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Deadly Roads: An Analysis of Traffic Safety In or Near Indian Country in Humboldt County

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This report presents findings from a recently completed pilot project that examined fatality and injury rates involving pedestrians and motorists on main thoroughfares in or near Indian country in Humboldt County, California. Every year thousands of motorists die and millions more are injured on the nation's roadways. But while the number of fatal crashes nationally has declined by 2% over the past 25 years, the number of vehicle-related fatalities in or near Indian country has increased over 50%. In order to understand the reasons for this increase and to begin developing safety countermeasures, we need better data documenting the problem. This pilot study combined analysis of CHP's Statewide Integrated Traffic Records System (SWITRS) database and other sources of crash data with GIS mapping to document the areas in or near Indian country in Humboldt County with the highest rates of vehicle related injuries and fatalities over the past five years. The report includes analysis of rates of traffic collisions involving fatalities in or near Indian Country over a five-year period (2004-2009) in Humboldt County; the number of these collisions involving youth, pedestrians, alcohol, and DUI; and the effect of a new casino on the rate of collisions involving fatalities and severe injuries. The report concludes with recommendations for next steps that might be taken to improve traffic safety in Indian country, including identifying hotspots, working with tribal police to document all traffic injuries, and working with tribal members to assess risk conditions and evaluate safety efforts. The results of the analysis will be used to help Native nations document the dangers associated with roadways that, while they run through Indian country, are the responsibility of the state to ensure safe passage.

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Introduction¹

Every year thousands of motorists die and millions more are injured on the nation's roadways. But while the overall rate of traffic-related injury and fatality has decreased over the past half-century due to improvements in road and vehicle design and traffic safety efforts, Native Americans continue to face a higher risk of traffic-related injuries and fatalities (Hilton 2006, Ganz et al. 2003). In California, between 2004 and 2009, while the overall number of fatal collisions decreased by almost 27%, fatal collisions involving American Indians *increased* by 30%.² In order to understand the reasons for this increase and to begin developing safety countermeasures, we need better data documenting the problem.

American Indian and Alaskan Native populations have the highest motor vehicle fatality rates in the U.S. (Pollack et al. 2012). These rates are significantly higher than any other racial or ethnic group, in all age categories. Gantz et al. find that the age-adjusted fatality rate from motor vehicle crashes is nearly twice as high for Native Americans as it is for whites (2003: 4). In 2012, the Centers for Disease Control and Prevention report that “motor vehicle crashes are the leading cause of unintentional injury for American Indian/Alaskan Natives ages 1-44” (Center for Disease Control and Prevention 2010). Rural Native American populations are at even greater risk for motor-vehicle-related fatalities (Grossman et al. 1997).

While there is research documenting the greater risk faced by Native Americans, less is known about the causes and rates of injury and fatalities in or near Indian Country. This study begins to explore this question by analyzing traffic incident data in Humboldt County, California. Located in northern California, Humboldt County is one of the few counties in California with lands owned and populated by three major Native American nations – the Hoopa, the Yurok, and the Karuk. Additionally, the county contains at least one new Native-owned casino.

It is likely that a combination of individual and environmental factors contribute to increasing the risk of traffic-related injury and fatalities in or near Indian Country (NIJC 2008, Ganz et al. 2003). Individual factors include impaired driving and low rates of seat belt and child

¹ We wish to thank David Minkus and Deborah Lustig for their comments on an earlier draft of this document.

² National Highway Traffic and Safety Administration, Fatality Analysis Reporting System (FARS) Encyclopedia, <http://www-fars.nhtsa.dot.gov>.

safety seat use (Letourneau et al. 2008). Environmental factors include poor road quality and pedestrian presence on high-speed roadways. The presence of casinos, which serve alcohol and can bring congestion to roads unequipped to handle the increase in motor vehicle traffic, may also contribute to traffic-related fatalities (Cotti and Walker 2010).

Given the limited data sources available for this study, we were able to explore only a few of these factors. Specifically, we use quantitative and qualitative methods to document the number of fatalities and severe injuries involving youth, pedestrians, alcohol, driving while under the influence (DUI), and the presence of a newly built casino in Humboldt County. The key questions guiding this research are: 1) What is the rate of traffic collisions involving fatalities in or near Indian Country³ over a six year period (2004-2009) in Humboldt County? 2) How many of these collisions involve youth, pedestrians, alcohol, and DUI? 3) What is the effect of a new casino on the rate of collisions involving fatalities and severe injuries?

The results of this analysis, which will be shared with Native nations, document higher than average rates of severe traffic collisions in or near Indian Country, in addition to highlighting the need for better data collection.

Background

A map of Native American tribal land in California was used to select a suitable county for analysis. After consulting with Joseph Myers, a professor of Native American Studies at UC Berkeley and Executive Director of the National Indian Justice Center, we selected Humboldt County as the area of study. Located on the northern coast of California, Humboldt County is densely forested, mountainous and mostly rural. The county has two primary population centers, the cities of Eureka (pop. 45,034) and Arcata (pop. 17,231). Native Americans make up 6% of the county's total population (134,623).⁴ In addition to five rancherias,⁵ three Indian reservations lie within the county's borders. The Hoopa Valley Indian Reservation, the largest Indian reservation in the state of California, spans 141.087 square miles along the Trinity River.

³ For the purpose of this report, we define "in or near Indian Country" to be within a 15 mile radius of Indian lands.

⁴ United States Census Bureau website, State & County QuickFacts, Humboldt County, California, <http://quickfacts.census.gov/qfd/states/06/06023.html>.

⁵ Blue Lagoon Rancheria, Blue Lake Rancheria, Rohnerville Rancheria, Table Bluff Rancheria, and Trinidad Rancheria.

According to the 2000 Census, 2,633 Hoopa live on the reservation.⁶ Members of the Yurok tribe, which is the largest Native nation in California with 5,000 enrolled members, live in several rancherias throughout Humboldt County.⁷ Depending on the source, the Karuk tribal lands range from 1.12 to several square miles. The Karuk tribe is estimated to have 506 members.⁸ Traffic incidents in or near the Hoopa, Yurok, and Karuk reservations are the focus of the analysis below. (See Figure 1.)

Roads that run through the Hoopa Reservation are subject to a complex mixture of regulation. Some roads are maintained and regulated by the state of California, while others are maintained and regulated by Humboldt County, the Bureau of Indian Affairs (BIA) or the tribe itself. State Route 299 runs northeast from the city of Arcata on the coast to Willow Creek inland, where it intersects with State Route 96, which turns north and cuts through the center of the Hoopa Reservation. As the findings below will show, these state highways are the locations of a majority of the fatal collisions in and near the reservation. In addition, there are five main arterial routes in the area that are maintained by Humboldt County. A majority of the local roads that serve Hoopa residents were built by the BIA and are now maintained by the tribe. Most of the local roads maneuver through mountainous timberland. Law enforcement is provided by both the Humboldt County Sheriff's Department and Hoopa tribal police.

According to the Hoopa Valley Transportation Plan, eight of the 29 roads in the Hoopa Tribe's Indian Reservation Road (IRR) System are deemed to be in poor condition.⁹ Signage is most consistent on State Highway 96, and becomes scarce on the rest of the county roads that run through Hoopa lands. While striping on major roads is in good condition, striping is found to be faded on many of the minor roads. A bus system used by the elderly and school children runs throughout the Hoopa reservation. Average Daily Traffic (ADT) on Hoopa roads ranges from 20 vehicles to 800 vehicles with an average of 170 vehicles per day. Most roads have peak hour volumes of below 100 vehicles per hour (Hoopa Valley Tribe, Office of Research 1996).

⁶ Hoopa Valley Indian Tribe website, <http://www.hoopa-nsn.gov/government/statistics.htm>.

⁷ Yurok Tribe website, <http://www.yuroktribe.org/culture/culture.htm>.

⁸ United States 2010 Census Data website, <http://2010.census.gov/2010census/data/>.

⁹ Indian Reservation Roads (IRR) is a federal database of public roads that provide access to and from Indian reservations. The IRR program is administered by the Federal Highway Administration (FHWA) and facilitates design, construction, and maintenance of these roads.

State Route 169 runs along the Yurok reservation, which is located along the Klamath River in Humboldt County. Similar to the state highways running through the Hoopa Reservation, State Route 169, as the findings below will show, is the scene of most fatalities in and around Yurok land. The Yurok tribe works with the Hoopa tribe to provide a transit system in the area; weekday transit services take passengers from the city of Willow Creek to Wautec Road.¹⁰ The Yurok completed an IRR inventory of their roads in 2009; however, we were not able to obtain data about these roads and the condition of the transportation infrastructure.

The Karuk Tribe resides on rancherias north of the Hoopa reservation near State Route 96 and the Six Rivers National Forest. The Siskiyou Transit and General Express (STAGE) provides transit services to the Karuk Tribe and was recently expanded to take passengers between Happy Camp near State Route 96 to Yreka and the Orleans community.¹¹ We were not able to obtain information about whether an IRR system exists for the Karuk Tribe and what the conditions of the roads and other transportation infrastructure near the rancherias are.

Methodology

We combined quantitative and qualitative methods to provide a more complete picture of issues involving traffic safety in or near Indian Country in Humboldt County. To understand the scope of traffic collisions in the county, we used the Transportation Injury Mapping System (TIMS).¹² Developed by researchers at the Safe Transportation Education Center (SafeTREC) at the University of California at Berkeley, TIMS provides data and mapping analysis tools that can be used to geocode and display pin maps in Google Maps of collisions included in the Statewide Integrated Traffic Records System (SWITRS). SWITRS is an online database that contains data gathered from a collision scene by California Highway Patrol (CHP) officers.¹³

After collecting aggregate data for fatalities and severe injuries for the years 2004-2009, we mapped these incidents onto Humboldt County using TIMS. We then overlaid this map onto a map of Hoopa, Yurok and Karuk lands to determine the proximity of these collisions to Indian

¹⁰ Yurok Tribe website, http://sixriversgraphicdesign.com/Yurok/Planning/Transportation_Program.htm.

¹¹ Karuk Tribe website, <http://www.karuk.us/karuk/departments/transportation>.

¹² Transportation Injury Mapping System website, <http://tims.berkeley.edu/>.

¹³ California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) website, <http://www.chp.ca.gov/switrs/switrs2000.html>.

Country. (See Figure 1.) We also analyzed the data for incidents by age, driving while under the influence, alcohol related incidents, and pedestrian involvement for each of the six years between 2004 and 2009.¹⁴

Researchers point to systemic underreporting of traffic collisions on tribal lands and a lack of tribal-level data about traffic collisions (Poindexter 2004, Bailey and Huft 2008, Sullivan and Martin 2009). One reason for underreporting, they argue, is that Native tribes in most states do not fall under the jurisdiction of state law, and therefore are not required to submit crash reports to the state reporting systems. Other barriers to reporting include insufficient tribal law enforcement capacity, lack of standardization in reporting methods, lack of access to software and technical support required to add data to the statewide database, and strained tribal-state relations (Bailey and Huft 2008). To better understand the underlying issues of traffic safety, and to explore the extent to which traffic incidents might be underreported in SWITRS, we conducted over-the-phone interviews with officials at Caltrans, members of the Hoopa and Yurok Tribal Police, and Karuk tribal officers (the Karuk do not have a tribal police). We also held an in-person meeting with experts at SafeTREC to seek advice for using the TIMS database and general guidance regarding the research design.

To measure the impact that a new casino might have on traffic fatalities, we identified the Bear River Casino, a relatively new casino owned and operated by the Bear River Band of the Rohnerville Rancheria and located on the western edge of Humboldt County just off of Highway 101. We then measured the number of fatalities that occurred within 15-20 miles of the casino in the year before it opened (2004) and in the 5 years after it opened (2005-2009), and compared these numbers with county-wide numbers.

¹⁴ We were not able to include ethnicity in our analysis because SWITRS/TIMS does not include ethnicity data. The National Highway Traffic Safety Administration maintains a Fatality Analysis Reporting System (FARS), which does include ethnicity data. However, FARS does not have a mapping tool, and thus we were unable to use FARS data in our analysis. Further research is needed to map by hand the locations of the fatal incidents reported in FARS.

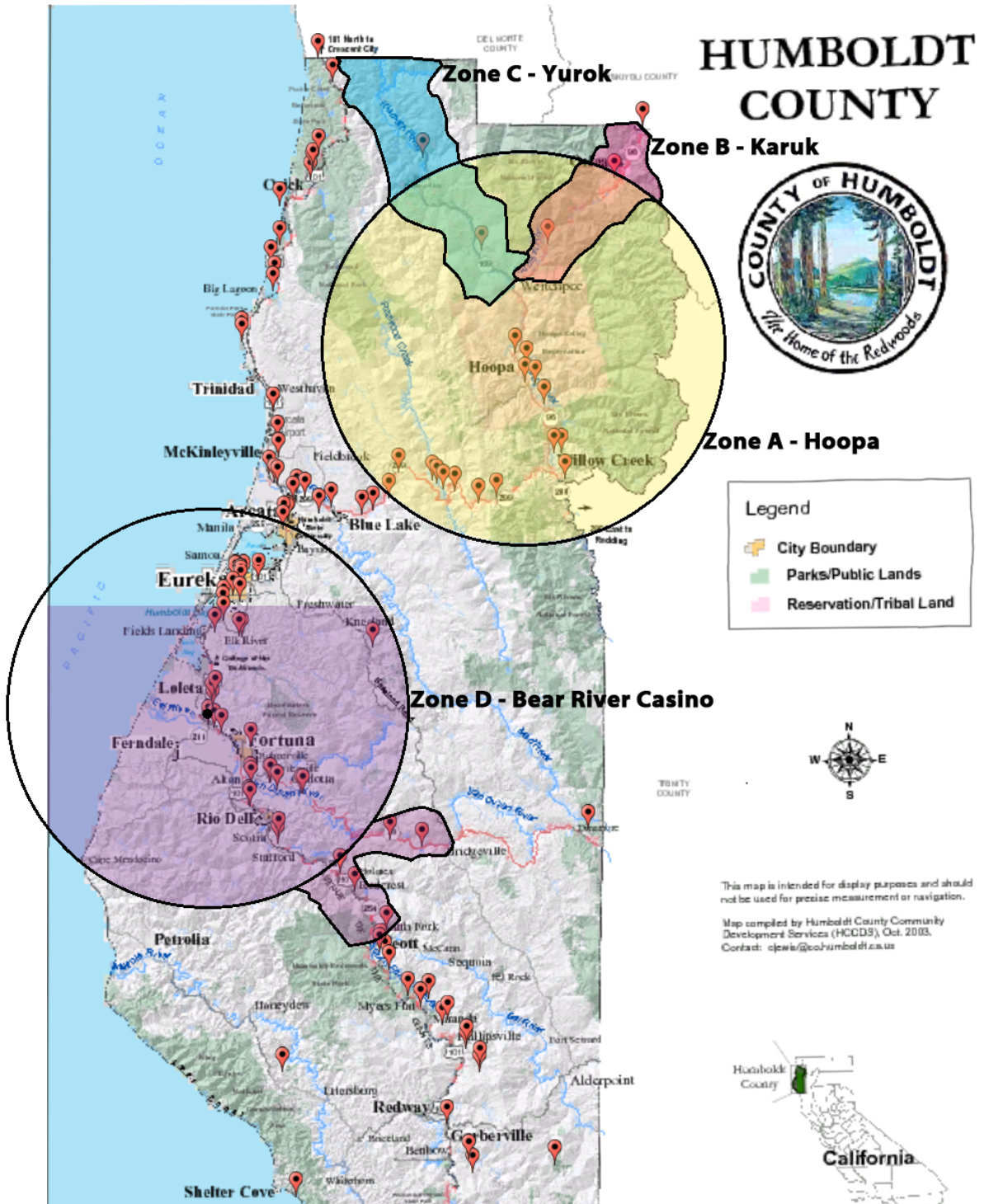


Figure 1: Traffic Fatality and Severe Injury Analysis Zones.

Note: Each pin represents one fatal or severe traffic incident.

Description of Analysis Zones

Zone A in Figure 1 is the analysis zone for the Hoopa reservation. It includes the Hoopa Reservation and a 15-mile radius around it. Zones B and C are analysis zones for the Karuk and Yurok, respectively. In or near Indian Country is defined as the combination of Zones A, B, & C.

Zone D in Figure 1 indicates the analysis zone around the Bear River Casino. It includes the city of Fortuna and the Rohnerville Airport but not the city of Eureka. We chose to exclude Eureka from the zone of analysis in order to minimize the confounding influence of traffic incidents in the most populated city in the county. Five additional miles of Highway 101 and of Route 36 heading south of the casino were included as well.

Findings

A. Quantitative Analysis using SWITRS-TIMS

Figure 2 indicates the aggregate number of all reported traffic incidents involving fatalities and severe injuries in Humboldt County from 2004-2009. Over this six year period, fatalities and severe injuries increased from 19 to 21 and 60 to 66, respectively. There is a peak for both types of collisions in 2007, when fatalities were 23 and severe injuries were 84.

Figure 2: Fatalities and Severe Injuries in Humboldt County, 2004-2009

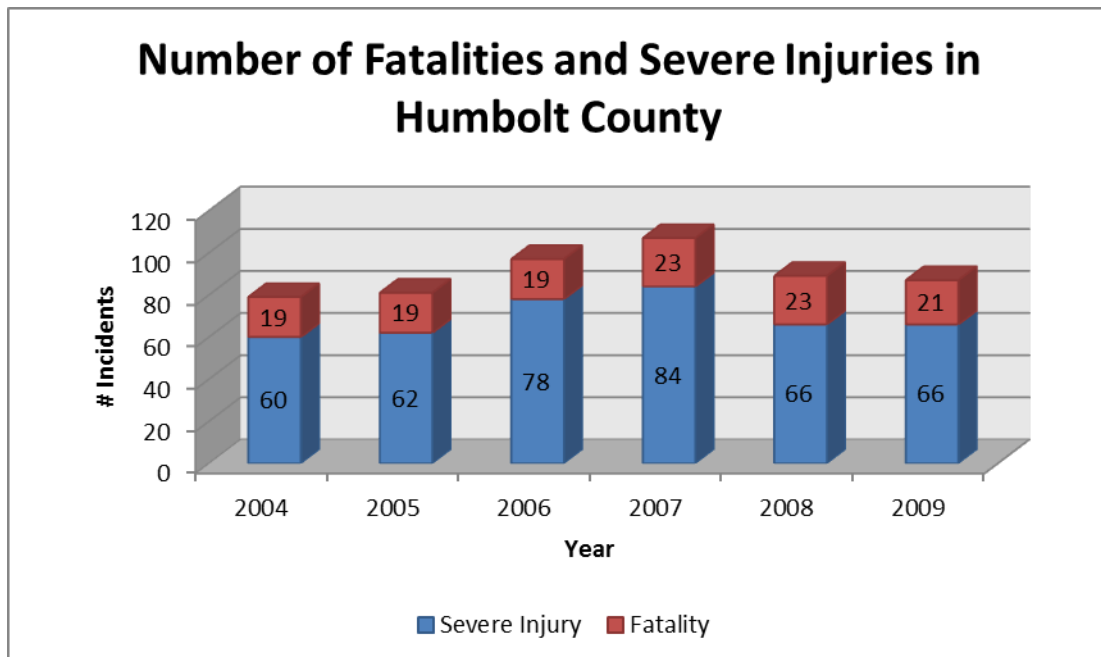


Table 1 presents the number of fatalities in Humboldt County from 2004 to 2009 involving pedestrians, driving while under the influence, by age, and by age with alcohol involved. From 2004 to 2008, nearly a third of all fatalities involved a DUI violation. The number of fatal collisions involving young people (25 years or younger) ranges from a low of 2 in 2004 to a high of 5 in 2008. In 2007, 43% of all fatal collisions in Humboldt County involved young drivers, one of which involved alcohol.

We also measured the number of collisions involving pedestrians in Humboldt County. Between 2004 and 2009 (the last year of available data), the CHP reported 14 fatal or severe collisions involving pedestrians.

Table 1: Traffic Fatalities in Humboldt County from 2004-2009

Collision Type	2004	2005	2006	2007	2008	2009
Total	19	19	19	23	23	21
Vehicle/Pedestrian Collision	2	2	2	2	3	3
DUI Violation	6	6	6	6	8	0
Age of Deceased 0-17	1	2	1	2	0	1
Age of Deceased 18-25	3	6	3	8	7	3
Age of Deceased 26-45	13	6	11	15	14	9
Age of Deceased 46-64	4	12	9	8	8	10
Age of Deceased 65+	4	3	1	3	3	4
Age of Deceased 0-17 with Alcohol Involved*	1	1	0	0	0	1
Age of Deceased 18-25 with Alcohol Involved*	1	3	0	1	5	1
Age of Deceased 26-45 with Alcohol Involved*	5	1	3	4	8	7
Age of Deceased 46-64 with Alcohol Involved*	1	3	2	2	4	3
Age of Deceased 65+ with Alcohol Involved*	1	2	0	0	1	2

*The National Highway Transportation Safety Administration (NHTSA) defines a fatal crash as alcohol-related or alcohol-involved if either a driver or a non-motorist (usually a pedestrian) had a measurable or estimated blood alcohol concentration of 0.01 grams per deciliter or above. NHTSA defines a nonfatal crash as alcohol-related or alcohol-involved if police indicate on the accident report that there is evidence of alcohol present, however, this does not necessarily mean that a driver or non-motorist was tested for alcohol. (National Highway Traffic and Safety Administration, Fatality Analysis Reporting System (FARS) Encyclopedia, <http://www-fars.nhtsa.dot.gov/Help/Terms.aspx>).

Table 2 takes a closer look at the number of traffic fatalities and severe injuries reported in or near Indian Country. Traffic fatalities in these areas increased from 2 in 2004 to 7 in 2009, with a peak of 12 fatalities in 2008. The same trend appears for the number of collisions involving severe injuries, which more than doubled (from 6 to 13) over the six year span. The Hoopa are especially impacted by these types of collisions. Over 95% of fatal and severe collisions reported in or near Indian Country occurred on or near Hoopa land, an area that spans 141 square miles¹⁵ and is equivalent to 4% of Humboldt County’s land area.¹⁶

We also find that there is an overrepresentation of collisions occurring in or near Indian Country in Humboldt County. The lands of the Hoopa, Karuk and Yurok nations (including a 15-mile radius around Hoopa lands) amount to less than 25% of Humboldt County’s total land mass (3,572 square miles). However, this area was the site of 33% of all fatalities in 2009, and over 50% of the county’s fatalities in 2008. These numbers are especially alarming when one considers that much of the Hoopa, Karuk, and Yurok lands are rural, where we would expect low population density and little traffic.

Table 2: Number and Percent of Fatalities and Severe Injuries in or near Indian Country, 2004-2009

Collision Type	2004	2005	2006	2007	2008	2009
Fatal	2	5	3	5	12	7
Fatal (%)*	10.5	26.3	15.8	21.7	52.2	33.3
Severe	6	12	14	12	12	13
Severe (%)*	10.0	19.4	17.9	14.3	18.1	19.7

*Percentages are the number of collisions of that type in or near Indian Country over the number of collisions of that type in Humboldt County

¹⁵ Hoopa Valley Indian Tribe website, <http://www.hoopa-nsn.gov/government/statistics.htm>.

¹⁶ Hoopa Valley Indian Reservation Transportation Plan, <http://ceres.ca.gov/planning/hoopa/transportation.html>.

Tables 3 and 4 present the number and percent of fatalities and severe injuries in or near Indian Country involving DUI and youth, respectively. While these collisions amount to only single digits each year, there is still cause for concern. In 2008, half of all fatal DUI collisions in Humboldt County occurred in or near Indian Country. (There is an anomaly in 2009, where zero incidents involving DUI were reported.)

Table 3: Number and Percent of Fatalities/Severe Injuries in or near Indian Country Involving DUI, 2004-2009

Collision Type	2004	2005	2006	2007	2008	2009
Fatal DUI	1	1	0	1	4	0
Fatal DUI (%)*	16.7	16.7	0	16.7	50.0	0
Severe DUI	1	3	6	5	2	0
Severe DUI (%)*	6.3	17.6	30.0	16.7	9.5	0.0

*Percentages are the number of collisions of that type in or near Indian Country over the number of collisions of that type in Humboldt County

We also find higher rates of fatal and severe injury traffic incidents involving youth (age 0 to 25) in or near Indian Country. In 2008, six out of seven (85.7%) of all fatalities involving youth in Humboldt County occurred in or near Indian Country, and between 2006 and 2009, on average half of all fatal collisions involving youth in Humboldt County took place in or near Indian Country. Moreover, the number of fatal or severe incidents involving youth in or near Indian Country increased over the six year period from a low of 3 in 2004 to three times that number in 2008.

**Table 4: Number and Percent of Fatalities/Severe Injuries Involving Youth
in or near Indian Country, 2004-2009**

Collision Type	2004	2005	2006	2007	2008	2009
Fatal involving Youth	0	0	2	3	6	1
Fatal involving Youth (%)*	0	0	50.0	33.3	85.7	25.0
Severe involving Youth	3	6	5	6	3	4
Severe involving Youth (%)*	12.0	23.1	16.1	17.1	18.6	20.0

*Percentages are the number of collisions of that type in or near Indian Country over the number of collisions of that type in Humboldt County

B. Casino Case Study Analysis

Table 5 indicates the number of fatalities within a 15-20 mile radius¹⁷ of the Bear River Casino between 2004 (one year before the casino opened) and 2009. In 2004, just over 30% of all fatalities in Humboldt County occurred within a 15-20 mile radius of the Bear River Casino prior to its opening (in August 2005). Fatalities decreased in 2005 and again in 2006, the first full year the casino was open. In 2007, two years after the casino opened, the number of fatalities had increased to 10, representing 43.5% of all traffic fatalities in Humboldt County and a 67% increase in the number of fatalities in this area compared to 2004. Also in 2007, all of the vehicle-pedestrian collisions reported in Humboldt County (N=2) occurred within a 15-20 mile radius of the Bear River Casino.

¹⁷ A distance of 20 miles was used when measuring collisions on freeways leading to the casino from the south. As noted in the description of Zone D above, the city of Eureka, which lies approximately 10 miles north of the Bear River Casino, was not included in the zone of analysis in order to minimize confounding variables.

Table 5: Traffic Fatalities within a 15-20 mile radius of the Bear River Casino, 2004-2009

Collision Type	2004	2005	2006	2007	2008	2009
Fatal	6	5	1	10	3	5
Fatal (%)*	31.6	26.3	5.3	43.5	13.0	23.8
Fatal Vehicle/Pedestrian	1	0	0	2	1	1
Fatal Vehicle/Pedestrian (%)*	50.0	0	0	100.0	33.3	33.3
Fatal DUI	1	2	1	1	0	0
Fatal DUI (%)*	16.7	33.3	16.7	16.7	0	0

*Percentages are the number of collisions of that type in or near Indian Country over the number of collisions of that type in Humboldt County

Implications

While the relatively limited amount of data from this pilot study prevents us from drawing broad claims about the risk of severe or fatal traffic incidents in or near Indian Country, the data do point to several significant trends.

1. Fatal Collisions in or near Indian Country are on the Rise

The data presented in this study indicate that the percentage of fatal collisions in or near Indian Country is rising, accounting for over 50% of the county's fatal collisions in 2008. This is especially alarming when one considers that fatality rates are on the decline nationally. The overrepresentation of fatal traffic incidents in or near Indian Country in Humboldt County should be studied further to identify the causes that contribute to this higher rate and to identify strategies for reducing it. Rates were considerably lower in 2009, but it is too soon to know if they are trending down.

2. Fatal and Severe Collisions in or near Indian Country Involving Youth are Increasing

Traffic fatalities and severe collisions involving youth are significantly higher in or near Indian Country than in other areas of Humboldt County, and this trend is growing. Between 2004 and 2008, the number of fatalities involving youth in or near Indian Country went from 0 to 6, and

between 2004 and 2007 the number of severe injury incidents involving the same population doubled (from 3 to 6). In 2004 fatal and severe traffic incidents involving youth in or near Indian Country accounted for 10.7% of all fatal and severe collisions in Humboldt County. By 2008, that number was nearly four times as large (39.1%). Determining the reason for this increase requires further study of the behavior of young drivers, the road conditions in these areas, and other potential contributing factors. Again, rates were considerably lower in 2009, but it is too soon to know if they are trending down.

3. Effect of Casino: Short-term Increase in Traffic Fatalities

The findings presented above suggest that a new casino may contribute to an increase in traffic fatalities, at least within the first few years of a casino's opening. In 2004, the year before the Bear River Casino opened, traffic fatalities in the area accounted for 31.6% of the total number of fatal collisions in Humboldt County. By 2007, two years after the casino opened, that number had increased to 43.5%, with 10 traffic fatalities reported within a 15-20 mile radius of the casino. In 2008 and 2009, the number of fatalities in the area had dropped. In 2008 and 2009, fatal collisions in the area of the Bear River Casino accounted for only 13% and 23.8%, respectively, of the total number of fatal collisions in the county. This suggests that the two-year period after a casino opens may be an especially dangerous time with regard to traffic collisions. More study needs to be done to determine both the causes of the increase in the two years immediately following the casino's opening and the causes of the decrease in fatalities in years three and four. Attention also needs to be paid to vehicle-to-pedestrian collisions. As noted above, in 2007 100% of pedestrian fatalities in Humboldt County occurred in the vicinity of the Bear River Casino; in 2008 and 2009 a third of all pedestrian fatalities in the county occurred near the Bear River Casino.

In summary, at the same time that traffic fatalities at the national level are decreasing, fatal and severe collisions in Humboldt County, and especially in areas in or near Indian Country, are increasing. This trend reflects a growing danger and suggests a need for immediate steps to be taken to increase traffic safety in these areas.

Next Steps

Below we suggest next steps that might be taken to improve traffic safety in Indian Country.

1. Identify Hotspots

Using the TIMS data, identify hotspots (i.e., places where a number of collisions have occurred) and visit these sites. Analyze the traffic volumes, road conditions, traffic control devices (signage, signals, stop signs and other traffic management controls), primary trip purposes, and times of travel of travelers on these roadways to identify factors that may contribute to high rates of traffic incidents in these areas. This data can be used to request federal and state financial assistance to improve road conditions and add better signage to these areas.

2. Work with Tribal Police to Document all Traffic Injuries

One officer of the Yurok Tribe told us that while motor-vehicle incidents involving fatalities and severe injuries are regularly reported to the California Highway Patrol (CHP), many incidents involving minor injuries are not. The officer said there are several reasons for this: drivers do not want the state to be involved; some drivers are not aware that they should report a collision; and some drivers may not have licenses or may have had their licenses revoked and therefore do not want to report the collision. Thus, while the fatality and severe injury data presented in this report are likely to be accurate, it is also likely that minor incidents in or near Indian Country are underreported. To provide a true picture of the risk of traffic incidents (both minor and severe/fatal) in these areas, researchers should conduct qualitative interviews with representatives of Native nations (tribal members and officers and tribal police) in areas in Indian Country where there appear to be the greatest density of accidents and injuries. Researchers should also work with tribal police to document the problem, including assisting with developing methods for data gathering.

3. Work with Tribal Members to Develop Better Analysis of Risk Conditions and Safety Efforts

Researchers have found that when compared to all other ethnic groups, Native Americans “fare significantly worse across traffic safety outcomes and incidence of motor vehicle fatalities.” Yet, in spite of this disparity, “fewer traffic safety efforts specifically target Native Americans” (Ganz et al. 2003: 10). The data in this report will be shared with tribal members as a first step in collaboratively developing better analysis that identifies the individual and environmental causes leading to traffic injuries in or near Indian Country, in addition to developing safety education programs that target Native populations in Humboldt County.

4. Expand to a Statewide Study

Analysis of traffic incidents in Humboldt County is a first step in documenting the greater risk of injury from motor-vehicle traffic incidents in or near Indian Country. This analysis needs to be extended to the rest of the state, and the results of this analysis should be shared with all Indian nations of California.

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