

Ramah Navajo Chapter Strategic Transportation Safety Plan

An element of the Ramah Navajo Chapter

Long Range Transportation Plan



June 2016

Prepared by:

WHPacific



Long Range Transportation Plan and Strategic Transportation Safety Plan

Ramah Navajo Chapter

Ramah Navajo Chapter Strategic Transportation Safety Plan

June 2016

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1 BACKGROUND INFORMATION

In September of 2015, the Ramah Navajo Chapter (RNC) contracted with WHPacific to produce the Tribe's Long Range Transportation Plan (LRTP). In February of 2016, RNC also contracted with WHPacific to complete a Strategic Transportation Safety Plan to be produced in conjunction with the LRTP.

Ramah Navajo Chapter (RNC) seeks to provide safe travel options for community members and visitors, to include vehicular, pedestrian, and other means of transportation. RNC's strategic transportation safety plan was developed to identify unsafe conditions associated with the community's transportation infrastructure and establish a plan for protecting the life and safety of community members. This plan was funded by a 2013 Tribal Transportation Program Safety Planning Grant from the Federal Highways Administration (FHWA).

Once complete, this plan will serve as an important resource for reducing crashes on RNC lands. The plan will identify emphasis areas and implementation strategies to improve transportation safety for RNC members. The focus of this Safety Plan will be transportation safety issues and potential improvements on RNC.

While other agencies may lead some of the identified safety actions, RNC staff will be instrumental in initiating other safety strategies and will monitor progress on all of the strategies to ensure that the actions are implemented. Additionally, as the Safety Plan is a "living document," it is important that the Tribe reevaluate and update the document on a regular basis. This is especially important because increasingly, many agencies require projects to be identified in a recent Transportation Safety Plan in order to consider funding the project.

1.1 PURPOSE AND SCOPE

The objective of this strategic transportation safety plan is to collect, review, analyze and compile pertinent data to form a safety platform from which the Tribe will launch safety improvements to protect motorists, pedestrians, and other users of the transportation network. Some projects identified in this safety plan will be capital projects related to road improvement or construction projects, while others will be primarily administrative efforts.

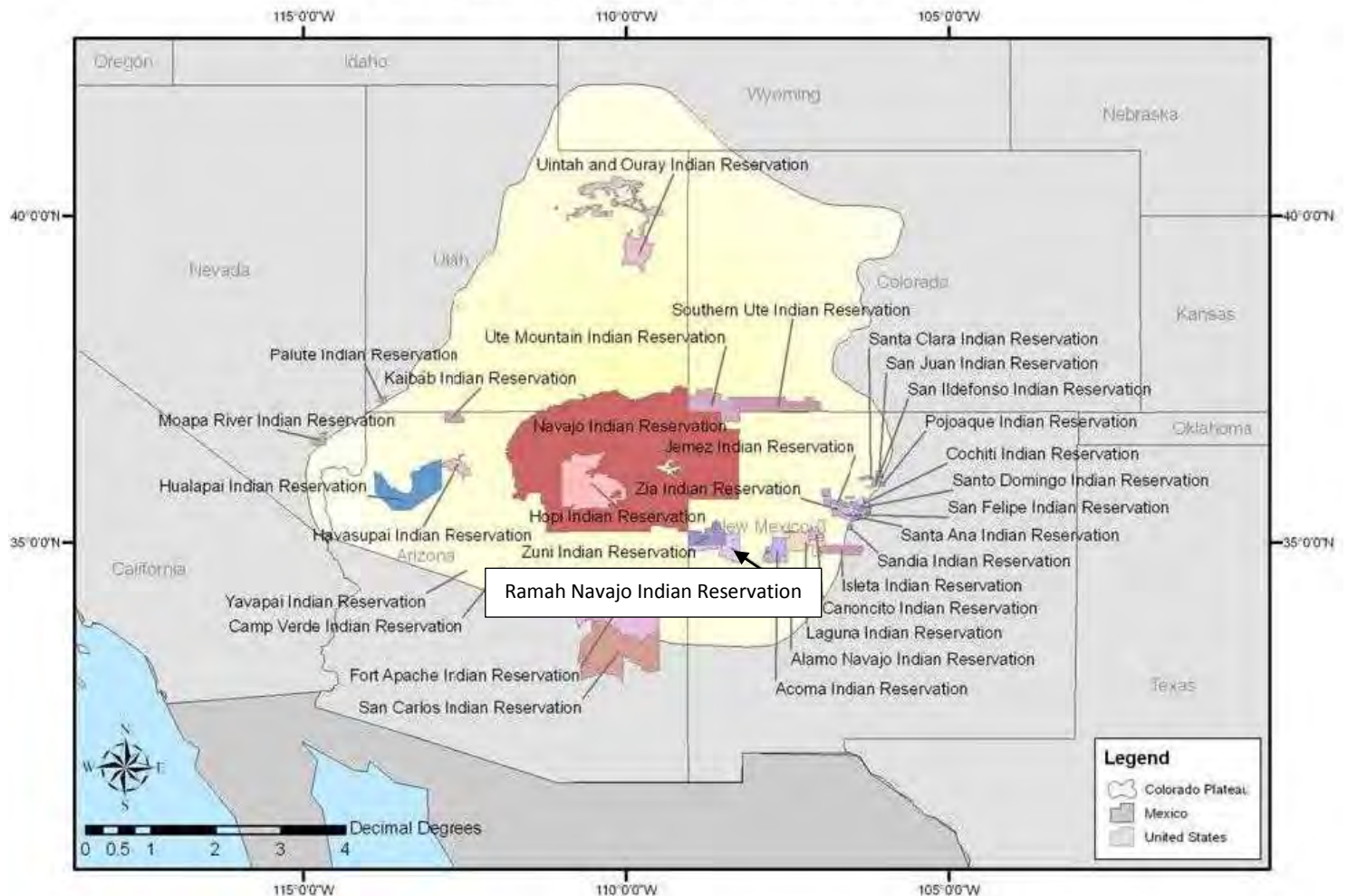
1.2 LOCATION

Ramah Navajo Chapter is located in west central New Mexico. It is east of the Zuni Pueblo and geographically separated from the Navajo reservation. It is one of more than 30 tribes located on the Colorado Plateau, as shown in Figure 1.



Figure 1. Native American Reservations Location on the Colorado Plateau

Native American Reservations Located on the Colorado Plateau



Source: Federal Geographic Data Committee (2008). Map of Native American Reservations located on the Colorado Plateau. Retrieved from https://www.fgdc.gov/grants/2005CAP/projects/05HQAG0140_map/image_view_fullscreen.

The approximately 170,000 acre land area encompasses the Census Designated Place (CDP) communities of Ramah and Pinehill in New Mexico. Tribal lands fall within Cibola and McKinley Counties. The Ramah Navajo Agency with the BIA is located in Ramah, NM along Highway 53. Figure 2 is a vicinity map showing Ramah Navajo Reservation's location in western New Mexico, and Figure 3 is a map showing major routes on the Reservation.



Figure 2. Ramah Navajo Reservation Vicinity Map



1.3 CULTURE AND HISTORY

The Ramah Navajo Chapter is a smaller band of the largest U.S. Indian tribe, the Navajo Nation that consists of more than 298,000 members, about 106,800 of whom live in New Mexico. The Navajo people call themselves Diné, which in their own language, meaning "The People." The Spanish, it is believed, started using the term Navajo when they entered the Southwest.¹

The federal government recognizes the Ramah Navajo Community as a separate group – the Ramah Band of Navajo Indians – which has allowed the community's institutions to apply directly for funding from various federal sources, such as Workforce Services and Title IV programs.

The Ramah Navajo Chapter Office of Grants & Contracts, 638 Program, began in 1985 thru Resolution Number RNC-0185118. The Ramah Navajo Chapter Office of Grants & Contract has since then worked for the community offering various different essential services for the Ramah Band of Navajos. Today, the Office of Grants and Contracts is branched off into nine different departments that service the community.

The Ramah Navajo Chapter currently provides a variety of local government services under PL 93-638 contracts with the BIA, including real estate, natural resources and agriculture, law enforcement, community resources, facilities management, property and procurement, and administration. These services and programs are entirely separate from programs offered by the Navajo Nation to its other Chapters on the Navajo Reservation. All contracts currently operated by the Ramah Navajo Chapter are considered "mature" pursuant to the 1988 Amendments to the Indian Self-Determination and Education Assistance Act.

The Ramah Navajo Chapter is the only Chapter that is under the Albuquerque BIA Southwest Regional Office and was never under the Navajo Regional Office. Historically, the Ramah Navajo Chapter has been treated by the BIA as a "tribal governing body" for purposes of grant and contract programs administered by the BIA and Indian Health Services.

1.4 DEMOGRAPHICS

The supporting data for this section was gathered from the U.S. Census Bureau.² The Ramah Navajo Reservation falls within Cibola and McKinley counties in New Mexico. The population of the State of New Mexico grew by 1.3% between 2010 and 2014 with its 2014 population estimated to be 2,085,572. Cibola County includes 27,349 residents and grew by .5% annually between 2010 and 2014.³ McKinley County

¹ "New Mexico True." Navajo Nation. Newmexico.org. Web. 23 Nov. 2015. <<https://www.newmexico.org/navajo-nation/>>.

² United States Census Bureau. Web. 20 November 2015. <http://quickfacts.census.gov/qfd/states/35000.html> 11/20/2015.

³ *American FactFinder*. U.S. Census Bureau. Web. 17 Oct. 2015. <<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>>.



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has 74,098 residents and experienced a growth rate of 3.6% between 2010 and 2014. Approximately 41.7% of Cibola County residents are American Indian or Alaska Native while 76.8% of McKinley County residents are American Indian or Alaska Native.

The CDP communities of Pine Hill and Ramah are located within the exterior boundaries of the Reservation. Tribal office headquarters are located in Pine Hill, NM. Pine Hill reported a population of approximately 72 residents (2009-2013 American Community Survey 5-Year Estimates). Of the 72 residents, 100% of the population was reported as American Indian or Alaska Native with 69 of those individuals belonging to the Navajo tribal grouping.⁴ Pine Hill CDP reported 38 total housing units with 29, 90.6%, being owner-occupied.

The total population for Ramah CDP was estimated at 177 residents in the Census 2009-2013 American Community Survey 5-Year Estimates. Sixty individuals, or 33% of the population, were reported to be American Indian as part of the Navajo tribal grouping. Ramah CDP reported 169 housing units in the 2010 Census, with 110, 82.1%, being owner-occupied.

The Department of Interior's Labor and Population Report indicated the Ramah Navajo Chapter to have a service area population of 3,968.⁵ Distribution of age ranges and genders is as follows:

Table 1: Age Range/Gender Distribution of Ramah Navajo Chapter

Age Range	Males	Females
Under 16 years	14.3	14.4
16-65	31.4	32.6
Over 65	3.1	4.3

Source: "2013 American Indian Population and Labor Force Report" U.S. Department of the Interior.

Navajo Nation reports a population of 3,500 Ramah Navajo Chapter members and 900 families, 60% of whom are under the age of 25.

1.5 PRIOR PLANNING EFFORTS

The following planning efforts have helped shape RNC's transportation network and contributed to improved safety on Ramah Navajo Chapter lands:

Ramah Navajo Chapter Long Range Transportation Plan. RNC prepared a long range transportation plan in 1999. The plan was intended to identify, evaluate and determine current and future transportation needs for RNC, and identified a variety of striping, drainage, signage, surface improvement and road construction projects.

⁴ http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml 11/20/15

⁵ "2013 American Indian Population and Labor Force Report." U.S. Department of the Interior, Office of the Secretary. 16 Jan. 2014. Web. 23 Nov. 2015.



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2009 Navajo Nation Long Range Transportation Plan: The Navajo Nation completed a Long Range Transportation Plan in 2009. Survey results analyzed as part of work on the plan indicated that safety improvements were the top transportation priority for respondents. Safety improvements requested included roadway striping, signage, traffic control, guard rails and street lights. The plan analyzed crash data at intersections on Navajo Nation lands, but no intersections on RNC lands were identified as having a significant number of crashes. This may be due in part to limited availability of crash data, and in fact, improving crash data collection and management was identified as a priority going forward.

New Mexico 2015 Highway Safety Plan: The New Mexico Department of Transportation's Traffic Safety Division is responsible for creation of the state's Highway Safety Plan. The 2015 Plan identifies six of the National Program Areas identified by the National Highway Transportation Safety Administration and FHWA: alcohol/impaired driving, occupant protection, police traffic services, traffic records, motorcycle safety, and pedestrian and bicyclist safety. For the current plan, the state's overall goals are to:

- Reduce the number of traffic fatalities from 342 in 2012 (2011-2013 average) to 330 by 2015.
- Reduce fatalities per 100,000,000 vehicle miles travelled (VMT) from 1.33 in 2012 to 1.30 in by 2015.
- Reduce urban fatalities per 100,000,000 VMT from 0.80 in 2012 to 0.77 by 2015, and reduce rural fatalities per 100,000,000 VMT from 1.74 in 2012 to 1.67 in by 2015.
- Reduce the number of serious injuries (Class A- incapacitating injuries) in traffic crashes from 1,655 in 2012 to 1,600 by 2015.
- Reduce the rate of serious injuries from 6.48 in 2012 to 6.39 by 2015.

New Mexico Comprehensive Transportation Safety Plan: 2010 Update. The New Mexico Comprehensive Transportation Safety Plan: 2010 Update identifies safety emphasis areas for the state based on crash data and other research. The identified safety emphasis areas are:

- Aggressive Driving and Speeding
- Alcohol-Related/Alcohol-Impaired Driving
- Emergency Services Response
- Fatigued and Distracted Drivers
- Intersection Crashes
- Lane Departure Crashes
- Native Americans
- Occupant Protection
- Public Information and Education
- Special Users
- Traffic Records
- Young Driver Crashes

The "Native American" emphasis area observes that traffic fatality rates for Native Americans in New Mexico are higher than those for other New Mexico residents. The plan notes that "Improving traffic and



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crash information sharing between the State and the Native American community must be established as a priority.” The two related strategies are:

1. Strategy NA-1: Provide crash data analysis tools, training opportunities, and technical assistance to Native Americans
2. Strategy NA-2: Provide technical assistance to Native American tribes, pueblos, and nations on roadway improvement strategies.

A 2012 update to the plan modified language regarding strategies to address intersection crashes, lane departures, and special user issues.

New Mexico 2040 Plan (2040 Plan): New Mexico’s 2040 Plan, completed in September of 2015, identifies future needs for its transportation system and provides strategic direction to achieve these goals. The Vision of the plan is “a safe and sustainable multimodal transportation system that supports a robust economy, fosters healthy communities, and protects New Mexico’s environment and unique cultures.” The 2040 Plan outlines five goals:

1. Operate with Transparency and Accountability;
2. Improve Safety for All System Users;
3. Preserve and Maintain Our Transportation Assets for the Long Term;
4. Provide Multimodal Access and Connectivity for Community Prosperity; and
5. Respect New Mexico’s Cultures, Environment, History, and Quality of Life.

The 2040 Plan presents a “Preservation First” priority to preserve existing infrastructure and allocate limited funds to those routes that are critical to the state. Safety funds focus on vulnerable system users in the plan. The plan combines perspectives from regional stakeholders, multi-modal transportation interests, and the public.⁶

New Mexico Transportation Plan: Northwest Regional Transportation Plan. The Northwest Regional Transportation Plan was completed in October 2015. The New Mexico Department of Transportation has designated seven regional transportation planning entities to assist with administering federal funds and programs. The Ramah Navajo Chapter is within the Northwest New Mexico Council of Governments, and is an affiliate member of the Council. RNC members routinely attend regular meetings of the Northwest Regional Transportation Planning Organization (NWRTPO). The Northwest Regional Transportation Plan focuses on planning for movement of people and goods in the northwest portion of New Mexico. Goals of the plan mirror the goals of the statewide 2040 Plan outlined above. Strategies were identified for each of the five goals, which echo those in the NMDOT 2040 Plan:

1. Operate with Transparency and Accountability

⁶ "New Mexico 2040 Transportation Plan." New Mexico Department of Transportation. September 2015. Web. 23 Nov. 2015. <http://dot.state.nm.us/content/dam/nmdot/planning/NM_2040_Plan.pdf>.



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- a. Employee Excellence and Customer Service
 - b. Partnerships and Coordination
 - c. Financial Stewardship
 - d. Access to Integrated, High Quality Data and Information
2. Improve Safety for All System Users
 - a. Data Driven Process – Reduce fatalities and serious injuries through data-driven, innovative, and proactive processes that include examination of safety hot spots and systemic safety concerns.
3. Preserve and Maintain Our Transportation Assets for the Long Term
 - a. Asset Management
 - b. Support Investment Decisions Based on Life-Cycle Cost
 - c. Priority Tiers and Minimum Standards
 - d. Address Legacy Challenges (disinvestment in existing infrastructure)
4. Provide Multimodal Access and Connectivity for Community Prosperity
 - a. Operations and Demand Management First
 - b. Strategic Investment in Key Corridors
 - c. Land Use – Transportation Coordination
 - d. Changing Demographics
5. Respect New Mexico's Cultures, Environment, History, and Quality of Life
 - a. Operations and Demand Management First
 - b. Require and Respect Local Plans
 - c. Environmentally Friendly Practices
 - d. Recreation and Tourism

The Plan emphasizes that it is important for projects identified on the local level to be consistent with the regional and statewide plans, and that local plans clearly identify specific priorities.⁷ The NWRTPO annually prepares a Regional Transportation Improvement Program Recommendation (RTIPR), and the Council recommends that RNC submit local concerns or proposed state projects for inclusion in the RTIPR.

1.6 RNC TRANSPORTATION SYSTEM

The transportation network on the Ramah Navajo Reservation includes approximately 480 miles of roadway. Of these, 29.1 miles are paved and 451.3 miles are gravel and dirt roadways.

Road maintenance on the Ramah Reservation is performed by the RNC, NMDOT, and Cibola Counties. While in the past, McKinley County has performed some maintenance on a one-mile portion of Canyon Road going to the Timberlake Subdivision by the County line, McKinley County currently does not maintain any roads on the RNC Reservation. BIA Ramah Agency has been historically responsible for maintenance

⁷ "Northwest Regional Transportation Plan." Northwest New Mexico Council of Governments. October 2015. Web. 23 Nov. 2015. <<http://www.nwnmcog.com/regional-transportation-planning-organization-rtpo.html>>.



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of RNC routes, but starting in 2015, RNC began administration of road maintenance services and facilities on BIA routes through a Public Law 93-638 contract.

1.7 EXISTING TRANSPORTATION SAFETY RESOURCES

There are a variety of organizations performing transportation-safety related work in the RNC area, to include schools, public safety agencies, injury prevention resources, healthcare organizations and community groups. These entities have familiarity with issues of concern to RNC and have transportation-safety focused missions. Going forward, these entities can serve as resources to support strategies outlined in the RNC Strategic Transportation Safety Plan.

1.7.1 Safety Partners

New Mexico Department of Transportation (NMDOT)

The mission of the New Mexico Department of Transportation (NMDOT) is to provide a safe and efficient transportation system for the traveling public, while promoting economic development and preserving the environment of New Mexico. The agency may be a resource for developing, researching, and/or implementing transportation safety strategies along NM 53. Currently, NMDOT is considering pursuit of a safety study along the route.

Local Schools

Local schools may serve as a valuable partner in implementing educational strategies to promote safer conditions for motorists, bicyclists, and pedestrians. Area schools include Pine Hill Elementary and Ramah Elementary, and Ramah Mid/High School. While community groups occasionally host bike safety events, bike and pedestrian safety education is not currently part of the regular curriculum at Pine Hill Schools, Ramah Elementary School or Ramah Mid/High School.

Regional Healthcare Providers

The Indian Health Service in Albuquerque provides an injury prevention program. The IHS Injury Prevention Program promotes building the capacity of Tribes and communities by increasing understanding about the injury problem, sharing effective solutions, and assisting communities in implementing programs. The mission is to raise the health status of American Indians and Alaska Natives to the highest possible level by decreasing the incidence of severe injuries and death to the lowest possible level and increasing the ability of tribes to address their injury problems.

ThinkFirst Navajo. ThinkFirst Navajo is a local branch of a national injury prevention organization. The current resources available are outlined in section 1.7.2. ThinkFirst would be a natural partner for any transportation-safety related education effort.

Public Safety Agencies

The Ramah Police, New Mexico State Police, Candy Kitchen Volunteer Fire Department, Ramah Volunteer Fire Department, Cibola Emergency Services Department, and Gallup-McKinley Emergency Services



Department could serve as valuable partners in implementing safety educational goals and related to enforcement of safety-related laws.

Friends of 53

Friends of 53 is a community organization of individuals who organized to advocate for the protection, enhancement, and promotion of Highway 53. The group wishes to see a safety study performed on the highway and speed limits reduced.

1.7.2 Overview of Existing Transportation Safety Efforts

Injury Prevention Resources

RNC Police Department. The RNC Police Department provides occasional educational programs in the schools regarding bike and pedestrian safety. The Department also participates in the BIA Indian Highway Safety program, which includes anti-DWI programming, seat belt and child restraint compliance, and overall traffic safety. The Department indicates that the seatbelt/carseat compliance rate is at 72%.

ThinkFirst Navajo. Think First Navajo is a chapter of a national organization primarily focused on preventing brain and spinal cord injuries. The organization provides speakers for schools and community events regarding preventing injuries, hosts bike safety events, and offers free helmets. Speakers are Navajo, bilingual and fluent in Navajo. Speakers and helmets can be requested at <http://evcrowellsfund.org/programs/thinkfirst-navajo/>.



Source: <http://evcrowellsfund.org/programs/thinkfirst-navajo/>.

Emergency Response Resources

1.7.2.1.1 Law Enforcement

Ramah Navajo Chapter Police Department: The Ramah Navajo Chapter operates its own Police Department. Law enforcement officers patrol Reservation lands, and work cooperatively with other agencies including the State of New Mexico State Troopers and the McKinley and Cibola Counties Sheriff's Departments.

The Department's staff includes a chief of police, a captain, a criminal investigator, three police officers, a conservation officer, communications supervisor and four communications officers, an administrative assistant and a records technician, and ten corrections staff members.

Cibola County Sheriff's Office. The Cibola County Sheriff's Office provides public safety services in Cibola County. The Department is in regular communication with the Ramah Navajo Police Department and shares training opportunities. The department employees 21 officers and in addition to responding to public assistance calls, supports the New Mexico State Troopers on search and rescue missions approximately once a month. Occasionally, the Sheriff's Office cross-commissions Ramah officers on a



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temporary basis for work outside Ramah Reservation boundaries. The Sheriff's Office does not have jurisdiction over tribal members for criminal acts.

McKinley County Sheriff's Office. The McKinley County Sheriff's Office provides public safety services in McKinley County.

New Mexico State Police: The Ramah Navajo Chapter is served by District 6 of the New Mexico State Police. The state police provide law enforcement services to the area, with services ranging from responding to traffic accident calls to homicide investigation. The state police initiate search and rescue efforts. The New Mexico State Police trooper post nearest to the Ramah Reservation is in Gallup, where there are two sergeants and 12 officers. While the troopers do not typically patrol on the Reservation, they do partner with Ramah Police for occasional patrol operations, warrant roundups, or speeding enforcement.

1.7.2.1.2 Fire Protection Services

There are several volunteer fire stations that service RNC lands, and these services are supplemented by McKinley and Cibola County emergency services:

Cibola County Emergency Management. Cibola County provides emergency management and fire response administration to the surrounding area, managing all volunteer fire departments. Candy Kitchen volunteer fire department (VFD) is the primary resource for fire response on Ramah Chapter lands, and Fence Lake and Zuni VFDs are additional resources. Pine Hill VFD is in the process of getting re-established, and El Morro VFD is currently on probation status. In a major emergency, the County can draw on McKinley County or State of New Mexico fire response resources.

Candy Kitchen Volunteer Fire Department. The Candy Kitchen Volunteer Fire Department operates under Cibola County's Emergency Services division. The Fire Chief serves as a volunteer, and manages a list of approximately twenty volunteers, of which ten are typically available for an incident. The Department has an engine which holds 1,000 gallons of water, a tender that holds 200 gallons, and a brush truck that holds 250 gallons. The Department does not have personnel trained for search and rescue (SAR) duties. Any SAR activities would need to be coordinated through Cibola County.

McKinley County Emergency Management. McKinley County provides emergency management and fire response within their service area and beyond in a major emergency. The County manages 21 fire departments. Nineteen of these departments are staff by volunteer firefighters, who receive training from McKinley County. The Ramah Volunteer Fire Department and the Timberlake Volunteer Fire Department are the primary McKinley County departments called on for incidents on the Ramah Navajo Reservation. In a major emergency, the County can draw on Cibola County or State of New Mexico fire response resources.

Ramah Volunteer Fire Department. The Ramah Volunteer Fire Department operates under McKinley County Emergency Management division. The Ramah VFD has one engine, one tanker, and one rescue transport. There are eight hydrants in Ramah. There are approximately five volunteers currently at Ramah VFD, with a recruitment effort planned.



Timberlake Volunteer Fire Department. The Timberlake Volunteer Fire Department also operates under McKinley County Emergency Management Division, and has an engine, a tanker, and a rescue transport vehicle. There are twelve volunteers at Timberlake.

New Mexico Search and Rescue (SAR) Council. The New Mexico Search and Rescue Council is a nonprofit organization that provides SAR training and assistance with SAR efforts. Training opportunities include tracking, winter skills, SAR software, and education regarding a variety of search techniques.

1.7.2.1.3 Medical

Pine Hill Clinic: The Pine Hill Clinic provides outpatient services on the Ramah Navajo Reservation Monday through Thursday. They offer medical and dental services daily, with audiology and psychiatry specialist services offered periodically. Pharmacy services are provided on-site. For serious emergencies, patients are typically transferred to Zuni Comprehensive Community Health Center or Gallup Indian Medical Center. The clinic is located on the Pine Hill Schools campus.

PHI Air Medical: PHI Air Medical is a private air ambulance with helicopter bases in Grants and in Albuquerque. Ramah Police use this service for those needing to be flown out for critical care.

Zuni Comprehensive Health Center. The Zuni Comprehensive Health Center is a modern facility offering general medical services, preventative health services, and community services. Their emergency room is open 24 hours a day/seven days a week.

Gallup Indian Medical Center. Gallup Indian Medical Center is a 99-bed facility in Gallup, NM. The hospital offers comprehensive medical services, including an emergency room and access to physicians with a wide range of specialties.



2 DOCUMENTATION OF NEEDS AND PRIORITIES

The Strategic Transportation Safety Plan builds on the data gathered in development of the Long Range Transportation Plan and outlines RNC's transportation safety needs over the next 20 years.

2.1 TRIBAL MISSION

The mission of the Ramah Navajo Chapter Office of Grants and Contracts is to nurture the well-being and growth of the community and its people by promoting and carrying out comprehensive community services, programs and opportunities; promoting and advocating self-determination; maintaining and enhancing respect of our Navajo traditional values, cultural heritage and family; and encouraging continuous growth toward being a self-sufficient community. Through the long-range transportation plan and transportation safety plan, the RNC seeks to provide a framework for a transportation system that connects people, goods and services safely; provide opportunity for economic development; protects the RNC's cultural traditions and environment; and preserves natural resources, quality of life, and the health and education of tribal members.

During work on the Long Range Transportation Plan, safety was a recurring concern among community members. Safety was one of the top goals of the LRTP, and is the impetus behind many of the transportation projects identified in the LRTP. This safety plan provides an opportunity to examine transportation safety deficiencies using available information, identify areas where more information is needed, and recommend projects to address deficiencies.

2.2 COMMUNITY NEEDS AND PRIORITIES

During the development of both the Long Range Transportation Plan (LRTP) and Strategic Transportation Safety Plan for the Ramah Navajo Chapter, a "2015 Long Range Transportation and Transportation Safety Survey" was provided to the community members. The survey was available through three means: 1) Hard copies handed out during the public meetings held at the Chapter House, 2) via the Ramah Chapter Facebook page, providing a link to the online survey, 3) on-line through a SurveyMonkey link. Although feedback and response through the public survey was limited to only five responses, additional comments were provided throughout the public meetings that are included in the following summary.

Many of the community's priorities focused on the road conditions throughout the Chapter and the individuals appeared to relate the overall road conditions (including surface type) directly to their safety. This is primarily due to the community's rural setting. Reliable access to basic necessities (food), health services, emergency response, schools and work is crucial to maintain members' well-being, quality of life, and safety.

Throughout the public comment period, the feedback was provided primarily by the local tribal members (80% - 90%); however, there were non-tribal community members – primarily individuals affiliated with a government agency serving RNC – who provided insight and concerns as well (10% - 20%). The following



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items are listed in order of importance extracted from both the online surveys and public meeting comments:

- 1) Need for improvements to existing surfaces / improved access to residents
- 2) Maintenance/repair of existing roads
- 3) School bus route improvements with improved bus stops
- 4) Emergency response time following / related to rural setting and condition of roads
- 5) Need for improved signage

The locations that were referenced the most by community members in order of importance are:

- 1) Pine Hill Area – Housing Subdivision, RN 140 / RN 125 Intersection
- 2) Mountain View Area
- 3) Range 3 – RN 122 / RN 145 and vicinity due to large number of families located in this area with extreme road conditions during inclement weather

Other safety concerns were related to intoxicated drivers, animal collisions, and distracted drivers. While improved pedestrian safety was identified as a concern, there was little emphasis on construction of additional sidewalks or bike paths outside of the more developed areas on RNC. The Ramah Community is situated in a very rural setting with scattered home sites and families located in designated “range” units. Historically Navajo families are nomadic and tend not to be located within “residential housing units” so there is less focus on “children playing in roads” or having speed bumps. Sidewalks, bike paths, and curb/gutter improvements are limited to Mountain View and Pine Hill.

2.3 SAFETY/CRASH DATA OVERVIEW

Reliable crash data is important because crash data can pinpoint safety issues at specific locations, identify repeated types of accidents of circumstances contributing to accidents, and support funding requests for transportation safety improvements, which often rely on crash data to demonstrate the need for a project. However, complete crash data can be difficult to obtain. In some cases, only partial information is available so it is difficult to summarize information or identify trends. In others, location information is limited within available data, so it is impossible to pinpoint a location for safety improvements. This section summarizes available national and statewide crash trends and crash data available for RNC.

2.3.1 National/Statewide Trends

Motor vehicle travel is the primary means of transportation in the United States, providing an unprecedented degree of mobility. Yet for all its advantages, deaths and injuries resulting from motor vehicle crashes are one of the leading causes of death for people of every age. Fortunately, traffic fatalities



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have declined in recent years. Nationally, traffic fatalities decreased by 25 percent from 2005 to 2010.⁸ Moreover, fatality rates per 100 million vehicle miles traveled (VMT) has decreased from 1.46 in 2005 to a projected rate of 1.08 in 2014.⁹ Traffic fatalities have reached their lowest level since 1950. The decline in fatalities may be attributed to multiple factors, including 1) technological and manufacturing advances producing safer vehicles better equipped to endure crashes; 2) safer roadways and intersections; 3) driver behavioral changes based on safety campaigns (e.g. seatbelts, not drinking while intoxicated); and 4) improved enforcement of traffic laws through red light and speed cameras.¹⁰

The State of New Mexico Highway Safety Improvement Program 2015 Annual Report¹¹ indicates that from 2009 to 2013, there has been a 14 percent decline in roadway fatalities. Serious incapacitating injuries have declined by 30%. The following table illustrates this trend:

⁸ *Traffic Safety Facts (Crash Stats)*. U.S. Department of Transportation, National Highway Traffic Safety Administration. April 2011. < <http://www-nrd.nhtsa.dot.gov/Pubs/811754AR.pdf>>.

⁹ *Traffic Safety Facts (Crash Stats)*. U.S. Department of Transportation, National Highway Traffic Safety Administration. April 2011. < <http://www-nrd.nhtsa.dot.gov/Pubs/811754AR.pdf>>.

¹⁰ *Decline in Traffic Fatalities a Good Sign, But We Will Not Relent on Safety*. Fast Lane: The Official Blog of the U.S. Department of Transportation. September 9, 2010.

¹¹ *New Mexico Highway Safety Improvement Program 2015 Annual Report*. State of New Mexico Department of Transportation. Web. 11 Feb. 2016. <<http://safety.fhwa.dot.gov/hsip/reports/pdf/2015/nm.pdf>>.



Figure 4. New Mexico Rate of Fatalities and Serious Injuries for the Last Five Years



Source: <http://safety.fhwa.dot.gov/hsip/reports/pdf/2015/nm.pdf>

2.3.2 Ramah Navajo Crash Data

Crash data specific to Ramah Navajo Chapter is very limited. The only recent crash data available for routes on the Ramah Navajo Chapter Reservation was from NMDOT. NMDOT reported only four accidents within the last five years, three in 2011 and one in 2012, all on NM 53. One was an alcohol-related injury crash that involved an overturned vehicle. The three remaining incidents involved property damage only: one involved a collision with a deer, another due to a defective steering wheel, and another due to improper backing up. NMDOT said that it receives few reports of on-reservation accidents, although it is likely there have been many unreported incidents.

Ramah Police indicated that the agency does collect crash data, but only in paper form; it is not available in any format that would lend readily to analysis. However, one indication of the occurrence of crashes is historic data received from RNC, largely from 2001 to 2003. In this collection of data, there were 105 crashes reported with varying levels of details available. The limited data makes it difficult to summarize trends, but it appears that many of the accidents are due to careless or reckless driving, driving under the influence, and animal collisions.

The current NMDOT crash data and the historic RNC crash data are shown on the following map, which shows a clear concentration of crashes on NM 53 and RN 125.



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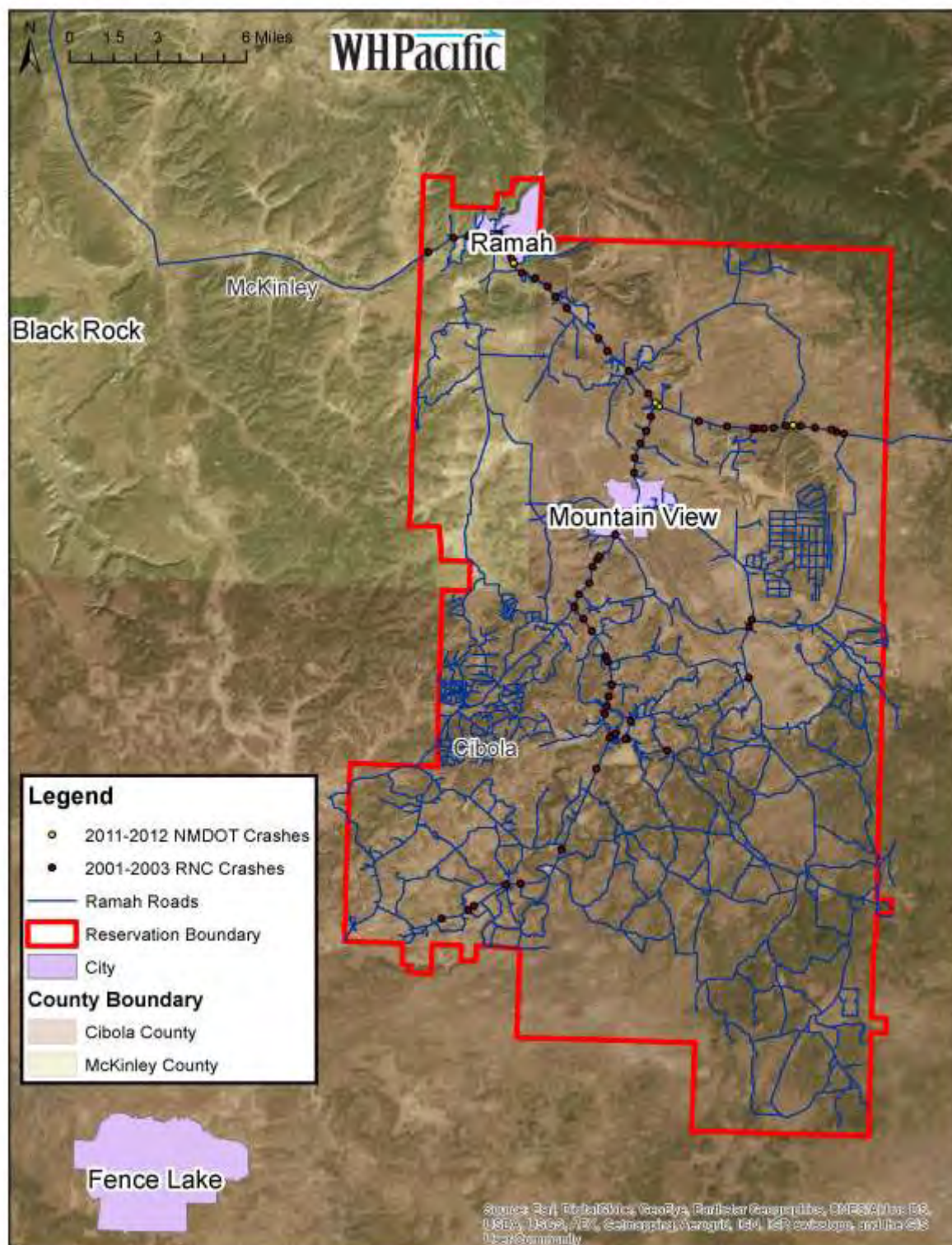


Figure 5. Ramah Crash Map



2.4 TRANSPORTATION SAFETY EMPHASIS AREAS

Reducing transportation fatalities and serious injuries with any sustained success requires that all four elements of highway safety be addressed – engineering, enforcement, education, and emergency services. A Tribal Transportation Safety Program, whether large or small, should work to address the 4 Es, and have data as its foundation. Data collection and analysis provide technical staff and decision makers the ability to identify and prioritize safety needs. Crash data, roadway data, and citation information provide a basis for developing the safety plan, proposing strategies, and developing needed education programs on tribal lands. The strategies that follow in this Safety Plan will support the RNC as they manage the safety program.

The RNC has identified the following emphasis areas from survey data, crash data analysis, and stakeholder interviews:

- Pedestrian and Bicyclist Safety
- Alcohol Impaired Driving
- Emergency Services Access
- Roadway conditions
- Animal Collisions
- Intersection Safety
- Crash Reporting and Analysis

The following section provides background on each emphasis area, outlines the RNC's goals in improving conditions, and describes specific strategies in the areas of education, engineering, enforcement, and emergency management. Capital projects included among these strategies are also shown in Exhibit 1, following the plan.

2.4.1 Pedestrian and Bicyclist Safety

Background

Research pointed to three primary issues concerning pedestrian and bicyclist safety on the Reservation:

- School bus access: need for better separation between pedestrians and the bus at the Candy Kitchen/125 bus stop and additional school bus stop turnarounds
- Low rate of use of helmets for bike riders
- Lack of pedestrian facilities/ADA compliant facilities in Mountain View and near Pine Hill School

School bus access. By necessity, school bus stops are pedestrian zones. Each time a bus stops to pick up or drop off a student, pedestrians must walk near the bus. In several locations, RNC parents travel by car to bus stops to drop off and pick up children. Congestion from the combination of pedestrians, private vehicles and the approaching or departing bus creates a safety concern, as pick up and drop off areas are not delineated, and conflicts occur between the school bus and arriving or departing parents.

Additionally, several school bus routes terminate in a dead end instead of following a loop, requiring that the bus turn around and return on the same route it arrived on. However, in a number of locations, there



is no actual turnaround, making the maneuver difficult given the roadway width and dangerous given that the bus must block the roadway while turning around.

Bicycle helmet use. Fewer than half of bicyclists in the United States use bicycle helmets.¹² However, the Center for Disease Control and Prevention reported that in 2010 in the United States, 800 bicyclists were killed and approximately 515,000 cyclists were injured and required emergency room care.¹³ Wearing a helmet can significantly reduce the risk of bicycle-related injuries. However, RNC members and stakeholders report that few bicycle riders use helmets.

Lack of adequate pedestrian facilities. Pedestrian facilities in Mountain View and near Pine Hill School are in poor condition and appear not to meet ADA standards, despite being two of the highest pedestrian traffic areas on the RNC reservation. Sidewalks and curb ramps are in poor condition and require maintenance, and likely need to be redesigned to meet current standards and provide appropriate access.

Goal

Provide sufficient bus turnarounds, improve the rate of helmet use among bike riders, and provide adequate and ADA compliant pedestrian facilities in Mountain View and near Pine Hill School.

Strategies

Education

- Support annual bike events designed to attract youth, such as a bicycle safety clinic featuring instruction in safe bicycling practices, related traffic laws, bike safety inspections, minor repairs, and helmet fit, along with drawings for prizes. Events could include a “community ride” on a short route through the area. ThinkFirst Navajo has hosted similar events and may be a partner for this or other bike safety education events.
- Explore a partnership with Schwinn’s “Helmets on Heads” program¹⁴ to educate people about the need to wear a helmet while riding a bike.
- Organize a bike helmet distribution program.

¹² "Head Injuries and Bicycle Safety." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 2015. Web. 22 Mar. 2016.
<<http://www.cdc.gov/healthcommunication/ToolsTemplates/EntertainmentEd/Tips/HeadInjuries.html>>.

¹³ Centers for Disease Control and Prevention. Nonfatal Traumatic Brain Injuries Related to Sports and Recreation Activities Among Persons Aged ≤ 19 Years — United States, 2001–2009. Morbidity and Mortality Weekly Report 2011; 60(39); 1337-1342.

¹⁴ Helmets on Heads: <http://www.helmetsonheads.org/>. Accessed March 29, 2016.



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- Partner with schools to promote National Bike to School Day.¹⁵
- Explore the possibility of a Safe Routes to School grant. The program – for which funding was recently reauthorized through 2020 – seeks to ensure safe routes for children to walk and bike to school.¹⁶
- Partner with schools and/or ThinkFirst Navajo to develop and distribute brochures highlighting pedestrian and bicycle safety guidelines (e.g., walk opposing traffic, wear reflective gear at night, use crosswalks where available).

Engineering

- Prepare road safety audit (RSA) for bus turnarounds, identifying locations where improved turnarounds or modifications to bus stop locations are indicated.
- Prepare RSAs for safety audit regarding the lack of pedestrian facilities/ADA compliant facilities in Mountain View and near Pine Hill School.

Emergency Services

- Work with Ramah Police to standardize and institutionalize crash reporting and monitoring of crash data, along with streamlined means of accessing crash data.

Potential Partners: ThinkFirst Navajo, Safe Routes to School, Pine Hill Schools, Gallup McKinley Schools, Schwinn “Helmets on Heads,” Ramah Police

2.4.2 Alcohol Impaired Driving

Background

Alcohol reduces reaction time and dramatically decreases a driver’s ability to make good judgements and drive safely. According to the New Mexico Department of Motor Vehicles, alcohol is involved in about 40% of the traffic crashes in which someone is killed.¹⁷ New Mexico is one of a handful of states that have passed ignition interlock laws which require a convicted drunk driver to blow into a device wired to the ignition

¹⁵ Bike to School Day: <http://www.walkbiketoschool.org/ready/about-the-events/bike-to-school-day>. Accessed March 29, 2016.

¹⁶ Safe Routes to School: <http://www.saferoutesinfo.org/>. Accessed March 29, 2016.

¹⁷ DWI Information. New Mexico Motor Vehicle Department. Web. 21 Mar. 2016. <<http://mvd.newmexico.gov/dwi-information.aspx>>.



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system in order to start their vehicle. Since passage of this law in 2005, New Mexico has seen a 40% decrease in drunk driving deaths.¹⁸

While drunk driving fatalities appear to be decreasing statewide, impaired driving was a common concern among RNC members. The dangers of drunk driving are exacerbated by the large geographic area the RNC reservation spans. In order to purchase liquor, community members must travel long distances, and in some cases, drivers consume alcohol on the drive home. The Ramah Police establish sobriety check points six to twelve times a year, but face a significant challenge in deterring impaired driving.

Goal

Reduce the number of impaired driving accidents on RNC land.

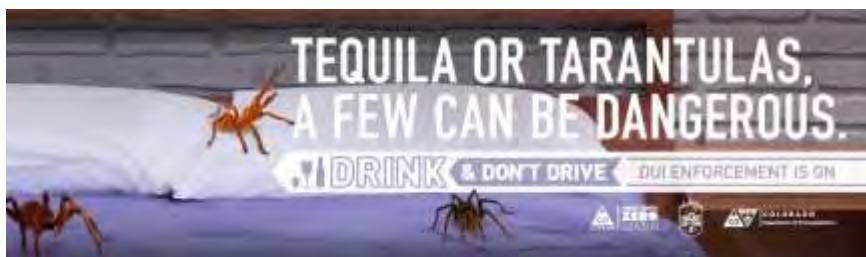
Strategies

Education

- Participate in nation-wide campaigns against driving under the influence. Organizations such as the National Highway Traffic Safety Administration offer free materials for public awareness campaigns including posters, videos to post on local websites, such as the Tribe's, and radio spots.¹⁹
- Install signage reminding motorists not to drive while intoxicated.



Sobriety checkpoints can discourage drunk driving



Sample signage reminding motorists not to drive while intoxicated.

- Pursue local education efforts. Host special events at middle and high schools such as the "Day in the Life of a Drunk Driver" program where students are led through a real-life enactment of the consequences of a DUI. Information should be presented on both the dangers of drunk driving and

¹⁸ "New Mexico Drunk Driving Statistics." MADD - New Mexico. Web. 21 Mar. 2016. <http://www.madd.org/drunk-driving/state-stats/New_Mexico.html>.

¹⁹ See www.nhtsa.gov/Impaired.



the dangers of riding with drunk drivers. Public service announcements and information booths at RNC and community events (such as the rodeo) can help to build awareness.

Enforcement

- Support the Ramah Police's ongoing efforts to deter and cite drunk driving through sobriety checkpoints. Periodically review whether changes to current staffing levels, equipment, or strategies could produce better results.

Potential Partners: Pine Hill Schools, Gallup McKinley Schools, Ramah Police

2.4.3 Emergency Services Access

Background

Two main concerns arose during the planning effort regarding emergency access: impact of poor road surface condition on emergency response time and water access at Candy Kitchen. Road surface conditions through much of RNC are poor on both gravel and paved surfaces, with rutting, potholes, ponding, and erosion of roadway edges, particularly near culverts. Poor surface conditions necessitate slower travel by emergency vehicles, impacting response time. The size of the RNC means that emergency services must often travel considerable distances to respond, and poor surface conditions result in additional driving time.

Goal

Provide sufficient on-Reservation water availability for fire emergencies and road conditions that allow safe travel for emergency vehicles travelling to an incident site.

Strategies

Emergency Services

- Support installation of a fire hydrant near Candy Kitchen to improve water availability and reduce response time.
- Improve road surfaces on all routes to expedite emergency vehicle travel, with special attention to main collector route surface conditions in the near term.

Potential Partners: Cibola County Emergency Management Department, FHWA, BIA



2.4.4 Roadway conditions

Background

Maintenance on RNC routes has been largely deferred over an extended period of time, resulting in roadway surfaces, signage, and livestock containment structures in very poor condition. Some roadways require complete reconstruction, while others need major surface improvements. Conditions of RNC routes are poor on both gravel and paved surfaces, with rutting, potholes, ponding, and erosion of roadway edges, particularly near culverts. In some cases, drivers must deviate from the normal travelled way to avoid potholes or ponding. As discussed elsewhere, poor road conditions also slow emergency response time on RNC routes, and they make it difficult for RNC members to reliably access jobs and services.



Many RNC culverts are eroded and in need of replacement.



Deferred maintenance has resulted in poor road surfaces in much of RNC.

A number of curves and sections of routes with steep side slopes do not have guardrail installed. The following areas require guardrail:

- RN 128 near RN 144, RN 125, and RN 200
- RN 122 near RN 238
- RN 125 near RN 175



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In addition, signage is in poor condition. Some signage is nearly unreadable even in good lighting conditions, and most signage on RNC does not meet current reflectivity requirements.



Signage on RNC is in very poor condition.

Cattle guards are found throughout the RNC, but are in serious disrepair. Wooden beams underpinning cattle guards have severely deteriorated over time, and culverts have been damaged by flooding. An estimated 300 cattle guards need replacement.



Cattle guards on RNC need replacement.

Overall, RNC routes are in disrepair and require significant upgrades to ensure roadway safety for RNC members.

Goal

Provide safe, well-maintained roadways in order to prevent crashes related to compromised road surfaces, improve access to jobs and services, ensure all-season functionality, and improve emergency response times.



Strategies

Engineering

- Improve surface conditions as identified in the LRTP priorities to provide safe routes for RNC residents and better access for emergency vehicles.
- Install guardrail at locations identified above.
- Perform signage inventory to determine deficiencies, and install new or improve existing signage as needed.
- Replace an estimated 300 deteriorated cattle guards.

Potential Partners: FHWA, BIA

2.4.5 Animal Collisions

Background

Animal collisions present a risk to motorists, pedestrians, and cyclists. Ramah Police report that crashes occur involving deer, elk, and livestock on RNC routes. Public information efforts, installation of additional signage, and replaced cattle guards can help reduce animal collisions on RNC routes.

Goal

Limit the numbers of animals traversing RNC routes, and increase public awareness of animal crossing hazards.

Strategies

Education

- Periodically post notices on the RNC website and include notices on Ramah Navajo Utility Authority bills reminding drivers to stay alert for crossing animals.

Engineering

- Install signage warning motorists about frequent animal crossing locations.
- Replace an estimated 300 deteriorated cattle guards to help contain livestock effectively.

Potential Partners: RNC, Ramah Navajo Utility Authority, FHWA, BIA



2.4.6 Intersection Safety

Background

Five intersections on RN 125 and five on NM 53 have been identified as areas of concern by stakeholders and residents of RNC. Specific issues are:

Route 125 and Route 122 (near Pine Hill): There are no deceleration lanes at this high traffic intersection, and the stop is on a vertical curve.

Route 125 and Route 120: There is a horizontal curve at this intersection and no deceleration lanes.

Route 125 and Route 122 (in Mountain View): There is a high speed limit at this location and advance warning signage is needed.

Route 125 and Route 139 (Jacob's Well intersection): There is a high speed limit at this location with no turn lanes and considerable traffic from community members accessing the well.

Route 125 and Route 140 (near Pine Hill): There is pedestrian and vehicle congestion in this area, and better signage is needed due to speed differentials on the different routes.

NM-53 and Route 125: There is a significant speed differential and a horizontal curve at this intersection, high traffic at peak hours, and general poor access. The intersection is part of a school bus route.

NM-53 and Route 130: There is a speed differential and general poor access at this intersection. The intersection is part of a school bus route.

NM-53 and Route 133: There is a significant speed differential at this intersection, high traffic at peak hours, inadequate shoulders, and general poor access. The intersection is part of a school bus route.

NM-53 and Route 135: There is a speed differential, inadequate sight distance approaching NM 53, and general poor access at this intersection. The intersection is part of a school bus route.

NM-53 and Route 137: There is a speed differential and general poor access at this intersection. The intersection is part of a school bus route.

Intersection safety audits could help to identify specific projects that would improve safety at these locations.

Goal

Improve safety at high use intersections on RNC.

Strategies

Engineering

Complete roadway safety audits at intersections identified below to improve safety.

- Route 125 and Route 122 (near Pine Hill)



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- Route 125 and Route 120
- Route 125 and Route 122 (in Mountain View)
- Route 125 and Route 139 (Jacob's Well intersection)
- Route 125 and Route 140 (near Pine Hill)
- NM-53 and Route 125
- NM-53 and Route 130
- NM-53 and Route 133
- NM-53 and Route 135
- NM-53 and Route 137

Potential Partners: FHWA, BIA, New Mexico Department of Transportation

2.4.7 Crash Reporting

Background

As discussed in section 2.3.2, very little crash data is available for RNC. Available data is limited and/or dated, and while there may be records kept in hard copy about individual crashes, there is not an electronic record keeping method in place that would allow the data to be tracked and evaluated. Absent this information, it is difficult to identify repeated types of accidents or circumstances contributing to accidents, or pinpoint locations where safety hazards exist. As sovereign entities, tribes are not bound to comply with state statutes regarding submission of crash reports, but increasingly, project funding for safety improvements is tied to crash data, and without this information readily available, it could become progressively more difficult for RNC to obtain funding to address safety deficiencies.

RNC is not unique in the lack of crash data. Underreporting or a lack of any reporting of crash data on tribal lands is a nationwide problem. In many cases, administrative and police staff time is very limited, and launching a new data tracking effort and maintaining such a system require a time commitment. Information technology assistance is limited in many tribes, and tracking systems often require some measure of technological familiarity. In other cases, tribes are reluctant to adopt tracking systems that rely on a flow of crash data between jurisdictions due to privacy concerns.

In order to effectively monitor safety hazards and be positioned to best access safety project funds, it is strongly recommended that the RNC pursue adoption of a crash data tracking system. Following is an analysis of three options for crash data management: Excel, Traffic and Criminal Software, and Crossroads Software Traffic Collision Database and Handheld Citation and Report Writing Program.

Excel. This approach would require development of an Excel spreadsheet to receive crash data based on crash reports provided by Ramah Police or State Troopers. Data would need to be entered consistently in order to provide current information and support ongoing analysis. At a minimum, data elements should



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include those on the New Mexico Uniform Crash Report,²⁰ which must be completed for each vehicle involved in a crash. The form includes such information as location, names of those involved, the nature of the crash and contributing factors, and whether any injuries or fatalities resulted. Coordination with the Ramah Police would be necessary in order to ensure that the crash report form is completed for all crashes and provided to the administrator in a timely fashion so that data can be added to the spreadsheet.

Advantages: There are several advantages to using Excel for data tracking:

Ease of use. Excel is simple to use, and training would not require significant staff time. The data would be accessible for analysis, and additional fields could be added if there were supplemental elements RNC wished to monitor.

Privacy. The spreadsheet could be maintained on a secure server in the RNC offices and shared only internally.

Disadvantages: There are several disadvantages to use of Excel for data tracking:

Lack of analysis capacity. Excel is a good means of storing the data, but the software is not designed to analyze the data, so RNC would need to establish a means of analyzing the data periodically.

Data quality concerns. The flexible structure could mean that all fields may not be completed or are not completed uniformly, making analysis of the data more difficult. Alternatively, RNC may be able to design an Excel-based form that restricts entries sufficiently to maintain data quality, but this effort will require start-up time and expertise, along with time for database management.

Lack of means to accurately track incident locations. Unless officers were able to provide GIS coordinates for entry into the spreadsheet, incident location descriptions that are not clearly at an intersection may be difficult to pinpoint in the report.

Two-step process. The utility of the database would depend on a steady flow of accurate and complete crash reports from Ramah Police, followed by a transfer of the data to the spreadsheet. Given limited staff time, this two step process may be onerous, in addition to allowing another opportunity for data errors during the transfer.

Data compatibility. If RNC wants to compare data with another tribe or agency to broaden their knowledge of safety issues/responses elsewhere or support statewide or national tracking of tribal crash data, RNC's spreadsheet may be difficult to combine with more standardized crash data systems.

Traffic and Criminal Software (TraCS). As outlined on the New Mexico Department of Transportation's Statewide Traffic Records System website, TraCS is a statewide traffic data collection software, and it is the

²⁰ Form and instructions available at:

http://dot.state.nm.us/content/dam/nmdot/Traffic_Safety/NM%20UCR%20InstructionManual%20Final%2009-09.pdf.



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system currently in use by the NMDOT Traffic Records department. The system allows officers to complete many standard duties – such as traffic citations and crash reporting – using patrol-car mounted laptops (most typical) or office workstations. New Mexico entities currently using or planning to use TraCS include:²¹

- Dona Ana County Sheriff's Office
- Albuquerque Police Department
- Santa Fe Police Department
- Rio Rancho Police Department
- New Mexico State Police
- New Mexico Motor Transportation Police
- Tesuque Tribal Police
- Bernalillo County Sheriff's Office
- Santa Fe County Sheriff's Office
- Eunice Police Department
- Rio Arriba County Sheriff's Office

The licensing for the program is paid for by NMDOT, and can be provided to an agency at no cost. In order to participate, a tribe or other agency must sign a license agreement with NMDOT to use the software. The software requires a computer system running Windows 7 or greater, and typically an agency has a TraCS-designated server set up. While the software licensing is free, the additional server, if needed, is not. In the past NMDOT has used federal traffic safety funds for this purpose, but there is currently a waiting list for assistance with this cost. Requests for assistance with this are processed in the order they are received. Depending on what supplies an agency already has, costs may include: laptops, computer workstations, peripherals needed for vehicle installations, and intermittent IT support.²²

NMDOT offers demonstrations of the system for elders and decision makers considering participation.

Advantages: There are several advantages to using TraCS for data tracking:

Comprehensiveness. TraCS is an award-winning, well-established system for tracking public safety data. While the main impetus for adoption of TraCS in the context of this plan would be to improve crash data tracking, the software can track details of other police functions (such as citations and arrests) if Ramah Police wish to use it to do so. Information would be readily retrievable in an office or as a resource for an officer on a patrol car-mounted laptop.

Training. As part of provision of the software (at no cost), NMDOT also provides initial training on the system.

Accuracy. The software design helps reduce data entry errors, minimizes the need for re-entry of data, and allows geolocation by clicking on a map. Institutionalizing the entry of data at the crash

²¹ "Traffic and Criminal Software (TraCS)." *Traffic and Criminal Software (TraCS)*. New Mexico Department of Transportation. Web. 04 Apr. 2016. <<http://nmtrafficrecords.com/traffic-and-criminal-software-tracs/>>.

²² Martinez, Dave. New Mexico Department of Transportation. E-mail interview. 14 Mar. 2016.



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site eliminates the need for a second administrative step where paper records are transferred to a computer, streamlining the record keeping and reducing the opportunity for data entry errors.²³

Flexibility. Any kind of digital file – such as photos or video – can easily be stored with an incident report. The software can be customized to reflect an agency's specific needs.

Accessibility. The data would be readily retrievable and searchable through standard and/or customized queries to identify safety issues, depending on RNC's needs.

Data compatibility. Because it is the system in use by NMDOT Traffic Records, RNC's crash data would be automatically aligned with state reporting requirements and effectively represented in state safety assessments.

Disadvantages: There are several disadvantages to using TraCS for data tracking:

Potential costs. While the software licensing and training is free, there could be some costs to installing TraCS, depending on the equipment already available at RNC. While there may be NMDOT funding available to help with these costs eventually, funding is not currently available.

Staff time. The software requires the solid support of RNC and the police department. While it appears the software is considered a time-saver overall for officers, the system would require diligence and staff time for officer completion of the electronic forms.²⁴ Some staff time will be needed for periodic data analysis and follow-through based on that analysis.

Crossroads Software Traffic Collision Database and Handheld Citation and Report Writing Program. The Crossroads Software Traffic Collision Database and Handheld Citation and Report Writing Program is in use in California, Washington, Arizona, and New Jersey. Features are similar to TraCS: the software allows input of data regarding collisions, citations and DUIs and allows flexible queries and reporting. There are standardized forms available or RNC can customize forms to better fit tribal needs.

Advantages: There are several advantages to using Crossroads for data tracking:

Comprehensiveness. Crossroads is a well-established system for tracking public safety data. Similar to TraCS, Crossroad's software also can track details of other police functions (such as citations and arrests) if Ramah Police wish to use it to do so. That information would be readily retrievable in an office or as a resource for an officer on a patrol car-mounted laptop.

Accuracy. As with TraCS, the software design has verification steps embedded to help reduce data entry errors. After the initial entry into Crossroads, no secondary data entry step is necessary, reducing staff time needed and helping to maintain data quality.

²³ "TraCS." Technology Enterprise Group, Inc. Web. 05 Apr. 2016. <<http://www.teginc.com/software.html>>.

²⁴ Technologies for Improving Safety Data. Rep. no. 20-05/Topic 36-03. National Cooperative Highway Research Program, Transportation Research Board. Web. 5 Apr. 2016. <http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_367.pdf>.



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Analysis. Crossroads offers a “Queries and Reports” section that allows easy queries into any crash parameter, along with customizable reporting options. The software allows creation of graphs and charts to help illustrate data characteristics.

Flexibility. Any kind of digital file – such as photos or video – can be stored with an incident report.

Accessibility. The data would be readily retrievable and searchable through standard and/or customized queries to identify safety issues, depending on RNC’s needs.

Disadvantages: There are several disadvantages to using Crossroads for data tracking:

Data compatibility. While there are many similarities between the two software systems, because NMDOT uses TraCS, RNC data collected through Crossroads would not be immediately compatible with NMDOT data for comparison and analysis. This could present a barrier to ensuring Ramah safety concerns are well-reflected in NMDOT crash data analyses.

Potential costs. While licensing for TraCS would be free due to NMDOT’s support of the system in New Mexico, RNC would need to fund licensing for Crossroads independently, along with any necessary supplemental equipment.

Staff time. As with TraCS, the software requires the solid support of RNC and the police department. The system would require diligence and staff time for officer completion of the electronic forms. Some staff time will be needed for periodic data analysis and follow-through based on that analysis.

Recommendation: It is strongly recommended that RNC adopt a crash data management system. Because of NMDOT’s financial support of the TraCS system making the licensing free to RNC, because of the user-friendly interface coupled with powerful data management capability, and due to the compatibility with NMDOT statewide data tracking, it is recommended that RNC install the TraCS software system for crash data management. As a first step, it is recommended that RNC invite NMDOT staff to provide a free TraCS demonstration to allow RNC to further evaluate the program.²⁵

Goal

Improve tracking of crash data in order to better document transportation safety issues on RNC and position RNC to receive funding for safety projects.

Strategies

Emergency Services

Pursue establishment of a crash data management system for RNC. Schedule a demonstration of the TraCS software for RNC and proceed with adoption of the TraCS system if acceptable. If RNC does not adopt the

²⁵ Dave Martinez with NMDOT’s Traffic Safety Division is the contact for the TraCS software. He can be reached at (505) 629-3499 or Dave.Martinez@state.nm.us.



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TraCS system, consider the Crossroads Software or Excel and pursue implementation of one of these methods in the near term.

Potential Partners: NMDOT, FHWA

2.5 PLAN IMPLEMENTATION

This strategic transportation safety plan reflects the current tribal safety priorities. The plan should be disseminated in the community to potential safety partners and made available for residents. Successful implementation will rely on leadership to pursue both capital projects and projects that primarily require strong administrative advocacy.

As work continues toward implementation of these safety projects, care should be taken to monitor progress. Even though primary responsibility for leading implementation may lie partially with other entities for many of these actions, the Tribe can help ensure follow-through by periodic review of the status of each effort. This Safety Plan should also be updated every five years to allow for analysis of new data and to determine any new efforts that should be undertaken to improve transportation safety for RNC residents. Given tenacious advocacy by the tribe and other community organizations, this plan can be a springboard for dramatic improvement to transportation safety for RNC members.



Exhibit 1. RNC Strategic Transportation Safety Plan Capital Projects

Road surface improvements throughout Ramah Navajo chapter – identified in RNC's Long Range Transportation Plan – are necessary to improve safety for RNC members. In addition, the following roads projects that will require capital funds have been identified in RNC's Strategic Transportation Safety Plan and LRTP as important to safety:

Project Name	Improvement Type	Project Description	Unit	Project Length (Miles)	Estimated Cost	Phasing
RN 125 / RN 122 (MV) Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit / Intersection Improvements Near RN 122 in Mountain View	2	N/A	\$15,000	Medium
RN 125 / RN 140 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit / Intersection Improvement at intersection of RN 125 and RN 140 in Pine Hill	4	N/A	\$15,000	Medium
NM-53 / BIA 133 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit at NM-53/BIA 133	2	N/A	\$15,000	Medium
RN 125 / RN 120 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit; Excessive speeding around curve for south bound RN 125 traffic	4	N/A	\$15,000	Medium



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RN 125 / RN 122 (PH) Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit / Intersection Improvement at intersection of RN 125 and RN 122 in Pine Hill	4	N/A	\$15,000	Medium
NM-53 / BIA 135 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit at NM- 53/BIA 135	2	N/A	\$15,000	Medium
RN 125 / RN 139 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit / Intersection Improvement at intersection of RN 125 and RN 139	4	N/A	\$15,000	Medium
NM-53 / BIA 125 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit at NM- 53/BIA 125	2	N/A	\$15,000	Medium
RN 128 Safety Project A: Guardrail Installation	Guardrail	Install guardrail on RN 128 near RN 144	5	0.23	\$ 112,000	Medium
RN 128 Safety Project B: Guardrail Installation	Guardrail	Install guardrail on RN 128 near RN 125	5	0.32	\$ 141,000	Medium
RN 128 Safety Project C: Guardrail Installation	Guardrail	Install guardrail on RN 128 on three sections near RN 200	5	0.88	\$ 334,000	Medium
RN 122 Safety Project: Guardrail Installation	Guardrail	Install guardrail on RN 122 near RN 238	3	0.45	\$ 201,000	Medium



Strategic Transportation Safety Plan

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RN 125 Safety Project: Guardrail Installation	Guardrail	Install guardrail on RN 125 near RN 175	3, 4	0.28	\$ 147,000	Medium
Pine Hill Area ADA Compliance Study	ADA Compliance Study	Perform ADA compliance study near Pine Hill School	4	N/A	\$15,000	Medium
NM-53 / BIA 130 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit at NM- 53/BIA 130	2	N/A	\$15,000	Medium
Mountain View ADA Compliance Study	ADA Compliance Study	Perform ADA Compliance Study in Mountain View	2	N/A	\$15,000	Medium
Replace Cattle guards (300) - Safety	\$10,000 for (2) 14' sections	Replace damaged cattle guards	N/A	N/A	\$ 3,620,000	Long
NM-53 / BIA 137 Intersection Roadway Safety Audit	Roadway Safety Audit	Perform Roadway Safety Audit at NM- 53/BIA 137	2	N/A	\$15,000	Long
School Bus Stop Roadway Safety Audit	Roadway Safety Audit	Perform school bus stop safety audit	N/A	N/A	\$15,000	Long
Roadway Signage Inventory	Roadway Signage Inventory	Assess current signage on RNC and identify any needs for improvement	N/A	N/A	\$15,000	Medium