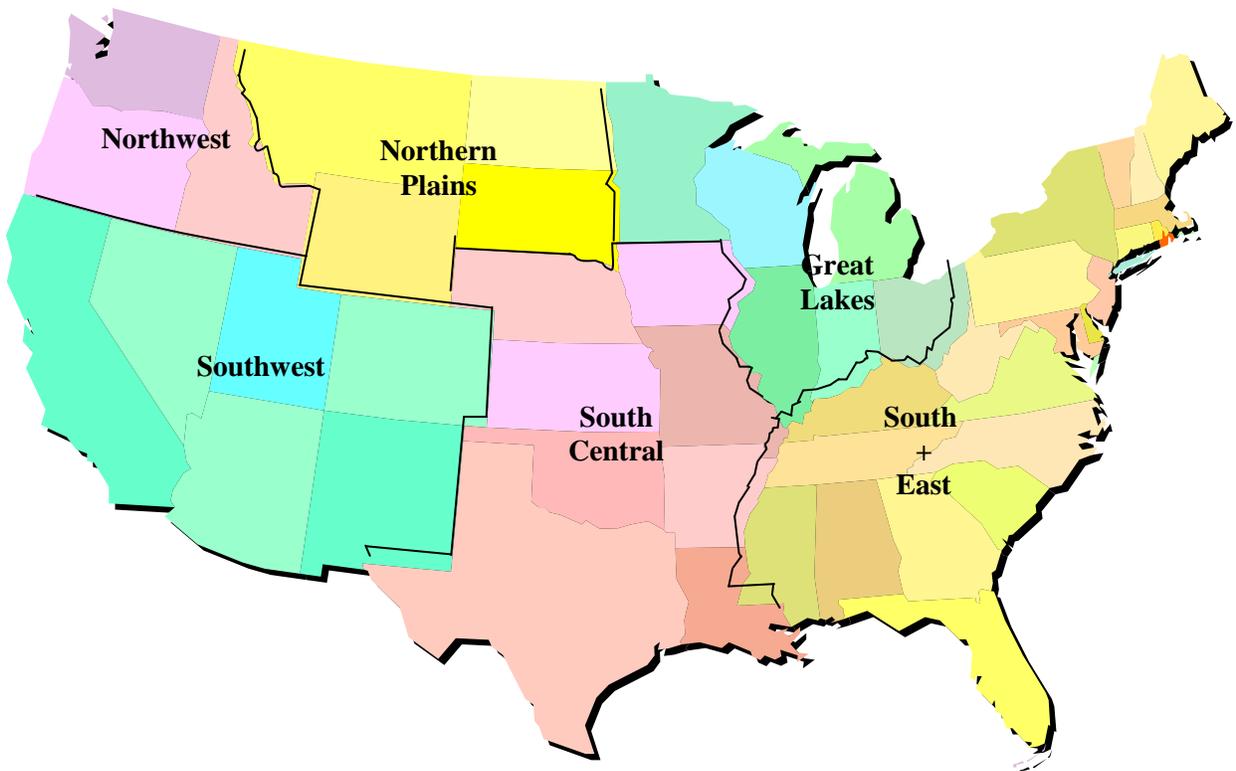
For the purposes of safety belt use observations, all qualified tribal reservations with total populations of 2,000 or more were eligible for selection into the observation sample. Sixty-one tribal reservations were eligible for selection, and they are listed in Appendix C. At the time the sample was drawn, these

⁴ The Indian Nations State/BIA may or may not have direct access to other highway safety program funds allocated under Title 23, USC. For example, the Indian Nation “State” did not have direct access/eligibility to Section 157 or other funding under Chapter 1, Federal Aid Highways Program, but did have access to Section 2003(b) funding.

reservations had a total population of about 660,000, or 93 percent of the total Indian Country population. Native Americans made up 60 percent of the population on the 61 reservations versus 61 percent on all Indian Country reservations. The remaining reservations in Indian Country are listed in Appendix D.

It was the judgment of the BIA that, socially and culturally, tribal reservations can be classified in six separate categories that corresponded to distinct geographic “Areas”: Northwest (Washington State, Oregon, and Idaho), Northern Plains (Montana, Wyoming, North Dakota, and South Dakota), Southwest (California, Nevada, Utah, Colorado, Arizona, and New Mexico), Great Lakes (Minnesota, Wisconsin, Michigan, Illinois, Indiana, and Ohio), South Central (Nebraska, Kansas, Oklahoma, Texas, Iowa, Missouri, Arkansas, and Louisiana), and South and East (all remaining States). These Areas became a stratification variable in tribal reservation selection.

Figure 1. Native American Areas



Each of the Indian Nation reservations eligible for the sample had its own road system and could set up its own safety belt use requirements and determine its own level of “compliance emphasis” through publicity and education and enforcement.

II. Methods

Tribal Reservation Selection

There were three major complicating factors in selecting tribal reservations to observe. Together they required a somewhat more structured selection scheme than is used in most State safety belt use observation plans. As noted above, tribal reservations differ markedly in population. Reservations are not contiguous, as are the counties making up a State, but are scattered throughout much of the country. Finally, the same safety belt laws do not apply to all tribal reservations. Reservations are free to set their own safety belt laws. Some tribal reservations have no safety belt laws, some have a primary law, in which motorists can be stopped solely for safety belt violations, and other reservations have a secondary law that allows a law enforcement officer to ticket people for a safety belt violation only if they are already stopped for another infraction. Also, tribal reservations, particularly smaller ones, exist within the “context” of the safety belt laws governing the States within which they are located.

The tribal reservation selection plan was a systematic selection plan based on selecting from within Areas, as defined above. General criteria for making up the sample were that it should:

- include enough tribal reservations to be representative of the varying conditions that exist;
- sample from all areas of the country, again to be representative; and
- include enough sites per tribal reservation so that the final combined safety belt use rate would meet the reliability requirements of NHTSA’s Section 157 guidelines.⁵

In addition, the sample was to be realistic within the scope of resources available for this effort – and, by extension, make it possible for future replications to track changes in belt use over time and with changing legal and countermeasure conditions.

The final recommendation asked for a total of 151 sites to be sampled across 18 tribal reservations. These numbers represented our best estimate of a sampling plan meeting the criteria above while remaining within the project’s practical constraints. Initially and again in 2006, two of the tribal reservations did not permit safety belt observations to be made in their territory, resulting in final data collection for 120 sites in 16 reservations. One small reservation in the South and East has never participated, though attempts are made yearly to include them. For the 2009-2010, 2011, and 2012 studies, Navajo Nation participated bringing the total to 147 sites in 17 reservations. In 2013, formal permission to collect data in Navajo was not received within the time frame of measurement, consequently bringing the reservation count back down to 16 and the site total to 120. For 2014, efforts continued in Navajo Nation, but the process for gaining permission was not completed in time for inclusion.

Table 1 shows, by Area, the numbers and populations of tribal reservations, totals and “available for sampling.” The table also shows the recommended distribution of sampled tribal reservations across areas. The objective of the sampling procedure was to select tribal reservations according to probabilities generally proportional to their populations, based on two steps:

⁵ Though this project was not conducted under Section 157, the observation plan was designed and implemented consistent with Section 157 guidelines so that the results would be readily interpretable. Although NHTSA revised state belt use measurement guidelines in 2012, the changes were relatively minor and we judged that there was no need to update this survey design.

1. Include the Navajo reservation (Southwest Area), which has 22 percent of the total Indian Country population and 35 percent of the Native American population in Indian Country.
2. Sample, from each Area, at a rate of approximately one in four tribal reservations or one tribal reservation per 30,000 population.

Table 1. Indian Country Area Distribution of Tribal Reservations and Population

Area	Total Reservations		Reservations over 2,000 Pop		Number to Sample ²
	Number	Population	Number	Population	
Southwest ¹	71	322,023	21	293,301	6-1
South Central	11	52,850	2	48,856	1
South & East	33	33,496	6	26,369	2-1
Northwest	29	101,425	11	94,513	3
Northern Plains	20	162,659	17	159,293	5
Great Lakes	13	39,797	4	37,738	1
Total	177	712,250	61	660,070	18-2

¹ Includes Navajo Reservation in all cells.

² Reflects inability to collect data on Navajo (Southwest) and Seneca Nation's Cattaraugus (South & East) reservation.

Sampling procedures were repeated within each Area and involved seven steps:

1. Randomly reorder the list of tribal reservations so that every reservation had equal probability of being first, second, etc. in the list.
2. Set each tribal reservation's initial weight for being selected on a single selection equal to the proportion of the reservation's population to the total population of all eligible reservations within the Area, $w_{ij} = Pop_{ij} / \sum_j Pop_{ij}$, where w_{ij} = initial weight for selection on a single selection for reservation j within Area i , Pop_{ij} = population of reservation j within Area i , and $\sum_j Pop_{ij}$ = sum of the population of all reservations eligible for selection within Area i . (Within each Area, these initial weights add to exactly 1.0.)
3. For Areas sampling a single tribal reservation, set the selection cutoff level $s_{ij} = w_{ij}$.
4. For Areas sampling more than one tribal reservation, adjust the cutoff levels to select all of the tribal reservations in a single sampling according to the formula:

$$s_{ij} = (1 - (1 - w_{ij})^{n_i}) \cdot n_i / \sum_j (1 - (1 - w_{ij})^{n_i}) \quad (1)$$

where s_{ij} = selection cutoff level for reservation j in Area i and n_i = number of reservations to be selected within Area i . (Within Area i , the sum of the adjusted weights = n_i .) In all cases, the s_{ij} cutoff levels correspond roughly to the probability of the reservation being included in the final sample.

5. Generate a random number (from a rectangular distribution between 0 and 1) for each tribal reservation.

6. Starting at the top of the list, select for inclusion each tribal reservation whose random number is less than or equal to its adjusted selection cutoff, up to the number required to be sampled.
7. If the number of tribal reservations selected is less than the number required, select additional tribal reservations from the pool, selecting first the one whose random number exceeds its cutoff level by the least amount, etc., until the number of required tribal reservations has been identified.

The resulting target sample of 18 tribal reservations, together with the proposed number of observation sites as described below, is shown in Table 2. Note that both Navajo Nation and Seneca Nation are shaded, as they were not measured for this iteration.

Table 2. Final Sample of 18 Tribal Reservations

Tribe	Location	Area	State Primary Law?	Total Population	% Native Amer. 1	# Sites
Navajo Nation (AZ-NM-UT)	Window Rock, AZ	SW	No/Yes	155,214	96%	27
Ute Indian Tribe (Uintah and Ouray Reservation)	Ft Duchesne, UT	SW	No	19,182	14%	9
Gila River Pima-Maricopa	Sacaton, AZ	SW	No	11,257	92%	7
Pueblo of Zuni	Zuni, NM	SW	Yes	7,758	96%	6
Taos Pueblo	Taos, NM	SW	Yes	4,484	30%	5
Pueblo of Acoma	Acomita, NM	SW	Yes	2,802	97%	4
Osage Tribe	Pawhuska, OK	So-Cent	Yes	44,437	14%	14
Eastern Band of Cherokee	Cherokee, NC	So+East	Yes	8,092	82%	6
Seneca Nation of Indians [Cattaraugus Reservation]	Erie, Chautauqua, Cattaraugus Counties, NY	So+East	Yes	2,412	88%	4
Yakama Nation	Toppenish, WA	NW	Yes	31,646	23%	12
The Tulalip Tribes	Marysville, WA	NW	Yes	9,246	22%	7
Confederated Tribes of the Colville Reservation	Nespelem, WA	NW	Yes	7,582	60%	6
Eastern Shoshone & Arapaho Tribes [Wind River Reservation]	Ft Washakie, WY	NoPlns	No	23,245	28%	10
Rosebud Sioux	Rosebud, SD	NoPlns	No	9,050	86%	6
Cheyenne River Sioux	Eagle Butte, SD	NoPlns	No	8,466	74%	6
Crow	Crow Agency, MT	NoPlns	No	6,894	75%	6
Three Affiliated Tribes [Ft. Berthold]	New Town, ND	NoPlns	No	5,915	67%	5
Saginaw Chippewa [Isabella Reservation]	Mt. Pleasant, MI	GrLks	Yes	25,822	5%	11

¹ Percent of reservation's total population that are Native American; source, 2000 U.S. Census Data.

Site Selection

The site selection procedure was applied independently for each tribal reservation.

Roads in and immediately around the population centers were treated as one stratum (“collectors”), and the major connecting roads were treated as a second stratum (“arterials”). For each tribal reservation with an even number of sites, half of the final observation sites were from each stratum; for each tribal reservation with an odd number of sites, one stratum provided one more site than the other.

In order to avoid roads with very little traffic, a structured selection of observation sites was made based on the use of the roads and their likely volume. Roads eligible for sampling were: paved or gravel (excluded dirt and unimproved); under BIA or tribal control (excludes State and county highways patrolled by State and county police); and collectors or arterials (excluded local streets). Eligible roads were divided into segments, i.e., stretches of roads between intersections large enough for significant changes in the road’s traffic volume or makeup.

For each tribal reservation, lists of possible road segments were assembled from qualified road segments that were likely to have adequate traffic volume. Lists were based on road maps and input from local authorities. In all cases, population centers were identified, and the main roads within the centers and providing access in and out of the centers were identified. Each access road was included from the center out into more rural areas for a few miles. In addition, major connecting roads with adequate traffic but not near population centers were included.

From the eligible roads, segments for safety belt observation were selected randomly, with the probability of selection proportional to the length of the segment in all except the Navajo reservation. Navajo site selection followed a structured random process. A convenience sample of qualified road segments was grouped into five defined agency areas. Segments were classified as roads within town centers (urban collectors) or providing access to town centers (rural arterials). Segments were selected with equal probability in order to ensure a fairly even distribution of road types over the five areas. For all sites, specific observation points were selected on each segment by the observers in the field, based on ease of observing belt use and safety. Observation points were documented so that they could be used in future belt use studies.

Traffic counts were determined for each location at the time of belt use observations. These counts served as our estimate of traffic density. At locations where every passing vehicle could be observed, the count was equal to the number of vehicles observed. Where traffic volumes were too heavy to permit observation of every vehicle, we conducted a ten-minute traffic count before belt use observations, conducted a second ten-minute count after observations, and weighted the number of observations as a function of the number of vehicles counted (i.e., the estimate of the number of vehicles that would have been observed had we been able to observe every vehicle). At most sites, where traffic volumes permitted, observations and traffic counts included traffic in both directions.

We proposed 150 total sites. This is similar to the numbers of sites used for State belt use determinations, and thus was judged likely to provide a suitably stable overall estimate of belt use. The number of sites per tribal reservation was proportional to the square root of the population. The numbers are shown in Table 2 above. For example, if there are a total of 151 observation sites (varied from the target of 150 due to rounding), there would be 27 sites on the Navajo Nation and 4 sites on small reservations with just over 2,000 population. No reservation had fewer than 4 sites.

We did not obtain permission in time to collect safety belt observations on both Navajo Nation and the Cattaraugus reservation for this year's iteration of the survey. That left a total of 120 observation sites. Even with the smaller number of sites, and the large variability of belt use rates between sites and tribal reservations, the final overall safety belt use rate estimate met the Section 157 target for reliability. This sample design is identical to the first two surveys (2004 and 2006) as well as last year's survey (2013).

The calculated safety belt use percentage for each tribal reservation was the combination of belt use percentages at each site weighted directly by the number of vehicles passing during the observation period and inversely by the likelihood of selection of the segment (i.e., the segment length). For sites where vehicle volume was estimated from pre- and post-observation counts, those estimated values were used. For each site, the belt use percentage was the number of belted persons observed divided by the total number of persons for whom belt use/nonuse was observed. The same arithmetic was used to calculate safety belt usage for subsets, e.g., males, drivers, pickup drivers, or passenger-car occupants. Weights for combining sites for subsets were the total vehicle counts, based on the assumption that distributions of subsets are balanced across sites and that the total vehicle count is the most stable estimate.

Data Collection

Observers

Observers were hired by Preusser Research Group. All observers had done safety belt observations prior to this project. All observers received extensive training over several days, first watching an expert observer, then observing in parallel, then observing with supervision.

Scheduling

Observations were conducted Monday-Sunday during daylight hours between 7 a.m. and 6 p.m. Scheduling was done to balance observations for time of day and day of week, with weekdays being considered roughly equivalent for the purposes of efficient use of observer field and travel time. Observations were balanced by type and time of day within Areas and, as much as practicable, within tribal reservations.

Observations

Data collection was done according to the instructions in Appendix A. Each observation period lasted a full hour. Survey information was recorded on an observation data collection form (Appendix B). The form was designed so that pertinent site information could be documented, including tribal reservation name, city/town/area identifier, exact roadway location, date, day of week, time, weather condition, and direction(s) of traffic flow and lane(s) observed. Each one-page form included space to record information for 70 vehicles, the driver of that vehicle, and the outboard, front seat passenger, if any.

Calculation of Overall Safety Belt Usage Rate and Variability

Overall Rates

Safety belt usage rates were calculated in two stages. Within each reservation, usage was

$$p_{ij} = \left(\sum_k (V_{ijk} / \pi_{ijk}) * (B_{ijk} / O_{ijk}) \right) / \left(\sum_k (V_{ijk} / \pi_{ijk}) \right) \quad (2)$$

where p_{ij} = safety belt usage for reservation j in Area i , k = site within the reservation, V_{ijk} = weight for each road segment (site), $\pi_{ijk} = n_{ij} L_{ijk} / \sum_{k=1}^{n_{ij}} L_{ijk}$ = the proportion of the length L that road segment ijk is of the chosen road segments in reservation j in Area i , B_{ijk} = number of belted occupants (drivers and outboard, front seat passengers) observed at the site, and O_{ijk} = total number of occupants observed at the site. For sites where all vehicles were observed, V_{ijk} = the number of observed vehicles. For sites where the number of vehicles were estimated from 10-minute counts before and after the observation period, $V_{ijk} = (\text{number counted 10 minutes before} + \text{number counted 10 minutes after}) * 60/20$, for a standard 60-minute observation period. Where raw counts were based on travel in both directions, they were divided in half to be comparable to counts based on travel in only one direction.

Values for $\pi_{ijk} = n_{ij} L_{ijk} / \sum_{k=1}^{n_{ij}} L_{ijk}$ were calculated separately within each stratum for each tribal reservation.

The actual calculations are represented as $\pi_{ijkl} = (n_{ij} / 2) \bullet L_{ijkl} / \sum_{k=1}^{n_{ijl}} L_{ijkl}$, where l is the stratum and $n_{ijl} + n_{ij2} = n_{ij}$. The result of this was that collectors and arterials contributed equally to each reservation's belt use rate estimate, regardless of differences in the total length of the selected collector segments versus the total length of the selected arterial segments.

Next, the overall rate across all tribal reservations was calculated according to the formula

$$p = \left(\sum_{i,j} W_{ij} p_{ij} \right) / \left(\sum_{i,j} W_{ij} \right) \quad (3)$$

where $W_{ij} = \text{Pop}_{ij} / s_{ij}$, i.e., the population of tribal reservation i in Area j times the inverse of the selection cutoff level, where the cutoff level was approximately equal to the probability of including tribal reservation j of Area i in the sample. This is the directly analogous to the Section 157 guidelines allowing population weighting in the absence of traffic volume data.

At an informational level, calculations of belt use could also be done for subsets of the entire sample and population. For example, BIA and PRG were interested in belt use rates for the different Areas. It was also interesting to compare tribal reservations with primary safety belt laws versus those with secondary

or no safety belt laws, and tribal reservations within states with primary laws versus those in states with secondary laws.

Additionally, a large percentage of tribal reservation vehicles were pickup trucks, and in State belt use observations it is routinely found that belt use in pickup trucks is much less than that in all other passenger vehicle types. Thus it was of interest to calculate safety belt use rates for subsets of vehicle types, as well as male/female and driver/passenger subsets.

All of these “subset” calculations use formulas (2) and (3) as defined above, with adjustments in formula (2) to B_{ijk} and O_{ijk} (but not V_{ijk}) to reflect different subsets of vehicles or occupants and adjustments to the specific tribal reservations included in the formula (3) computations (but no changes to the W_{ij} values) for different Area or other tribal reservation subsets.

The Standard Error of the Overall Safety Belt Use Rate

Standard error of estimate values were estimated through a jackknife approach, based on the general formula:

$$\hat{\sigma}_p = \left[\frac{n-1}{n} \sum_{i=1}^n (p_i - p)^2 \right]^{1/2} \quad (4)$$

where $\hat{\sigma}_p$ = standard deviation (standard error) of the estimated Indian Country safety belt use proportion p , n = the number of sites, i.e., 120, and p_i = the estimated Indian Country belt use proportion with site i excluded from the calculation.

The relative error rate, i.e., $\hat{\sigma}_p / p$, also was calculated, as was the 95 percent confidence interval, i.e., $p \pm 1.96\hat{\sigma}_p$. These values are reported for the overall Indian Country safety belt use rate.

III. Results

Observational data were collected between July and September 2014 on 16 tribal reservations. Table 3 displays the overall sample characteristics. A total of 10,562 vehicles were observed, with 10,562 identifiable drivers and 3,488 additional passengers.

Out of all the qualified vehicles sampled for the survey, nearly 42 percent were cars, 32 percent were pickups, almost 19 percent were SUVs, and 7.5 percent were vans. Just over 61 percent of drivers were male, and nearly 39 percent were female. About 40 percent of passengers were male, and almost 60 percent were female. Gender could not be determined for two occupants; one driver and one passenger. Safety belt use was discernible for over 99% of all occupants.

Table 3. Observation Sample Overview

Vehicle Type	Passenger				Total
	Cars	Pickup	SUV	Van	
	4,397	3,378	1,992	795	10,562
	41.6%	32.0%	18.9%	7.5%	
Driver Sex	Male	Female	Unknown	Total	
	6,450	4,111	1	10,562	
	61.1%	38.9%	0.0%		
Passenger Sex	Male	Female	Unknown	Total	
	1,405	2,082	1	3,488	
	40.3%	59.7%	0.0%		

As shown in Table 4, the overall safety belt use rate for 2014 in Indian Country measured 73.4 percent; the highest use level to date since the inception of the survey. The increase in the use rate from 2013 (up 3.8 percent from 69.6 percent) is also statistically significant ($p < .05$). As with past surveys, there was very large variation in belt use across tribal reservations, with individual rates ranging from a low of 44.3 percent to a high of 92.3 percent. Reflecting this variability, the standard error of measurement was 1.26 percent, and the relative standard error (standard error divided by average belt use) was 1.71 percent. The 95 percent confidence interval for overall belt use was from 70.98 percent to 75.91 percent.

There were substantial differences in belt use by vehicle type and occupant gender for drivers and passengers. Percent belted for drivers and passengers and subsets of vehicle type, occupant sex and road type were weighted to account for differences in traffic density observed among tribal areas. Rates were higher for cars (77.5 percent), SUVs (76.1 percent) and vans (79.1 percent) and much lower for pickup trucks (65.3 percent). Lower belt use among occupants riding in pickup trucks is also common across all roadways in the U.S., and consistent with findings in previous Indian Country studies.

Males were less likely to use safety belts than females, 70.7 percent vs. 77.5 percent. Drivers were slightly more likely to be belted, at 73.6 percent, than passengers, at 73.2 percent. The lowest overall belt use sub-group was male passengers in pickups, while the highest belt use levels were for female drivers of vans.

Belt use also varied by road type. Within towns on collector roads, overall belt use was 67.8 percent, while the rate on the more rural, between-town, arterials was 77.5 percent.

Table 4. 2014 Safety Belt Use by Vehicle, Occupant, Area & Road Type

	Drivers		Passengers		Drivers and Passengers	
	Percent Belted	Number ¹	Percent Belted	Number ¹	Percent Belted	Number ¹
All Cases	73.6%	10,557	73.2%	3,485	73.4%	14,042
Vehicle Type						
Auto	77.4%	4,397	78.3%	1,479	77.5%	5,876
Pickup	65.7%	3,377	63.6%	920	65.3%	4,297
SUV	76.8%	1,989	75.5%	714	76.1%	2,703
Van	80.2%	794	80.9%	372	79.1%	1,166
Occupant Sex						
Male	70.9%	6,448	70.7%	1,405	70.7%	7,853
Female	77.9%	4,109	76.8%	2,080	77.5%	6,189
Area & Road Type						
Urban/ Collector	68.0%	5,478	67.9%	1,801	67.8%	7,279
Rural/ Arterial	77.4%	5,079	78.0%	1,684	77.5%	6,763

¹Included total number where belt use was observed and recorded; does not include cases in which belt use was unknown.

Areas

Three of the six geographic areas had multiple reservations in the sample. The Northern Plains area had the four lowest belt use rates and collectively averaged just 56.5 percent belt use across all five reservations represented. The Northwest region and the Great Lakes area had the highest overall regional use rates. Of the five reservations representing the Southwest area, all had rates above the overall estimate.

Belt Use Laws

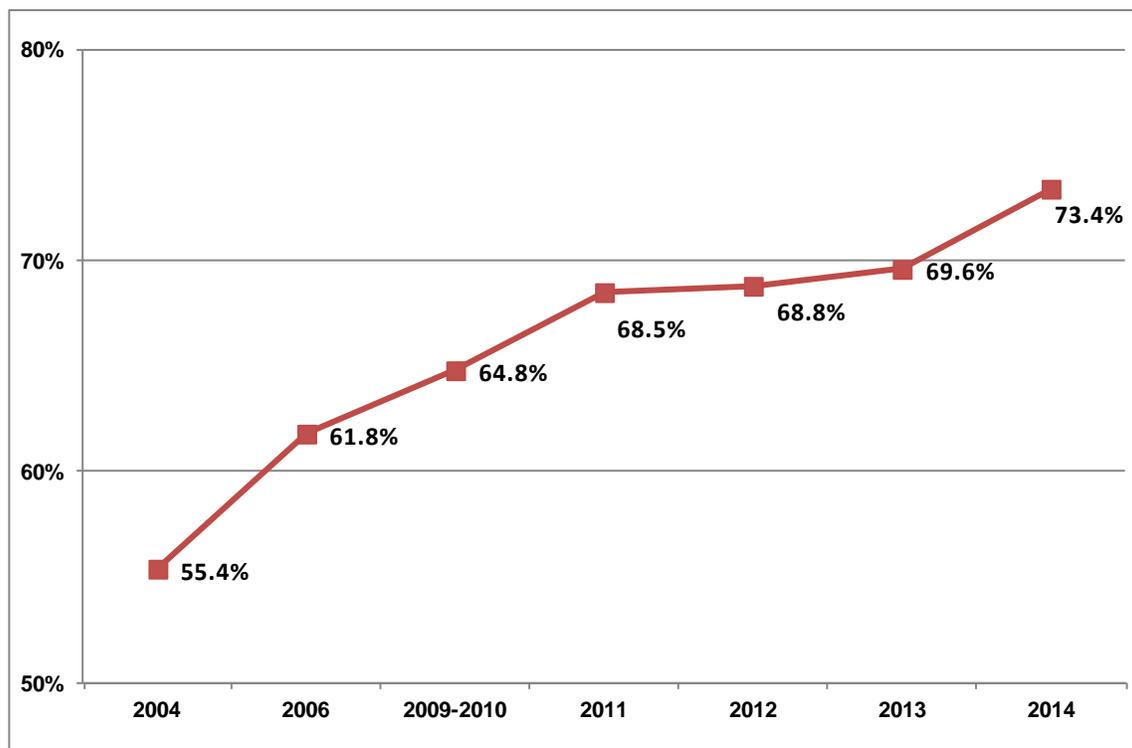
Another indication of belt use is the type of safety belt law. There are two kinds of belt use laws that may affect use rates: the safety belt law of the reservation itself and the safety belt law of the State in which the tribal reservation is located. Ten reservations had primary safety belt laws; in them, 76.0 percent of vehicle occupants were belted. By comparison, four tribal reservations had secondary belt laws; they averaged 72.6 percent belt use. For the two reservations with no belt use laws of any kind, only 61.4 percent of the vehicle occupants were belted.

Nine reservations were located in States with primary belt use laws. All nine measured above the overall estimate rate, with six of those reservations having among the highest use rates. Overall, the nine in primary law States averaged 82.7 percent belted occupants. The remaining seven reservations, in States with secondary belt use laws, were among the lowest-usage reservations. They averaged just 61.6 percent buckled occupants.

IV. Discussion

This is the seventh time safety belt use has been systematically measured across a representative sample of Indian reservations. The procedure developed in 2004 has now been replicated six times to provide a moving picture of safety belt use across Indian Nations. The 2014 rate of 73.4 percent significantly exceeds the 2013 rate of 69.6 percent, and demonstrates a continued overall upward trend in belt use following previous overall rates of 55.4 percent in 2004, 61.8 percent in 2006, 64.8 percent for 2009-2010, 68.5 percent for 2011, and 68.8 percent for 2012 (the trend is depicted below in Figure 2).

Figure 2: Trend Graph of Indian Nations Safety Belt Use Estimate 2004-2014



As noted in past studies and again here, safety belt use across Indian territories varies greatly from tribal reservation to tribal reservation. The recorded use rates ranged from the mid-forties to over ninety percent; a difference so large as to make it unmistakable that individual tribal reservations are fundamentally different in their approach to – and success at – encouraging safety belt use. It is important to note that figures from individual tribal reservations must be taken as only an indication of true rates. Individual reservations had far below the number of sites in each needed to determine a reliable belt use rate for any single reservation. Though area-wide rates suggest geography to be a factor, the sampling plan was designed to provide one single, reliable estimate of belt use to represent all the tribal reservations subject to tribal law and tribal traffic law enforcement.

The survey found differences in belt use by vehicle type and occupant gender. Results there were similar to previous studies and comparable to findings in State belt use surveys. Occupants of pickup trucks use safety belts less often than occupants of other vehicle types, males buckle up less than females, and

passengers tend to buckle up less than drivers. As has been noted in previous reports, male pickup drivers and passengers would be the target groups in need of the greatest improvement. They also seem to be the group most resistant to change, so they present the greatest challenge to future efforts. Challenges aside, those efforts, even though primarily targeting males in pickup trucks, may increase belt use in all groups.

The presence of a primary safety belt law is an indicator of higher belt use. Tribal reservations with primary laws had higher belt use than those with secondary laws, and reservations with secondary laws had higher belt use than those with no belt laws at all. Furthermore, tribal reservations located inside States with a primary safety belt law were much more likely to have primary safety belt laws and to have higher belt use numbers.

The previous studies indicate that tribal reservations with the highest belt use rates had rates comparable to general U.S. belt use rates (both the national rate, derived from the National Occupant Protection Use Survey, and individual State rates). The 2014 study found that the comparison of tribal reservations to U.S. states remained consistent, suggesting that Native American governments can achieve high levels of belt use. On the other hand, figures for some of the tribal reservations suggest that their governments have done little or nothing toward achieving higher belt use. For reservations with low use rates, changes in tribal laws, policies, and procedures could prove very effective in improving safety belt usage levels – which in turn would continue to increase the overall use estimate for all tribal areas.

V. References

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Appendix A. Safety Belt Observation Instructions

- Qualifying vehicles include passenger automobiles, pickup trucks, recreational vehicles, jeeps, or vans (private, public and commercial). Pickup trucks should be coded as “trucks.” Jeeps, Broncos, Blazers, and other vehicles of that type should be coded as sport utility vehicles. Eligible vehicles should be observed regardless of the State in which they are registered.
- Belt use will be observed for front seat occupants only. Observe and record data for the driver and passenger seated closest to the right side of the front seat. If there is more than one front seat passenger, observe only the “outside” passenger. The passenger observed need not be in the seat closest to the passenger door, just the passenger closest to that position. Do not record data for passengers in the back seat or for a third passenger riding in the middle of the front seat.
- If a child is present in the front seat in a child restraint seat, do not record anything. However, children riding in the front seat, regardless of age, who are not in child restraint seats, should be observed as any other front seat passenger. If a child is seated on the lap of the right-most seated passenger, code the gender of the lap-owner and N for belt use.
- Each observation period will last for exactly 60 minutes.

The following procedures will be used in conducting observations of safety belt use:

1. As you observe a qualifying vehicle, record the type of vehicle (car, truck, SUV, van), the occupants' sex (male or female), and shoulder restraint use (yes or no) of the front seat occupants (driver and front seat “outside” passenger only).
2. If you notice a lap belt in use without a shoulder belt, it should be recorded as not restrained. Only shoulder belts are to be counted. Even if the vehicle likely has no shoulder belts, code the occupant(s) as not restrained.
3. If the person is using the shoulder belt improperly, e.g., has the shoulder strap under his/her arm or behind the back, this should be recorded as not restrained.
4. If traffic is light enough and you can see well, observe traffic moving in both directions (and indicate it by circling both directions on the form).
5. If you are observing a multiple-lane roadway, if traffic is light enough and you can see well, observe traffic in all lanes. If traffic is too heavy, observe traffic in one lane at a time, each lane for an equal amount of time, and in the direction specified, throughout the 60-minute observation time-period.
6. In many situations, it will be possible to observe every vehicle in the designated lane(s). However, if there is too much traffic for you to observe every vehicle, you should determine a reference point up the road in the appropriate lane. Observe the next vehicle to pass the reference point after the last vehicle has been coded.
7. If you believe there will be too many vehicles to code every one, for 10 minutes immediately before the observation period and for 10 minutes immediately after the observation period, count all passenger vehicles as they pass and write the two tallies on the first data page.
8. Do not observe if it is raining or foggy or if other inclement weather arises. If you arrive at a site and it begins to rain, do not collect data in the rain. Find a dry place and wait 15 minutes to see if the rain stops. If the rain does stop, begin observing again and extend the observation period to make up for the time missed. Otherwise, you will have to reschedule the site. (Note: observer may continue observations in light fog, drizzle, or mist).
9. If more than one data sheet are used, staple the sheets together at the end of the observation period and note the number of sheets used at the top of the first data page.
10. It may happen that the site you are assigned is seriously compromised due to construction. If this occurs, you may move one block in either direction on the same street such that you are observing the same stream of traffic that would have normally been observed had there been no obstruction. If moving one block will not solve the problem, then do not conduct the observation, but follow procedures for identifying and observing at an alternative site.

Appendix B. Native American Safety Belt Observation Data Collection Form

The form, front and back, is shown on the next two pages, full size and without document headers/footers.

Seat Belt Observation Data Collection Form

SITE NUMBER: _____ SITE: _____

NOTES: _____

DATE: _____ - _____ - _____ DAY OF WEEK: _____

DIRECTION OF TRAFFIC FLOW (Circle one or two): N S E W START TIME: _____ (Exactly 1 Hour Observation)

WEATHER
 1 Clear / Sunny
 2 Light Rain
 3 Cloudy
 4 Fog
 5 Wet But Not Raining

DRIVER			PASSENGER			DRIVER			PASSENGER		
Veh. #	Vehicle	Sex	Use	Sex	Use	Veh. #	Vehicle	Sex	Use	Sex	Use
	C = car T = truck S = suv V = van	M = male F = female U = unsure	Y = yes N = no U = unsure	M = male F = female U = unsure	Y = yes N = no U = unsure		C = car T = truck S = suv V = van	M = male F = female U = unsure	Y = yes N = no U = unsure	M = male F = female U = unsure	Y = yes N = no U = unsure
1						36					
2						37					
3						38					
4						39					
5						40					
6						41					
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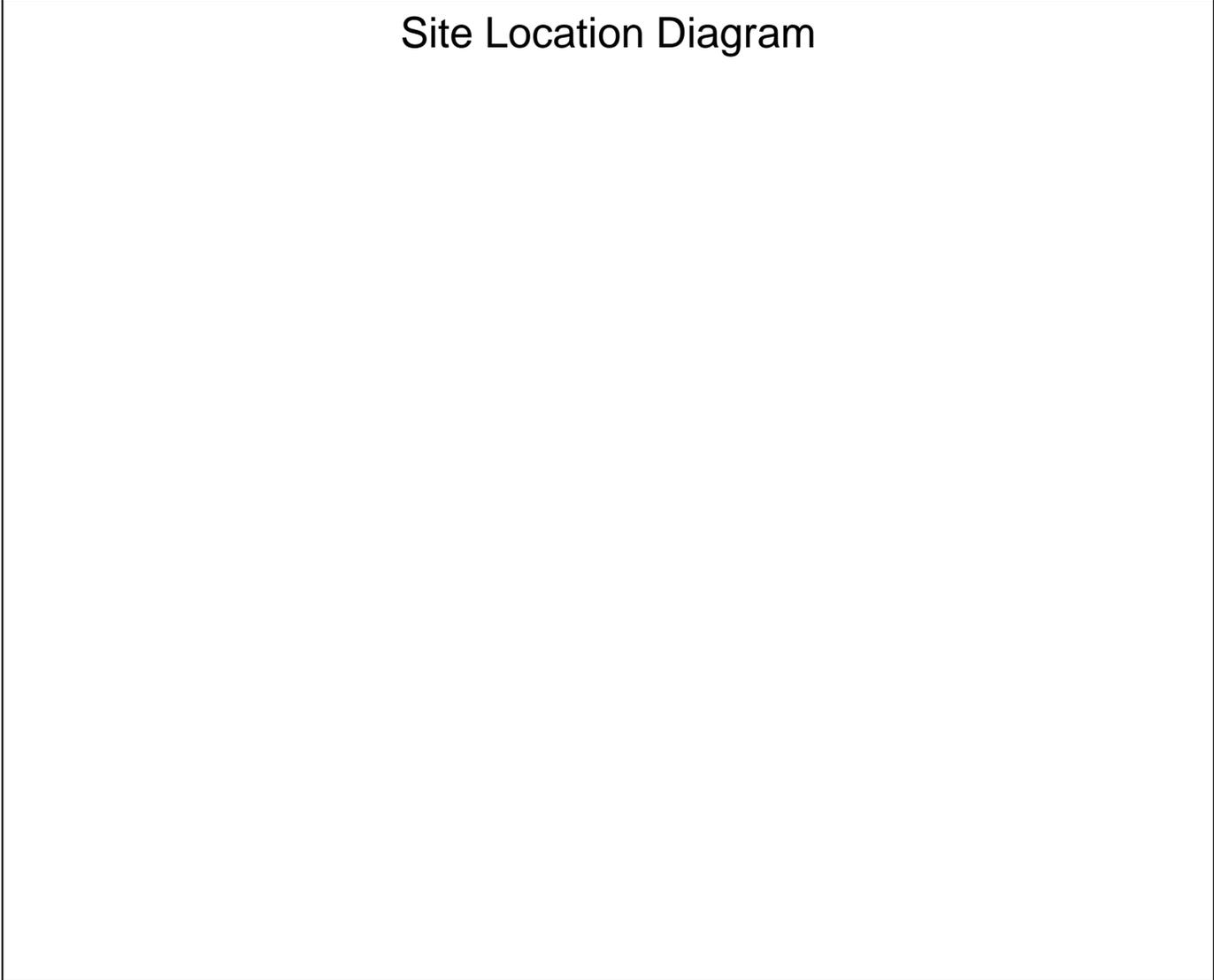
NOTES: _____

GPS COORDINATES

N _____

W _____

Altitude _____ ft



Appendix C. "Indian Country" Reservations with 2000+ Population

Tribe/Reservation	Related Location	Area	Population		
			Total	Native American	Pct Nat. Am.
Saginaw Chippewa [Isabella Resvn]	Mt Pleasant, MI	GrLks	25,822	1,397	5.4%
Red Lake Band of Chippewa	Red Lake, MN	GrLks	5,162	5,071	98.2%
Keweenaw Bay [L'Anse]	Baraga, MI	GrLks	3,538	850	24.0%
Menominee Indian Tribe of Wisconsin	Keshena, WI	GrLks	3,216	3,061	95.2%
Confederated Salish and Kootenai [Flathead]	Pablo, MT	NoPlns	26,172	6,999	26.7%
Eastern Shoshone & Arapaho Tribes [Wind River Rsvn]	Ft Washakie, WY	NoPlns	23,245	6,542	28.1%
Oglala Sioux [Pine Ridge Rsvn] (SD, NE)	Pine Ridge, SD	NoPlns	14,068	12,985	92.3%
Sisseton-Wahpeton Sioux Tribe [Lake Traverse] [(ND-SD)]	Agency Village, ND	NoPlns	10,408	3,453	33.2%
Fort Peck Assiniboine & Sioux	Poplar, MT	NoPlns	10,321	6,391	61.9%
Blackfeet	Browning, MT	NoPlns	10,100	8,507	84.2%
Rosebud Sioux	Rosebud, SD	NoPlns	9,050	7,747	85.6%
Cheyenne River Sioux	Eagle Butte, SD	NoPlns	8,466	6,249	73.8%
Standing Rock Sioux (ND-SD)	Fort Yates, SD	NoPlns	8,250	5,964	72.3%
Crow	Crow Agency, MT	NoPlns	6,894	5,165	74.9%
Yankton Sioux Tribe	Marty, SD	NoPlns	6,500	2,633	40.5%
Three Affiliated Tribes [Ft. Berthold]	New Town, ND	NoPlns	5,915	3,986	67.4%
Turtle Mountain Band of Chippewa	Belcourt, ND	NoPlns	5,815	5,601	96.3%
Northern Cheyenne	Lame Deer, MT	NoPlns	4,470	4,029	90.1%
Spirit Lake [Devils Lake Rsvn]	Fort Totten, ND	NoPlns	4,435	3,317	74.8%
Fort Belknap	Harlem, MT	NoPlns	2,959	2,790	94.3%
Crow Creek Sioux	Fort Thompson, SD	NoPlns	2,225	1,936	87.0%
Yakama Nation	Toppenish, WA	NWst	31,646	7,289	23.0%
Nez Perce	Lapwai, ID	NWst	17,959	2,101	11.7%
The Tulalip Tribes	Marysville, WA	NWst	9,246	2,049	22.2%
Confederated Tribes of the Colville Reservation	Nespelem, WA	NWst	7,582	4,528	59.7%
Coeur D'Alene	Plummer, ID	NWst	6,551	1,251	19.1%
Shoshone-Bannock	Fort Hall, ID	NWst	5,760	3,648	63.3%
Lummi Indian Nations	Bellingham, WA	NWst	4,193	2,114	50.4%
Muckleshoot Indian Tribe	Auburn, WA	NWst	3,597	1,033	28.7%
Confederated Tribes of the Warm Springs Reservation	Warm Springs, OR	NWst	3,311	3,038	91.8%
Swinomish Indian Tribe	LaConner, WA	NWst	2,664	617	23.2%
Spokane Tribe of Indians	Wellpinit, WA	NWst	2,004	1,533	76.5%
Osage Tribe	Pawhuska, OK	So-Cent	44,437	6,410	14.4%
Kickapoo	Horton, KS	So-Cent	4,419	714	16.2%
Eastern Band of Cherokee	Cherokee, NC	So-East	8,092	6,665	82.4%
Seneca Nation of Indians (Allegany Resvn)	Cattaraugus County, NY	So-East	6,804	1,297	19.1%
Mississippi Band of Choctaw	Philadelphia, MS	So-East	4,311	4,087	94.8%
Akwesasne Mohawk Tribe (St. Regis Mohawk)	Hogansburg, NY	So-East	2,699	2,629	97.4%
Seneca Nation of Indians (Cattaraugus Resvn)	Erie, Chautauqua, Cattaraugus Counties, NY	So-East	2,412	2,125	88.1%
Seminole Tribe	Hollywood, FL	So-East	2,051	538	26.2%
Navajo Nation (AZ-NM-UT)	Window Rock, AZ	SWst	155,214	149,423	96.3%
Ute Indian Tribe (Uintah and Ouray Resvn)	Ft Duchesne, UT	SWst	19,182	2,780	14.5%
White Mountain Apache [Ft. Apache]	Whiteriver, AZ	SWst	12,429	11,702	94.2%
Gila River Pima-Maricopa	Sacaton, AZ	SWst	11,257	10,353	92.0%
Southern Ute	Ignacio, CO	SWst	11,159	1,433	12.8%
Santa Clara Pueblo	Espanola, NM	SWst	10,658	1,329	12.5%
Tohono O'odham	Sells, AZ	SWst	10,483	9,417	89.8%
San Carlos Apache	San Carlos, AZ	SWst	9,385	8,921	95.1%
Pueblo of Zuni	Zuni, NM	SWst	7,758	7,426	95.7%
Hopi	Kykotsmovi, AZ	SWst	6,815	6,442	94.5%
Salt River Pima-Maricopa	Scottsdale, AZ	SWst	6,405	3,366	52.6%
Taos Pueblo	Taos, NM	SWst	4,484	1,331	29.7%
Pueblo of Laguna	Laguna, NM	SWst	3,815	3,669	96.2%
Pascua Yaqui	Tuscon, AZ	SWst	3,315	3,002	90.6%
Pueblo of San Felipe	San Felipe, NM	SWst	3,185	2,465	77.4%
Pueblo of Santo Domingo	Santo Domingo Pueblo, NM	SWst	3,166	3,085	97.4%
Pueblo of Isleta	Isleta, NM	SWst	3,166	2,675	84.5%
Mescalero Apache	Mescalero, NM	SWst	3,156	2,888	91.5%
Pueblo of Acoma	Avomita, NM	SWst	2,802	2,723	97.2%
Jicarilla Apache Tribe	Dulce, NM	SWst	2,755	2,475	89.8%
Pojoaque Pueblo	Santa Fe, NM	SWst	2,712	264	9.7%

Appendix D. "Indian Country" Reservations with Less Than 2000 Population

Tribe/Reservation	Related Location	Area	Population		
			Total	Native American	Pct Nat. Am.
Jemez Pueblo	Jemez Pueblo, NM	SWst	1,958	1,941	99.1%
Picuris Pueblo	Penasco, NM	SWst	1,801	166	9.2%
Nambe Pueblo	Santa Fe, NM	SWst	1,765	455	25.8%
Pyramid Lake Paiute	Nixon, NV	SWst	1,734	1,221	70.4%
Ute Mountain	Towaoc, CO	SWst	1,687	1,609	95.4%
Chippewa-Cree [Rocky Boy's]	Box Elder, MT	NoPlns	1,605	1,542	96.1%
San Ildefonso Pueblo	Santa Fe, NM	SWst	1,524	528	34.6%
Pueblo of Cochiti	Cochiti, NM	SWst	1,502	695	46.3%
Onondaga Nation	Nedrwo, NY	So+East	1,473	763	51.8%
Quinault	Taholah, WA	NWst	1,370	1,051	76.7%
Makah	Neah Bay, WA	NWst	1,356	1,083	79.9%
Hualapai	Peach Springs, AZ	SWst	1,353	1,253	92.6%
Lower Brule Sioux Tribe	Lower Brule, SD	NoPlns	1,353	1,237	91.4%
Duck Valley Resvn (NV, ID) (Shoshone and Paiute)	Owyhee, NV, NV	SWst	1,265	998	78.9%
Prairie Band Potawatomie Tribe	Mayetta, KS	So-Cent	1,238	518	41.8%
Tuscarora Tribe	Lewiston, NY	So+East	1,138	311	27.3%
Cocopah	Somerton, AZ	SWst	1,025	519	50.6%
Reno-Sparks	Reno, NV	SWst	881	830	94.2%
Walker River Paiute	Schurz, NV	SWst	853	667	78.2%
Fort McDowell Mohave-Apache	Fountain Hills, AZ	SWst	824	755	91.6%
Fort Mojave (AZ,CA, NV)	Needles, CA	SWst	813	363	44.6%
Tesque Pueblo	Santa Fe County, NM	SWst	806	355	44.0%
Yavapai Apache	Prescott, AZ	SWst	743	650	87.5%
Fallon Colony+Fallon Resvn	Fallon, NV	SWst	743	639	86.0%
Ak-Chin Maricopa	Maricopa, AZ	SWst	742	652	87.9%
Skokomish Tribe	Shelton, WA	NWst	730	510	69.9%
Te-Moak Tribe of Western Shoshone Indians Nevada (Elko Colony)	Elko, NV	SWst	729	627	86.0%
Port Gamble S'Klallam Tribe	Kingston, WA	NWst	699	505	72.2%
Chehalis	Oakville, WA	NWst	691	388	56.2%
Indian Twp Resvn	Maine	So+East	676	564	83.4%
Bois Forte Band of Chippewa	Nett Lake, MN	GrLks	657	464	70.6%
Pueblo of Zia	Zia Pueblo, NM	SWst	646	645	99.8%
Pleasant Point Resvn	Maine	So+East	640	567	88.6%
Sac & Fox	Tama, IA	So-Cent	616	579	94.0%
Bay Mills	Brimley, MI	GrLks	605	472	78.0%
Nisqually Indian Tribe	Olympia, WA	NWst	588	357	60.7%
Seminole Tribe [Brighton]	Okeechobee, FL	So+East	566	449	79.3%
Penobscot Indian Nation	Old Town, ME	So+East	562	477	84.9%
Tonawanda Band of Seneca	Bason, NY	So+East	543	210	38.7%
Havasupai	Supai, AZ	SWst	503	453	90.1%
Catawba Tribe	Rock Hill, SC	So+East	494	362	73.3%
Santa Ana Pueblo	Sandavol County, NM	SWst	487	473	97.1%
Alabama and Coushatta	Livingston, TX	So-Cent	480	463	96.5%
Ysleta del Sur Pueblo	El Paso, TX	So-Cent	421	300	71.3%
Kickapoo Traditional Tribes of Texas	Eagle Pass, TX	So-Cent	420	406	96.7%
Chitimacha	Charenton, LA	So-Cent	409	285	69.7%
Flandreau Santee Sioux Tribe	Flandreau, SD	NoPlns	408	326	79.9%
Quileute Nation	LaPosh, WA	NWst	371	307	82.7%
Sault Ste Marie Chippewa	Sault Ste. Marie, MI	GrLks	354	290	81.9%
Mashantucket Pequot	Mashantucket, CT	So+East	325	227	69.8%
Dresslerville Colony (Washoe Indians)	Gardnerville, NV	SWst	315	287	91.1%
Ft McDermit Paiute & Shoshone	McDermitt, NV	SWst	309	301	97.4%
Hannahville	Wilson, MI	GrLks	295	253	85.8%
Carson Colony	Carson City, NV	SWst	286	241	84.3%
Paiute Indian Tribe of Utah	Cedar City, UT	SWst	270	250	92.6%
Lower Elwha Klallam Tribe	Port Angeles, WA	NWst	260	208	80.0%
Upper Skagit Indian Tribe	Sedro-Wolley, WA	NWst	238	180	75.6%

Tribe/Reservation	Related Location	Area	Population		
			Total	Native American	Pct Nat. Am.
Sac and Fox (NE, KS)	Reserve, KS	So-Cent	217	49	22.6%
Moapa Band of Paiute	Moapa, NV	SWst	206	165	80.1%
Kalispel	Usk, WA	NWst	206	180	87.4%
Kaibab-Paiute	Fredonia, AZ	SWst	196	131	66.8%
Stewart Colony	Carson City, NV	SWst	196	150	76.5%
Yavapai-Prescott	Prescott, AZ	SWst	182	117	64.3%
Immokalee Reservation	Collier County, FL	So+East	175	142	81.1%
Iowa Tribe of KS & NE	White Cloud, KS	So-Cent	168	99	58.9%
Poarch Creek Indians (AL+FL)	Altmore, AL	So+East	156	98	62.8%
Duckwater Shoshone	Duckwater, NV	SWst	149	116	77.9%
Seminole Tribe [Big Cypress]	Hendry County, FL	So+East	142	110	77.5%
Yerington Paiute	Yerington, NV	SWst	139	124	89.2%
Houlton Maliseet Band (Trust Land)	Houton, ME	So+East	136	111	81.6%
Lac Vieux Desert Band of Lake Superior Chippewa	Watersmeet, MI	GrLks	135	113	83.7%
Ely Indian Colony	Ely, NV	SWst	133	87	65.4%
Tonto Apache	Payson, AZ	SWst	132	115	87.1%
Battle Mountain Band Colony	Battle Mountain, NV	SWst	124	112	90.3%
Las Vegas Paiute Tribe	Las Vegas, NV	SWst	108	100	92.6%
Confederated Tribes of the Goshute Reservation	Ibapah, UT	SWst	105	97	92.4%
Lovelock Paiute	Lovelock, NV	SWst	103	86	83.5%
Hoh Indian Tribe	Clallam County, WA	NWst	102	81	79.4%
Stillaguamish	Arlingtn, WA	NWst	102	76	74.5%
Yomba Shoshone	Austin, NV	SWst	96	89	92.7%
South Fork Band	Lee, NV	SWst	83	77	92.8%
Kootenai Tribe of Idaho	Bonners Ferry, ID	NWst	75	71	94.7%
Chehalis, Chinook & Quinault (Shoalwater Resvsn)	Pacific County, WA	NWst	70	44	62.9%
Winnemucca Indian Colony	Humbolt County, NV	SWst	62	44	71.0%
Narragansett Indian Tribe	Washington County, RI	So+East	60	9	15.0%
Wells Band Council	Wells, NV	SWst	54	39	72.2%
Sauk-Suiattle Indian Tribe	Darrington, WA	NWst	45	35	77.8%
Skull Valley Band of Goshute Indians	Grantsville, UT	SWst	31	30	96.8%
Oneida Indian Nation of NY	Vernon, NY	So+East	26	14	53.8%
Coushatta	Elton, LA	So-Cent	25	20	80.0%
Summit Lake Paiute	Winnemucca, NV	SWst	15	11	73.3%
Huron Potawatomi	Fulton, MI	GrLks	11	9	81.8%
Seneca Nation of Indians (Oil Springs Resvsn)	Allegany & Cattaraugus Counties, NY	So+East	11	0	0.0%
Jamestown S'Klallam Tribe	Sequim, WA	NWst	9	0	0.0%
Mohegan Tribe	Uncasville, CT	So+East	2	0	0.0%
Fort Pierce Resvsn	St. Lucie Co, FL	So+East	2	0	0.0%
Little River Band of Ottawa Indians	Manistee, MI	GrLks	2	0	0.0%
Miccosukee	Miami, FL	So+East	*		
Tampa Reservation	Hillsborough, FL	So+East	*		
Coconut Creek Resvsn	Broward County, FL	So+East	*		
Northwestern Band of Shoshoni Nation	Pocatello, ID	NWst	*		
Little Traverse Bay Band of Odawa	Petoskey, MI	GrLks	*		
San Juan Southern Paiute	Tuba City, AZ	SWst	*		
Seminole Tribe	Broward County, FL	So+East	*		
Georgia Tribe of Eastern Cherokees	Dawsonville, GA	So+East	*		
Mashpee Wampanoag Trust Land	Mashpee, MA	So+East	*		
Matvh-e-be-nash-she-wish Band of Pottawatomi	Dorr, MI	GrLks	*		
Canoncito Navajo Chapter	Canoncito, NM	SWst	*		
Ramah Navajo	Ramah, NM	SWst	*		
Goshute Paiute Tribe of Utah & Nevada	Ibapah, UT	SWst	*		
Monacan Indian Tribe	Monroe, VA	So+East	*		
Nansemond Indian Tribe	Chesapeake, VA	So+East	*		
United Rappahannock Tribe	Indian Neck, VA	So+East	*		
Snoqualmie Tribal Org	Fall City, WA	NWst	*		

* Reservation not listed in Census 2000.