

INTRODUCTION AND BACKGROUND

The Montana Department of Transportation (MDT) is developing a feasibility study of the US Highway 93 (US 93) Ninepipe segment of US Highway 93 (US 93) between Gunlock Road (Reference Point [RP] 40.0) and Brooke Lane (RP 44.5). US 93 is a National Highway System route that is important to the local, state, and nationwide transportation system. US 93 provides linkage between other highway routes and serves as an access route to Flathead Lake and Glacier National Park, two popular destinations in northwest Montana.

The intent of the *US 93 Ninepipe Corridor Feasibility Study* is to analyze the feasibility of the preferred alternative previously identified in the 2008 *Supplemental Environmental Impact Statement (SEIS)*. The purpose of the action proposed in the SEIS was to improve traffic flow and the connectivity and safety of the transportation system. The study is a collaborative process between MDT, the Federal Highway Administration (FHWA), the Confederated Salish and Kootenai Tribes (CSKT), resource agencies, and the public to identify potential constraints and determine the viability of the preferred alternative as outlined in the SEIS.

WHAT IS A PREFERRED ALTERNATIVE?

During previous environmental studies, a range of corridor alternatives were considered with various lane configurations. The preferred alternative for the Ninepipe corridor was identified based on its ability to best meet the purpose and need for the project to improve highway safety and operations, while minimizing cost and impacts to sensitive resources including wetlands and wildlife.



PREVIOUS EVALUATIONS

In 1996, MDT completed a [*Final Environmental Impact Statement \(FEIS\) and Section 4\(f\) Evaluation*](#) for the portion of US 93 between Evaro and Polson, MT. The Record of Decision (ROD) did not provide specific design details, so FHWA, MDT, and the CSKT agreed to prepare a supplemental environmental study to further explore possible alignments and study the effects of highway improvements on wetlands and wildlife in the corridor.

In 2008, MDT, FHWA, and CSKT completed a [*Supplemental Environmental Impact Statement \(SEIS\) and a Section 4\(f\) Evaluation*](#) for the Ninepipe/Ronan section (RP 37.1 to 48.3). The SEIS/ROD identified a preferred alternative for the corridor consisting of a two-lane roadway, widened shoulders, wildlife crossing structures, and a separated bicycle/pedestrian path within the Ninepipe segment connecting to a divided four-lane segment north of Brooke Lane and a northbound passing lane segment south of Gunlock Road.

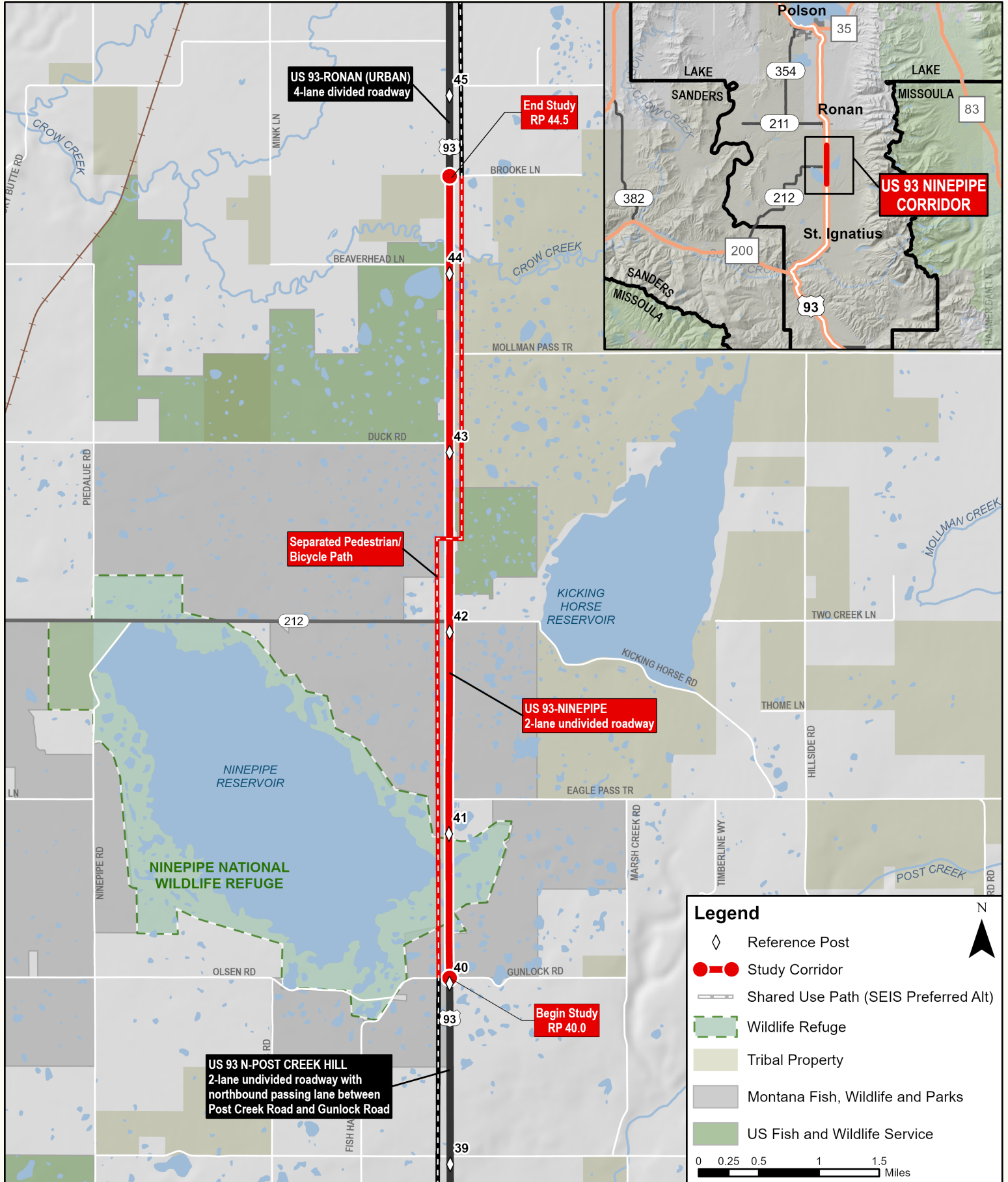


NINEPIPE
CORRIDOR



FEASIBILITY
STUDY

STUDY AREA



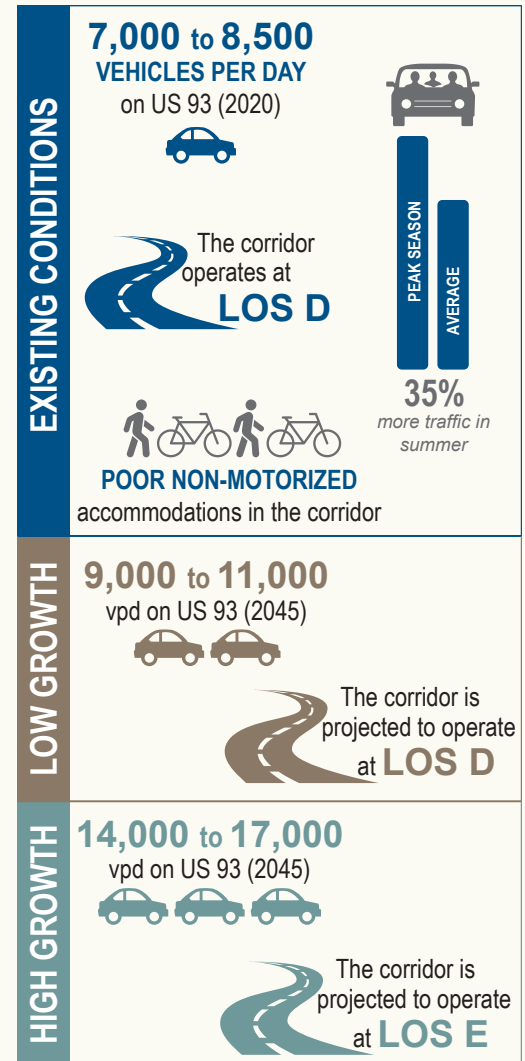
ANALYSIS OF RELEVANT CONDITIONS

The first phase of the feasibility study reviewed relevant resources within the study area to identify any changed conditions that have occurred since development of the 2008 SEIS.

TRAFFIC

The Ninepipe corridor currently consists of one travel lane in each direction and shoulders of varying widths. For this study, updated traffic conditions were evaluated to help determine if new information might influence development of the preferred alternative. The updated analysis was completed using existing MDT count data as well as supplemental data collected for this feasibility study.

- 2020 annual average daily traffic (AADT) ranged from approximately 7,000 vehicles per day (vpd) south of MT 212 (RP 42.05) to just over 8,500 vpd to the north.
- Summer average daily traffic (ADT) volumes were approximately 35% higher than the average annual volumes.
- An operational analysis was conducted for the study corridor to determine highway level of service (LOS) based on roadway volume and theoretical capacity. LOS is a scale from A (representing the best conditions) to F (representing failing conditions). The target LOS for similar facilities is LOS B. The corridor currently operates at LOS D.
- Based on low, moderate, and high growth scenarios, daily traffic volumes are projected to range from approximately 9,000 to 14,000 vpd on the south end and between 11,000 and 17,000 vpd on the north end in 2045. Peak summer weekday traffic volumes are projected to be approximately 3,000 to 6,000 vpd higher than those during a typical day.
- Under low growth projections, the corridor will continue to operate at LOS D in 2045. Under moderate and high growth projections, the corridor will experience degrading operations, with LOS E projected by the year 2045.
- The corridor currently provides poor non-motorized accommodations due to high traffic volumes, high travel speeds, and lack of dedicated facilities.



ANALYSIS OF RELEVANT CONDITIONS

SAFETY

MDT provided crash data for the study corridor for the years 2015-2019. The updated crash rate for the Ninepipe corridor was determined to be higher compared to the 2008 SEIS. However, the severity rate, percent of fatalities, and rate of head on and intersection crashes was lower compared to the 2008 SEIS.

- According to the MDT crash database, a total of 84 crashes occurred within the study area during the 2015 to 2019 analysis period.
- Most crashes involved a single vehicle, with the most common crash type being wild-animal crashes, followed by fixed-object.
- The most common multiple vehicle crash type was rear-end, followed by right angle and sideswipe crashes by vehicles traveling in opposite directions.
- Crash clusters occurred at the intersections with Eagle Pass Trail, MT 212, and Beaverhead Lane. At those intersections, nearly half were wild animal or fixed object crashes unrelated to the intersections.

Over a 5-Year Period:

 **84 crashes** occurred in the study area

 **28 crashes** involved a wild animal



13 were rear-end crashes

5 crashes resulted in a total of **4 serious injuries** and **3 fatalities**



CRASH DATA COMPARISON

Comparison Metric	2008 SEIS ⁱ	Updated Crash Data (2015 - 2019)
Crash Severity	5% Fatal	1% Fatal (6% severe)
Crash Rate	2.8 crashes per mile per year	4.3 crashes per mile per year
	0.98 crashes per million vehicle miles of travel	1.44 crashes per million vehicle miles of travel
Crash Type	6% Head On	3.6% Head On
Severity Rate	2.86	2.27
Noted Contributor	33% at or related to intersections/driveways	17% at or related to intersections/driveways

ⁱ Data includes rural segments of US 93 between Evaro and Polson (1995-2003)

Source: MDT Traffic and Safety Bureau (2015-2019) for Ninepipe segment



NINEPIPE CORRIDOR



FEASIBILITY STUDY

ANALYSIS OF RELEVANT CONDITIONS

LAND USE AND OWNERSHIP

An updated land use inventory was completed for this study. The land use by parcel was determined from Montana Cadastral data, with parcels categorized as residential, commercial/industrial/ institutional, and other or unknown. The corridor was also evaluated to determine existing right-of-way widths and property boundaries.

- Most of the study corridor is surrounded by public lands, with ownership varying between Tribal property, Montana Fish, Wildlife and Parks, and the United States Fish and Wildlife Service.
- 12 private landowners own one or more parcels adjacent to the study corridor.
- Updated land use inventory shows similar findings as the 2008 SEIS, with approximately half of the parcels categorized as residential or agricultural properties.



Additionally, a review of corridor right-of-way was conducted. The SEIS recommended a right-of-way width of 160 feet for the Ninepipe segment to accommodate the preferred alternative for a two-lane roadway, widened shoulders, and a separated bicycle/pedestrian path. Generally, the recommended width is available throughout the corridor with some areas that vary.

- South of Eagle Pass Trail adjacent to the Ninepipes Lodge, the right-of-way width is 100 feet.
- North of Eagle Pass Trail, the right-of-way width is 130 feet.
- At the northern end of the study area south of Brooke Lane, the right-of-way width is 140 feet.

CULTURAL RESOURCES

Federal laws, regulations, executive orders, policies, and guidelines require transportation officials to identify, evaluate, and protect cultural resources. Investigations conducted for this feasibility study included a records search of the Montana State Historic Preservation Office (SHPO) and review of major studies, decisions, and agreements relating to cultural resources within the Ninepipe corridor.

- Three previously identified cultural resources occur within the Ninepipe segment of the US 93 corridor, including the Flathead Indian Irrigation Project, Stagecoach Route, and the Ninepipe Cultural Property.
- Additional government-to-government consultation and coordination with CSKT Culture Committees is planned for 2022.



ANALYSIS OF RELEVANT CONDITIONS

WETLANDS

This study evaluated changed conditions since completion of the 2008 SEIS in terms of wetland boundaries, classification and functional assessments, and preliminary jurisdictional determinations to quantify potential impacts and identify anticipated mitigation requirements associated with the preferred alternative identified in the 2008 SEIS.

- No major changes in wetland boundaries were identified compared to the delineation presented in the 2008 SEIS.
- The SEIS identified 81 wetlands within the Ninepipe corridor. In 2021, minor boundary changes were noted for 26, and boundaries for 55 wetlands remained unchanged.
- A total of 3 new wetlands were delineated in 2021 totaling 0.09 acre.



FLOODPLAINS AND STREAMS

The study evaluated floodplain and stream conditions to identify potential implications for design and construction of wildlife crossing structures and anticipated mitigation requirements and permitting needs associated with the preferred alternative identified in the 2008 SEIS. Information obtained from the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer online database was used to document changed conditions since the 2008 SEIS. The most recent FEMA Flood Insurance Rate Map (2013) for Lake County and incorporated areas was also reviewed.

- Approximately 200 feet of US 93 roadway crosses the 100-year floodplain associated with the Ninepipe Reservoir (compared to 350 feet as identified in the 2008 SEIS).
- Approximately 675 feet of US 93 roadway crosses the 100-year floodplain associated with Crow Creek (compared to 550 feet as identified in the 2008 SEIS).



ANALYSIS OF RELEVANT CONDITIONS

WILDLIFE

The Ninepipe area supports an abundance of wildlife. Understanding wildlife presence, habitat use, and movement characteristics are important in order to accommodate wildlife movements and minimize potential impacts from future improvements to the US 93 corridor. For this feasibility study, information from a literature review was supplemented by updated crash and carcass data and discussions with Tribal, state, and federal wildlife agency representatives through resource agency coordination.

- Numerous species occur in the Ninepipe area including grizzly bears (federally listed as Threatened), deer, birds, turtles, and other wildlife.
- Wildlife species are known to cross throughout the US 93 corridor, with concentrated movements occurring near the Ninepipe Reservoir and Crow Creek areas.
- Carcass and crash data indicate deer strikes throughout the corridor. These data sources are likely not representative of the full extent of wildlife mortality in the Ninepipe segment.



SOILS, GROUNDWATER LEVELS, AND GEOTECHNICAL CONDITIONS

It is important to understand geological, soil, and groundwater conditions to determine if constructability challenges exist within the Ninepipe segment related to slope stability, liquefaction risk from seismic activity, settlement issues, and artesian conditions. Cone penetrometer testing (CPT) was performed to evaluate the general strength and compressibility of the soils. Additionally, potential artesian groundwater pressure was measured using vibrating wire piezometers. A total of 14 CPT soundings were performed at wildlife crossing structure locations proposed in the 2008 SEIS and at other locations of interest. Two wire piezometer readings were also conducted at the northern and southern ends of the Ninepipe segment.

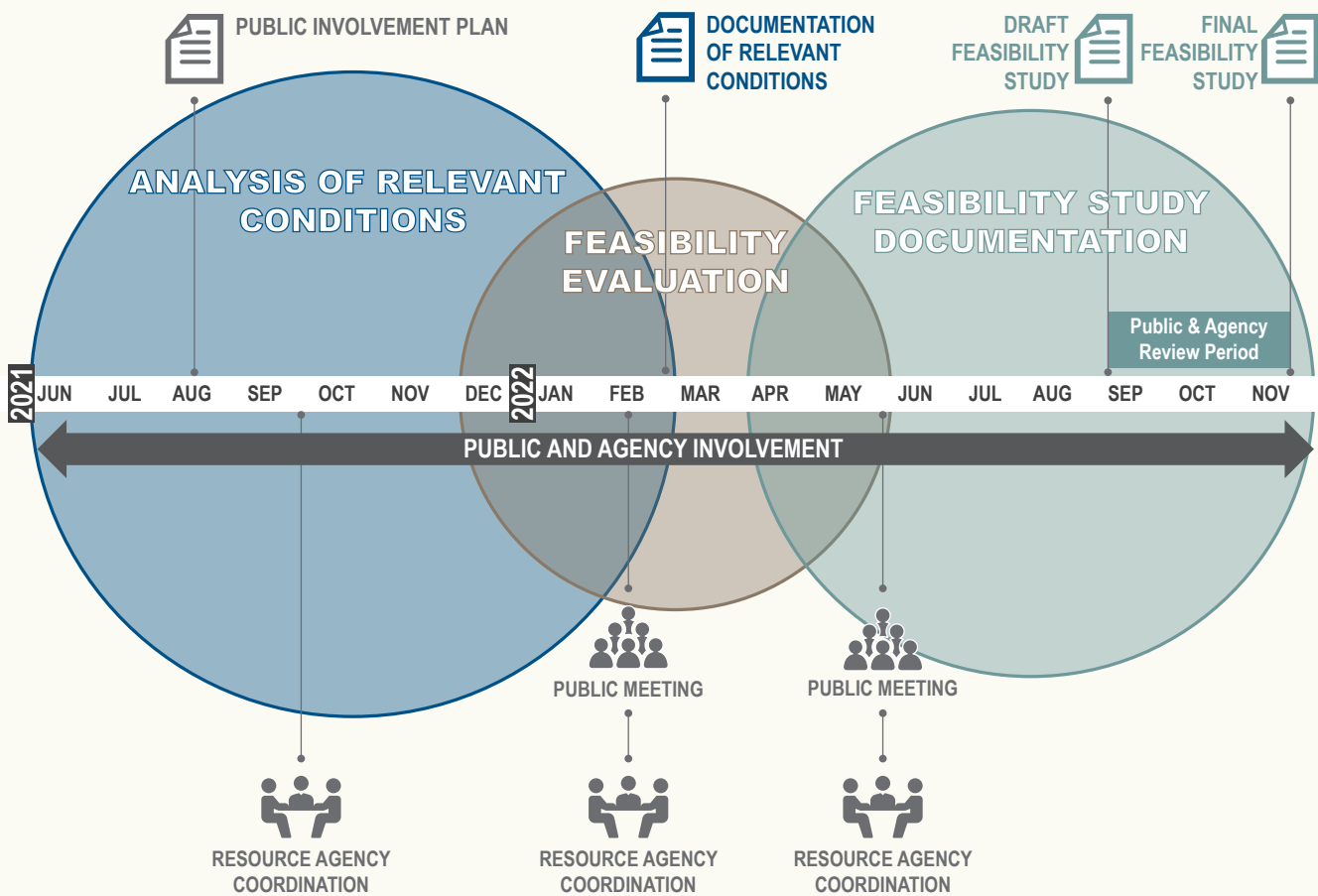
- Soil textures in the study corridor were confirmed to be soft clays, silts, and sands.
- Soil liquefaction (or the possibility to temporarily behave like a liquid during an earthquake) is expected throughout the corridor.
- No evidence of artesian (or pressurized groundwater) conditions was found.



NEXT STEPS

The US 93 Ninepipe Corridor Feasibility Study involves three primary phases.

- **PHASE 1:** An analysis of relevant conditions was completed in late 2021. The analysis involved conducting research and gathering field data relating to traffic and safety conditions, land ownership and corridor right-of-way, wetland areas, wildlife presence and movements, cultural influences, and soil and groundwater constraints.
- **PHASE 2:** The feasibility evaluation will occur in early 2022 to consider costs, impacts, and construction feasibility relating to roadway and bicycle/pedestrian path preferred alignments and wildlife crossings.
- **PHASE 3:** Feasibility study documentation will be developed in late 2022, with a final report anticipated by November 2022.
- **THROUGHOUT:** Public, stakeholder, and resource agency outreach will be conducted during the entire process.



QUESTIONS?

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VISIT www.mdt.mt.gov/pubinvolve/US93Ninepipe/



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