



Native Village of Dot Lake Tribal Transportation Safety Plan

September 2023



3111 C Street, Ste 300, Anchorage, AK 99503



Dot Lake Village

Tracy Charles-Smith, President

PO Box 70488
Fairbanks, AK

(907) 882-1205

tracy.charles-smith@dotlakevillage.org

www.dotlakevillage.org

Resolution No. 23-36

A Resolution to Adopt the 2023 Dot Lake Tribal Transportation Safety Plan (TTSP)

WHEREAS, the Native Village of Dot Lake hereafter referred to as “TRIBE,” is a federally recognized Tribe; and

WHEREAS, the Native Village of Dot Lake is the governing body of the TRIBE; and

WHEREAS, the TRIBE is committed to reducing the number of deaths and serious injuries and improving the overall safety of the transportation system; and

WHEREAS, the TRIBE has identified a need to create a transportation safety plan for our community; and

WHEREAS, the TRIBE has reviewed the 2023 Dot Lake Tribal Transportation Safety Plan;

NOW THEREFORE BE IT RESOLVED THAT the Native Village of Dot Lake hereby accepts and approves the plan as reflecting the conditions and needs relating to transportation safety in the community, and hereby adopts the 2023 Dot Lake Tribal Transportation Safety Plan. The tribe acknowledges the importance of making the Plan available to the public and allows use of the plan for posting and viewing on the Tribal Safety web portal.

CERTIFICATION

It is hereby certified that on the 8th day of September, 2023, a quorum of the Native Village of Dot Lake was formed and did pass and adopt the preceding resolution by a vote of ____ in favor, ____ opposed and ____ not voting.

President, Native Village of Dot Lake

09/08/2023

Date

Vice President, Native Village of Dot Lake

09/08/2023

Date

Thank you to the Dot Lake Traditional Council and residents of Dot Lake Village who supported work on the Tribal Transportation Safety Plan, and to the Federal Highway Administration as well as Bureau of Indian Affairs for proving funding and guidance in developing the plan. Your support helps to improve safety in Dot Lake that will lead towards the prevention of injury and the saving of lives on community roads. A special thanks to the Dot Lake Tribal President & Vice President, Faulkner Consulting, the Transportation Manager, and members of the Tribal Council for their efforts in the development of this plan.



- 1. Introduction 1
 - 1.1. Public Involvement..... 2
- 2. Background 3
 - 2.1. Location 3
 - 2.1. History and Culture 4
 - 2.2. Transportation..... 5
 - 2.3. Mission..... 7
 - 2.4. Priorities..... 8
- 3. Existing Resources 9
 - 3.1. Safety Partners..... 9
 - 3.1.1. School 11
 - 3.1.2. Alaska DOT - Statewide Transportation Improvement Program (STIP)..... 12
 - 3.1.3. Alaska DOT - Crash Data Overview..... 13
 - 3.2. Overview of Existing Efforts 15
 - 3.2.1. 2011 Long Range Transportation Plan (LRTP) 15
 - 3.2.2. 2022 Alaska Gateway School District Strategic Plan 16
 - 3.2.3. Dot Lake History Project (2005)..... 16
 - 3.3. Emergency Response Resources..... 17
- 4. Documentation of Needs & Priorities..... 19
 - 4.1. Community Priorities..... 19
- 5. Emphasis Areas, Goals and Strategies 20
- 6. Street Lighting..... 25
 - 6.1.1. Goal..... 26
 - 6.1.2. Strategies 26
 - 6.1.3. Potential Partners 26
 - 6.1.4. Cost Estimate..... 26
- 7. Pedestrian Path to School..... 26
 - 7.1.1. Goal..... 27
 - 7.1.2. Strategies 27
 - 7.1.3. Potential Partners 28
 - 7.1.4. Cost Estimate..... 28



8. National Emergency Number Association (NENA) database inclusion of community addresses..... 28

 8.1.1. Goal..... 29

 8.1.2. Strategies 29

 8.1.3. Potential Partners 29

 8.1.4. Cost Estimate..... 29

9. Improving and Updating Signage 30

 9.1.1. Goal..... 30

 9.1.2. Strategies 30

 9.1.3. Potential Partners 30

 9.1.4. Cost Estimate..... 30

10. Air Quality and Speed Monitor..... 31

 10.1.1. Goal..... 32

 10.1.2. Strategies 32

 10.1.3. Potential Partners 32

 10.1.4. Cost Estimate..... 32

11. Swimmer and boating safety training..... 33

 11.1.1. Goal..... 33

 11.1.2. Strategies 33

 11.1.3. Potential Partners 33

 11.1.4. Cost Estimate..... 33

12. Implementation 34

 12.1. Evaluation..... 34

 12.2. Plan Updates..... 35

Appendix I: Works Cited..... 36

Appendix II: Public Involvement & Supplemental Documents..... 37

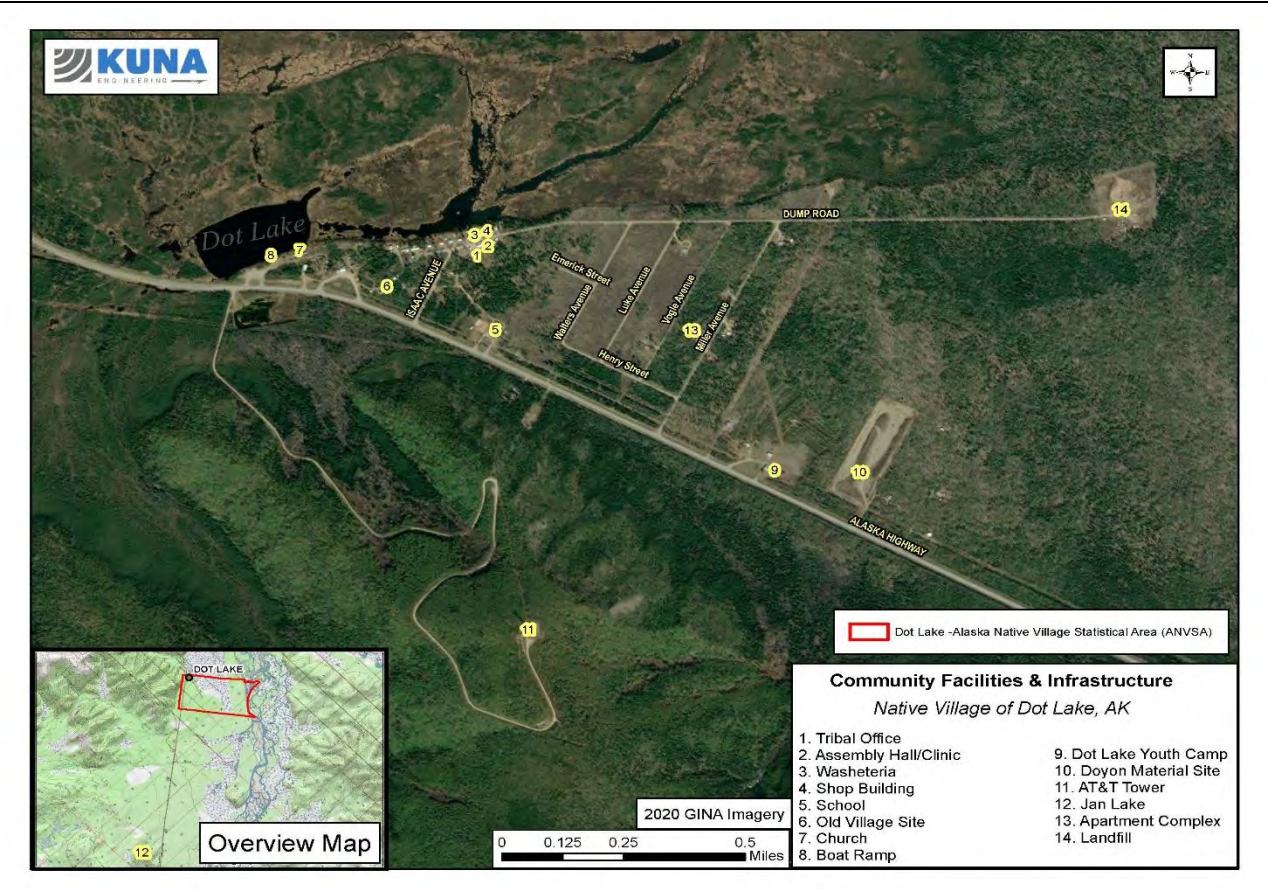


1. Introduction

The Dot Lake Traditional Council is developing its first Federal Highway Administration (FHWA) Tribal Transportation Safety Plan (TTSP) and documenting new and ongoing transportation safety concerns affecting the community. These safety improvements include improvements related to vehicular, snowmachine, ATV, pedestrian, and other means of transportation within and around the community. The TTSP for the Native Village of Dot Lake has been developed to identify unsafe conditions associated with the community’s transportation routes and establish a plan for protecting the life and safety of community members and those travelling through the community. This plan was funded by the FHWA and received guidance from staff at Bureau of Indian Affairs (BIA). Support and guidance was also provided by Kuna Engineering in the development of this plan.



Once complete, the Tribal Transportation Safety Plan (TTSP) will serve as an important resource for improving the safety of transportation on tribal lands. The TTSP will identify emphasis areas,



Map of Dot Lake showing community roads, facilities, and infrastructure.



transportation safety issues, potential improvements, and implementation strategies to improve transportation safety in and around Dot Lake.

While other agencies may lead some of the identified safety actions, the Dot Lake Traditional Council staff and consultants will be instrumental in initiating transportation safety strategies. They will monitor progress on all the strategies included in the plan to ensure that the actions are implemented and initiated in a timely manner. Additionally, as the TTSP is a “living document,” it is important that the Tribe reevaluate and update the document on a regular basis. FHWA recommends that transportation safety plans be updated at least every five years to incorporate any updated priorities, monitor progress on the plan, and optimize funding eligibility.

1.1. Public Involvement

The safety plan priority list was developed through input from the community of Dot Lake, working with tribal members and leaders within the traditional council and through a public meeting and presentation related to transportation in the community on June 27th, 2023 (with support from Kuna Engineering). A transportation survey that included input on crashes or accidents and general transportation safety issues in the community was filled out by meeting attendees. A PowerPoint and maps were also provided to provide background on Tribal Transportation Planning and input on specific areas on the map that are of most concern. Transportation safety improvements that can be made in the community among other transportation improvements that need to be made were integrated into the development and determination of what emphasis areas should be discussed in the plan. Additional information related to the public involvement process and survey results can be found in the appendix.



Public meeting attendees participating and filling out survey in relation to transportation safety in the community. (June 2023)



2. Background



The Tanana River with the Yukon Tanana Uplands in the background

2.1. Location

The Native Village of Dot Lake (*Kelt'aaddh Menn'* in Tanacross Athabascan) is located on the Alaska Highway, 50 miles northwest of Tok and 155 road miles southeast of Fairbanks, and two miles south of the Tanana River. The specific location on the Alaska Highway is between milepost 1360 and milepost 1362 and extends north to the Tanana River and Tanana Valley State Forest. It includes U.S. Survey No. 3217, U.S. Survey No. 3123, U.S. Survey No. 4285, and all lands conveyed to the State of Alaska entrust under Section 14 (c)(3) of the Alaska Native Claims Settlement Act (ANCSA). All lands within the area, with the exception of a few Native Allotments, belong to the Dot Lake Native Corporation.

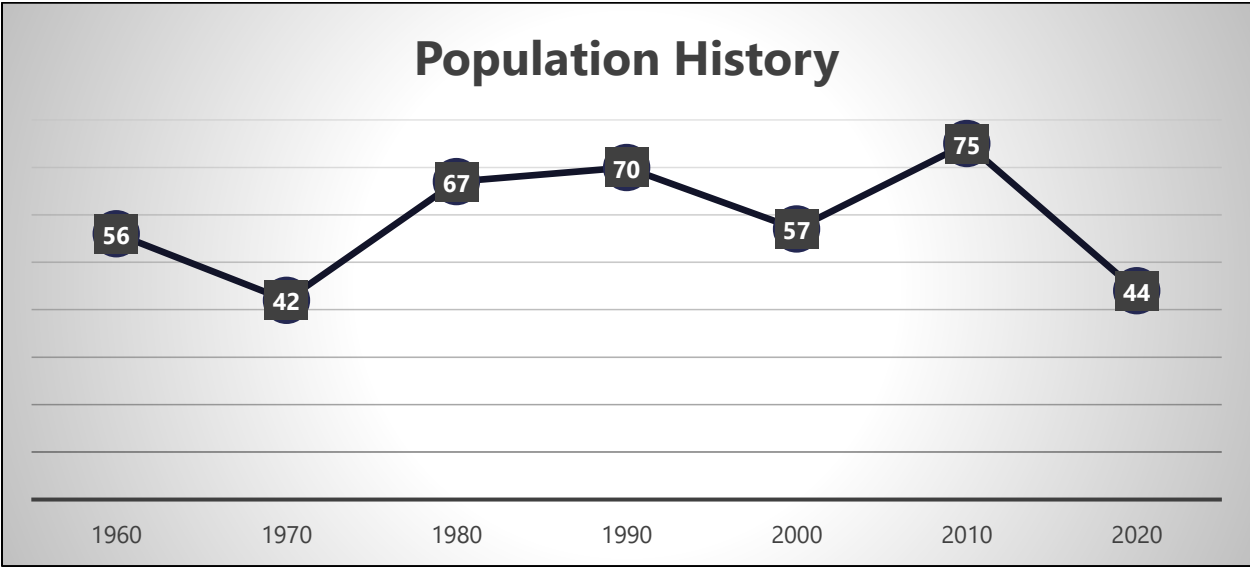


TABLE 2.1: DOT LAKE AREA POPULATION (2020 CENSUS)



The community lies at approximately 63.661171° North Latitude and - 144.061968° West Longitude. (Sec. 28, T022N, R007E, Copper River Meridian.) Dot Lake is located in the Fairbanks Recording District. The census area encompasses 3.6 square miles of land and is at an elevation of 1390 feet above sea level.

The 2020 Census population of the Dot Lake Region including the Native Village and Highway Community is listed as 44 individuals. Alaska Natives represent 60% of the population in the Native Village of Dot Lake, the demographics of the community are 36% male and 64% female. There are 23 total households in the Native Village and 2.8 persons per household. Dot Lake's population has fluctuated in recent years and has periodically gone up and down depending on each census that is taken. The peak population of the community was in 2010 when 75 total individuals resided in the Dot Lake Region.



Overlook in Dot Lake of Tanana Valley State Forest

The State of Alaska Division of Community and Regional Affairs states: Dot Lake falls within the continental climate zone, characterized by extreme temperature differences. The continental climate zone encompasses most of the central part of the state and experiences extremely cold winters and warm summers. In winter, cool air settles in the valley, and ice fog and smoke conditions are common. Extreme temperatures ranging from a low of -75 to a high of 90 °F have been measured.¹

2.1. History and Culture

The area where Dot Lake is located was initially used as a seasonal hunting camp for Athabascans from George Lake and Tanacross. A Native freight trail ran north to the Yukon River through Northway, Tetlin, Tanacross, and Dot Lake connecting the region in trading and bartering for goods and services. During construction of the Alaska Highway in 1942-43, a work camp called Sears City occupied Dot Lake's present location. The first settlers in Dot Lake were Doris Charles and her family in 1946, who established the community into what it is today. Doris and her family originally settled in Paul's Cabin, located approximately thirteen miles east of Dot

¹ State of Alaska, DCRA Portal, Dot Lake, Alaska, website:

<https://dced.maps.arcgis.com/apps/MapJournal/index.html?appid=913e47c224fb4924aea161642bdfcd6a>



Lake, along the Tanana River. Eventually, Doris moved her family to the area now known as Dot Lake and established her home there. The community grew from there and attracted both native and non-native families to the community. Fred and Jackie Vogel were the first non-Native settlers in the area, arriving from California in the late 1940s. They received a home site in Dot Lake and by 1949 had constructed a lodge, post office, school, and the Dot Lake Community Chapel. Over the years, additional families homesteaded the area and grew the community, as over 300 acres were provided to those initial homesteading families. A licensed children's home was built by the Vogels in 1967, and the present-day Dot Lake Lodge was constructed in 1973. The North Star Children's Home closed in the mid-1990s.



Traditional food cache in Dot Lake

Dot Lake, a non-native community located along the highway, is represented by Dot Lake Services

TABLE 2.2: COMMUNITY CONTACT INFORMATION – DOT LAKE

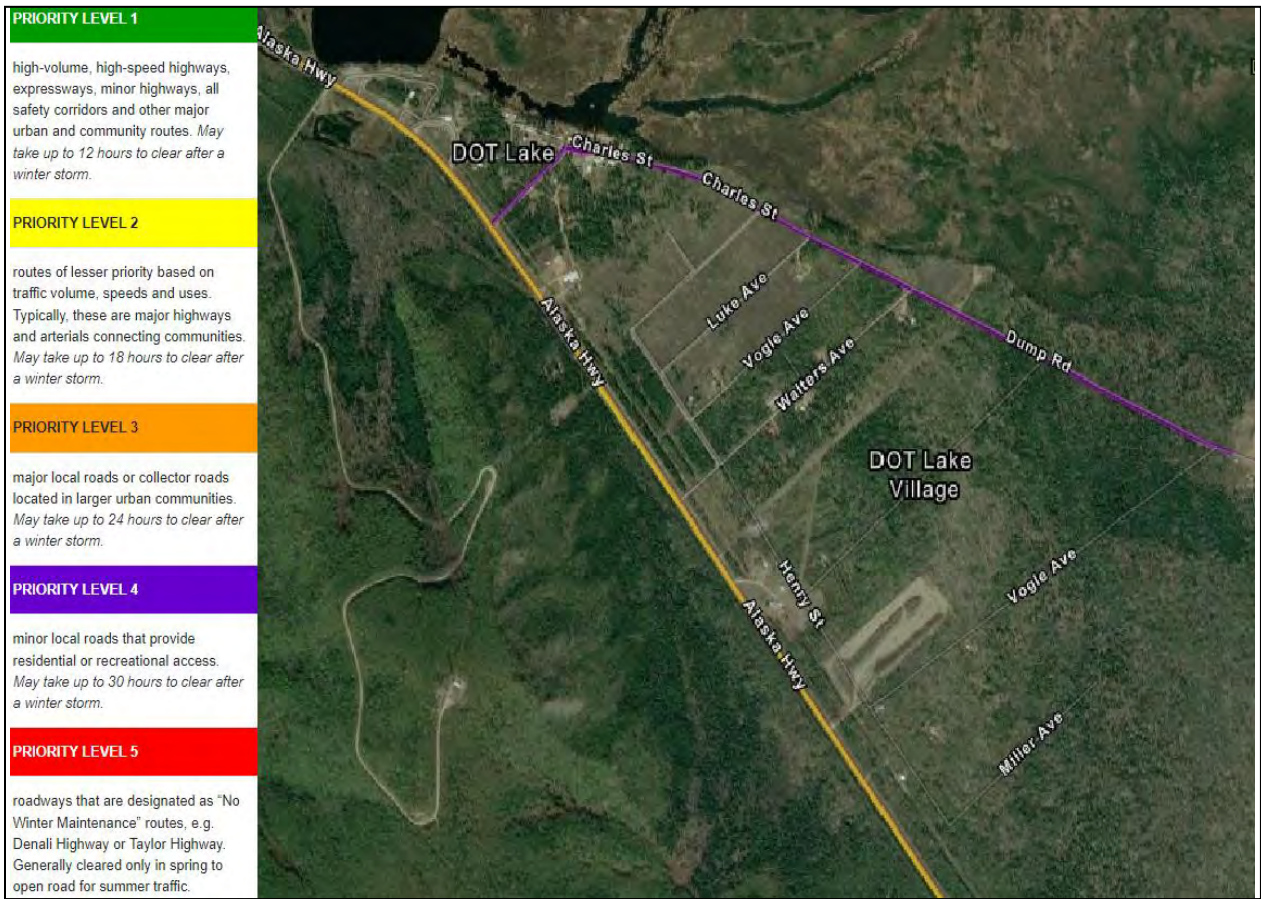
Village Council – Native Village of Dot Lake 10 Charles Street Dot Lake, AK 99737 Phone: 907-882-2695 Email: tracy.charles-smith@dotlakevillage.org	Corporation – Dot Lake Corporation 615 Bidwell Ave Suite 407 Fairbanks, AK 99701 Phone: 907-882-2695 Email: office@ancaccounting.com
Non-Profit – Tanana Chiefs Conference (TCC) 122 1st Ave Fairbanks, AK, 99701 Phone: 907-452-8251 Phone: 1-800-478-6822	Regional Native Corporation – Doyon Limited 1 Doyon Place, Suite 300 Fairbanks, Alaska, 99701 Phone: 907-459-2000 Phone: 888-478-4755

2.2. Transportation

Dot Lake is located along the Alaska Highway in between Delta Junction and Tok. The community is made of paved roadways that are primarily maintained and plowed by local laborers employed by the tribal council. The main roadways that are used to access the community Isaac Avenue, Charles Street and Dump Road are to be maintained as part of there maintenance and operation program at Alaska Department of Transportation (DOT). These



roadways are currently lacking regular maintenance in particular during the winter months and this needs to be improved upon by ADOT in the future.



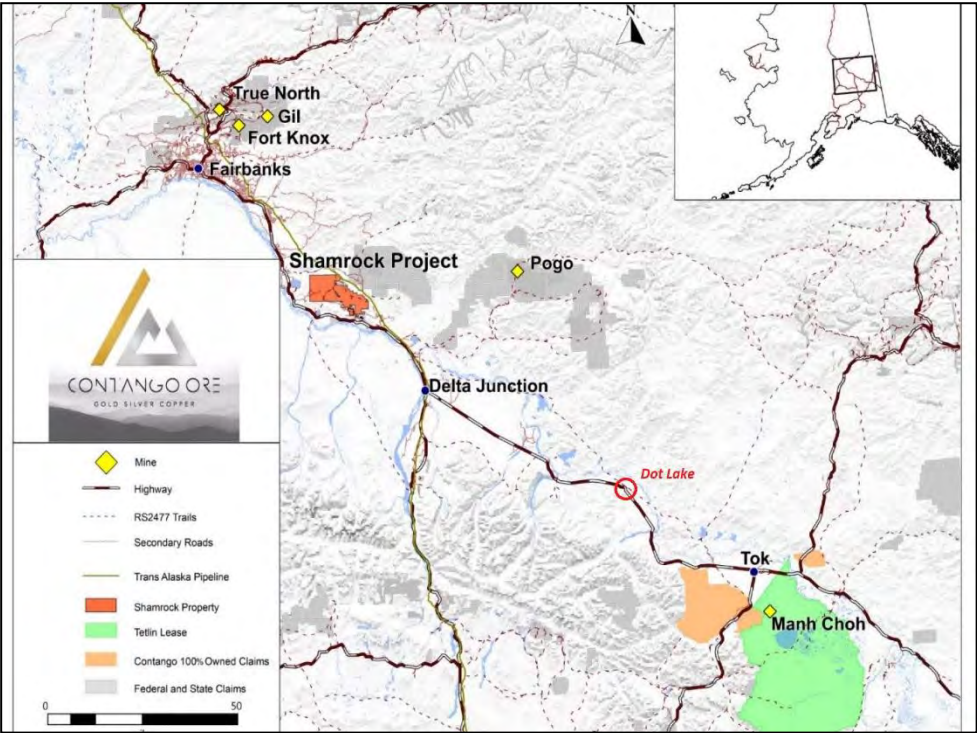
ADOT winter Maintenance map showing priority levels of maintenance, the main ADOT maintained roadways in Dot Lake are all priority level 4. The Alaska Highway is a priority level 2, and typically plowed within a day. The priority level 4 roads are supposed to be plowed after 30 hours, but are not regularly being maintained currently and needs to be improved upon by ADOT. (Source: DOT)

All supplies are brought in by truck or bus from the Alaska Highway. Regular bus service to Fairbanks, Tok and Delta Junction is available through the Interior Alaska Bus Line. The nearest public airstrips are in Delta Junction, Tanacross and Tok; a privately-owned airstrip in Dot Lake was converted to a helicopter landing pad and has limited accessibility outside of summer months. Cars, trucks, snow machines, and ATVs are used for local transportation in and around the region. A few residents own riverboats on the Tanana River, which they use for fishing and hunting and accessing nearby fish camps and areas such as Billy Creek homestead site.

The Alaska Highway is expected to get an influx of traffic due to the development of the Manh Choh mine site in Tetlin, just outside of Tok. The projected mine site will utilize the Alaska-Richardson-Steese Highway Corridor to haul gold ore to Fairbanks with multiple loads per day and night. The Dot Lake Traditional Council has been working with Advocates for Safe Highways, a group of residents and volunteers from the interior that will be affected by this new



haul route and proposed route schedule. Among other items of note the group is advocating to; request the developer make public its Ore Transportation Plan, raise public awareness and illustrate the extraordinary threat to the safety of Alaskans if this plan is adopted and ensure that the plan has had sufficient review and analysis by



Map of Manh Choh mine site in relation to route that will be utilized to truck material to Fort Knox mine site near Fairbanks. The route will pass directly through Dot Lake and is proposed to have multiple trips both day and night once the mine site is up and running. (Source: Contango Ore)

the appropriate regulatory agencies.² The Dot Lake Traditional Council in May 2023 has most recently written a formal letter in objection of the mine site and man camps in general due to safety and violence related to man camps in similar environments across the world. The key areas of concern are for the council are the potential for Violence and Human Rights Abuses as a result of man camps, economic exploitation of the region, lack of oversight in regards to labor conditions and overall Environmental Impact to the region and the people.

2.3. Mission

The mission of the Dot Lake Tribal Transportation Safety Plan and Tribal Council is to keep the community safe and protected from environmental, criminal and transportation related safety issues that

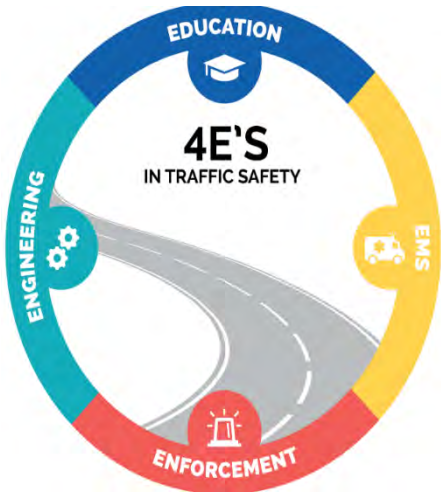


Diagram of the Four E's in Transportation Safety

² Advocates for Safe Alaska Highways, 2023 website: <https://safealaskahighways.org/>



have the potential to affect the livelihood of the residents in the community. Integrating improved signage, street lighting, improved emergency response and protected pedestrian walkways were all presented as priorities in improving transportation safety. To achieve this mission of transportation safety, the plan will address the four elements (4 E's) of transportation safety – engineering, enforcement, education, and emergency services – and how they can be used to address safety issues.³

2.4. Priorities

Through discussion with the Dot Lake Traditional Council staff and key stakeholders as well as public involvement with a transportation survey and public meeting, the following emphasis areas have been looked at in regards to engineering, enforcement, emergency services:



Dot Lake, community namesake, utilized by community members for fishing and recreational purposes.

- **Transportation/Infrastructure**
 - Street Lighting improvements such as increased lighting and scheduled timing related to when existing street lighting turn off and on.
 - Protected school trail that can connect the school to the community and provide student and community protection from the adjacent Alaska Highway.
 - Roadway brush cutting outside of routine maintenance currently being provided by the Tribe.
- **Emergency Response (EMS)**
 - Getting Addresses included in the NENA address database for better response times for public safety and first responders.
- **Enforcement**
 - Installing signage in areas where street signs have been removed and stop signs are needed.
 - Purchasing an Air Quality Monitor and Speed monitor that can be used by the community to monitor air quality issues and potential for increased speeding related to increased traffic on the Alaska Highway related to Manh Choh mine.
- **Education**
 - Adding swimmer and boating safety training and equipment such as life jackets and prevention programming provided by through the State of Alaska Department of Natural Resources.

³ Strategic Highway Safety Plan, FHWA, 2011 website:
https://safety.fhwa.dot.gov/hsip/resources/fhwasa1102/flyr3_in.cfm



3. Existing Resources

Many agencies work together to ensure transportation safety in Dot Lake and the region as a whole. This section includes a list of safety partners that contribute to the education, enforcement, maintenance and other aspects of transportation safety.

3.1. Safety Partners

- **Dot Lake Traditional Council:** Initiated and started the process of developing the Tribes first Safety Plan. Information about the plan and its development included the distribution and collection of community input, providing of resources, photos, interviews, and final review of the information gathered. The Tribe also worked with Kuna Engineering as a contractor to help manage, develop and put together the TTSP.
- **Dot Lake Corporation:** The Dot Lake Corporation provided details in regards to land ownership and land management practices on the land that they own in and around the community. As the primary landowner the Corporation provides guidance as far as what it would like to see as far as future development within the community and how to develop infrastructure and transportation networks safely and in the best interest of Tribal Members. In recent years the Corporation has worked to keep the community safe in coordination with the Traditional Council by eliminating problem property owners, and monitoring community access through a gate on Miller Avenue and a guard building with regulated access on Isaac Avenue.
- **Dot Lake Clinic:** The Clinic is run by the Tanana Chiefs Conference (TCC) Association and currently has one full-time health aide that runs the facility. The full-time health aide in Dot Lake is capable of doing routine exams and can provide general practitioner health services, pharmaceutical support and can schedule appointments at the clinic in Tok or Fairbanks. Community members can schedule appointments directly through the clinic or coordinate with TCC to schedule appointments. Residents that need to travel to either Tok or Fairbanks for appointments can utilize the bus service that travels between

Dot Lake Cultural Preservation Goals

Preserve our native language.

Give our youth an opportunity to learn our language.

Preserve treasured recordings of our Village Founder, Doris Charles, speaking in our native language.

And allow our tribal members to be educated about our founder's upbringing from her own words.

Tracy Charles Smith

Tribal Administrator

Dot Lake Tribal Archive Project

<https://www.dotlakearchives.org/>



Tok and Fairbanks if needed. In recent years the Delta Junction Clinic has also been utilized as an option, it is operated and run by the Alaska Department of Health.

- Alaska Department of Transportation (DOT):** Provided Information on DOT and transportation related projects around the community, in particular the ongoing project to develop passing lanes along specific areas of the Alaska Highway. The project is scheduled to be completed at the end of 2023, and includes passing lanes added within 10 to 15 miles of Dot Lake. This project will upgrade the Alaska Highway by providing the traveling public with more opportunities to safely pass vehicles. Passing lanes help reduce head on crashes on this rural segment of interstate highway. Data



Intersection on main roadway in Dot Lake (Charles Street)

shows the presence of passing lanes mitigate risks drivers take when they are impatient and reduces fatalities on Alaska roadways.⁴ Contact Information and Point of Contact (POC) for the State DOT project on the Alaska Highway and the Dot Lake Region is: Jenny Wright, P.E., Project Manager, 2301 Peger Road, Fairbanks, AK 99709, Phone: (907) 371-8949.

- Doyon Corporation:** Doyon is the regional corporation for Dot Lake and aside from distributing funds to shareholders in Dot Lake is also heavily involved in cultural preservation and grant support in relation to community development. Doyon has been focused on improving connectivity in the region through broadband and fiber expansion funded through the Tribal Broadband Connectivity Program. Most recently in 2022, Doyon received over 50 million in grant funding through this program to help support the expansion of fiber and high-speed internet in native communities serviced in the region. Improved connectivity and access to high-speed internet will be important as Dot Lake works to expand its access in regards to emergency response services and response times to regional hubs in Tok or Delta Junction.

⁴ "Richardson Hwy MP 266-341 Passing Lanes Route Selection Report", ADOT, July 2016. website: <https://dot.alaska.gov/nreg/richardsonpassinglanes/files/richpl-route-report.pdf>



- **Tanana Chiefs Conference (TCC):** TCC is the regional nonprofit representing 42 native villages including Dot Lake in providing health and social services to tribal members. Their main focuses in the region are in health care and social services support to villages and tribal members. Some of the services provided include management and oversight of the Dot Lake Clinic, Community Health Aide support, outreach services, environmental health awareness, mental health and substance abuse services. In 2021 Dot Lake and Healy Lake were part of a lawsuit with TCC over mismanagement of funds and holding of meetings without proper involvement of the full board and tribal representatives. The lawsuit along with internal review was followed up with the removal of the chairman for TCC.⁵ Dot Lake continues to be a part of TCC but will have ongoing dialogue with the non-profit to make sure funding and oversight is being done properly and with involvement from all the communities it provides health and social services for.
- **Gateway School District:** The Gateway School District is an important partner for safety education and can be utilized to provide safety lessons to students related to use of life jackets, boater safety and pedestrian safety on community roadways. The Gateway School District is an important partner in educating the communities in the region and the Dot Lake School is one of the central gathering points in the community. The school has been utilized in the past for classes and training and the principal and teachers are great resources for distributing information and have a longstanding relationship with the Native Village of Dot Lake.

3.1.1. School

The Dot Lake school can provide important safety education and training to community members and students. The school contact information for both the school in Dot Lake and school district in Tok can be found below. The school in Dot Lake has averaged around 10



Dot Lake School, the school is located directly off the Alaska Highway.

⁵ "Tanana Chiefs Conference board votes to recall PJ Simon as chairman", KNBA Alaska, December 2021. website: <https://www.knba.org/news/2021-12-16/tanana-chiefs-conference-board-votes-to-recall-pj-simon-as-chairman>



students per year the past couple years, currently there were roughly 12 students for the 2023 School Year. Students and teachers in the community are very well acquainted and know one another very well due to the school enrollment numbers. Students are either dropped off or walk to school through the school trail route parallel to the Alaska Highway. There are concerns at the school related to increased traffic on the Alaska Highway related to the development of the Manh Choh mine site. The proposal mitigation measures include installing protected pedestrian walkways on the school trail route, more signage including potential speed radar displays limit and air quality monitoring to determine if particulate from mining trucks is affecting the air quality in Dot Lake.

TABLE 3.3: EDUCATION CONTACT INFORMATION

School – Dot Lake School PO Box 110 Tok, AK 99780 Office: 907-882-2663 Fax: 907-882-2112	School District – Alaska Gateway School District PO Box 226, 1313.5 Alaska Highway Tok, AK 99780 Phone: 907-883-5151 Fax: 907-883-5154
---	---

3.1.2. Alaska DOT - Statewide Transportation Improvement Program (STIP)
The Alaska DOT Statewide Transportation Improvement Program (STIP) is the state’s four-year program for transportation system preservation and development. It includes interstate, state and some local highways, routes, bridges, ferries and public transportation. It does not include airports or non-ferry-related ports and harbors as they are dependent on Federal Aviation Administration (FAA) and Federal oversight in development and project planning. It covers all system improvements for which partial or full federal funding is approved and that are expected to take place during the four-year duration of the STIP.⁶ There is an ongoing project as part of the STIP program along the Alaska Highway, to create passing lanes at strategic locations along the highway. The project is expected to be completed in 2023, a similar ongoing STIP project on the Steese and Richardson Highways is also scheduled to be completed in 2023 and 2024. These projects are expected to alleviate some of the issues related to increased traffic along the route due to the Manh Choh mine coming online and starting production.

Another important STIP project that is just starting to be developed is the replacement of the Johnson River Bridge, which is 18 miles up the road from Dot Lake in the direction of Delta Junction. The project started in 2022 is still in the information gathering and environmental phase of the scheduled construction timeline and has a scheduled completion date at the end of 2026. The bridge, constructed in 1944, no longer meets the requirements and needs as far as roadway clearance and load carrying capacity. The replacement bridge is scheduled to be under construction from 2024-2026, it will be important for the community to continue to offer there

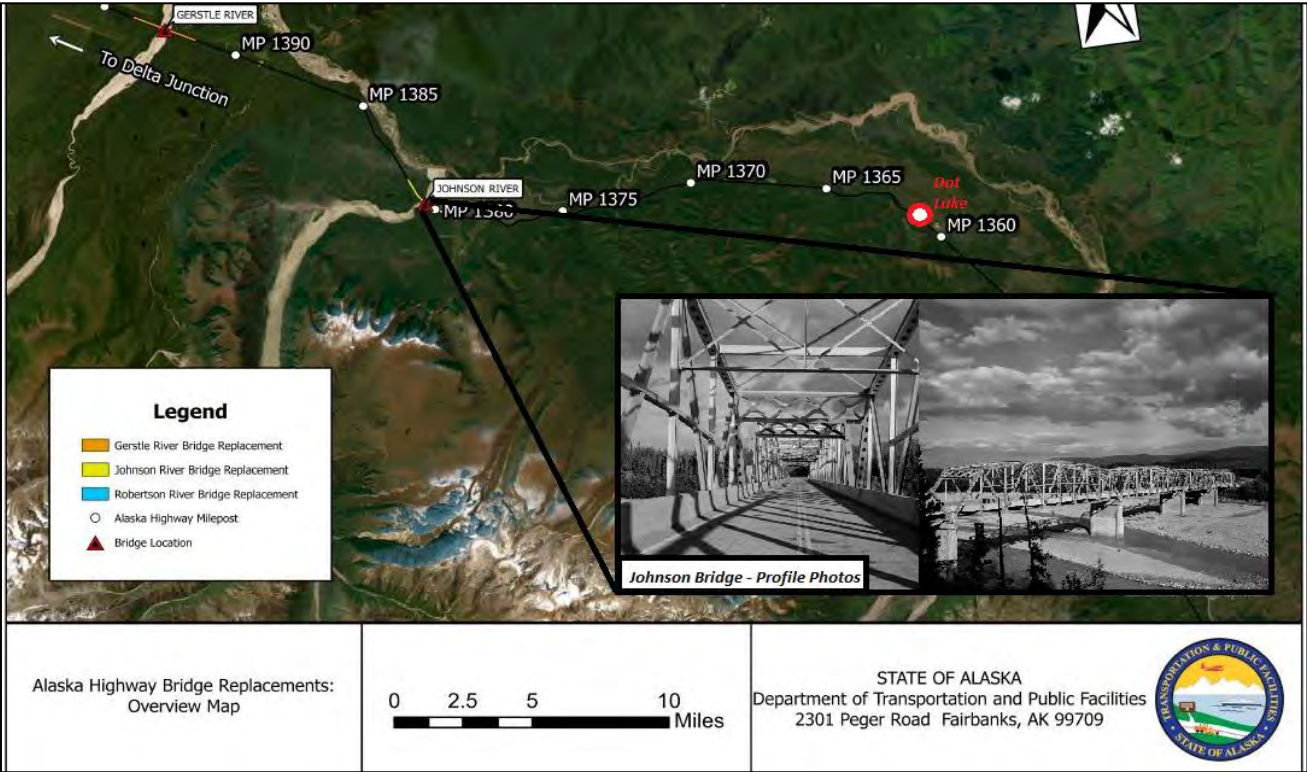
⁶ Alaska DOT&PF STIP, DOT&PF, 2023 website:
<https://akdot.maps.arcgis.com/apps/webappviewer/index.html?id=e6b614a89233473c9567435b26ece34c>



input on the project as the construction phase in particular will affect travel times and connectivity to Fairbanks, the main regional hub for health and social services in Interior Alaska.⁷

3.1.3. Alaska DOT - Crash Data Overview

Complete crash data in rural Alaska can be difficult to obtain as there is often limited data, however State Trooper dispatch logs and local feedback from community members is available. Crashes that result in over \$2,000 in property damage or result in an injury must be reported to the Alaska Division of Motor Vehicles (DMV). Ideally, the State Troopers would be the main resource for reporting these types of crashes. The State Troopers would then send in this crash that information and submit this data to the DMV. Which then provides the crash data to ADOT for inclusion in ADOT’s crash database. The best resource for getting the most up to date crash data for communities in Alaska currently is from the trooper dispatch or from ADOT on main arterial highways such as the Alaska Highway. There is a state trooper located in Tok that provides public safety needs to residents in Dot Lake currently. As an alternative as services an Tok may vary in regards to availability, Delta Junction also provides State Trooper support to the community. There has noted been a Tribal Officer in the community for a couple of years, the



Dot Lake in relation to ongoing bridge projects including the Johnson River Bridge Replacement, roughly 18 miles from the community on the Alaska Highway to Delta Junction. The Gerstle River Bridge on the Alaska Highway to Delta Junction is also proposed to be replaced, and has a projected completion date of 2027
Source: ADOT

⁷ "Johnson River Bridge Replacement", ADOT, April 2023.
website: <https://alaska-hwy-bridge-replacements-akdot.hub.arcgis.com/>



last tribal officer was employed by the Tribe in 2020. There is currently a need for the Tribe to hire an officer if the right candidate is found to help monitor and protect the community from narcotics being brought into the community along with enforcement of road safety laws.

Aside from the State Troopers, ideally the data collected related to crash data will also be made publicly available through the DMV. The DMV collects crash reporting forms and provides data to ADOT, but ADOT must manually enter the data as the DMV and ADOT data systems are not readily compatible. Because of that issue as it stands currently there is limited publicly available data through the DOT crash data page, however it is a good historical point of record and resource for annual report data.⁸

Another resource that can be used to study the Alaska Highway and highways in general across the state in regard to traffic safety

improvements is the Annual Safety Report. Most recent data from 2022 shows a continuing downward trend in relation to a variety of different metrics that are studied including fatalities involving Impaired driving, speeding related fatalities and crashes resulting in serious injury. Metrics that have maintained or seen increases in fatalities or accidents tend to be related to pedestrian and bicycle related accidents and shows improved and protected walkways, trails and bike paths could help alleviate this issue.⁹



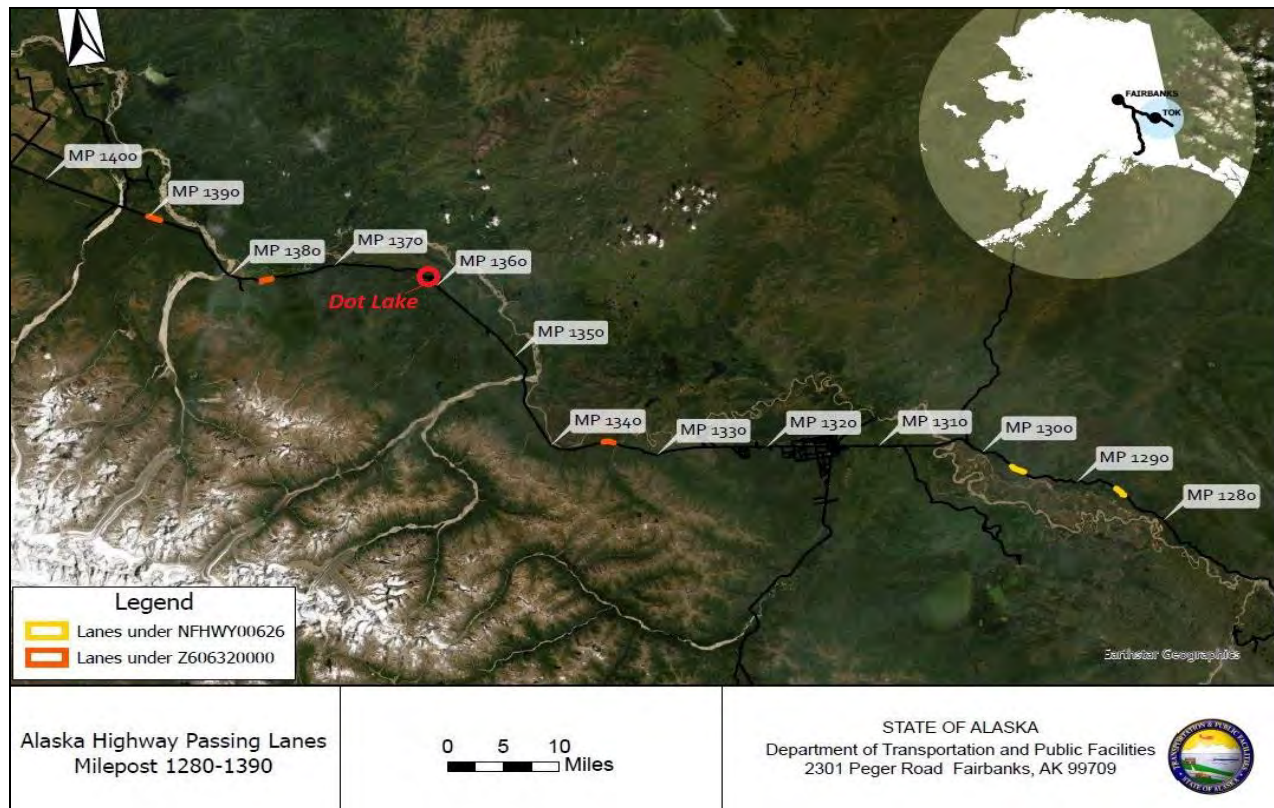
Guard facility at gate leading into Dot Lake, this was put in place in 2020 to protect the community from people coming in during COVID Lockdowns and bringing narcotics into the community.

⁸ Alaska DOT&PF Crash Data, DOT&PF, 2022 website:

<https://dot.alaska.gov/stwdplng/hwysafety/crash.shtml>

⁹ "STATE OF ALASKA HIGHWAY SAFETY ANNUAL REPORT" Alaska DOT&PF, 2022

website: https://www.nhtsa.gov/sites/nhtsa.gov/files/2023-05/AK_FY2022HSPAR-v2%20tag.pdf



ADOT Alaska Highway Passing Lane Project in relation to Dot Lake, the project started in 2015 with preliminary engineering, environmental work and final design. Construction began in 2022 and is scheduled to be completed in 2023

Source: ADOT

There is limited publicly available data in regards to crash data on Dot Lake community roadways, however the community did provide their own observations of crashes or accidents in the community at the public meeting (June 2023), with survey results that can be found in the appendix.

3.2. Overview of Existing Efforts

This section presents transportation safety documents, planning efforts, and other programming currently in place that can help guide transportation safety improvements in the community.

3.2.1. 2011 Long Range Transportation Plan (LRTP)

There is an ongoing update of the 2011 LRTP that is being done at the same time the Safety Plan is being developed. The plan is an update of the 2002 plan and route inventory that was used to develop the first routes added to the inventory. No new routes have been added since the initial plan was developed in 2002, however the 2023 plan has proposed to add multiple routes as part of the plan update. The Dot Lake LRTP provides a list of transportation priorities and maintenance needs that will enable tribal leaders to take advantage of desirable development opportunities. The LRTP also allows the Native Village of Dot Lake to receive



ongoing project and planning funds to develop transportation related projects. The plan is supported and funded by the Bureau of Indian Affairs (BIA) whose engineering staff also provide guidance and direction in its development.

3.2.2. 2022 Alaska Gateway School District Strategic Plan

The plan was developed and adopted in February of 2022 and worked on identifying improvements the school district could make in regards to improving outcomes for students and schools in the district. The plan works to promote and encourage educational and cultural improvements that help improve the overall working atmosphere and knowledge of the students in the district. The Strategic Plan is an important resource in supporting the education component of transportation safety as it provides a valuable resource for working to establish mutual goals between the school and teaching transportation safety as it relates to a multitude of topics important to the community of Dot Lake and its residents.



Dot Lake School part of the Alaska Gateway School District based out of Tok.



The Charles Family, early 1940s. Doris Charles is the community founder and is revered across interior Alaska as helping preserve traditional and cultural knowledge in the region.

3.2.3. Dot Lake History Project (2005)

This plan and project documents the history and background as it relates to the development of Dot Lake and how it started from a camp to the community it is today. The Project was funded by the National Park Service and included a focused dedication to the community founder Doris Charles who played an important role in preserving Athabascan culture through work in the community and reinforcing subsistence fishing rights on traditional tribal lands now owned by the federal government.¹⁰ The project along with

¹⁰ "The Katie John Decision" National Park Service, 2003



providing a history and background for Dot Lake also provided a list of ongoing, completed and existing projects in need of redevelopment in the community. A variety of capital projects including those listed are an important resource for determining timelines for lifecycle replacement and important dates of development that can be used for justification of new or improvement transportation development.

3.3. Emergency Response Resources

- Fire:** Dot Lake has a volunteer fire department that has fire hose, a fire truck and pump to access water from the ponds behind the community in case of a fire in the community. The washeteria burned down in 2011, it has since been replaced but there were lessons learned from that fire. In fighting that fire the volunteer fire department learned that the portable water pump used to pump water to fight the fire did not work properly. The council has since received funding to improve its fire fighting equipment including getting a new portable pump and hoses that are regularly tested and practiced on to make sure they are operating properly and in compliance. Wildfires and Wildland fires are also of ongoing concern to the community. There have been fires that have occurred as recently as 2022, such as the Tanacross Flats fire that although they only burned less than an acre is of note



Traditional Council Motorized Boat that can be used to access the Tanana River.

because of the need to implement firefighting management practices. A fire in 2015, the Tanana Slough Fire reached around 750 acres in size and came within a few miles of the community. The BLM as well as TCC provide fire fighting services in the region with support from the Alaska Department of Forestry.

- Search and Rescue:** Search and Rescue in Dot Lake is managed and overseen by the Traditional Council and has access to a motorized boat, as well as personal snowmachines to access remote areas in wintertime that are not reachable by vehicles. The search and rescue team are volunteer led and coordinated through Chance Shank in the Council Office. There is a need to expand the search and rescue capabilities through

website: https://www.nps.gov/parkhistory/online_books/norris1/chap9a.htm



additional equipment, including a traditional council owned long track snowmachine storage for first aid and emergency supplies. If a VPSO is hired additional support could be provided to the Dot Lake Search and Rescue volunteers as well as increased funding from TCC through federal funding m

- **Medical:** Medical services are provided at the Dot Lake Clinic operated and managed by TCC based out of Fairbanks. The Dot Lake Clinic can cover services such as checkups, general treatment, pregnancy care, immunizations, pediatric care, and prescription medicine. Medical emergencies that require more specialized care are provided in Tok at the subregional clinic or Fairbanks at the main TCC health facility.
- **Village Public Safety (VPSO):** There is currently no VPSO or VPO in Dot Lake as the last Safety Officer was removed from the position in 2020. In the case of an emergency the State Troopers (AST) in Tok or Delta Junction should be contacted and reported to. There is on-call staff for AST that are community based in Tok that will come to Dot Lake but due to past issues with the State Troopers due to response times, the council is still actively searching for a VPSO to fill the public safety issue in the community. Contact information for the AST station in Tok is, phone: (907) 883-5111.

- **Traditional Council Office:** The Council Office is the main resource along with the community hall and clinic in regards to community relations. The Council office facilitates and organizes emergency response missions and coordinates with local entities including the State Troopers and TCC to bring in additional resources when needed. It is



Sign off the Alaska Highway recognizing Dot Lake at its mile post location.

important to remain in contact with council office when travelling to the community as the community maintains a staffed guard facility for those coming and going from the community. This guard facility on Isaac Avenue is the only access road that is currently open to the community and is manned currently 5 days a week from 9 am to 5 pm.



4. Documentation of Needs & Priorities

4.1. Community Priorities

The community's development priorities were discussed and developed in June 2023 at a community meeting and at an additional follow up meeting with the council members in July 2023. During the Meeting(s) residents and tribal members of the community compiled their top priorities as they relate to transportation safety in the community:

Transportation Safety Emphasis Areas (in order of community priority):

1) Improved Street Lighting: Street Lighting is not sufficient in the community and is in need of improvements including scheduled times when they turn off and on. This should coordinate with sunrise and sunset and should be capable of being monitored and updated by the council if issues arise. There is also a need to add more street lighting at specific locations throughout the community including major intersections and in locations where there is residential housing including near the multi-family apartment complex.

2) Air Quality Monitor and Meteorological Station: Purchasing an Air Quality Monitor and Meteorological Station that can be used by the community to monitor air quality issues related to increased traffic on the Alaska Highway from the Manh Choh mine in Tetlin to Fairbanks.

3) Improving and Updating Signage: Installing signage in areas where street signs have been removed and stop signs are needed. With proposed increase in traffic on the Alaska Highway due to the new Manh Choh mine site it will be important for the community and ADOT to work collaboratively on developing more signage and speed monitors around the school and access roads into the community.

4) Protected School Trail: The community is in need of a protected trail to connect the school adjacent to the Alaska Highway. The protected trail would be adjacent to the Alaska Highway and could be utilized by students and faculty as well as those in the community to access the school without having to use motorized vehicles.



School sign along the Alaska Highway right before Dot Lake School, along with the school trail utilized by community members and students to access the



5) Roadway Brush Cutting: There is a need to provide additional brush clearing outside of routine maintenance currently being provided by the Tribe. This brush clearing would improve lines of sight at intersections and blind spots near driveways.

6) Water Safety Improvements: The community is in need of a life jacket loaner board and improved boater and swimmer safety training to tribal members and at the school.

The priorities listed above are relevant to transportation safety in the community and if funded would improve life safety and community risk when using routes in and around the region. Additional information on priorities was gained through interviews with key individuals in the region, including the Tribal Administrator (Tracy Charles Smith), Council Vice President (Chance Shank), Transportation Manager (Nikolas Fremin) and tribal representative and consultant (Alan Faulker).

5. Emphasis Areas, Goals and Strategies

Dot Lake within its community road system is generally safe in regard to transportation crashes and accidents. However, the Alaska Highway, which is used to access the community via the road system does have reportable vehicle accidents and crashes that can and have resulted in fatalities. Although crash and traffic data are limited through ADOT in regards to community roadways, reported accidents and crashes do occur and it is important to do what is available through Federal Highway Administration (FHWA) and other federal grant opportunities to improve the life safety of residents in Dot Lake and the region as a whole.

The following sections provide background on each emphasis area developed with support of the community, and tribal council and outlines the tribe's goals in improving transportation related infrastructure. These sections describe specific strategies as appropriate with respect to the "four Es": **education, engineering, enforcement, and emergency services.**¹¹ Implementation strategies associated with each emphasis area are also included. Each implementation strategy includes a goal, targeted timeline and potential partners.



Paved driveway in Dot Lake leading from Charles Street

¹¹ "Building Safe Roads", FHWA, Baxter, John, May/June 2004, website: <https://highways.dot.gov/public-roads/mayjune-2004/building-safe-roads>



TABLE 5.4: DOT LAKE SAFETY EMPHASIS AREAS, GOALS, AND STRATEGIES

Emphasis Area	Issue	Engineering	Education	Enforcement	Emergency Response
Transportation/ Infrastructure	<i>Issues in Dot Lake and the surrounding community related to roads, trails, and routes and how they can and may affect safety for local residents.</i>				
Street Lighting Improvements (Section 6)	Road and Transportation network lighting is not sufficient in the community and there is a need for lighting additional lighting in areas that areas with limited visibility particularly in winter.	<ul style="list-style-type: none">- Lighting should be energy efficient as energy costs are extremely expensive in rural Alaska- LED and solar or Photovoltaics (PV) are the most energy efficient options			Improved lighting and effective lighting that is timed to coincide with daylight and darkness hours so areas can be visibly seen at hours of the day within limited natural light.
Pedestrian Path to School (Section 7)	Students, staff, parents and community members looking to access the school currently utilize an earthen trail. The Path is in need of surfacing and protective measures such as lighting to make students more visible to Alaska Highway traffic.	The paved walkway should be elevated and provide safety measures that protect pedestrians from the Alaska Highway that runs parallel to the trail. There should also be adequate lighting installed to make pedestrians more noticeable to vehicles			
Seasonal Brush Cutting (Spring, Summer and Fall) (Section 8)	Brush on the main community roadways is in need of brush cutting and clearing outside of the normal routine	Use more efficient clearing equipment that can be attached to existing heavy equipment and vehicles to			Clearing brush in particular at intersections can improve visibility and decrease the



	maintenance on the main roadways	clear areas quicker and in using less labor hours.			risk for vehicle or pedestrian accidents.
Emergency Response	Issues in the community related to responding to emergencies and public safety improvements				
Including community addresses in National Emergency Number Association (NENA) database (Section 9)	Community currently does not have addresses that are in the NENA database and emergency response to the community does not have the capability to respond to emergencies directly to a specific address. First responders and public safety officers currently are directed to the main tribal office and then dispersed to the residence from there.	The address determination methodology can integrate and utilize Geographic Information Systems (GIS) to allocate and determine a number per parcel and residence for existing and proposed sites.	Outside of public safety and first responders it will be important to educate community members of addresses for residences in NENA System. Residents will need to have visible address numbers to help those providing emergency response a visible resource when responding to Dot Lake.	Public Safety and first responders based out of either Tok or Delta Junction can work with NENA implementation process to make sure address allocation is being done that is understandable and definable by those responding to Dot Lake.	Work with NENA database development system in collaboration with the State of Alaska and Department of Public Safety to create and develop address system that has been developed and implemented in similar communities.
Enforcement	<i>Decrease potential for injury or death of off-road transportation users through implementation and installation of signage</i>				
Installing and Updating Community Signage (Section 10)	Installing signage in areas where street signs have been removed and stop signs are needed.	Replace safety signage that is in disrepair and add signage to streets where signs have been removed.	Help community members understand traffic signage and how to obey traffic laws through Alaska Department of	Hire a full time VPSO in Dot Lake. Or have an improved relationship with the State Troopers to provide more committed and	



			Motor vehicles training.	regular service to Dot Lake.	
Air Quality and Speed Monitor (Section 10)	Air Quality Monitor and Speed monitor or trailer that can be used by the community to monitor air quality issues and potential for increased speeding related to increased traffic on the adjoining Alaska Highway related to Manh Choh mine.	The air quality monitor system placement should be placed to determine air quality issues related to increased traffic on the Alaska Highway related to the Manh Choh mine. The speed monitor can be placed at the entrance to the community, but would need ADOT approval to be placed on the Alaska Highway to document speed levels on the road.	Provide tribal members with the administrative capacity and capability to utilize and monitor the air quality monitor system and speed monitor.	Dot Lake would need to work with law enforcement as well as authoritative agencies from the state and federal government to make sure systems being put in place can be monitored and administered properly..	Provide a system for responding to and alerting community members of heightened air quality levels. Work with Alaska Department of Environmental Conservation for how to best monitor system. Work with Alaska Department of Public Safety on implementation and management of speed monitor system.
Education	<i>Teaching members of the community through training and learning opportunities in transportation safety and management.</i>				
Swimmer and boating safety training (Section 11)	Work with Alaska Department of Natural Resources (DNR) Office of Boating Safety on providing kids don't float	Getting information and training from DNR on the best ways to mitigate risk and	Utilize Dot Lake School and Community Hall as resources for	Work with public safety to help monitor and enforce boater	Providing first aid and CPR training to community

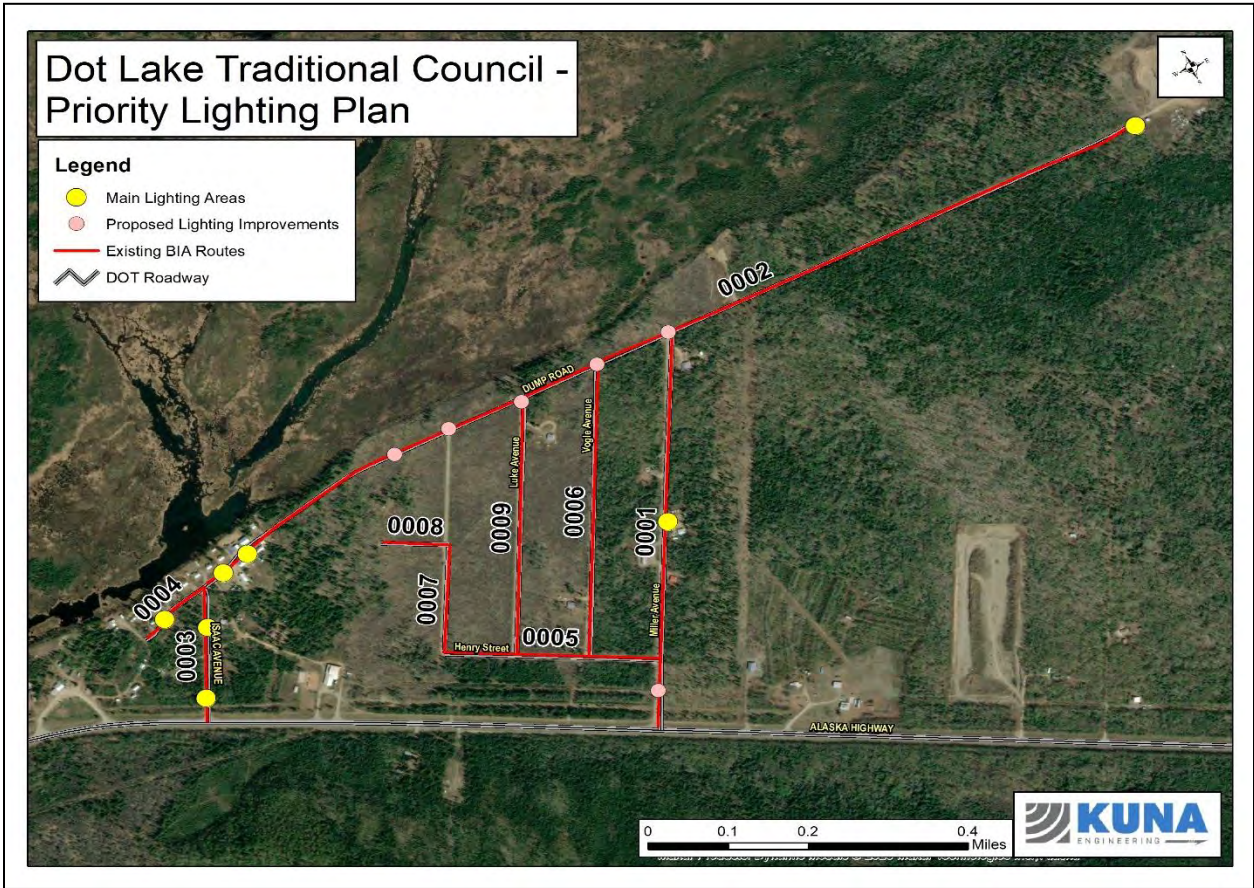


	education in Dot Lake School and kids don't float loaner board at Dot Lake. Currently the map shows a board at Dot Lake, but there is currently not a board onsite.	alleviate dangerous situations involving lakes and rivers.	educating community members on boater safety and providing safety documentation and materials.	safety laws, such as making sure those recreating on lakes and rivers have the appropriate number of life jackets on board and are using them properly.	members that are interested to provide life saving services if emergency response services are not readily available.
--	---	--	--	---	---



6. Street Lighting

Dot Lake is looking to improve lighting on community roads for existing lighting and at intersections and areas with potential for traffic accidents. Currently the community has street lighting or lighting in the main areas of the community but could use improved visibility and increased management oversight as to when lighting is turned on and turned off. There are currently times, particularly during winter months when days have limited light when there is an increased need for more lighting. Alaska Power & Telephone (AP&T) is the utility that manages lighting in Dot Lake, all costs and installation of poles that the lighting would be placed on would be done by AP&T. To reduce energy costs Dot Lake would like to utilize



Map showing lighted areas on community roadways and proposed areas for lighting improvements. solar/photovoltaic or low energy lighting options to bring down utility costs which are higher in rural Alaska than urban areas of Alaska. New lighting and existing lighting in Dot Lake should be installed and managed with oversight from the Dot Lake Traditional Council and proposed lighting improvement sites should be prioritized with their input.



6.1.1. Goal

To improve community lighting and visibility for vehicles and pedestrians to help alleviate and dissipate the risk for traffic accidents on community roadways.

6.1.2. Strategies

- 1.) Work with AP&T on improving communication and regulation of timed street lighting systems to provide better lighting and visibility and times of the day of increased darkness
- 2.) Determine which proposed lighting improvement areas could be developed for added lighting systems.
- 3.) Determine the best option for lighting in the community and work to either purchase pole arm and photocell lighting or solar/photovoltaic independent lighting systems. This will be dependent on what would work best with AP&T and what would be the most cost efficient option.

6.1.3. Potential Partners

Dot Lake Traditional Council, AP&T, FHWA, BIA, Doyon

6.1.4. Cost Estimate

\$500– Using estimate of cost from Grainger for each photocell receptable light with mount arm. The cost for installation of the mount arm style light with design, engineering and labor from AP&T per light is roughly **\$5,000**.¹² This would include integration into the electrical grid and monitoring, general maintenance and upkeep would be charged separately on an as needed basis.



Access roadway from behind Dot Lake School. The students, staff and community members are in need of safer and improved access to the school via the School Access Trail.

7. Pedestrian Path to School

The community school in Dot Lake is the main gathering point for young people in Dot Lake and access to the school is currently provided via the Alaska Highway and the school access trail. There are currently no

¹² Estimate provided based on similar lighting project cost per pole arm and lighting fixture cost for rural Alaskan village. This quote can change based on current pricing and inflation costs associated with the current market conditions, labor costs and rates.



other roads or means of accessing the school and with increased traffic concerns and potential safety issues related to the Kinross Manh Choh mine trucks transporting mining material from



The Tanacross to Tok Pedestrian pathway adjacent to the Alaska Highway.

Tetlin to Fairbanks (Fort Knox). These trucks are proposed to have upwards of four trips per hour on a daily basis passing Dot Lake including during school hours and high volume pick up and drop off times at the school. Because the Alaska Highway is managed by ADOT any safety measures will need to be vetted through them for improvements to be made. Because the school access trail is on Dot Lake Corporation Land there is less

oversight and collaboration required with ADOT to get the project completed. A developed school access trail that includes raised walkway over the grade of the adjacent Alaska Highway, a paved pathway as well as lighting on the walkway can create a safer means of accessing the school. In the community survey provided at the transportation meeting one of the things cited was the need for safer pedestrian walkways for students and young people in Dot Lake. These walkways and bike paths help alleviate and reduce the risk for vehicular accidents with pedestrians and improve transportation safety in rural and urban environments.¹³

7.1.1. Goal

To provide a safe pathway for students, school staff, parents and community members to access the school as an alternative to the Alaska Highway.

7.1.2. Strategies

- 1.) Work with FHWA and other stakeholders to develop options for a safe pedestrian walkway that can be utilized to connect the community members to the school.

¹³ "A Resident's Guide for Creating Safer Communities for Walking and Biking", FHWA, January 2015, website: https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/residents_guide2014_final.pdf



- 2.) Utilize similar means of developing a pedestrian walkway and bike path that have been developed in the region including the Tanacross to Tok pedestrian walkway.
- 3.) Work with ADOT to determine options for collaborative options for developing the pedestrian walkway that can be done to mitigate transportation issues related to the increased traffic related to the Manh Choh project.



Brush on community roadways in Dot Lake. There is a need to clear brush from the main roadways in the community to improve sightlines and lessen the risk for accidents.

7.1.3. Potential Partners

Dot Lake Traditional Council, FHWA, BIA, ADOT

7.1.4. Cost Estimate

\$465,000¹⁴– Rough estimate of cost based on similar paved lighting pedestrian path completed in rural Alaska to a school. Although this was developed in 2015 the route encompasses a distance of half a mile the same distance as the proposed school access trail and is the best potential estimate available for a comparable project.

8. National Emergency Number Association (NENA) database inclusion of community addresses.

Although Dot Lake is serviced by emergency services and public safety through the state troopers based out of Tok, community addresses are currently not in the NENA database. This database is currently utilized by most emergency response service providers including the Alaska State Troopers as wells as emergency service providers in Tok and Delta Junction. The NENA Enhanced PSAP Registry and Census (EPRC), is a secure database, web portal and map that contains information about Public Safety Answering Points (PSAPs) throughout the United States. The central Emergency 911 (E-911) fulfills the NENA PSAP Registry's original purpose of supporting PSAP and 9-1-1 Authority personnel to locate and contact other PSAPs during critical transfer situations. The Dot Lake Traditional Council currently has determined and

¹⁴ "Extension of Paved Lighted Pedestrian Path", State of Alaska, 2015, website: https://omb.alaska.gov/ombfiles/15_budget/DCCED/Enacted/2015proj58874.pdf



mapped parcels but has not set independent addresses for each existing and proposed parcel for inclusion in the database. Along with determining address points for each of the parcels and residences that would need to be added to the database, there is a need to allocate centerline points that can be tied to streets or roadways. All required submittals and GIS data models that are to be submitted to NENA will have to follow the *NENA Standards for NG9-1-1 GIS Data Model- July 2022*.¹⁵

8.1.1. Goal

The community currently does not have addresses that are in the NENA database and emergency response is difficult for routing services to specific residences and community buildings.

8.1.2. Strategies

- 1.) Utilize existing parcel mapping determinations developed by Council to be included and developed into address points that can be input into NENA Database.
- 2.) Determine address points using existing council inputs and GIS capabilities or solicit support from consultant services to complete project. Dot Lake addresses and coverage area would need to be determined with support from the council to help develop the scope for which areas would be input into database, and which would need to be developed independently without council support.

8.1.3. Potential Partners

Dot Lake Traditional Council,
FHWA, BIA, ADOT, TCC

8.1.4. Cost Estimate

\$14,500 – This cost is based on the proposed cost for GIS Consultant Services to support residences input into the NENA database. This would include implementation and work with the community for determining address numbering and naming. This estimate of cost does not include site visits or in person visits and proposes that the work be completed remotely.



Residences currently are not serviced based on a physical address point and numbering system. NENA database inclusion will require numbering of addresses for emergency services when responding to Dot Lake.

¹⁵ "NENA Standard for NG9-1-1 GIS Data Model", NENA, July 12, 2022, website: https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/residents_guide2014_final.pdf



9. Installing and Updating Community Signage

The community has an ongoing need to update and improve community signage. The community signage that is currently in place is in need of increased visibility through replacement or reflective coating. The main intersections along Dump Road are in areas with the most potential risk for accidents and have the most need for signage replacement or improvements. These areas intersect with residential road and are also the main road used in the community. The improved upon signage along with improved lighting seen in the lighting map can help make pedestrians more visible and acknowledged to vehicles travelling the road.

9.1.1. Goal

Purchase or improve traffic signage in areas of the community that need replacement, in particular stop signs and street signs that have been removed.

9.1.2. Strategies

- 1.) Identify the type of signage that will work best in arctic climates and be most resistant to weathering as well as be the most visible during dark winter months. An important resource to utilize would be the FHWA retro reflectivity guide which determines and outlines the types of signs needed for high visibility no matter the time of day or weather condition.¹⁶
- 2.) Use grant or state funding to purchase signage and work with ADOT to identify how and where to place signage at intersections and roadways. Try to utilize techniques that can help alleviate issues with weathering, and movement of signs due to ground freezing and thawing.

9.1.3. Potential Partners

Dot Lake Traditional Council, FHWA, BIA, ADOT

9.1.4. Cost Estimate

\$7,655¹⁷ - Using estimate of cost for community signage based on grant funding provided to other similarly sized native Alaskan communities through FHWA Tribal Transportation Program Safety Fund. The cost per sign installed varies but can be completed locally by local transportation departments reducing cost.



Traffic Sign in Dot Lake that is in a state of disrepair and in need of replacement.

¹⁶ "Maintaining Traffic Sign Retro reflectivity: Impacts on State and Local Agencies", FHWA, 2007, website: <https://www.fhwa.dot.gov/publications/research/safety/07042/07042.pdf>

¹⁷ "Tribal Transportation Program Safety Fund FY2021 Awards", FHWA, 2021, website: <https://highways.dot.gov/sites/fhwa.dot.gov/files/images/FY21%20Tribal%20Transportation%20Program%20Safety%20Fund%20Awards.pdf>



10. Air Quality and Speed Monitor

Due to the increased traffic related to the Manh Choh mine site there is a need to monitor changes in air quality and speed coming into and adjacent to the community. Although the ADOT will be in charge of facilitating and making changes on the Alaska Highway related to this increased traffic. Either through input received through public comments or through engineering improvements from consultants and project experts. The Dot Lake Traditional Council can monitor and make safety improvements related to this increased traffic on its community roads. The two main access points are Miller Avenue and Isaac Avenue, with Miller Avenue currently closed to incoming traffic as it is gated closed. The school would also be a possible location for monitoring speed and air quality changes related to the increased traffic related to the Manh Choh mine project.

However, any installation or additions to the school access road would need to be approved with support of the Dot Lake School and the Gateway School District. The security facility leading into Dot Lake on Isaac Avenue off the Alaska Highway has electrical and communication inputs that make it capable of monitoring air quality and speed with database upload capabilities as well. The booth is also manned during working hours, typically from 8-5, Monday through Friday so there would be an opportunity for management and maintenance needs if needed. The Alaska Department of Conservation (dec) has an air quality monitoring program that utilizes AQMesh sensor pods that upload data to a publicly available database and mapping application.¹⁸ The speed monitor would be a separate monitoring system that could be developed to upload data to a database or to provide speed reduction through interpretation and showcasing of monitored speed to travelers along the roadway. These speed monitoring devices or Dynamic Speed Monitoring Display (DSMD) signs have shown to be an effective means of reducing speeding on roadways and reducing traffic accidents and fatalities.¹⁹



Dot Lake access gate and security facility that regulates traffic and those entering the community. The facility is manned during normal working hours, an air quality and speed monitor could supplement existing ongoing community safety measures.

¹⁸ "Community-Based Air Monitoring Project", DEC, 2023, website: <https://dec.alaska.gov/air/air-monitoring/aqmesh-community-based-monitoring>

¹⁹ "Long-Term Effectiveness of Dynamic Speed Monitoring Displays (DSMD) for Speed Management at Speed Limit Transitions", Washington County, Dakota County and Ramsey County Departments of Transportation, 2006.



10.1.1. Goal

Air quality and speed monitor or movable trailer that can be used by the community to monitor air quality issues and potential for increased speeding related to increased traffic on the adjoining Alaska Highway related to Manh Choh mine.

10.1.2. Strategies

- 1.) Work with DEC on determining best air quality monitor and system that can be utilized to pick up particulate and barometric pressure increases related to increased air quality changes related mining trucks travelling through the community from the Manh Choh mine site.
- 2.) Determine grant and funding opportunities available to monitor air quality concerns related to increased road traffic. Work with TCC to look into what health concerns should be monitored in community members related to potential changes in air quality.
- 3.) Determine what speed monitoring devices have been used in other Native Alaska communities on the roads system and have helped reduce speed and alleviate the potential for traffic accidents.

10.1.3. Potential Partners

Dot Lake Traditional Council, FHWA, BIA, ADOT, TCC, DEC

10.1.4. Cost Estimate

Air Quality Monitoring Pod, **\$11,200**: Using a cost estimate from AQMesh™ for their air quality monitoring pods similar to those provided to DEC. This cost would not include long term maintenance costs and installation. The cost for monthly data transfer per year is roughly **\$420** per year.

Speed Monitor Device, **\$2,950**: This is a cost estimate based on costs associated with a hardwired monitor device that does not upload traffic database to a database. For a movable traffic trailer with upload capability the cost is roughly **\$10,000** for the monitor and cart package. Data costs and database management are not included in speed monitor and trailer overall costs.²⁰



Miller Avenue is currently gated to prevent access to the community other than through Isaac Avenue.

²⁰ Estimate provided based on cost provided by Grainger. This quote can change based on current pricing and inflation costs associated with the current market.



11. Swimmer and boating safety training

With Dot Lake being the community namesake and its utilization as a site for boating and swimming it is important to keep safety in mind and provide resources when available. The Alaska Department of Natural Resources provides boater safety training and education opportunities to communities and schools that are interested. The community at the public meeting (June 2023) cited in particular the need to install a Kids Don't Float Loaner Board at Dot Lake that can supply life jackets when needed. These boards are free to the community and are installed when a need is advocated through the DNR and sponsorship to the board can be made through a viable resource. In the past Girl Scout and Boy Scout Troops have been resourceful means of installing and placing these boards, in particular as part of the badge program. Training is provided on a scheduled basis through the DNR boater safety program, individualized training at Dot Lake School could be provided remotely through remote streaming options or powerpoint presentation. Coordination and collaboration should occur with the Gateway School District and Dot Lake staff to determine availability and the capability of completing the boater and swimmer safety training.²¹

11.1.1. Goal

Work with Alaska Department of Natural Resources (DNR) Office of Boating Safety on providing kids don't float education in Dot Lake School and Kids Don't Float Loaner Board at Dot Lake.

11.1.2. Strategies

- 4.) Coordinate with DNR and sponsor to develop and install Kids Don't Float Loaner Board.
- 5.) Involve Dot Lake School and Gateway School District on getting training and information documents provided from the DNR in regards to safe boating and swimmer safety in rural Alaska.



Dot Lake is surrounded by wetland areas to the North and the community Lake that is the namesake.

11.1.3. Potential Partners

Dot Lake Traditional Council, FHWA, BIA, DNR

11.1.4. Cost Estimate

No costs associated with this emphasis area, all costs associated will be incurred by the DNR and through volunteer services.

²¹ "Kids Don't Float Education Program", DNR, 2023, website: <https://dnr.alaska.gov/parks/boating/kdfhome.htm>



12. Implementation

The Native Village of Dot Lake Tribal Transportation Safety Plan will be ready for implementation after working and receiving approval from community members, the tribe, agencies and interested parties. The Dot Lake Traditional Council will formally adopt the plan through a formal letter and will work on improving upon emphasis areas highlighted in the plan. The plan should be made available to the community, tribal members and to potential safety partners and agencies and can be utilized to access transportation safety funding. The Transportation Coordinator will be the facilitator of the plan and will oversee the emphasis areas will be followed through on and developed in a timely manner. The transportation coordinator will work as a facilitator and will develop contacts with each potential safety partner to discuss the appropriate next steps related to the plan. The transportation coordinator will be a leader in ensuring that steps are followed and effectively implemented into transportation safety strategies.

As work continues toward implementation and development of emphasis areas in the plan, care should be taken to monitor progress. Even though the primary responsibility for leading implementation of some strategies may lie with other entities, Dot Lake should initiate relationships with safety partners via the safety leader (transportation coordinator) and help ensure follow-through by periodic review of the status of each effort. This Transportation Safety Plan should be updated every five years to allow for analysis of new data and determine any new efforts that should be undertaken to improve transportation safety for Dot Lake community members and those travelling in the region.

12.1. Evaluation

Plan evaluation and review is an important part of the success of any plan and the Dot Lake TTSP is no different. The purpose of ongoing evaluation is to determine if safety plan emphasis areas are being met, if action items for emphasis areas are being pursued, and if new transportation related issues have arisen since the plan was created. To provide accountability on the action items identified in this Tribal Transportation Safety Plan, a steering committee amongst council members is planned to be developed. The steering committee – led by a designated Transportation Safety Leader – should include representatives of the significant transportation safety entities in the community and region. Meeting frequency can be determined by the steering committee, but the group should meet annually, and can be planned regularly scheduled and ongoing council meetings.

The steering committee will be responsible for monitoring progress on action items through determinations and review of status of safety plan emphasis areas. Findings from the progress reports will be reported to the steering committee as information comes in. If the results of these determinations suggest that sufficient progress is not being made, the committee will take steps to accelerate work on the action item. The Transportation Safety Plan steering committee



can assist safety partners with identifying potential funding sources or assign this responsibility to someone at the tribal level.

Results of the evaluation of the Transportation Safety Plan should be shared with the community as a "progress report" on transportation safety.

12.2. Plan Updates

The Dot Lake Tribal Transportation Safety Plan should be reviewed annually and updated at least every five years to reflect completed projects, new safety and crash data that has been collected, and any additional safety issues that need to be addressed. Past efforts to address safety issues should be described in the plan to streamline future approaches.

This Transportation Safety Plan is the first step in a series of steps needed to improve transportation safety in and around areas managed and utilized by the Native Village of Dot Lake. With ongoing community advocacy, evaluation, and updates, the Transportation Safety Plan can be a strong foundation for improved transportation safety in the Dot Lake community now and in the future.



Appendix I: Works Cited

- 1.) State of Alaska, DCRA Portal, Dot Lake, Alaska, website:
<https://dced.maps.arcgis.com/apps/MapJournal/index.html?appid=913e47c224fb4924aea161642bdfcd6a>
- 2.) "Richardson Hwy MP 266-341 Passing Lanes Route Selection Report", ADOT, July 2016.
website: <https://dot.alaska.gov/nreg/richardsonpassinglanes/files/richpl-route-report.pdf>
- 3.) "Johnson River Bridge Replacement", ADOT, April 2023. website: <https://alaska-hwy-bridge-replacements-akdot.hub.arcgis.com>
- 4.) "Advocates for Safe Alaska Highways" ASAH, 2023, website:
<https://safealaskahighways.org/>
- 5.) "STATE OF ALASKA HIGHWAY SAFETY ANNUAL REPORT" Alaska DOT&PF, 2022
website: https://www.nhtsa.gov/sites/nhtsa.gov/files/2023-05/AK_FY2022HSPAR-v2%20tag.pdf
- 6.) U.S. Department of Commerce. Census Bureau. U.S. Census. Washington, D.C., 2020,
website: <https://data.census.gov/all?q=Dot+Lake+Village+CDP,+Alaska>
- 7.) U.S. Department of the Interior. Bureau of Indian Affairs. Resident Indian Population and
Labor Force Status Report. Washington, D.C., January 16, 2014, website:
<https://www.bia.gov/sites/bia.gov/files/assets/public/pdf/idc1-024782.pdf>
- 8.) Alaska DOT&PF Crash Data, DOT&PF, 2022 website:
<https://dot.alaska.gov/stwdplng/hwysafety/crash.shtml>
- 9.) "Richardson Highway / Steese Expressway Corridor Study Project", DOT&PF, 2015
website: <https://dot.alaska.gov/nreg/richardson-steese/>
- 10.) "Dot Lake" TCC, 2023, website: <https://www.tananachiefs.org/about/communities/dot-lake/>
- 11.) "Dot Lake School" Alaska Gateway School District, 2023, website:
<https://www.agsd.us/page/dot-lake-school>



Appendix II: Public Involvement & Supplemental Documents



Dot Lake Village

Tracy Charles-Smith, President

PO Box 70488

Fairbanks, AK

(907) 882- 2695

tracy.charles-smith@dotlakevillage.org

www.dotlakevillage.org

Dot Lake Transportation Meeting –Community Hall, June 27th, 12:00 pm

Attendees: See sign in sheet below

Meeting Overview: Meeting attendees filled out a transportation survey and had pizza, soda and snacks before the meeting was started. Joseph Rolfzen from Kuna Engineering began the meeting by introducing himself and what he has been working on with the Council. Chance Shank of the Native Village of Dot Lake helped coordinate community attendance at the meeting and serves as a community liaison in Dot Lake. The meeting timeline of events and noted talking points are as follows

- Powerpoint Presentation as well as Maps and information about what existing routes there are in Dot Lake and what routes are of interest for the community to add to its inventory. Also, some of the requirements in developing a Long Range Transportation Plan (LRTP) and Transportation Safety Plan as defined by BIA and FHWA.
- Follow up questions and comments from the community were taken note of and were used to develop priority transportation projects and transportation safety goals for community planning efforts.
- A transportation survey was handed out and the results of that survey can be found below. Those results along with feedback from the meeting were used to develop the TTSP and LRTP.
- Questions and commentary at the meeting focused on some of the improvements that can be made to existing transportation infrastructure and how the planned Manh Choh mine site traffic will affect the future of the community and in particular the school.



Rooted in Alaska, Focused on its Future

DATE: 6/27/23 SHEET: OF
PROJECT NAME/# DOT LAKE
PREPARED BY: transportation
SUBJECT: planning meeting

Name	Community Role / Position
Kristi McGatlin	resident
Rebecca Thompson	resident
Jadelyn Thompson	Council + Resident
Chance Shank	Resident, Principal/Teacher
Karen Deeter	Resident
Brandy Hendren-Rice	Resident
Haily Hendren-Rice	Council's Resident
Jordyn James	TR's Resident
Julian Lillie	TOLC
Charlene Cleary	TOLC
Rebecca Cleary	

Sign in Sheet for Transportation Planning -Public Meeting June 2023

Transportation Survey - Dot Lake

Your input is very helpful in updating the Long-Range Transportation Plan. The answers you provide will help to develop priorities for the Native Village of Dot Lake current and future transportation goals.

1. Please rate how important each of the following transportation issues are in Dot Lake

Transportation Issue	Very Important	Somewhat Important	Neutral	Not Important
Improved access to residential areas				
Improved emergency access and response				
Road construction to promote economic development				
Improved traffic safety and fewer accidents				
Improved drainage conditions around roadways				
Maintenance/repair of existing roads				
Expanded trail development around the community				
New and /or improved bridges				
Better lighting throughout the community				
Other (please specify): plowing, paving, material site development, protection from highway				



Transportation Survey - Dot Lake

2. What transportation projects you would like to see developed in the community?

a. In the next year

- Bike/Walking Path & Exercise Trail
- Maintained streetlights
- Year round road maintenance

- Road Improvements and brush cutting
- Post Office off road to school

- Pave Roads and Bike Path

b. In the next 1-5 years?

- Road Improvements and brush cutting
- Improved trails

- Meteorological Station to monitor Alaska Hwy air quality from trucks travelling from Manh Choh Mine Site

- Street Lighting
- Life Jackets accessible at Dot Lake similar to other lakes around the state.

c. In the next 6-10 years?

- Road Improvements and brush cutting

d. In the next 10-20 years?

- Road Improvements and brush cutting

3. What transportation maintenance do you think could be improved in the community (i.e. snow plowing, improved roads, new maintenance equipment)?

- Snow Removal
- Road Maintenance
- Brush Cutting
- Improved Roads

4. Any additional comments or suggestions related to transportation development in Dot Lake?

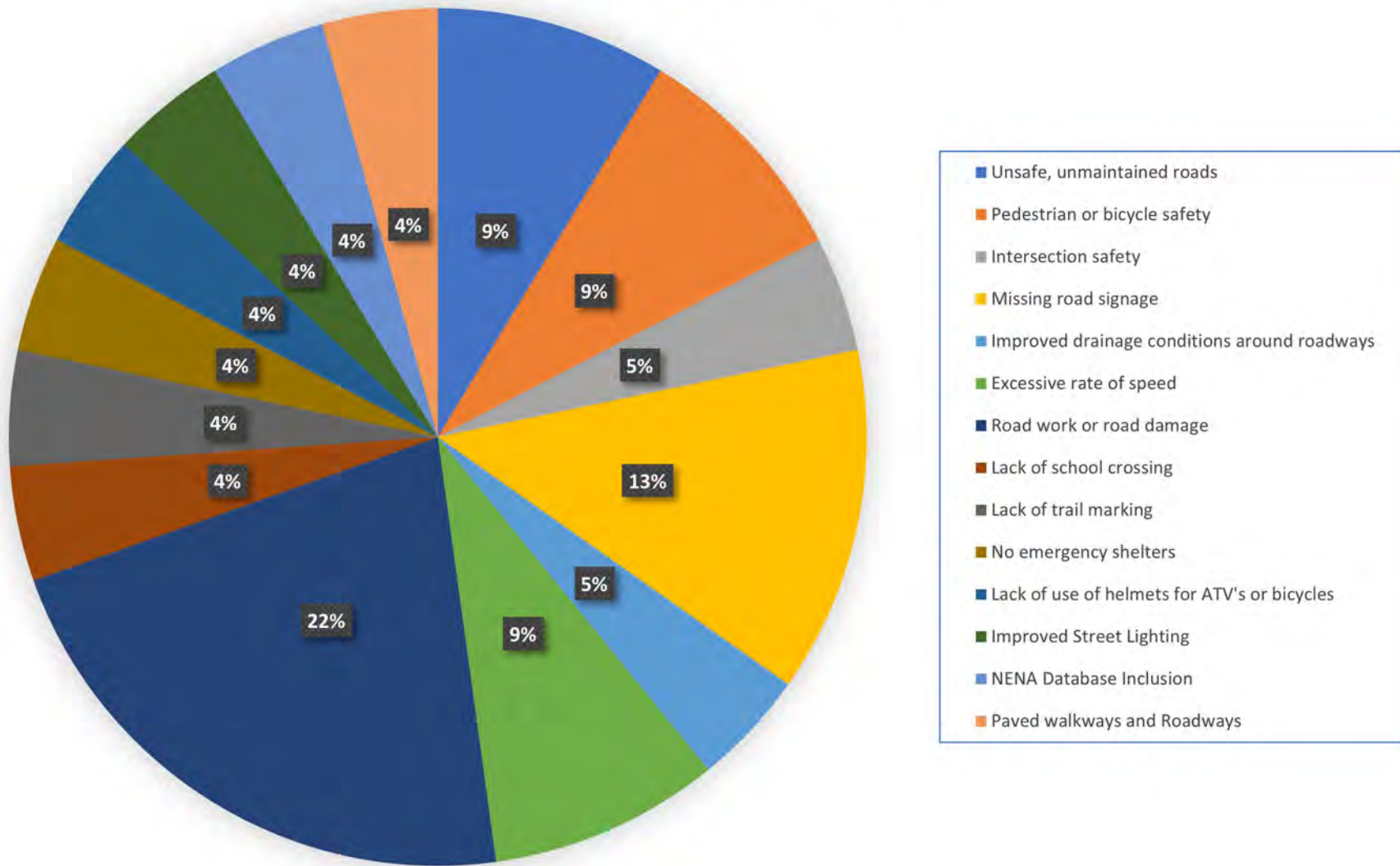
- Develop more street lights, bike paths, pedestrian walkways
- Purchase more heavy equipment & vehicles

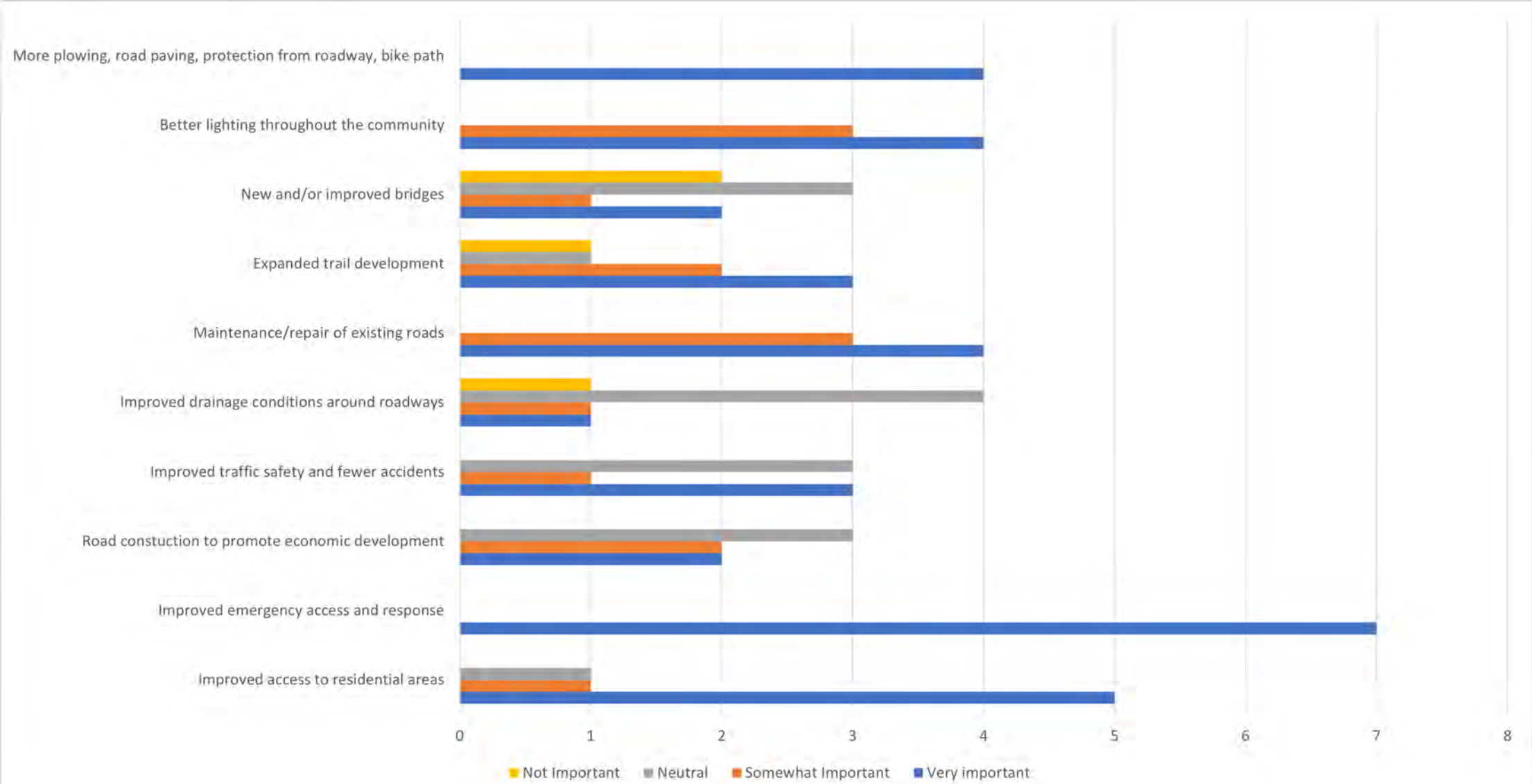
- Add road near Doyon Material Site to Inventory.
- Develop community address database that can be integrated into NENA database for first responders.

- Fix Potholes, widen roads



Transportation Safety Concerns in Dot Lake







Tribal Transportation Safety Plan Questionnaire

The Federal Highway Administration provided funding to prepare a Strategic Transportation Safety. This questionnaire is intended to determine what safety issues occur in your community. Safety issues can include roads, waterways, pedestrian and bike safety. Please put a check mark in all that apply.

Your Name (optional) _____ Contact Info _____

1. Do you know of any motorized vehicle accident (automobile, snow machine, 4-wheeler) in your community?
YES ____ NO ____ (if yes go to Question 1a-1e, if no, proceed to Question 2)

1a) What type of vehicle was in accident? Automobile ____ Snow machine ____ 4-wheeler ____

1b) Was someone injured? YES ____ NO ____ (if yes, describe Injury) _____

1c) Was alcohol a factor? YES ____ NO ____

1d) Was it on the road/boardwalk system ____ or off the road/boardwalk system? _____

1e) Do you know of other accidents in this location? YES ____ NO ____

If yes, how many accidents do you know of that have occurred in this location? _____

Other accident details? _____

2. Do you know of any bicycle or pedestrian accidents? YES ^x ____ NO ____
If yes, please describe _____ Daughter crashed bike on gravel trail.

3. Do you know of any boat accidents involving injuries or drowning? YES ____ NO ____
If yes, please describe _____

4. Do you know of anyone lost or stranded on a snowmachine? YES ____ NO ____
If yes, please describe _____

5. Which of the following is a concern in your community? (Check all that apply)

Unsafe, unmaintained roads	II	Lack of school crossing	I
Roadside guardrails needed		Young drivers don't know rules of road	
Pedestrian or bicycle safety	II	Lack of GPS use	
Pedestrian visibility and reflectivity		Lack of trail marking	I
Intersection safety	I	No emergency shelters	I
Missing road signage	III	Lack of use of Life Jackets	
Excessive rate of speed	II	Lack of use of helmets for ATV's or bicycles	I
Road work or road damage	IIII	Driving/boating while intoxicated	

Other areas of safety concern or comments: _____ Brush Cutting, Repave Roads, Improved Street Lighting, Road Signage
Get street addresses in NENA database, Paved walkway between school and community

Native Village of Dot Lake Long Range Transportation Plan & Transportation Safety Plan Public Meeting: Tuesday, June 27th, 12 pm



CONTACT
Chance Shank
(907) 882-2695

Developing 2023 Long Range Transportation Plan

- Identify new routes that may need to be added to route inventory
- Define community transportation goals
- Listing priority transportation projects
- Develop plan utilizing community leadership and local knowledge
- Developing a new plan that can be submitted to BIA
- Updating last plan created in 2011



Developing 2023 Transportation Safety Plan

- Identify transportation safety goals and plans for the community
- Define those safety goals and plans
- Promote safety goals and plans that can be implemented and achieved both short term and long term

Completion of these plans will allow the community to get funding from the Bureau of Indian Affairs (BIA) and Federal Highway Administration (FHWA) as well as other federal and state agencies. This funding can help develop and build routes outlined within the plan as well as improve safety risks in the community.

Door Prizes and Food will be Provided

Plan support and development
provided by Kuna Engineering



***Thanks for your help in making this
plan a part of moving the community
forward!***