



Appendix B: Existing and Projected Conditions Report

March 2018

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ACRONYMS

AADT	Annual Average Daily Traffic
ASRWSS	Assiniboine & Sioux Rural Water Supply System
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CFR	Code of Federal Regulations
DEQ	Montana Department of Environmental Quality
DNRC	Montana Department of Natural Resources and Conservation
DOC	Department of Commerce
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FPPA	Farmland Protection Policy Act
FWP	Montana Department of Fish, Wildlife, and Parks
GIS	Geographic Information System
gpd	gallons per day
GWIC	Groundwater Information Center
HUC	Hydrologic Unit Code
LUST	Leaking Underground Storage Tank
LWCFA	Land and Water Conservation Fund Act
MBMG	Montana Bureau of Mines and Geology
MBOG	Montana Board of Oil and Gas
MDT	Montana Department of Transportation
MEPA	Montana Environmental Policy Act
MPDES	Montana Pollutant Discharge Elimination System
MTNHP	Montana Natural Heritage Program
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHS	National Highway System
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PM	Particulate Matter
RP	Reference Post
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SOC	Species of Concern
T&E	Threatened and Endangered
THPO	Tribal Historic Preservation Office
TMDL	Total Maximum Daily Load
TPA	TMDL Planning Area
US 2	United States Highway 2
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

USGS US Geological Survey
UST Underground Storage Tank
WRS Water Resource Surveys

1.0 Introduction

The objective of this existing and projected conditions report is to provide a planning-level overview of environmental and transportation system conditions within six discrete segments along the US Highway 2 (US 2) corridor as part of the US 2 Rest Area Siting Study. Information in this report was obtained from publicly available reports, websites, documentation, and from an on-site field review of the six US 2 segments conducted in July 2017. Additional environmental information is contained in the Environmental Scan Report.

The intent of the US 2 Rest Area Siting Study is to examine needs and opportunities for new safety rest area sites along the highway corridor. If specific siting locations are advanced from this study, a Phase I feasibility study and an analysis for compliance with the National and Montana Environmental Policy Acts (NEPA and MEPA) and other applicable regulations will be completed as part of the Montana Department of Transportation (MDT) project development process. Information provided in this report may be forwarded into the NEPA and/or MEPA process.

1.1 Study Corridor and Study Segments

US 2 extends across the northern continental United States, and is the northernmost east-west route in the country. It is an important northern corridor in Montana, extending approximately 666 miles across the length of the state. Entering Montana at its western border with Idaho, US 2 runs adjacent to the southern border of Glacier National Park; traverses the region known as the Hi-Line which includes Blackfeet, Fort Belknap, and Fort Peck Reservations; and continues to the North Dakota border east of Culbertson.

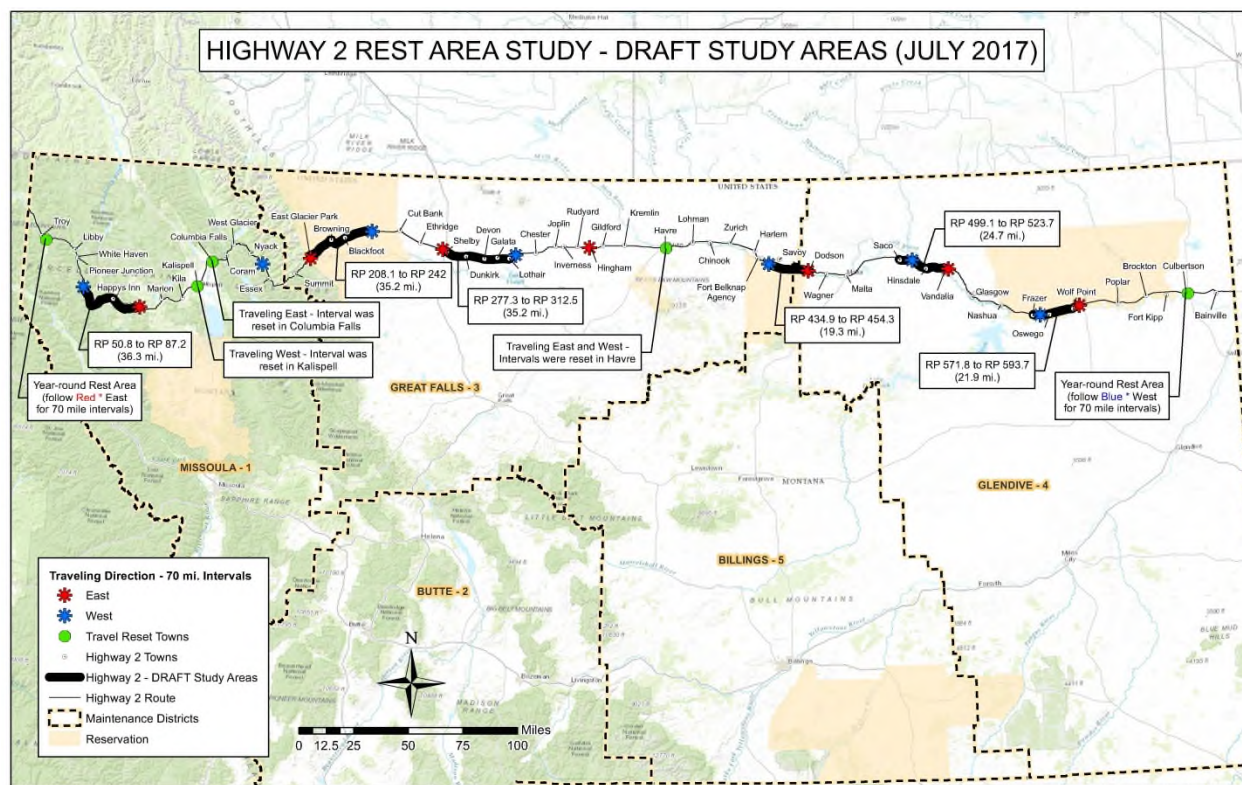
Long stretches of US 2 provide few safe stopping opportunities for the traveling public. MDT has recognized a need to investigate this corridor and evaluate safety rest area spacing along US 2. As defined in the 2014 Montana Rest Area Plan, a network evaluation assesses rest area spacing and determines where additional sites might be needed. The process is typically used in conjunction with site evaluations to make decisions for major or minor rehabilitation projects, reduction of service, or construction of a new rest area at a new site.

According to the 2014 Montana Rest Area Plan, siting of new rest areas should be determined for “corridor segments exceeding approximately one hour of travel time between stopping opportunities, including rest areas, parking areas, and cities and towns with 24-hour services.” Consistent with the plan, this study used 70-mile intervals representing the posted speed limit on US 2 to determine the need for safe stopping opportunities.

The study corridor includes the length of US 2 extending from a western endpoint at the Troy Safety Rest Area to an eastern endpoint at the Culbertson Safety Rest Area. These two safety rest areas are year-round, 24-hour facilities in good working condition with no major maintenance expected within the next 10 years.

Intervals of approximately 70 miles (equivalent to one hour of travel time) were identified in both the eastbound and westbound directions beginning from the corridor endpoints. Eastbound intervals are marked with a red symbol and westbound intervals are marked with a blue symbol on the study area map (Figure 1).

Figure 1: Study Area and Study Segments



Source: MDT, 2017.

In addition to the safety rest areas at Troy and Culbertson, reset points (i.e., locations where the 70-mile interval was reset to zero) included urban areas with populations exceeding 5,000 people (including Kalispell, Columbia Falls, and Havre). These locations are marked with a green symbol in Figure 1. Smaller communities (such as Browning, Cut Bank, Shelby, Chinook, Glasgow, and Wolf Point) were not designated as reset points for this study. Additionally, the MDT-maintained safety rest area at Vandalia was not designated as a reset point because it is seasonal (i.e., not open year-round) and requires upgrades if it is to remain in service.

The study segments include an offset distance of 750 feet from the US 2 centerline (for a total distance of 1,500 feet) to accommodate the footprint of a new safety rest area. The following six study segments were identified between the eastbound and westbound 70-mile interval markers:

- Segment 1: RP 50.8 to 87.2 (36.3 miles)
- Segment 2: RP 208.1 to RP 242.0 (35.2 miles)
- Segment 3: RP 277.3 to RP 312.5 (35.2 miles)
- Segment 4: RP 434.9 to RP 454.3 (19.3 miles)
- Segment 5: RP 499.1 to RP 523.7 (24.7 miles)
- Segment 6: RP 571.8 to 593.7 (21.9 miles)

Ranging from approximately 20 to 35 miles each, these segments represent potential stretches of US 2 where a new safety rest area would be desirable to generally meet the spacing guidelines outlined in the Montana Rest Area Plan. This study will recommend specific locations within each segment that represent potentially favorable sites for safety rest area development.

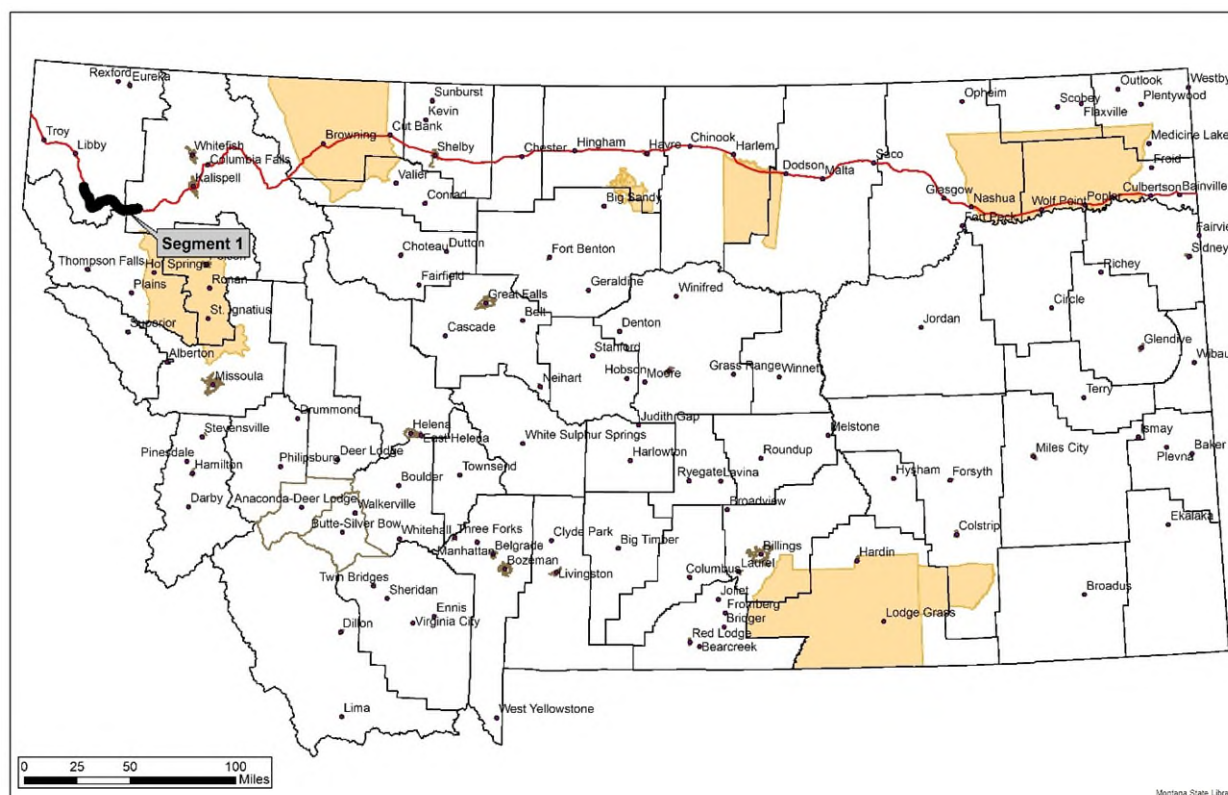
Depending on the specific recommended locations, resulting interval distances may vary somewhat from desired 70-mile spacing.

1.2 Report Organization

The following chapters outline existing and projected conditions within each study segment. The intent is for each chapter to serve as a stand-alone resource as MDT considers investment decisions in specific geographic locations. While this report organization increases repetition of some information common to various resource areas, it provides a consolidated location containing all information relating to an individual segment.

2.0 Segment 1 (RP 50.8 to RP 87.2)

Figure 2. Segment 1 Location



2.1 Physical Environment

Soil Resources and Prime Farmland

MDT considers soil characteristics for constructability (e.g., clay soils) during the safety rest area siting process. In addition, MDT will complete a CPA-106 Farmland Conversion Impact Rating Form and coordinate with NRCS for any siting options advanced from this study that are within identified farmlands and are supported with federal funds. The NRCS uses information from the impact rating form to keep inventory of the prime and important farmlands within the state.

NRCS soil survey information shows approximately 55 soils within Segment 1. From RP 50.8 to RP 56.7 silty glacial lake deposits (silty glaciolacustrine deposits) are prevalent. Glacial lake deposits (calcareous silty and clayey glaciolacustrine sediments) are also located from approximately RP 59 to RP 63 as well as RP 69 to RP 72. Along Fisher River and Pleasant Valley Fisher River (RP 56 to RP 64) mixed alluvium occurs. From RP 68 to RP 75, volcanic ash over alluvium or outwash is prevalent. In remaining areas, particularly RP 64 to RP 68 and RP 75 to RP 87.2, colluvial, alluvial, and lake deposits are dominant, as well as glacial till and drift, often overlain with volcanic ash.

NRCS soil surveys indicate the presence of farmland of statewide or local importance and prime farmland if irrigated within the study segment. These designations primarily occur on lands from RP 63.5 to RP 82. Lands designated prime farmland if irrigated are located near RP 66. The percentage of the study segment comprised of farmland of statewide or local importance or prime farmland if irrigated is moderate.

Geologic Resources

During the safety rest area siting process, MDT considers geologic and seismicity information, which can help determine potential safety rest area design and construction issues. MDT will conduct site-specific geotechnical evaluations if potential sites are selected and advanced.

Most of Segment 1 is underlain by Precambrian-aged (meta-sedimentary) bedrock of the Belt Supergroup. These rocks are typically hard and competent, and in some places excavation may be difficult.

The surficial deposits exposed along Segment 1 consist mainly of Quaternary glacial and alluvial deposits. Quaternary lake sediments are also mapped in the segment. The lake sediments consist of fine-grained soils. The glacial and alluvial deposits may contain coarse and fine-grained soils. Fine-grained soils can have poor drainage characteristics, be frost susceptible, and have settlement and stability issues. Liquefaction may also be an issue. The thickness of the glacial and alluvial deposits is likely highly variable and whether bedrock will be encountered during construction is unknown. Based on the published data reviewed, it does not appear that landslides have been mapped along Segment 1.

Numerous faults (mostly north-trending) are mapped along Segment 1. However, based on MBMG and USGS mapping, no Quaternary faults (which may be considered active) are present along Segment 1. The study segment is also located within the intermountain seismic belt. Earthquakes can induce movement along faults, rock fall, slope movement (landslides), and liquefaction. However, no significant historic earthquake epicenters are mapped near Segment 1, with the nearest epicenter located 30 miles to the east.

Hazardous Substances

MDT considers the presence of contaminated soils during the safety rest area siting process. Areas where pipelines, wells, or mines are located may require additional investigation and coordination during future project development activities for sites advanced from this study.

The DEQ database indicates the following UST, LUST, and petroleum release fund sites within Segment 1.

- A LUST site and petroleum release fund site are located near RP 55.9; however, no buildings or structures are found at this location, and location data may not be correct. The LUST was resolved in 2003.

- A LUST site and petroleum release fund site are located near RP 66.4. The site is located at an MDT facility (Crystal Creek Section). The LUST was resolved in 1997.
- A LUST site is located near RP 68.9; however, no buildings or structures are found at this location and location data may not be correct. The LUST was resolved in 1993.
- Two UST sites occur within the study segment at the Happy's Inn and Resort on the southwest side of US 2 near RP 72.2.

Segment 1 is located within the Cabinet Mining District from RP 50.8 to RP 80.3. Six open cut mines occur within the study segment near RP 55, RP 68.2, RP 73.6, RP 74.1, RP 81.3, and RP 85.7. One abandoned mine site is located north of US 2 near RP 85.2.

No oil/gas wells or oil or gas pipelines are located within Segment 1, nor are any USEPA designated superfund sites.

Air Quality

A review of the DEQ website indicates no non-attainment areas for any of the criteria pollutants are located within Segment 1. The closest non-attainment areas are the Libby non-attainment areas for PM_{2.5} and PM₁₀. The southern boundaries for these two non-attainment areas are approximately 5.8 miles and 11.8 miles, respectively, north of Segment 1.

According to Table 2, 40 CFR 93.126, safety rest areas are typically exempt from the requirements that a conformity determination be made. As a result, special design considerations are not anticipated to accommodate NAAQS in any future safety rest area project development process.

Surface Waters

MDT considers potential impacts to surface waters and the costs that may be associated with permitting and potential mitigation during the safety rest area siting process. Coordination with federal, state, and local agencies is necessary, as work within these surface waters may be regulated by USACE, Montana FWP, and DEQ.

In addition, any siting options advanced will trigger the need to obtain coverage under MPDES for Storm Water Discharges Associated with Construction Activity for one or more acres of disturbance and comply with the requirements outlined in MDT's Storm Water Management Plans.

Segment 1 is located within three watersheds.

- From RP 50.8 to approximately RP 52.2, Segment 1 is located within the Middle Kootenai Watershed (HUC 17010101). Swamp Creek is the primary drainage located within this portion of the segment, with smaller drainages flowing into Swamp Creek.
- From RP 52.2 to approximately RP 73, Segment 1 is located within Fisher Watershed (HUC 17010102), with the Fisher River being the primary drainage. Numerous named and unnamed drainages and lakes cross or parallel the study segment.
- From RP 73 to RP 87.2, Segment 1 is located within the Lower Clark Fork Watershed (HUC 17010213). All lakes and drainages within this portion of the study segment flow into Thompson River, located south of the study segment.

Total Maximum Daily Loads

Segment 1 is located within the Fisher TPA and the Thompson TPA. Within the study segment, the Fisher River (MT76C001_010) from the Silver Butte/Pleasant Valley Junction to its mouth (Kootenai River) is listed as not fully supporting aquatic life due to high flow regimes from

channelization and streambank modification. Raven Creek (MT76C001_030) is listed as not fully supporting aquatic life and primary recreation due to alteration in stream-side or littoral vegetative cover from forest roads, phosphorus (Total) from silviculture activities, and sedimentation/siltation from unknown sources. McGregor Creek (MT76N005_030) is also listed as not fully supporting aquatic life due to flow regime alternations caused by channelization, sedimentation/siltation from highway and bridge runoff, and water temperature due to hydro structure impacts on fish passage. MDT considers downstream TMDL standards and potential impacts to water quality within receiving waterbodies during the safety rest area siting process.

Wild and Scenic Rivers

Based on a review of the United States National Park Service website, there are no wild or scenic rivers within or near Segment 1.

Irrigation

During the safety rest area siting process, MDT attempts to avoid impacts to irrigation facilities to the greatest extent practicable, particularly where large ditches/canals and pivots are located as these are costly to mitigate. Any work within these irrigation ditches/canals may also be regulated by the USACE.

Very little irrigation activity/infrastructure occurs within Segment 1, with all identified irrigation being private. At the beginning of the study segment (RP 50.8) the Schnieder Ditch parallels US 2 primarily to the east. Near RP 52.2, the small Sheffield Ditch crosses into the study segment on the west side of US 2. At RP 55.7, WRS maps show a small irrigation dam, called Waylett Dam, located just east of US 2 on Schreiber Creek. The Dyer (Beebe) Ditch enters the study segment on the west side of US 2 near RP 60.1. From RP 80.7 to RP 81.3, the Lang Drain Ditches and the Lang Ditch cross the study segment flowing south.

Floodplains and Floodways

EO 11988, Floodplain Management, requires federal agencies to avoid to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

In addition, Federal-aid Policy Guide, 23 CFR 650, Bridges, Structures, and Hydraulics, calls for the assessment of federally funded highway projects in terms of impacts on flood risk, where such projects must avoid hazardous or incompatible use and development of floodplains, avoid longitudinal or substantial floodplain encroachment, minimize negative impacts on base flood elevations, restore and preserve natural and beneficial floodplain values, and be consistent with FEMA, state, tribal and local government standards for the administration of the National Flood Insurance Program.

During the safety rest area siting process, MDT attempts to avoid areas designated within a 100-year floodplain.

The majority of Segment 1 is designated as Zone X or Zone C; however, several designated 100-year floodplains (Zone A) cross or parallel US 2 within the study segment.

- Zone A: SFHA - 100-Year Flood, No Base Flood Elevations Determined
- Zone C: Areas Outside the 500-Year Flood
- Zone X (unshaded): Areas Outside the 500-Year Flood

The 100-year floodplain for Swamp Creek parallels US 2 primarily on the east side of the highway from the start of the segment at RP 50.8 to RP 52.2. The 100-year floodplain for Schreiber Lake and Schreiber Creek parallel US 2 to the south from RP 53.3 to RP 55.5. From RP 55.5 to RP 64, US 2 follows within or directly adjacent to the 100-year floodplains of Fisher River and Pleasant Valley Fisher River. Within this portion of the study segment, the 100-year floodplains for Miller Creek, West Fisher Creek, and Silver Butte Fisher River also cross the study segment as the creeks join the Fisher River. Loon Lake, Leon Lake, Horseshoe Lake, Lilypad Lake, Bootjack Lake, Crystal Lake, Rainbow Lake, Upper Thompson Lake, Eli Lake, Middle Thompson Lake, and Lower Thompson Lake (RP 69 to RP 79.5 on the south side of the US 2) also have designated 100-year floodplains (Zone A).

Wetlands

During the safety rest area siting process, MDT attempts to avoid and minimize adverse impacts to wetlands to the maximum extent practicable, and consider the costs that may be associated with permitting and potential mitigation. For federally funded projects, EO 11990 requires agencies to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Section 404(b)(1) of the Clean Water Act requires the USACE to only permit discharges of dredge or fill materials into USACE jurisdictional wetlands that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences. Future wetland delineations would be required if safety rest area siting options are forwarded from the study that could potentially impact wetlands. Work within USACE jurisdictional wetlands would require a Clean Water Act 404 permit. Unavoidable impacts to wetlands must be compensated through mitigation in accordance with USACE regulatory requirements and requirements of EO 11990.

Several NWI wetlands occur within Segment 1. The majority of these are associated with the numerous creeks, rivers, and lakes that cross or parallel the highway. A large emergent wetland complex, likely associated with Schreiber Lake and Schreiber Creek, is located just southwest of US 2 from RP 53 to RP 54.3. A large portion of the study segment from RP 56.7 to RP 63.5 includes emergent, shrub/scrub, and forested wetlands that border the Fisher and Pleasant Valley Fisher Rivers. Emergent, shrub/scrub, and forested wetlands, associated with the large lake complex on the south side of US 2 from RP 69.2 to RP 78.5, are also found within the study segment. From RP 80.5 to RP 81, a large emergent wetland complex is shown on NWI mapping. Hydrology to this wetland is likely contributed from Lang Creek and McGregor Creek.

Groundwater

MDT considers impacts to existing wells during the safety rest area siting process. Wells can be a costly item to mitigate if they are not avoided. Mitigation of a well usually involves drilling a new well for the owner in a new location that will not be impacted by the potential project. Well costs are based on per foot price; the deeper and higher volume needed results in a higher cost. In addition, MDT considers groundwater levels for safety rest area constructability.

According to the MBMG GWIC, approximately 85 wells occur within or directly adjacent to Segment 1. Wells with recorded depths range from five feet within a wetland complex near RP 53.5 to 425 feet on a hillslope above Middle Thompson Lake near RP 77.7. Static water levels ranged from one foot near RP 62 along the Pleasant Valley Fisher River to 175 feet near RP 77.7 on a hillslope above Middle Thompson Lake.

Shallow groundwater can be expected where the study segment is near Swamp Creek (RP 50.8 to RP 52), the wetland complex around Schreiber Creek and Schreiber Lake (RP 53 to RP

54.5), Fisher River and Pleasant Valley Fisher River (RP 55 to RP 66), and lower lying areas near the lake complex from approximately RP 69 to RP 79.5 and from RP 85.5 to RP 87.2. Localized groundwater conditions may also be affected by perched aquifers and associated tributary drainages.

2.2 Biological Resources

Vegetation

During the safety rest area siting process, MDT attempts to minimize adverse impacts to suitable wildlife habitat and considers areas where mature tree and shrub removal can be limited to the extent practicable.

Segment 1 is the only segment located west of the Continental Divide. Conifer forest and woodlands dominate the land cover within and adjacent to the study segment, with montane grassland land cover primarily bordering US 2 from RP 62 to RP 69. Harvested forest land cover is primarily dispersed along the Fisher River, where trees have mainly been removed for harvesting, agriculture, or grazing.

General Wildlife Species

Segment 1 has minor development, is within or directly adjacent to national forest service lands, and includes large areas where native vegetation still exists. Wildlife species include generalists; however, Segment 1 also provides opportunity for sensitive species and species with specific habitat needs. Numerous mammal, bird, amphibian, and reptile species likely occur within the study segment.

Threatened and Endangered Species

According to the USFWS database, five threatened, two proposed threatened, and one candidate species are listed as potentially occurring along the US 2 corridor within Segment 1 (Table 1). In addition to the species listed below, designated critical habitats for bull trout (the Fisher River) and Canada lynx are found within and adjacent to Segment 1.

Table 1: T&E Species with the Potential to Occur in Segment 1

Species	Status
Mammals	
Canada lynx <i>Lynx canadensis</i>	Threatened
North American wolverine <i>Gulo gulo luscus</i>	Proposed Threatened
Grizzly bear <i>Ursus arctos horribilis</i>	Threatened
Birds	
Yellow-billed cuckoo <i>Coccyzus americanus</i>	Threatened
Fish	
Bull trout <i>Salvelinus confluentus</i>	Threatened
Invertebrates	
Meltwater Lednian stonefly <i>Lednia tumana</i>	Proposed Threatened
Plants	
Spalding's campion <i>Silene spaldingii</i>	Threatened
Whitebark pine <i>Pinus albicaulis</i>	Candidate

Source: USFWS, 2017.

According to the MTNHP database, documented occurrences of grizzly bear, North American wolverine, Canada lynx, and bull trout occur within the three-mile buffer for Segment 1. The MTNHP database also notes the potential for yellow-billed cuckoo to occur in the segment vicinity due to the presence of suitable habitat. MDT considers potential effects to T&E species and their habitat during the safety rest area siting process.

Species of Concern and Special Status Species

MDT considers the presence and extent of SOC and special status species and proximity to known eagle nests during the safety rest area siting process.

There are 25 wildlife SOC and seven plant SOC with known recorded observations within or directly adjacent to Segment 1. Wildlife species include mammals, birds, fish, and invertebrate species. Observations of bald eagle and bald eagle nests (a special status species) have also been recorded near Segment 1. Construction timing restrictions are required for work near active nests.

Segment 1 is not located within sage grouse habitats designated as core area, general habitat, or connectivity.

2.3 Social and Cultural Resources

Economy

Segment 1 is in Lincoln County and Flathead County and is also near Sanders County. It is reasonable to consider these counties in a socioeconomic overview. The communities of Troy, Libby, Kalispell, Columbia Falls, and Whitefish are near this study segment.

Flathead County's tourism attractions and the resulting positive effects seem to be the primary driver of industry in these counties. Although the natural amenities of Lincoln and Sanders Counties are not as well known, these counties also attract tourists as one of their primary economic drivers.

Arts, entertainment, and recreation make up a significant portion of the economy in all three counties. Construction, agriculture, and educational, health care and social services also make up a significant portion of these three counties' economies.

Like much of northwestern Montana, this area shows high rates of unemployment and an economy that relies heavily on tourism related activities. Forecasts suggests this trend will continue.

Flathead County is on par with the statewide averages for three measures of wealth and income, including median family income, per capita income, and retail sales per capita. Sanders and Lincoln Counties are lagging slightly behind in these measures of income and wealth.

Population and Demographics

Northern Montana has a small population and only minimal growth is expected. The socio-economic characteristics of this area can be expected to remain constant in the future. The following summarizes population and demographic conditions within and near Segment 1.

Flathead County has the largest population of the three. All counties are predominantly populated with people who identify as White Alone. People who identify as American Indian and Hispanic or Latino represent a smaller proportion of the population than what is average for Montana. The rate of owner occupied housing is greater than that of Montana on average for all three counties.

The distribution of age in the three counties is weighted slightly more toward people of older ages than that of Montana generally.

Growth is expected across the three counties over the next 45 years; however, the rate of growth is expected to decrease. These counties are expected to grow at a rate of 1.011% for the next 10 years, which is higher than the expected 10-year growth for the state, 0.793%.

Environmental Justice

Title VI of the United States Civil Rights Act of 1964, as amended (USC 2000(d)) and EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, require that no minority, or, by extension, low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects. MDT will further evaluate environmental justice during the project development process for any sites advanced from this study.

Land Ownership and Use

Because privately owned lands and developed lands may be costlier to acquire, MDT attempts to minimize impacts to privately owned lands and developed lands to the extent practicable during the safety rest area siting process.

Land ownership in Segment 1 is predominantly private and USFS, with some interspersed state, county, and federal owners. Specifically, USFS owns most of the land from RP 50.8 to RP 55, with some private land near RP 52 and a MDT parcel near RP 53.5. Private land mainly borders US 2 from RP 55 to RP 87.2 with State Trust lands near RP 65, FWP intermittently from RP 70 to RP 79 (specifically including RP 70.5, RP 72.5, RP 74, RP 75.5), and USFS lands near RP 85.

Most land use in Segment 1 is federally managed forests with bodies of water neighboring the study segment used primarily for recreation. Also, some crop/pasture land is sporadically located throughout.

Recreational Resources

MDT considers effects on recreational sites in accordance with Section 4(f) and Section 6. For sites advanced from this study, MDT will conduct a reevaluation of Section 6(f) resources to determine if any new Section 6(f) resources are present at the time of future project development. As general guidance, converting Section 6(f) resources to a non-recreational purpose can be a difficult and time-consuming task and should be avoided if practicable.

According to the FWP database, there are no designated FWP fish access sites within the study segment.

Several state parks, campgrounds, and boat docks are located within the study segment. These public resources are potential Section 4(f) recreational resources, and include the following.

- The USFS Pleasant Valley Campground is located east of US 2 at RP63.5. The campground has seven sites. There is also a stock area with feed bins and a corral.
- From Loon Lake to McGregor Lake (RP 69 to RP 80 and RP 85 to end of segment at RP 87.2), there are two state parks on the south and southwest side of the US 2. These include Thompson Chain-of-Lakes State Park and Logan State Park. Both State Parks include camping, picnicking, boating, fishing, and swimming. The state parks provide several public boat docks to access the various lakes within the study segment.
- USFS McGregor Lake Campground is located on the west side of McGregor Lake near RP 85.5. The campground has 27 sites and a public boat ramp. Day use picnic areas are also available near the beach.

In addition, LWCF funds have been used at both state parks for various development projects.

Cultural Resources

Historic properties have been recorded within Segment 1, including archaeological sites, commercial buildings, and residences. In addition to the historic properties in the communities through which the highway passes, farms, ranches, and highway-related structures (i.e., bridges and overpasses) also occur. Also represented in the corridor are churches, schools, and government buildings, sand houses, and maintenance section shops.

Archaeological sites that may occur within Segment 1 include buried campsites, stone circle sites, bison kills, human burials, and rock art sites under federal, state, local, and private ownership.

The NHPA of 1966, as amended, defines historic properties as sites, buildings, structures, districts (including landscapes), and objects included on, or eligible for inclusion on, the NRHP, as well as artifacts, records, and remains related to such properties.

To be considered eligible for listing on the NRHP, a property must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Is associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possess high artistic values, or that represents a significant distinguishable entity whose components may lack individual distinction.
- D. Yielded, or may likely yield, information important in prehistory or history (36 CFR Part 60.4).

During the safety rest area siting process, MDT considers recorded historic sites determined to be NRHP-eligible as identified through a Montana SHPO file search. In addition, MDT will conduct cultural resource surveys for siting options advanced from this study.

Noise

The study corridor traverses a variety of land uses. In some portions of the corridor, noise-sensitive receptors are located near to US 2 right-of-way. In Segment 1, isolated residential development is found throughout the study segment; more concentrated development is found at Happy's Inn (±RP 72).

MDT considers proximity to potential noise receptors during the safety rest area siting process. Options advanced from this study may require a Type I noise analysis.

Visual Resources

Views from US 2 within Segment 1 are dominated by the steep, forested, river valleys of the Fisher River and Pleasant Valley Fisher River, with views of the Cabinet Mountains to the southwest and the Salish Mountains to the Northeast. From RP 69 to the end of the segment at RP 87.2, the corridor opens to include a series of lakes.

MDT evaluates the potential effects on visual resources and viewshed opportunities during the safety rest area siting process.

2.4 Public Water

Investigation into the potential public system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability, connection costs to existing water systems, and water quality during a future Phase I process for any sites advanced from this study. For any new safety rest areas, DEQ must review and approve construction of any new public on-site water systems or connections to existing public water systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

The entire length of Segment 1 is in areas characterized by mountainous terrain. These areas can be challenging from a water siting perspective due to high groundwater and surface water.

High groundwater areas add additional treatment and siting concerns for the water permitting process.

From RP 50.8 to RP 52.0, shallow groundwater can be expected from one to six feet where US 2 is near Swamp Creek. There are no public water systems or municipalities within this portion of the corridor.

From RP 62.0 to RP 65.0, well logs indicate static water levels rise to approximately 10 feet below the ground surface due to hydrostatic pressures. The north side of US 2 has an approximate sandy gravel water bearing formation located between 60 to 100 feet below the surface. Based on the sandy gravel geological formation, groundwater quality should be good. There are no public water systems or municipalities within this area.

From RP 69.0 to RP 79.5, three small public water systems are located at Happy's Inn, Kicking Horse Salon, and Key Corporation. These systems are not large enough to accommodate the addition of a safety rest area facility. There are no municipalities located within the segment. In relation to potential development of on-site systems, the approximate water bearing formation is located between 40 to 70 feet below the ground surface. Based on neighboring well logs, the static water levels in the wells rise to approximately 10 to 20 feet below the ground surface due to hydrostatic pressures. Flow rate in this area range from 10 to 50 gallons per minute (gpm). Based on the sandy gravel geological formation, groundwater quality should be good

2.5 Public Wastewater

Wastewater non-degradation factors considered for this report include surface water, floodplain proximity, and high groundwater (greater than four feet). Investigation into the potential public wastewater system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability and cost to connect to existing wastewater systems during a future Phase I process for any sites advanced from this study.

For any new safety rest area, DEQ must review and approve any public on-site wastewater systems or connections to existing public wastewater systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary

No large municipal wastewater systems are located near US 2 in this segment. An on-site public wastewater system would likely be needed in this segment. NRCS soil survey information shows approximately 55 soils within Segment 1.

From RP 50.8 to RP 56.7, silty glacial lake deposits (calcareous silty and clayey glaciolacustrine sediments) are prevalent. These types of soils are typically slow absorbing soils, having sizing application rates between 0.015 to 0.3 gallons per day per square foot (gpd/ft²). This area may also be prone to high groundwater. Glacial lake deposits are also located from approximately RP 59 to RP 63 as well as from RP 69 to RP 72. From RP 72 to RP 87.2, colluvial, alluvial, and lake deposits are dominant, as well as glacial till and drift, often overlain with volcanic ash. These types of soils are typically faster percolating soils and have sizing application rates between 0.3 to 0.8 gpd/ft². MDT will evaluate on-site test holes and percolation tests during the Phase I process to determine the feasibility of sites advanced from this study.

2.6 Traffic Volumes

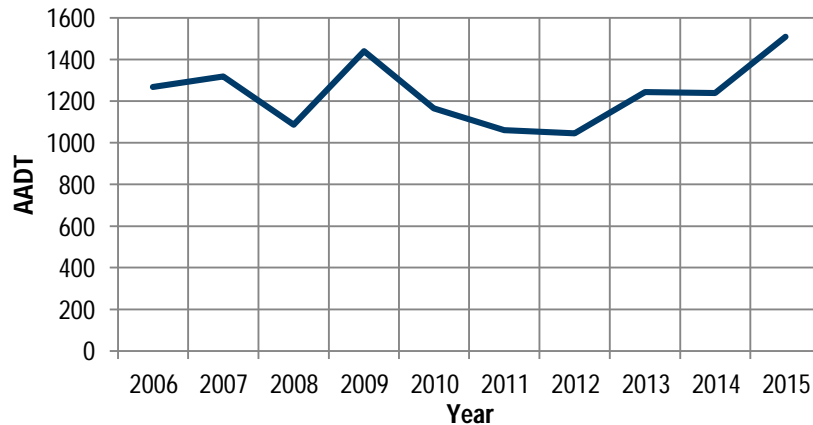
Traffic volumes are relevant to rest area siting to assess parking and other facility demands. For planning efforts, traffic volumes in combination with other variables can be utilized to determine

proportions of mainline traffic stopping at rest areas and then correlated to facility usage demand.

Historic Volumes

AADT is the total of all motorized vehicles traveling in both directions on a highway on an average day. This study uses average AADT volumes from short-term counters to represent historic traffic volumes within the study segment boundaries. Figure 3 summarizes traffic volumes from 2006 to 2015 for Segment 1.

Figure 3: Historic Traffic Volumes – Segment 1



Source: MDT 2017; averaged AADT from Traffic Counters 27-6-1, 27-6-2, 27-6-3 and 15-6-1.

AADT volumes from 2006 to 2015 for short-term counters near or within the boundaries of Segment 1 have been reasonably consistent, averaging approximately 1,240 AADT for the 10-year period.

Growth Rates and Projected Traffic Volumes

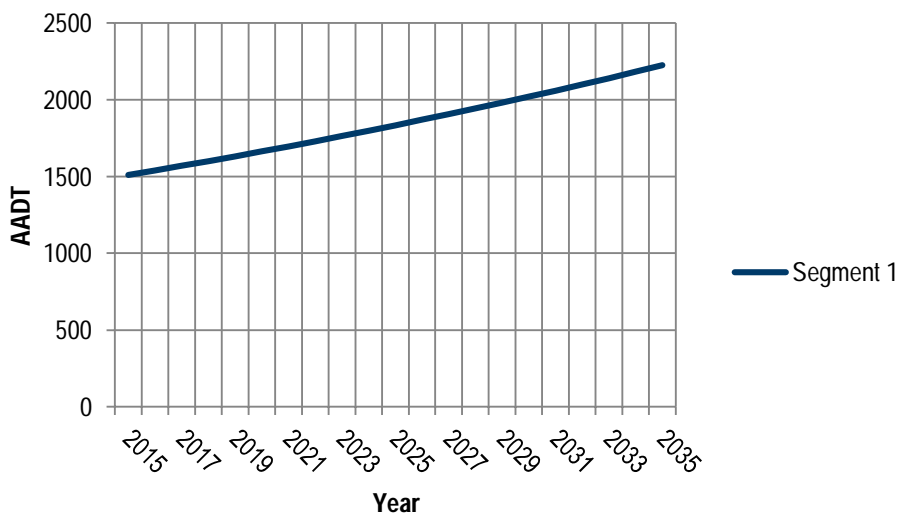
This study uses a compound annual growth rate method to estimate future AADT volumes within the study segment, with a growth rate of 2.16 percent per year for this segment based on analysis of historic traffic volumes as shown in Figure 3 above.

The following compound annual growth rate formula illustrates the method for projecting traffic volumes.

$$(\text{Existing Volume}) \times (1 + [\text{Growth Rate in Decimal Form}])^{\text{Number of Years}} = \text{Future Volume}$$

Projected AADT volumes for Segment 1 are illustrated in Figure 4 below.

Figure 4: Projected Future Traffic Volumes – Segment 1



Source: DOWL 2017.

Table 2 presents future traffic volumes as estimates using the growth rate calculation noted above, assuming that the percentage composition of passenger vehicles and trucks would remain the same as existing percentages.

Table 2: Forecasted Traffic Volume by Type – Segment 1

Study Segment	Total AADT (Projected 2035)	Total Passenger & Bus (Types 1-4)		Total Small Truck (Types 5-7)		Total Large Trucks (Types 8-13)		Total Commercial (Types 5-13)	
		AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT
1	2,226	1,933	86.8%	93	4.2%	201	9.0%	293	13.2%

Source: MDT 2017; DOWL 2017.

2.7 Geometric and Access Analysis

US 2 is a Non-Interstate Principal Arterial on the NHS.

The topography of the surrounding land influences the vertical and horizontal alignment of a roadway. The three general types of terrain are described as follows:

- **Level Terrain:** Available stopping sight distances are generally long or can be made to be so without construction difficulty or major expense.
- **Rolling Terrain:** Natural slopes consistently fall below and rise above the road grade, and occasional steep slopes offer some restriction to horizontal and vertical roadway alignment.
- **Mountainous Terrain:** Longitudinal and transverse changes in the elevation of the ground with respect to the road are abrupt and extensive grading is frequently needed to obtain acceptable horizontal and vertical alignments.

A key criterion for consideration of any potential safety rest area site is stopping sight distance. Based on the types of terrain described above, the greatest sight distance opportunities are provided where the terrain is level combined with linear horizontal segments. The three critical stopping sight movements to be evaluated at locations to be considered for rest area sites include:

- left-turn movements from the minor road,
- right-turn movements from the minor road, and
- left-turn movements from the major road.

MDT considers vertical grades of the highway when evaluating potential safety rest area sites. Level grades are preferred over steep grades to minimize the impact steep grades have on stopping sight distance and for starting and stopping movements, especially in adverse weather conditions.

The alignment of US 2 within Segment 1 consists primarily of mountainous and rolling terrain. This segment is situated within forest land with water features located adjacent to the alignment for long stretches at a time, creating unique constraints for any potential geometric improvements for potential rest area sites adjacent to the highway. Straight stretches of roadway with level grades are relatively limited within this segment as compared to other segments. Based on a review of available as-built drawings, vertical grades within this segment consistently range between two and four percent with several grades exceeding five percent. The geometry is curvilinear with numerous vertical curves. Numerous National Forest and local roads intersect US 2 from RP 50.8 to RP 65.9 where Old US 2 South connects to a MDT Maintenance Shop. Additionally, from RP 66 to RP 80 numerous county and private roads surround Loon, Horseshoe, Crystal, and Thompson Lakes. Secondary 556 intersects US 2 from the south near RP 81.3.

2.8 Safety Analysis

This segment experienced the highest number of recorded crashes (101) of the six segments. The majority (62) were non-injury accidents; however, 12 non-incapacitating injury, 11 incapacitating injury, and one fatal accident (near RP 64.6). A total of 811 carcasses were recorded in Segment 1, with whitetail deer contributing to nearly 85% of the wild animals killed along this portion of US 2. Table 3 lists crash and carcass data for the period 2012 through 2017.

Table 3: Crash Severity and Carcass Counts – Segment 1

Crash Severity	Crash Count
Fatal Accident	1
Incapacitating Injury Accident	11
Non-Incapacitating Evident Injury Accident	12
Non-Injury Accident (Property damage only accident)	62
Possible Injury Accident	12
Unknown	3
Grand Total	101
Carcass – Animal Type	Carcass
Other	13
Domestic	2
Deer Unknown	1
Unknown or Blank	3
Black Bear	2
Grizzly Bear	1
Elk	27
Whitetail Deer	689
Mule Deer	62
Moose	11
Grand Total	811

Source: MDT, July 1, 2012, through June 30, 2017 Crash and Carcass Data.

2.9 Rail Crossings

Constructed in 1887, the BNSF Railway extends east to west across the Montana Hi-Line. No BNSF Railway crossings exist on US 2 within Segment 1.

2.10 Utilities

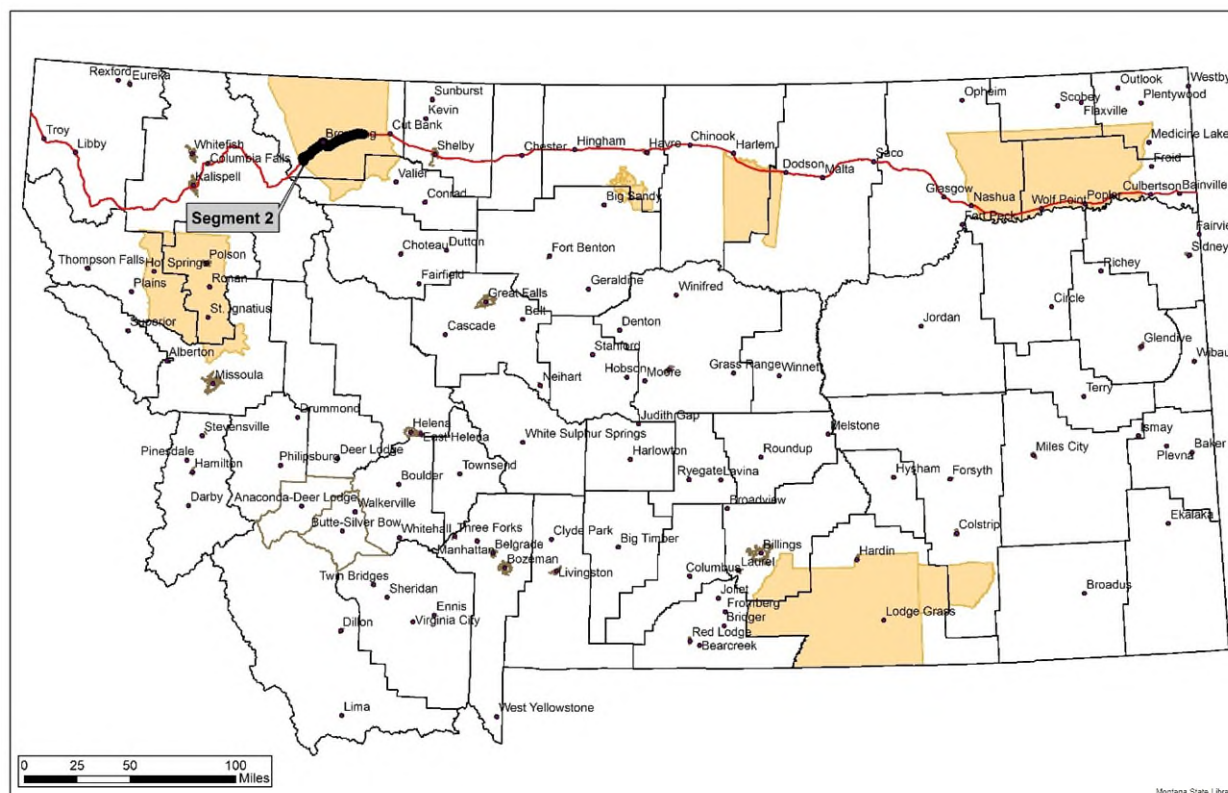
Utilities in the study area include underground telephone, underground cable television, underground natural gas, and overhead and underground electric power. A utility assessment was performed using aerial photos, GIS mapping, National Pipeline Mapping System, and visual inspection at each of the study segment locations. Additional utility investigation is required during the project development process for any safety rest area sites forwarded from this study.

Montana has nearly 15,500 miles of transmission, gathering, and distribution pipelines. Approximately 3,821 miles of pipeline transport hazardous and highly volatile liquid commodities throughout the state. Additionally, tens of thousands of miles of high- and low-voltage power lines run throughout the state servicing Montana, neighboring states, and Canada.

In Segment 1, overhead power lines cross US 2 near RP 60.9 and run parallel to US 2 to RP 62.5. These power lines approach the study segment boundaries again from RP 65.6 to RP 66.1 and near RP 68.0. Attachment 1 illustrates transmission lines near the study segment.

3.0 Segment 2 (RP 208.1 to RP 242)

Figure 5. Segment 2 Location



3.1 Physical Environment

Soil Resources and Prime Farmland

MDT considers soil characteristics for constructability (e.g., clay soils) during the safety rest area siting process. In addition, MDT will complete a CPA-106 Farmland Conversion Impact Rating Form and coordinate with NRCS for any siting options advanced from this study that are within identified farmlands and are supported with federal funds. The NRCS uses information from the impact rating form to keep inventory of the prime and important farmlands within the state.

Approximately 30 soils occur within Segment 2. Most soils are glacial till and outwash. However, near rivers and streams, alluvial deposits are common.

Only the very eastern portion of the study segment contains lands designated as farmland of statewide importance or prime farmland if irrigated. These designations occur from RP 239.5 to RP 242.0. The percentage of the study segment comprised of farmland of statewide importance or prime farmland if irrigated is very low.

Geologic Resources

During the safety rest area screening process, MDT will consider geologic and seismicity information, which can help determine potential safety rest area design and construction issues. MDT will conduct site-specific geotechnical evaluations if potential sites are selected and advanced.

Segment 2 crosses the northern Montana overthrust belt, which is a geologically complex, abundantly faulted area, where the geologic formations have been disturbed. The bedrock encountered along Segment 2 is younger, Cretaceous-aged bedrock that is less competent (and probably more fractured and disturbed). The bentonite beds present in some of the formations can be highly expansive, and soils derived from these bentonite beds may also have expansive characteristics.

The surficial deposits exposed along Segment 2 consist mainly of Quaternary glacial deposits. The glacial deposits along the study segment are described as gravelly to clayey till deposited by continental ice sheets that may contain gravel deposits. These soils may have a high frost susceptible. Poor drainage may also be an issue. The thickness of the glacial deposits in this area is typically one to 15 feet thick but can be more than 50 feet thick. Based on the published data reviewed, it does not appear that landslides have been mapped along Segment 2.

Numerous faults (mostly north-trending) are mapped along Segment 2. However, based on MBMG and USGS mapping, no Quaternary faults (which may be considered active) are present along Segment 2. Segment 2 is also located within the intermountain seismic belt. Earthquakes can induce movement along faults, rock fall, slope movement (landslides), and liquefaction. However, no significant historic earthquake epicenters are mapped near Segment 2, with the nearest epicenter is located 40 miles to the southwest.

Hazardous Substances

MDT considers the presence of contaminated soils during the safety rest area siting process. Areas where pipelines, wells, or mines are located may require additional investigation and coordination during future project development activities for sites advanced from this study.

Four LUST sites and three petroleum release fund sites are located within Segment 2, just north of RP 209, in East Glacier Park. The LUST site at the former Husky Station was resolved in 2003. The three other LUST sites at Oil West Services, Circle R Services, and the Glacier Park Lodge Service Station, have associated petroleum release funds. Of the three LUST sites, the Circle R Services site is the only one resolved (2006). Three UST sites are also located within the study segment in East Glacier Park. The USTs are just east of US 2 at the Bear Track Travel Center.

Within the city of Browning, 15 LUST sites, 11 petroleum release fund sites, 12 UST sites, and one hazardous waste site occur within the study segment. Of the 15 LUST sites, DEQ data shows that eight have been resolved. The hazardous waste site is the Browning High School, which is labeled as a large quantity generator.

Segment 2 is not located within a mining district, and no open cut mines or abandoned mines are located within the study segment.

Northwestern Energy has two in-service gas transmission pipelines within the study segment. The pipelines parallel US 2 on the southeast side of the roadway near RP 208 and again from approximately RP 210.5 to RP 212 where the pipelines cross the highway. From the highway crossing, the pipelines parallel the study segment to the northwest. At approximately RP 215.5, the pipelines continue north and away from US 2. There are no oil/gas wells or well directionals within the study segment; however, several oil/gas wells are located adjacent to the study segment near RP 213, RP 236, and RP 238.5.

There are no USEPA designated superfund sites within Segment 2.

Air Quality

A review of the DEQ website indicates no non-attainment areas for any of the criteria pollutants are located within or near Segment 2.

According to Table 2, 40 CFR 93.126, safety rest areas are typically exempt from the requirements that a conformity determination be made. As a result, special design considerations are not anticipated to accommodate NAAQS in any future safety rest area project development process.

Surface Waters

MDT considers potential impacts to surface waters and the costs that may be associated with permitting and potential mitigation during the safety rest area siting process. Coordination with federal, tribal, and local agencies may be necessary, as work within these surface waters may be regulated by USACE and tribal laws and regulations (e.g., Blackfeet Tribe Aquatic Lands Protection Ordinance 90-A). In addition, any siting options advanced will trigger the need to obtain coverage under NPDES for Storm Water Discharges Associated with Construction Activity for one or more acres of disturbance and comply with the requirements outlined in MDT's Storm Water Management Plans.

Segment 2 is located within two watersheds.

- The very southern portion of the segment (RP 208.1 to RP 214.8) is in the Two Medicine Watershed (HUC 10030201), and includes the named drainages of Midvale Creek, Two Medicine River, and Elk Creek. In addition to the named drainages, several unnamed ephemeral and intermittent drainages cross or parallel the study segment within this watershed.
- The Cut Bank Watershed makes up most of Segment 2 and includes the named drainages of Willow Creek, Wasteway Coulee, Depot Creek, and Flat Iron Creek. In addition to these named drainages, several unnamed ephemeral and intermittent drainages cross or parallel the study segment within this watershed.

Total Maximum Daily Loads

Segment 2 is located within the Blackfeet TPA. Waterbodies within this segment are not listed in the DEQ 303d Water Quality Report; however, the screening process for safety rest area siting options will still need to consider potential impacts to water quality within receiving waterbodies.

Wild and Scenic Rivers

Based on a review of the United States National Park Service website, there are no wild or scenic rivers within Segment 2. The closest wild and scenic river is the Middle Fork of the Flathead River, which crosses US 2 approximately 22 miles southwest of Segment 2.

Irrigation

During the safety rest area siting process, MDT attempts to avoid impacts to irrigation facilities to the greatest extent practicable, particularly where large ditches/canals and pivots are located as these are costly to mitigate. Any work within these irrigation ditches/canals may also be regulated by the USACE.

Irrigation water on the Blackfeet Reservation is primarily supplied through the Blackfeet Irrigation Project, which is owned and operated by the BIA. While several irrigation ditches and canals occur near Segment 2, no "in use" ditches/canals were identified in the Glacier County WRS that cross or parallel the study segment. At RP 209.5, a portion of the study segment

crosses the private East Glacier Park Hotel Company Sprinkler System, which irrigates the Glacier Park Lodge Golf Course.

Floodplains and Floodways

EO 11988, Floodplain Management, requires federal agencies to avoid to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

In addition, Federal-aid Policy Guide, 23 CFR 650, Bridges, Structures, and Hydraulics, calls for the assessment of federally funded highway projects in terms of impacts on flood risk, where such projects must avoid hazardous or incompatible use and development of floodplains, avoid longitudinal or substantial floodplain encroachment, minimize negative impacts on base flood elevations, restore and preserve natural and beneficial floodplain values, and be consistent with FEMA, state, tribal and local government standards for the administration of the National Flood Insurance Program.

During the safety rest area siting process, MDT attempts to avoid areas designated within a 100-year floodplain.

Segment 2 is located within the Blackfeet Reservation. FIRM maps and floodplain digital data do not currently exist for the reservation except within the city of Browning (FEMA FIRM number 3000300001B). The FIRM map shows the city north of US 2 as within a 100-year floodplain (Zone A), likely associated with Willow Creek. South of US 2, the city is designated as Zone C.

- Zone A: SFHA - 100-Year Flood, No Base Flood Elevations Determined
- Zone C: Areas Outside the 500-Year Flood

Wetlands

During the safety rest area siting process, MDT attempts to avoid and minimize adverse impacts to wetlands to the maximum extent practicable, and consider the costs that may be associated with permitting and potential mitigation. For federally funded projects, EO 11990 requires agencies to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Section 404(b)(1) of the Clean Water Act requires the USACE to only permit discharges of dredge or fill materials into USACE jurisdictional wetlands that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences. Future wetland delineations would be required if safety rest area siting options are forwarded from the study that could potentially impact wetlands. Work within USACE jurisdictional wetlands would require a Clean Water Act 404 permit. Unavoidable impacts to wetlands must be compensated through mitigation in accordance with USACE regulatory requirements and requirements of EO 11990. In addition, any work within wetlands on the Blackfeet Reservation require permitting and mitigation under the Blackfeet Tribe Aquatic Lands Protection Ordinance 90-A.

Segment 2 is a unique area where numerous glacial pothole wetlands and wet meadows occur. Several fringe wetlands along adjacent creeks also occur in this area. NWI mapping shows emergent glacial pothole wetlands making up most of the study segment from RP 213 to the end of the segment at RP 242. These potholes are scattered throughout this portion of the segment on both sides of the highway. Large emergent wet meadows fed by high groundwater and/or small drainages are found within the study segment at RP 225 and from RP 239 to RP 240. An emergent wetland associated with Flat Iron Creek crosses the study segment at RP

229.6, and large emergent wetland complexes associated with Willow Creek and Wasteway Coulee cross and/or parallel the study segment at RP 233.1 and from RP 236 to RP 239.

Groundwater

MDT considers impacts to existing wells during the safety rest area siting process. Wells can be a costly item to mitigate if they are not avoided. Mitigation of a well usually involves drilling a new well for the owner in a new location that will not be impacted by the potential project. Well costs are based on per foot price; the deeper and higher volume needed results in a higher cost. In addition, MDT considers groundwater levels for safety rest area constructability.

Approximately 83 GWIC wells occur within or directly adjacent to Segment 2. Wells with recorded depths range from nine feet at East Glacier Park near RP 209.4 to 200 feet near RP 240.4. Very few wells have recorded static water levels. Wells with static water levels recorded range from 13 feet near RP 209.4 at East Glacier Park to 50 feet near RP 240.4.

In the western portion of the study segment from RP 208.1 to about RP 210, the controlling factor will be the numerous creeks and the Two Medicine River that cross or parallel US 2. Once into the glacial topography, the geohydrology will be much more complex. The entire segment is dotted with pothole/depressional wetlands, and shallow groundwater can be expected along most of the segment.

3.2 Biological Resources

Vegetation

During the safety rest area siting process, MDT attempts to minimize adverse impacts to suitable wildlife habitat and considers areas where mature tree and shrub removal can be limited to the extent practicable.

A combination of montane grassland, agriculture, and lowland/prairie grassland dominate the land cover within and adjacent to Segment 2. Montane grasslands interspersed with agricultural land are primarily found along the segment from RP 208.1 to RP 224. Agricultural lands, interspersed with lowland/prairie grasslands, and areas of introduced vegetation make up the remainder of the study segment from RP 224 to RP 242. The small developed areas of Browning and East Glacier Park are also located within the Segment 2.

General Wildlife Species

Segment 2 has minor development, is directly adjacent to national forest or national park service lands, and includes large areas where native vegetation still exists. Wildlife species would include generalists; however, Segment 2 also provides opportunity for sensitive species and species with specific habitat needs. Numerous mammal, bird, amphibian, and reptile species likely occur within the study segment

Threatened and Endangered Species

According to the USFWS database, two threatened, three proposed threatened, and one candidate species are listed as potentially occurring along the US 2 corridor within Segment 2 (Table 4). In addition to the species listed below, designated critical habitat for Canada lynx is found directly adjacent to Segment 2.

Table 4: T&E Species with the Potential to Occur in Segment 2

Species	Status
Mammals	
Canada lynx <i>Lynx canadensis</i>	Threatened
North American wolverine <i>Gulo gulo luscus</i>	Proposed Threatened
Grizzly bear <i>Ursus arctos horribilis</i>	Threatened
Invertebrates	
Meltwater Lednian stonefly <i>Lednia tumana</i>	Proposed Threatened
Western glacier stonefly <i>Zapada glacier</i>	Proposed Threatened
Plants	
Whitebark pine <i>Pinus albicaulis</i>	Candidate

Source: USFWS, 2017.

According to the MTNHP database, occurrences of grizzly bear, Canada lynx, and North American wolverine have been documented within the three-mile buffer for Segment 2. MDT considers potential effects to T&E species and their habitat during the safety rest area siting process.

Species of Concern and Special Status Species

MDT considers the presence and extent of SOC and special status species and proximity to known eagle nests during the safety rest area siting process.

Within and adjacent to Segment 2, there are recorded observations of 12 wildlife SOC and eight plant SOC. Wildlife species include fish species, bird species, mammals, and mollusks. Observations of bald eagle and a bald eagle nest (a special status species), and observations of golden eagle have also been recorded near Segment 2. Construction timing restrictions are required for work near active nests.

Segment 2 is not located within sage grouse habitats designated as core area, general habitat, or connectivity.

3.3 Social and Cultural Resources

Economy

The study segment stretches through Glacier County near the border of Glacier National Park. This means the area experiences relatively high volumes of traffic and economic activity, especially during the summer months. Although the segment does not actually enter Flathead or Pondera County, including information about these counties in this overview is appropriate due to proximity. The segment includes some of the Blackfeet Indian Reservation. Cities that would have an impact on the segment include Browning and Whitefish.

Glacier and Pondera counties have similar proportions of agriculture and education and health care service jobs. Glacier County also has a relatively large portion of its businesses classified as public administration. This is likely due to the presence of the Blackfeet Indian Reservation. This mixture of businesses is typical of northwestern Montana, which is largely supported economically by the tourism industry.

The average unemployment rate in these three counties is expected to hold relatively constant, as is the statewide unemployment rate. The unemployment rate in these counties has been higher historically, relative to the rest of the state, and it is expected to remain higher than the rest of the state. The highest unemployment rate in the three counties is 9.46% which was observed in 2011. The lowest rate of unemployment is 4.51% and was observed in 2006.

Flathead and Pondera Counties are close to the statewide averages on most of the wealth measures, including median family income, per capita income, and retail sales per capita. Pondera County lags in the retail sales category. Glacier County has lower measures in all three categories. These measures are significantly lower than both the other counties in question and the state.

Population and Demographics

Northern Montana has a small population, and only minimal growth is expected. Within Segment 2, Browning and Whitefish are relatively small communities. The socio-economic characteristics of this area can be expected to remain constant in the future. The following summarizes population and demographic conditions within and near Segment 2.

Flathead County has a very limited American Indian population relative to both the statewide average and the other counties in the study segment. Pondera County is home to more than double the percentage of American Indians than the statewide average. Most Glacier County residents identify as American Indian. Glacier County is home to the Blackfeet Indian Reservation. All three counties have a Hispanic or Latino population that makes up approximately 2% of their total population. Flathead and Pondera Counties have a higher rate of owner occupied housing rate than the wider state. Glacier County has a lower owner occupied housing rate than the state average.

The age distribution in Glacier, Flathead, and Pondera counties is similar between the sexes. The largest group in is the 45-64-years of age category. The next largest group is the 25-44 years of age category. This group is followed by people older than 65 years of age. The three counties have a similar distribution of age by sex as the state.

The three counties are expected to experience growth rates less than 1% over the next 45 years; however, the long-term trend is a reduction in the rate of population growth. The 10-year projected growth rate is 1.007% which is higher than the statewide growth rate of 0.793%.

Environmental Justice

Title VI of the United States Civil Rights Act of 1964, as amended (USC 2000(d)) and EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, require that no minority, or, by extension, low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects. MDT will further evaluate environmental justice during the project development process for any sites advanced from this study.

Land Ownership and Use

Because privately owned lands and developed lands may be costlier to acquire, MDT attempts to minimize impacts to privately owned lands and developed lands to the extent practicable during the safety rest area siting process.

Land ownership in Segment 2 is entirely located on the Blackfeet Reservation. The BNSF Railway runs adjacent to US 2 from RP 208.1 to RP 209.5 and near RP 212, RP 220, RP 223, RP 230 to 233, and RP 234 to RP 239. Additionally, Browning is located near RP 221.5.

Most land use in Segment 2 is crop/pasture with mixed urban development near Browning and intermittent emergent wetlands and bodies of water.

Recreational Resources

MDT considers effects on recreational sites in accordance with Section 4(f) and Section 6. For sites advanced from this study, MDT will conduct a reevaluation of Section 6(f) resources to determine if any new Section 6(f) resources are present at the time of future project development. As general guidance, converting Section 6(f) resources to a non-recreational purpose can be a difficult and time-consuming task and should be avoided if practicable.

Segment 2 is located on the Blackfeet Reservation, and recreation within the segment is limited. There are no designated fish access sites within the study segment.

Overnight camping is permitted on the reservation lakes. The only lake near Segment 2 is Kipp Lake, located southeast of the study segment at RP 229. Access to the lake is via a small dirt road at RP 229.5.

At the southwestern end of the segment is East Glacier Park. The town provides the east entrance into Glacier National Park at RP 209.3. The Glacier Park Lodge Golf Course is located directly west of US 2 near RP 209.5. The golf course is open to the public.

The Glacier Park Lodge Golf Course was the only identified potential Section 4(f) resource within the study segment. The segment is located on the Blackfeet Reservation. The Blackfeet are a federally recognized Indian Tribe, considered a sovereign nation. Lands owned by them are not considered to be “publicly owned” within the meaning of Section 4(f), nor open to the public. Therefore, Section 4(f) does not automatically apply. Significant parks, recreation areas, or wildlife and waterfowl refuges owned by the tribe could be considered a Section 4(f) resource; however, no such resources are found within the study segment.

The FWP LWCFA site list by county shows LWCFA funds allotted to the Browning School District Recreation Facility, within the city of Browning.

Cultural Resources

Historic properties have been recorded within Segment 2, including archaeological sites, commercial buildings, and residences. In addition to the historic properties in the communities through which the highway passes, irrigation ditches, an active railroad grade (BNSF Railway), farms, ranches, and highway-related structures (i.e., bridges and overpasses) also occur. Also represented in the corridor are churches, schools, government buildings, sand houses, and maintenance section shops.

Archaeological sites that may occur within Segment 2 include buried campsites, stone circle sites, bison kills, human burials, and rock art sites under federal and tribal ownership.

The NHPA of 1966, as amended, defines historic properties as sites, buildings, structures, districts (including landscapes), and objects included on, or eligible for inclusion on, the NRHP, as well as artifacts, records, and remains related to such properties.

To be considered eligible for listing on the NRHP, a property must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Is associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possess high artistic values, or that represents a significant distinguishable entity whose components may lack individual distinction.
- D. Yielded, or may likely yield, information important in prehistory or history (36 CFR Part 60.4).

During the safety rest area siting process, MDT considers recorded historic sites determined to be NRHP-eligible as identified through a Montana SHPO file search. In addition, MDT will conduct cultural resource surveys for siting options advanced from this study.

Noise

The study corridor traverses a variety of land uses. In some portions of the corridor, noise-sensitive receptors are located near US 2 right-of-way. In Segment 2, isolated residential development is found throughout the segment, with more concentrated development at East Glacier Park (\pm RP 209) and Browning (\pm RP 221-222).

MDT considers proximity to potential noise receptors during the safety rest area siting process. Options advanced from this study may require a Type I noise analysis.

Visual Resources

Views from US 2 within Segment 2 primarily include rolling grasslands dotted with numerous wetland potholes. Scenic views to the east of Glacier National Park and the Lewis Range can also be seen from US 2 within the study segment.

MDT evaluates the potential effects on visual resources and viewshed opportunities during the safety rest area siting process.

3.4 Public Water

Investigation into the potential public system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability, connection costs to existing water systems, and water quality during a future Phase I process for any sites advanced from this study. For any new safety rest areas, DEQ must review and approve construction of any new public on-site water systems or connections to existing public water systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

The entire length of Segment 2 is located within the Blackfeet Indian Reservation. Published information is limited within this area. Two larger public water systems are located within this segment: East Glacier and Browning. Discussion in September 2017 with the operator for both systems, Gerald Bechel, confirmed that each water system has the capacity for safety rest area

connections. If a site is advanced within either of these areas, MDT will consider system reliability, cost to connect to the water system, and water quality associated with these public systems.

Well logs within the portion of the segment from RP 208.0 to RP 209.0 indicate water bearing formations are most likely to be located within fractured shale 40 to 60 feet below the ground surface. Due to the type of geology and the confined nature of the aquifer, water quality may be an issue. Shallow groundwater can also be expected along most of this portion of the segment due to the perched water above the shale lenses. The shallow water may result in limited quantity throughout the year and it is more susceptible to drought conditions.

Well logs within the portion of the segment from RP 212.0 to RP 242.0 indicate water bearing formations are most likely to be located within sandstone lenses greater than 60 feet below the surface, with potential yields ranging from four to 40 gpm. Water quality within the sandstone formation is generally good.

3.5 Public Wastewater

Wastewater non-degradation factors considered for this report include surface water, floodplain proximity, and high groundwater (greater than four feet). Investigation into the potential public wastewater system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability and cost to connect to existing wastewater systems during a future Phase I process for any sites advanced from this study.

For any new safety rest area, DEQ must review and approve any public on-site wastewater systems or connections to existing public wastewater systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

The entire length of Segment 2 is located within the Blackfeet Indian Reservation. Published wastewater information is limited within this area. Two public wastewater systems are located within this segment: East Glacier and Browning. Discussion in September 2017 with the operator for both systems, Gerald Bechel, confirmed that each wastewater system has the capacity for safety rest area connections. If a site is advanced within either of these areas, MDT will consider system reliability and cost to connect to the wastewater system.

Approximately 30 soil types occur within Segment 2. Most of the soils are glacial till and outwash. However, near rivers and streams, alluvial deposits are common. The glacial deposits (silty and clayey sediments) are typically slow absorbing soils, with sizing application rates between 0.15 to 0.3 gpd/ft². MDT will evaluate on-site test holes and percolation tests during the Phase I process to determine the feasibility of sites advanced from this study. Alluvial deposits are faster percolating soils. However, surface water from the river and streams could pose unique difficulty in permitting.

3.6 Traffic Volumes

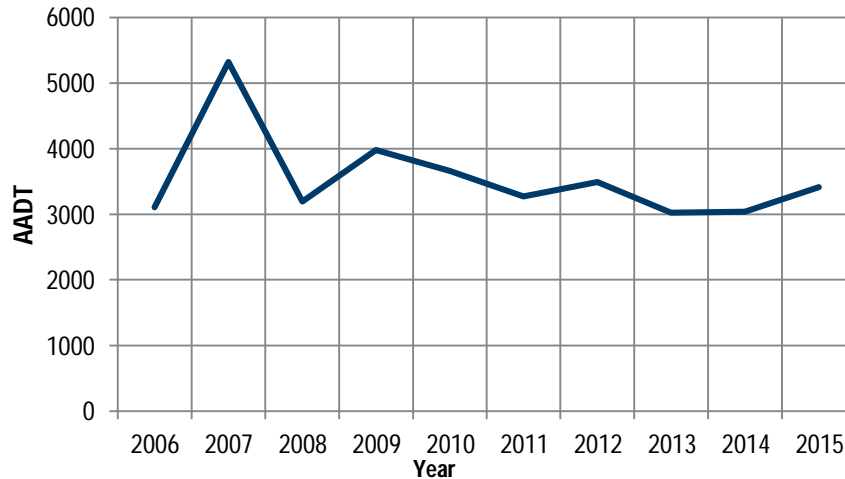
Traffic volumes are relevant to rest area siting to assess parking and other facility demands. For planning efforts, traffic volumes in combination with other variables can be utilized to determine proportions of mainline traffic stopping at rest areas and then correlated to facility usage demand.

Historic Volumes

AADT is the total of all motorized vehicles traveling in both directions on a highway on an average day. This study uses average AADT volumes from short-term counters to represent

historic traffic volumes within the study segment boundaries. Figure 6 summarizes traffic volumes from 2006 to 2015 for Segment 2.

Figure 6: Historic Traffic Volumes – Segment 2



Source: MDT 2017; averaged AADT from Traffic Counters 18-4-1, 18-4-2, 18-4-3, 18-4-4, 18-4-5, 18-4-6, 18-4-17, 18-4-18, 18-4-19 and 18-5-1.

AADT volumes spiked in 2007 at traffic counter 18-4-17 near RP 221 south of Browning. The overall average is little affected by this spike and is approximately 3,350 AADT for the 10-year period.

Growth Rates and Projected Traffic Volumes

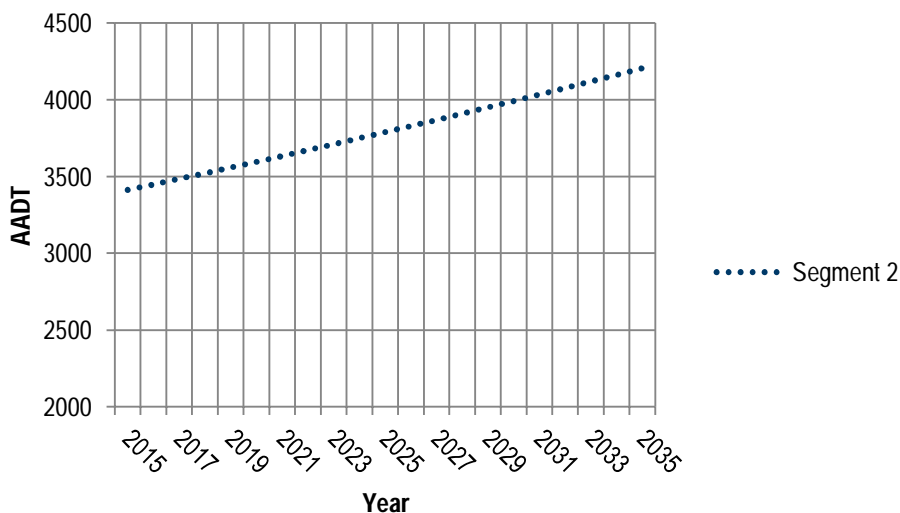
This study uses a compound annual growth rate method to estimate future AADT volumes within the study segment, with a growth rate of 2.16 percent per year for this segment based on analysis of historic traffic volumes as shown in Figure 6 above.

The following compound annual growth rate formula illustrates the method for projecting traffic volumes.

$$(\text{Existing Volume}) * (1 + [\text{Growth Rate in Decimal Form}])^{\text{Number of Years}} = \text{Future Volume}$$

Projected AADT volumes for Segment 2 are illustrated in Figure 7 below.

Figure 7: Projected Future Traffic Volumes – Segment 2



Source: DOWL 2017.

Table 5 presents future traffic volumes as estimates using the growth rate calculation noted above, assuming that the percentage composition of passenger vehicles and trucks would remain the same as existing percentages.

Table 5: Forecasted Traffic Volume by Type – Segment 2

Study Segment	Total AADT (Projected 2035)	Total Passenger & Bus (Types 1-4)		Total Small Truck (Types 5-7)		Total Large Trucks (Types 8-13)		Total Commercial (Types 5-13)	
		AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT
2	4,206	3,950	93.9%	134	3.2%	122	2.9%	256	6.1%

Source: MDT 2017; DOWL 2017.

3.7 Geometric and Access Analysis

US 2 is a Non-Interstate Principal Arterial on the NHS.

The topography of the surrounding land influences the vertical and horizontal alignment of a roadway. The three general types of terrain are described as follows:

- **Level Terrain:** Available stopping sight distances are generally long or can be made to be so without construction difficulty or major expense.
- **Rolling Terrain:** Natural slopes consistently fall below and rise above the road grade, and occasional steep slopes offer some restriction to horizontal and vertical roadway alignment.
- **Mountainous Terrain:** Longitudinal and transverse changes in the elevation of the ground with respect to the road are abrupt and extensive grading is frequently needed to obtain acceptable horizontal and vertical alignments.

A key criterion for consideration of any potential safety rest area site is stopping sight distance. Based on the types of terrain described above, the greatest sight distance opportunities are provided where the terrain is level combined with linear horizontal segments. The three critical stopping sight movements to be evaluated at locations to be considered for rest area sites include:

- left-turn movements from the minor road,
- right-turn movements from the minor road, and
- left-turn movements from the major road.

MDT considers vertical grades of the highway when evaluating potential safety rest area sites. Level grades are preferred over steep grades to minimize the impact steep grades have on stopping sight distance and for starting and stopping movements, especially in adverse weather conditions.

Segment 2 primarily consists of rolling terrain with a few locations having steep slopes more characteristic of mountainous terrain. The segment runs through East Glacier Park Village and Browning. Traveling east of East Glacier Park, US 2 crosses the Two Medicine River Basin near RP 210.2 where the grades climb out of the basin at seven percent and then crest the hill near RP 211. East of RP 211, the grades within this segment consistently range between two and four percent with an isolated maximum grade at six percent. The geometry is curvilinear near the west end of the segment between RP 208 and 210 and also around the area of Browning between RP 220 and RP 224.

Montana 49 intersects US 2 from the northwest near RP 209.3, within the limits of East Glacier Park. Morning Gun Road West crosses US 2 at RP 213, and a few private roads intersect US 2 from RP 213 to the US 89 intersection near RP 221.5, within the limits of Browning. Secondary 464 intersects US 2 from the north near RP 221.9, also within the city of Browning. US 89 also intersects US 2 from the southeast near RP 223.9, east of Browning. Intermittent county and private roads intersect US 2 from RP 224 to the intersection of Secondary 444 at RP 235.5.

3.8 Safety Analysis

There were five fatal accidents along this stretch of roadway (located near RP 213, 214, 219, and RP 221) accounting for nearly 6% of the total crashes within the five-year period. Additionally, there were seven non-incapacitating and eight incapacitating injury accidents. A total of 33 carcasses were reported, with whitetail and mule deer accounting for nearly half of the total. Table 6 lists crash and carcass data occurring within Segment 2.

Table 6: Crash Severity and Carcass Counts – Segment 2

Crash Severity	Crash Count
Fatal Accident	5
Incapacitating Injury Accident	8
Non-Incapacitating Evident Injury Accident	7
Non-Injury Accident (Property damage only accident)	54
Possible Injury Accident	10
Unknown	2
Grand Total	86
Carcass – Animal Type	Carcass Count
Antelope	1
Other	7
Domestic	8
Black Bear	1
Whitetail Deer	6
Mule Deer	10
Grand Total	33

Source: MDT, July 1, 2012 through June 30, 2017 Crash and Carcass Data.

3.9 Rail Crossings

Constructed in 1887, the BNSF Railway extends east to west across the Montana Hi-Line. The railroad naturally attracted the development of primitive roads connecting towns and stations along its stretch. In 1919, local and regional promoters established the Theodore Roosevelt International Highway (US 2) which connected many of the primitive roads that ran parallel and often crossing the BNSF Railway. Today US 2 generally runs parallel to the BNSF Railway, with some points of intersection.

The BNSF Railway runs adjacent to US 2 from RP 208.1 to RP 209.5 and near RP 212 within the study segment boundaries. Grade-separated crossings near RP 220.3, RP 222.9 span BNSF Railway for several hundred feet. Additionally, the BNSF Railway runs adjacent to US 2 from RP 230 to RP 233 and RP 234 to RP 239 within the study segment boundaries. Attachment 1 illustrates railroad facilities near the study segment.

3.10 Utilities

Utilities in the study area include underground telephone, underground cable television, underground natural gas, and overhead and underground electric power. A utility assessment was performed using aerial photos, GIS mapping, National Pipeline Mapping System, and visual inspection at each of the study segment locations. Additional utility investigation is required during the project development process for any safety rest area sites forwarded from this study.

Montana has nearly 15,500 miles of transmission, gathering, and distribution pipelines. Approximately 3,821 miles of pipeline transport hazardous and highly volatile liquid commodities throughout the state. Additionally, tens of thousands of miles of high- and low-voltage power lines run throughout the state servicing Montana, neighboring states, and Canada.

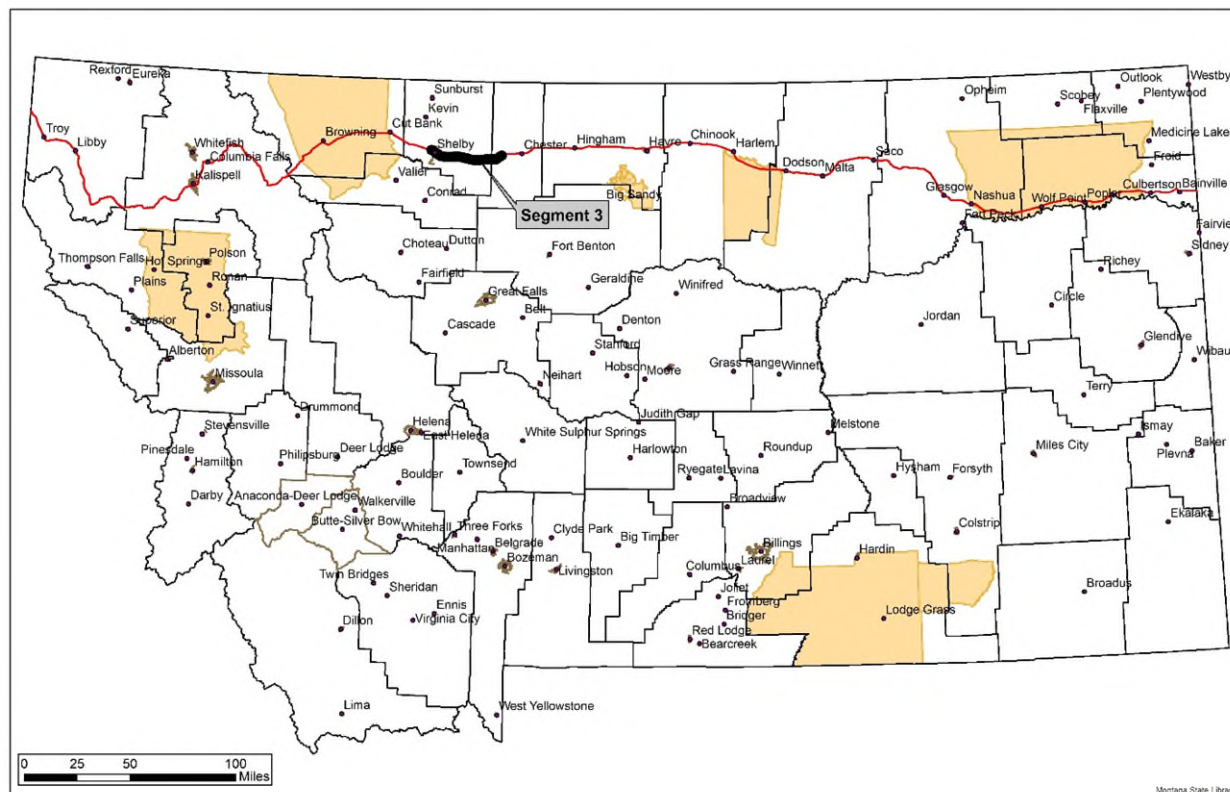
Utilities occur in the following locations within Segment 2.

- Gas transmission pipelines run parallel to US 2 on the southeast side of the roadway near RP 208.0.
- Overhead power lines run parallel to US 2 from RP 208.1 to RP 208.6 on the east side of the roadway.
- East Glacier Park is located from RP 209.0 to RP 209.5; a thorough utility investigation may be required to locate underground utilities.
- Overhead power lines run parallel to US 2 from RP 210.5 to RP 212 on the south side of US 2. Gas transmission pipeline run parallel to US 2 near RP 210.5 to RP 212 where the pipelines cross the highway. From the highway crossing, pipelines parallel the study segment to the northwest. At approximately RP 215.5, the pipelines continue north and away from US 2.
- Overhead power lines cross US 2 at RP 212.0, run parallel to the north side, and cross back heading east near RP 218.9.
- Browning is located from RP 221 to RP 221.5; a thorough utility investigation may be required to locate underground utilities.
- Overhead power lines cross US 2 at RP 224.2, run parallel to the south side of the roadway, and cross back to the north side at RP 232.0.
- Overhead power lines run parallel to the north side of US 2 from RP 232 to RP 233.9 then cross back to the south side of US 2.
- Overhead power lines run parallel to US 2 on the south from RP 233.9 to RP 235.4 then cross back to the north side of US 2.
- Overhead power lines continue to run parallel on the north side from RP 235.4 to RP 242.0.

Attachment 1 illustrates transmission lines near the study segment.

4.0 Segment 3 (RP 277.3 to RP 312.5)

Figure 8. Segment 3 Location



4.1 Physical Environment

Soil Resources and Prime Farmland

MDT considers soil characteristics for constructability (e.g., clay soils) during the safety rest area siting process. In addition, MDT will complete a CPA-106 Farmland Conversion Impact Rating Form and coordinate with NRCS for any siting options advanced from this study that are within identified farmlands and are supported with federal funds. The NRCS uses information from the impact rating form to keep inventory of the prime and important farmlands within the state.

Soil survey information shows approximately 55 soils within Segment 3. Most surficial soils in this segment are mapped as alluvium or till, with some interspersed glacial deposits. Alluvium deposits are primarily located where creeks and drainages cross the study segment, including from RP 277 to RP 281, RP 287 to RP 290, and RP 296 to RP 306. Remaining portions of the segment include primarily till, clayey till, and fine-loamy till.

NRCS soil surveys indicate that almost the entire study segment is designated as farmland of statewide importance or prime farmland if irrigated. Only small sections of the segment, including the area around Shelby (RP 277.3 to RP 278.9), near RP 280, RP 281 to RP 281.5, RP 296 to RP 298, RP 300 to RP 301.8, RP 303.4 to RP 304, RP 307 to RP 308.6, and near RP 311 have not been designated. The percentage of the study segment comprised of farmland of statewide importance or prime farmland if irrigated is high.

Geologic Resources

During the safety rest area siting process, MDT considers geologic and seismicity information, which can help determine potential safety rest area design and construction issues. Site-specific geotechnical evaluations are required if potential sites are selected and advanced.

Within Segment 3, the Kevin Member of the Marias River Formation (Cretaceous) underlies RP 277.3 to approximately RP 308.4 and consists of mainly shale with bentonite beds. RP 308.4 to RP 312.5 is underlain by the Telegraph Creek Formation (Cretaceous) which consists of interbedded sandy shale and sandstone. The bedrock encountered along Segment 3 is younger, Cretaceous-aged bedrock that is less competent (and probably more fractured and disturbed). Bentonite beds and soils derived from bentonite may have expansive characteristics.

Quaternary glacial till covers most of Segment 3, and these soils may have low to moderate frost susceptibility and drainage issues. Areas underlain by these materials typically exhibit hummocky topography. Based on the published data reviewed, it does not appear that landslides have been mapped along Segment 3.

No faults are mapped along Segment 3. Based on MBMG and USGS mapping, the closest Quaternary faults (which may be considered active) are located 25 miles north of the study segment in the Sweet Grass Hills. Segment 3 is located east of the intermountain seismic belt in an area where the historic seismicity is relatively low. No significant historic earthquake epicenters are mapped near the study segment, and the nearest epicenter is located about 95 miles to the southwest.

Hazardous Substances

MDT considers the presence of contaminated soils during the safety rest area siting process. Areas where pipelines, wells, or mines are located may require additional investigation and coordination during future project development activities for sites advanced from this study.

From RP 278 to RP 281.5, Segment 3 crosses through the city of Shelby where 31 LUST sites, 12 petroleum release fund sites, 21 UST sites, four remediation response sites, and two hazardous waste sites are located. Of the 31 LUST sites, 23 have been resolved. The remediation response sites include two spills near the Interstate 15 interchange; the Treasure State Refinery, in operation from 1938 to 1947, near RP 278.6 on southwest side of US 2; and the present-day Burlington Northern facility near RP 279.5. Hazardous waste sites include the Shelby Refinery (inactive) listed as a small quantity generator at RP 279.6, and the MDT facility (active) listed as a small quantity generator at RP 278.5.

At RP 303.2 two UST sites are located within the study segment on the north side of US 2. In the community of Lothair, one LUST site, which was resolved in 1996, and one petroleum release fund site are located at RP 309.1 just north of US 2.

Segment 3 is not located within a mining district, and there are no open cut mines or abandoned mines within the study segment.

Two in-service Northwestern Energy gas transmission pipelines cross the study segment at RP 278.3 and RP 293. Several oil/gas wells are adjacent to the study segment; however, at RP 287.8, RP 299.8, RP 301.9, RP 302.2, and RP 304.8, wells occur within the segment on both the north and south sides of US 2. These are primarily gas wells or wells labeled as dry holes. There are no USEPA designated superfund sites within Segment 3.

Air Quality

A review of the DEQ website indicates no non-attainment areas for any of the criteria pollutants are located within or near Segment 3.

According to Table 2, 40 CFR 93.126, safety rest areas are typically exempt from the requirements that a conformity determination be made. As a result, special design considerations are not anticipated to accommodate NAAQS in any future safety rest area project development process.

Surface Waters

MDT considers potential impacts to surface waters and the costs that may be associated with permitting and potential mitigation during the safety rest area siting process. Coordination with federal, state, and local agencies is necessary, as work within these surface waters may be regulated by USACE, Montana FWP, and DEQ.

In addition, any siting options advanced will trigger the need to obtain coverage under MPDES for Storm Water Discharges Associated with Construction Activity for one or more acres of disturbance and comply with the requirements outlined in MDT's Storm Water Management Plans.

Segment 3 is located within two watersheds.

- From RP 277.3 to approximately RP 283.3, the study segment is located within the Marias Watershed. There are no primary or named drainages that cross the study segment within the Marias Watershed. Surface waters that do cross this portion of the study segment primarily include small ephemeral and intermittent drainages that generally flow south directly into the Marias River. One small lake, Virden Lake, is located within the study segment, at RP 277.5, on the north side of US 2.
- From RP 283.3 to the end of the segment at RP 312.5, the segment is within the Willow Watershed. Willow Creek is the primary drainage, crossing the study segment near RP 303. Dodge Coulee, Coyote Coulee, Clift Coulee, and Galata Ravine are named drainages that cross the study segment at RP 296.7, RP 298.6, RP 304.8, and RP 306.2, respectively. Several small intermittent and ephemeral drainages also cross the study segment within this watershed.

Total Maximum Daily Loads

Segment 3 is located within the Marias-Willow TPA. No waterbodies within this segment are listed as having an impairment in the DEQ 303d Water Quality Report. However, Eagle Creek, which crosses the highway just east of the study segment at RP 313 and flows southeast below (south of) the study segment, is listed as not fully supporting aquatic life due to alteration in stream-side or littoral vegetative cover from agriculture, and nitrogen (Total) from grazing in riparian and shoreline zones. MDT considers downstream TMDL standards and potential impacts to water quality within receiving waterbodies during the safety rest area siting process.

Wild and Scenic Rivers

Based on a review of the United States National Park Service website, there are no wild or scenic rivers within or near Segment 3.

Irrigation

During the safety rest area siting process, MDT attempts to avoid impacts to irrigation facilities to the greatest extent practicable, particularly where large ditches/canals and pivots are located

as these are costly to mitigate. Any work within these irrigation ditches/canals may also be regulated by the USACE.

WRS maps for Toole and Liberty Counties are not provided for the entire study segment, and the maps that are available show very little irrigation activity/infrastructure within Segment 3. The Sunset Memorial Garden sprinklers occur near RP 277.9 on the south side of US 2. A ditch associated with the Shelby flood dams and ditches crosses US 2 at RP 280.3. No other irrigation structures are located within the study segment.

Floodplains and Floodways

EO 11988, Floodplain Management, requires federal agencies to avoid to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

In addition, Federal-aid Policy Guide, 23 CFR 650, Bridges, Structures, and Hydraulics, calls for the assessment of federally funded highway projects in terms of impacts on flood risk, where such projects must avoid hazardous or incompatible use and development of floodplains, avoid longitudinal or substantial floodplain encroachment, minimize negative impacts on base flood elevations, restore and preserve natural and beneficial floodplain values, and be consistent with FEMA, state, tribal and local government standards for the administration of the National Flood Insurance Program.

During the safety rest area siting process, MDT attempts to avoid areas designated within a 100-year floodplain.

Based on the FEMA database, FEMA has not completed a floodplain study within Toole or Liberty counties to determine flood hazards; therefore, FIRMs and digital mapping for Segment 3 are not available.

Wetlands

During the safety rest area siting process, MDT attempts to avoid and minimize adverse impacts to wetlands to the maximum extent practicable, and consider the costs that may be associated with permitting and potential mitigation. For federally funded projects, EO 11990 requires agencies to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Section 404(b)(1) of the Clean Water Act requires the USACE to only permit discharges of dredge or fill materials into USACE jurisdictional wetlands that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences. Future wetland delineations would be required if safety rest area siting options are forwarded from the study that could potentially impact wetlands. Work within USACE jurisdictional wetlands would require a Clean Water Act 404 permit. Unavoidable impacts to wetlands must be compensated through mitigation in accordance with USACE regulatory requirements and requirements of EO 11990.

Wetlands within Segment 3 are limited and tend to occur along the larger creeks and drainages that cross or parallel US 2. The exception is near the beginning of the study segment, where NWI mapping indicates a large emergent wet meadow on both sides of the highway from RP 277.5 to RP 278. Small emergent wetlands associated with unnamed drainages, West Fork Willow Creek, and Cliff Coulee cross the study segment at RP 286.2, RP 292.9, RP 293.5, RP 294.8, RP 297.3, RP 299.8, RP 304.8, and RP 310.5.

Groundwater

MDT considers impacts to existing wells during the safety rest area siting process. Wells can be a costly item to mitigate if they are not avoided. Mitigation of a well usually involves drilling a new well for the owner in a new location that will not be impacted by the potential project. Well costs are based on per foot price; the deeper and higher volume needed results in a higher cost. In addition, MDT considers groundwater levels for safety rest area constructability.

The GWIC database shows 25 recorded wells within or directly adjacent to Segment 3. All but two are located around the city of Shelby at the western end of the segment. Wells near Shelby range in depth from 12 feet to 25 feet. Recorded static water levels within these wells range from one to eight feet. The remaining two wells are located at the very eastern end of the segment. Recorded well depths are 165 feet and 190 feet. Static water levels at these two wells are 12 and 15 feet.

Shallow groundwater can be expected throughout the study segment, particularly where the highway is near the West Fork of Willow Creek (296.3 to RP 300), Willow Creek (RP 303), Galata Ravine (RP 306.2), and Eagle Creek (RP 313). Localized groundwater conditions may also be affected by tributary drainages, seasonal variation, and irrigation.

4.2 Biological Resources

Vegetation

During the safety rest area siting process, MDT attempts to minimize adverse impacts to suitable wildlife habitat and considers areas where mature tree and shrub removal can be limited to the extent practicable.

Agriculture is the dominant land cover found within and adjacent to Segment 3. However, pockets of lowland/prairie grassland, areas of introduced vegetation, and depressional wetland occur from RP 277.3 to RP 283 and RP 298 to RP 304. The developed area of Shelby is also located within Segment 3.

General Wildlife Species

Segment 3 has been moderately developed through the conversion of land to agricultural practices. Small wooded draws and portions of the floodplain along the Milk River still possess specimens of native vegetation that was likely present within this segment prior to conversion to agriculture. These areas provide important movement corridors for wildlife. Wildlife species inhabiting or traversing the study segment are typical of those that occur in moderately developed areas of north central and eastern Montana. Since many species occurring within Segment 3 are habituated to somewhat disturbed areas, species present are predominately, though not exclusively, generalists. Numerous mammal, bird, amphibian, and reptile species likely occur within the study segment.

Threatened and Endangered Species

According to the USFWS database, two threatened and one candidate species are listed as potentially occurring along the US 2 corridor within Segment 3 (Table 7).

Table 7: T&E Species with the Potential to Occur in Segment 3

Species	Status
Mammals	
Grizzly bear <i>Ursus arctos horribilis</i>	Threatened
Birds	
Red knot <i>Calidris canutus rufa</i>	Threatened
Plants	
Whitebark pine <i>Pinus albicaulis</i>	Candidate

Source: USFWS, 2017.

No T&E species occurrences have been documented within the three-mile buffer for Segment 3; however, grizzly bear, black-footed ferret, and piping plover have the potential to occur in the segment vicinity due to potential suitable habitat in the area or the area being within the species known/historic range. MDT considers potential effects to T&E species and their habitat during the safety rest area siting process.

Species of Concern and Special Status Species

MDT considers the presence and extent of SOC and special status species and proximity to known eagle nests during the safety rest area siting process.

There are 15 wildlife SOC with recorded observations within and adjacent to Segment 3. These primarily include bird species, mammal species, and one reptile. There are no recorded observations of bald eagle; however, observations of golden eagle and a golden eagle nest have been recorded near Segment 3. Construction timing restrictions are required for work near active nests.

Segment 3 is not located within sage grouse habitats designated as core area, general habitat, or connectivity.

4.3 Social and Cultural Resources

Economy

Segment 3 is in Toole and Liberty Counties and close to Hill County. Hill County contains parts of Rocky Boy's Indian Reservation and parts of Turtle Mountain Indian Reservation. The Turtle Mountain Indian Reservation is spread over a large geographic area and is primarily located in North Dakota; however, some Turtle Mountain land is in Hill County.

The economies of Liberty, Hill, and Toole Counties are more aligned with the general economic trends of central and eastern Montana than western Montana. Agriculture is the majority industry in Liberty County, accounting for 38% of the employment in the county. Agriculture is not the majority industry in Toole or Hill Counties, but it does represent a substantial component in both counties, respectively accounting for 20% and 8% of the employment. Educational, health care and social services is another important source of jobs in these counties, respectively accounting for 21%, 20%, and 29% of employment in Toole, Liberty, and Hill Counties. This mixture of business represents an economy that is largely stagnant. Most of the business is in sectors that are required for the maintenance of a population, not areas that are likely to produce economic growth.

Although unemployment in these three counties has been lower than the statewide average in recent years, the unemployment rate is forecasted to be greater than the statewide unemployment rate starting in 2017. The state and the area are then predicted to follow a similar pattern of unemployment. The minimum unemployment rate displayed is 2.93% observed in 2006, and the maximum displayed unemployment rate is 4.96% observed in 2011.

According to three measures of wealth and income, including median family income, per capita income, and retail sales per capita, these counties appear to be as well off or better off than the state. Liberty and Hill Counties' median family income measures are just below the statewide value; the median family income in Toole County is slightly greater than the statewide value. Per capita income in these three counties is less than the statewide per capita income, but not by a large amount. Retail sales per capita in Hill and Toole Counties are greater than the statewide values. The retail sales per capita in Liberty County are much lower than the other counties in the area. Given the other measures of wealth in this county, this is not likely a sign of lack of wealth in the county. This could be explained by a lack of retail trade establishments rather than lower wealth.

Population and Demographics

Northern Montana has a small population, and only minimal growth is expected. The socio-economic characteristics of this area can be expected to remain constant in the future. The following summarizes population and demographic conditions within and near Segment 3.

Hill County has the largest population of the three counties. Hill County also has the most ethnically diverse population with only 72.6% of the population identified as White Alone. Most of the other residents of Hill County, 22.7%, identify as American Indian. This is due to the Rocky Boy's Indian Reservation that is partially in Hill County. Toole County is predominantly populated with people who identify as White Alone, but 5.5% of its population identifies as American Indian and 3.2% identify as Hispanic or Latino. Liberty County is almost entirely composed of people identified as White Alone at 97.6%. Less than 2% of residents of Liberty County identify as American Indian or Hispanic or Latino. The rate of owner occupied housing is highest in Hill County. The other counties are on par with the statewide rate of owner occupied housing.

The largest age group amongst both men and women is 45-64 years. This is in line with the age distribution by sex of the state. The distribution of age by sex in the three counties is similar to the statewide distribution.

The counties are expected to experience a 10-year growth rate of 0.549%. This rate is lower than the projected statewide growth rate of 0.0793%. While the overall growth rate of Montana is expected to decrease over the next 45 years, the growth rate in these counties is expected to remain close to constant.

Environmental Justice

Title VI of the United States Civil Rights Act of 1964, as amended (USC 2000(d)) and EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, require that no minority, or, by extension, low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects. MDT will further evaluate

environmental justice during the project development process for any sites advanced from this study.

Land Ownership and Use

Because privately owned lands and developed lands may be costlier to acquire, MDT attempts to minimize impacts to privately owned lands and developed lands to the extent practicable during the safety rest area siting process.

Land ownership in Segment 3 is predominantly private with some state, county, and city owners. A small state land parcel is located near the beginning of the segment near RP 278. The city of Shelby is adjacent to US 2 from RP 278 to RP 281 and county-owned lands occur near RP 282. An entire section of state land is located from RP 282 to RP 283 and the BNSF Railway runs parallel to US 2 nearly throughout Segment 3 except from RP 281 to RP 284, RP 297 to RP 299, and from RP 299 to RP 304. Additionally, State Trust lands are located near RP 297 to RP 303, RP 312, and RP 315.

Most land use in Segment 3 is crop/pasture with mixed urban near Shelby.

Recreational Resources

MDT considers effects on recreational sites in accordance with Section 4(f) and Section 6. For sites advanced from this study, MDT will conduct a reevaluation of Section 6(f) resources to determine if any new Section 6(f) resources are present at the time of future project development. As general guidance, converting Section 6(f) resources to a non-recreational purpose can be a difficult and time-consuming task and should be avoided if practicable.

Lands within Segment 3 are primarily privately owned, and there are very few recreational opportunities available. According to the FWP database, there are no designated fish access sites within the study segment.

Three potential Section 4(f) resources are located directly north of the study segment, within the city of Shelby, near RP 279. These include the recreational fields for Shelby High School, the Shelby Sports Complex, and Aronow City Park. These resources are not located within the study segment. One potential Section 4(f) resource is located within the study segment near RP 280.6. This is the Marias Fairgrounds found just south of US 2.

The FWP LWCFAsite list by county shows funds allotted for the facilities at Aronow Park and the Shelby Sports Complex, both of which are outside the study segment.

Cultural Resources

Historic properties have been recorded within Segment 3, including archaeological sites, commercial buildings, and residences. In addition to the historic properties in the communities through which the highway passes, irrigation ditches, an active railroad grade (BNSF Railway), farms, ranches, and highway-related structures (i.e., bridges and overpasses) also occur. Also represented in the corridor are churches, schools, government buildings, sand houses, and maintenance section shops.

Archaeological sites that may occur within Segment 3 include buried campsites, stone circle sites, bison kills, human burials, and rock art sites under federal, state, local, and private ownership.

The NHPA of 1966, as amended, defines historic properties as sites, buildings, structures, districts (including landscapes), and objects included on, or eligible for inclusion on, the NRHP, as well as artifacts, records, and remains related to such properties.

To be considered eligible for listing on the NRHP, a property must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Is associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possess high artistic values, or that represents a significant distinguishable entity whose components may lack individual distinction.
- D. Yielded, or may likely yield, information important in prehistory or history (36 CFR Part 60.4).

During the safety rest area siting process, MDT considers recorded historic sites determined to be NRHP-eligible as identified through a Montana SHPO file search. In addition, MDT will conduct cultural resource surveys for siting options advanced from this study.

Noise

The study corridor traverses a variety of land uses. In some portions of the corridor, noise-sensitive receptors are located near US 2 right-of-way. In Segment 3, isolated residential development is found throughout the segment, with more concentrated development at Shelby (\pm RP 278-281), Dunkirk Reservoir (\pm RP 289), Devon (\pm RP 297), Galata (\pm RP 302-303), and Lothair (\pm RP 309).

MDT considers proximity to potential noise receptors during the safety rest area siting process. Options advanced from this study may require a Type I noise analysis.

Visual Resources

Vast, open views of rolling grasslands, large agricultural fields, wooded draws, and meandering floodplains, interspersed with small communities, make up Segment 3.

MDT evaluates the potential effects on visual resources and viewshed opportunities during the safety rest area siting process.

4.4 Public Water

Investigation into the potential public system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability, connection costs to existing water systems, and water quality during a future Phase I process for any sites advanced from this study. For any new safety rest areas, DEQ must review and approve construction of any new public on-site water systems or connections to existing public water systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

Twenty-five recorded wells are within or directly adjacent to Segment 3. All but two are located adjacent to the city of Shelby at the western end of the segment.

Shelby (RP 277.0 to RP 282.0) provides the only public water system within the segment. A new safety rest area site near Shelby may have the potential for connection to the existing

system. Discussion in September 2017 with the system operator, Loren Skartved, confirmed that the water system has the capacity for a safety rest area connection. DEQ has reported that the Shelby water system has had water quality violations in the past, which have since been resolved. If sites near this system are advanced from this study, MDT will consider system reliability, cost to connect to the water system and water quality would need to be addressed further.

Most of the area from RP 282.0 to RP 312.5 is in the Marias River Shale (Kmk) formation. This formation is approximately 660 feet thick. Suitable water may be found in weathered limestone and siltstone beds. Due to limited groundwater information, MDT may be required to install test wells to verify suitable water quality and quantity in this area.

4.5 Public Wastewater

Wastewater non-degradation factors considered for this report include surface water, floodplain proximity, and high groundwater (greater than four feet). Investigation into the potential public wastewater system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability and cost to connect to existing wastewater systems during a future Phase I process for any sites advanced from this study.

For any new safety rest area, DEQ must review and approve any public on-site wastewater systems or connections to existing public wastewater systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

The city of Shelby is the only public wastewater system within this segment. A possible safety rest area site near Shelby may have the potential for connection to this existing system. Discussion in September 2017 with the system operator, Loren Skartved, confirmed that the water system has the capacity for a safety rest area connection. The operator indicated the DEQ just approved a 4th cell for the wastewater treatment plan, allowing additional flow to the wastewater system. If a site is advanced within this area, MDT will consider system reliability and cost to connect to the wastewater system.

Potential on-site wastewater system configurations for this segment would be based on soil type. Soil survey information shows approximately 55 soils within Segment 3. Most surficial soils in this segment are mapped as alluvium or till, with some interspersed glacial deposits. Remaining portions of the segment include primarily till, clayey till, and fine-loamy till. The alluvium or till deposits are typically medium to fast percolating soils, having soils sizing application rates between 0.3 to 0.8 gpd/ft². MDT will evaluate on-site test holes and percolation tests during the Phase I process to determine the feasibility of sites advanced from this study.

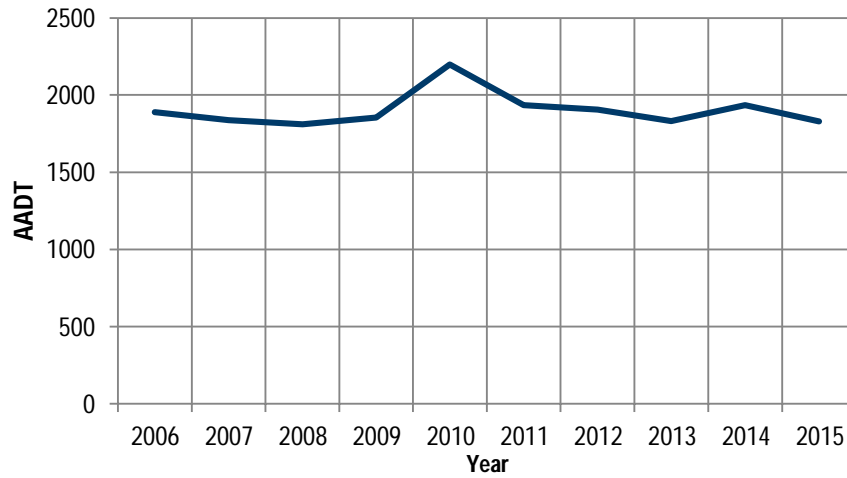
4.6 Traffic Volumes

Traffic volumes are relevant to rest area siting to assess parking and other facility demands. For planning efforts, traffic volumes in combination with other variables can be utilized to determine proportions of mainline traffic stopping at rest areas and then correlated to facility usage demand.

Historic Volumes

AADT is the total of all motorized vehicles traveling in both directions on a highway on an average day. This study uses average AADT volumes from short-term counters to represent historic traffic volumes within the study segment boundaries. Figure 9 summarizes traffic volumes from 2006 to 2015 for Segment 3.

Figure 9: Historic Traffic Volumes – Segment 3



Source: MDT, 2017; Averaged AADT from Traffic Counters 26-2-1, 51-3-4, 51-3-5, 51-3-6, 51-3-7, 51-3-10, 51-3-11, 51-3-12, 51-3-13, 51-4-1 and 51-4-2.

AADT volumes for short-term counters near or within Segment 3 have been reasonably consistent, averaging approximately 1,900 vehicles per day for the 10-year period.

Growth Rates and Projected Traffic Volumes

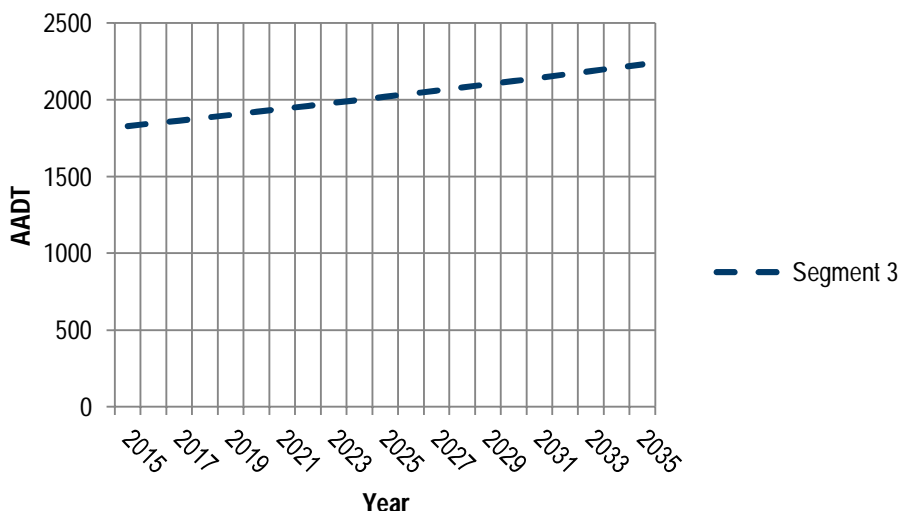
This study uses a compound annual growth rate method to estimate future AADT volumes within the study segment, with a growth rate of 2.16 percent per year for this segment based on analysis of historic traffic volumes as shown in Figure 9 above.

The following compound annual growth rate formula illustrates the method for projecting traffic volumes.

$$(Existing\ Volume) * (1 + [Growth\ Rate\ in\ Decimal\ Form])^{Number\ of\ Years} = Future\ Volume$$

Projected AADT volumes for Segment 3 are illustrated in Figure 10 below.

Figure 10: Projected Future Traffic Volumes – Segment 3



Source: DOWL 2017.

Table 8 presents future traffic volumes as estimates using the growth rate calculation noted above, assuming that the percentage composition of passenger vehicles and trucks would remain the same as existing percentages.

Table 8: Forecasted Traffic Volume by Type – Segment 3

Study Segment	Total AADT (Projected 2035)	Total Passenger & Bus (Types 1-4)		Total Small Truck (Types 5-7)		Total Large Trucks (Types 8-13)		Total Commercial (Types 5-13)	
		AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT
3	2,231	2,012	90.2%	60	2.7%	159	7.1%	218	9.8%

Source: MDT 2017; DOWL 2017.

4.7 Geometric and Access Analysis

US 2 is a Non-Interstate Principal Arterial on the NHS.

The topography of the surrounding land influences the vertical and horizontal alignment of a roadway. The three general types of terrain are described as follows:

- **Level Terrain:** Available stopping sight distances are generally long or can be made to be so without construction difficulty or major expense.
- **Rolling Terrain:** Natural slopes consistently fall below and rise above the road grade, and occasional steep slopes offer some restriction to horizontal and vertical roadway alignment.
- **Mountainous Terrain:** Longitudinal and transverse changes in the elevation of the ground with respect to the road are abrupt and extensive grading is frequently needed to obtain acceptable horizontal and vertical alignments.

A key criterion for consideration of any potential safety rest area site is stopping sight distance. Based on the types of terrain described above, the greatest sight distance opportunities are

provided where the terrain is level combined with linear horizontal segments. The three critical stopping sight movements to be evaluated at locations to be considered for rest area sites include:

- left-turn movements from the minor road,
- right-turn movements from the minor road, and
- left-turn movements from the major road.

MDT considers vertical grades of the highway when evaluating potential safety rest area sites. Level grades are preferred over steep grades to minimize the impact steep grades have on stopping sight distance and for starting and stopping movements, especially in adverse weather conditions.

Segment 3 consists primarily of level terrain with some stretches of rolling terrain. As-built drawings were unavailable for this segment, but observations from the July 2017 field review indicate the alignment has long stretches of straight roadway with level terrain. The segment runs through Shelby and Galata. The geometry is generally linear with subtle horizontal curves throughout the segment.

Interstate 15 crosses over US 2 near RP 278.5. Access is provided at this junction via a traffic interchange with on and off ramps, within the limits of Shelby. Primary 67 intersects US 2 from the north near RP 279.4, also within Shelby. Secondary 417 intersects US 2 from the south near RP 284.9. Sporadic county and private roads intersect from RP 285 to Secondary 343 near RP 303.3, within the limits of Galata. Infrequent county roads intersect US 2 from Galata to the end of the segment.

4.8 Safety Analysis

Of the 72 total crashes occurring within the segment during the 2012 to 2017 analysis period, over 68% were non-injury accidents. Ten non-incapacitating and three incapacitating injury accidents were recorded. No fatal injuries resulted during the five-year time period. A total of 24 carcasses were recorded within the segment consisting almost entirely of ungulates. Table 9 lists crash and carcass data for the period 2012 through 2017.

Table 9: Crash Severity and Carcass Counts – Segment 3

Crash Severity	Crash Count
Incapacitating Injury Accident	3
Non-Incapacitating Evident Injury Accident	10
Non-Injury Accident (Property damage only accident)	49
Possible Injury Accident	9
Unknown	1
Grand Total	72
Carcass – Animal Type	Carcass Count
Antelope	8
Unknown	1
Whitetail Deer	7
Mule Deer	8
Grand Total	24

Source: MDT, July 1, 2012 through June 30, 2017 Crash and Carcass Data.

4.9 Rail Crossings

Constructed in 1887, the BNSF Railway extends east to west across the Montana Hi-Line. The railroad naturally attracted the development of primitive roads connecting towns and stations along its stretch. In 1919, local and regional promoters established the Theodore Roosevelt International Highway (US 2) which connected many of the primitive roads that ran parallel and often crossing the BNSF Railway. Today US 2 generally runs parallel to the BNSF Railway, with some points of intersection.

The BNSF Railway runs parallel along nearly all of Segment 3 on the north side of US 2, except from RP 281 to RP 284, RP 297 to RP 299, and from RP 299 to RP 304, where the rail diverges further to the north away from US 2. Additionally, an at-grade crossing is located near RP 279.9. Attachment 1 illustrates railroad facilities near the study segment.

4.10 Utilities

Utilities in the study area include underground telephone, underground cable television, underground natural gas, and overhead and underground electric power. A utility assessment was performed using aerial photos, GIS mapping, National Pipeline Mapping System, and visual inspection at each of the study segment locations. Additional utility investigation is required during the project development process for any safety rest area sites forwarded from this study.

Montana has nearly 15,500 miles of transmission, gathering, and distribution pipelines. Approximately 3,821 miles of pipeline transport hazardous and highly volatile liquid commodities throughout the state. Additionally, tens of thousands of miles of high- and low-voltage power lines run throughout the state servicing Montana, neighboring states, and Canada.

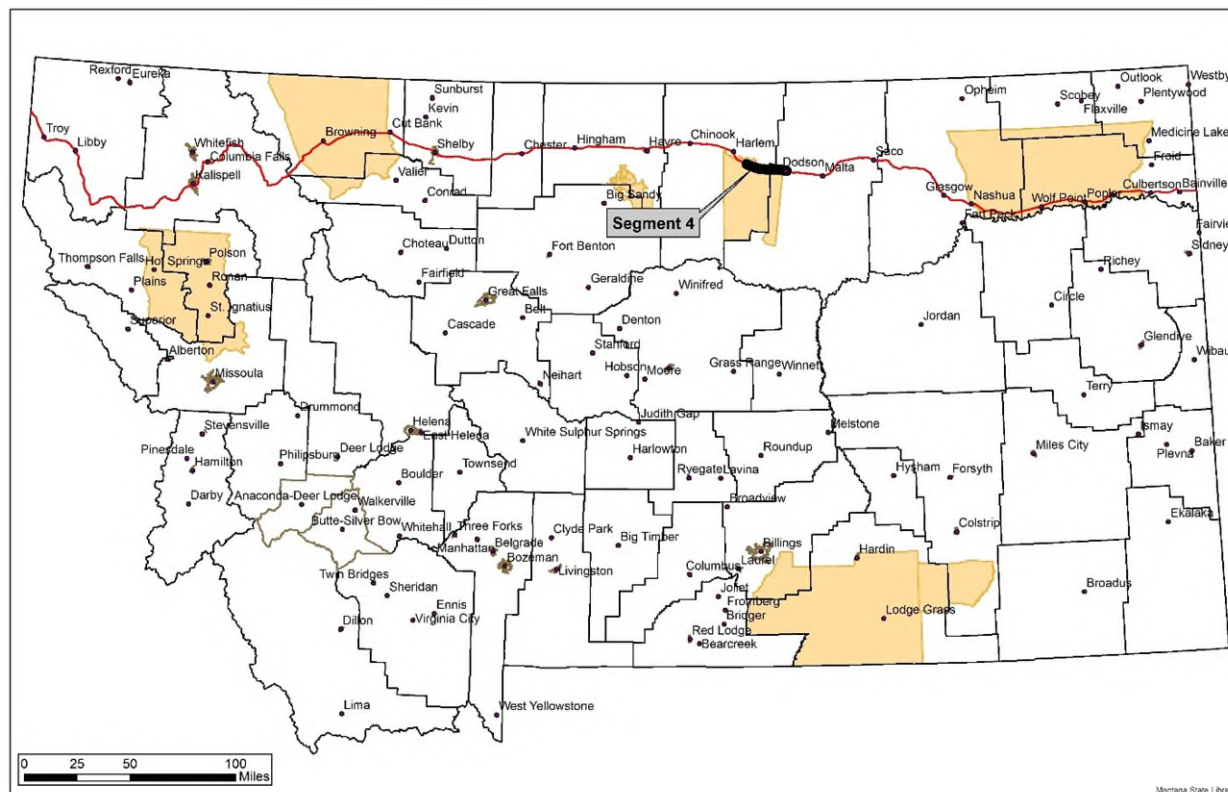
Utilities occur in the following locations within Segment 3.

- Gas transmission pipelines cross the study segment at RP 278.3.
- Shelby is located from RP 277.9 to RP 280.1; a thorough utility investigation may be required to locate underground utilities.
- Overhead power lines run parallel to the south from RP 280.9 to RP 281.1 then cross back to the north side of US 2.
- Overhead power lines run parallel to the north side from RP 281.1 to RP 281.4 then cross back to the south.
- Overhead power lines run parallel to the south side from RP 281.7 to RP 284.9 then cross back to the north side of US 2.
- Overhead power lines run parallel to both sides of US 2 from RP 284.9 to RP 288.6.
- Gas transmission pipelines cross the study segment at RP 293.0.
- The overhead power lines run parallel to the south side from RP 288.6 to RP 299.4 then cross back to the north side of US 2.
- Overhead power line run parallel to the south side from RP 307.5 to RP 309 then cross back to the north side of US 2.
- Overhead power lines run parallel to the north side of US 2 from RP 309 to RP 310.2.
- Overhead power line run parallel to the north side from RP 311.4 to RP 312.0.

Attachment 1 illustrates transmission lines near the study segment.

5.0 Segment 4 (RP 434.9 to 454.3)

Figure 11. Segment 4 Location



5.1 Physical Environment

Soil Resources and Prime Farmland

MDT considers soil characteristics for constructability (e.g., clay soils) during the safety rest area siting process. In addition, MDT will complete a CPA-106 Farmland Conversion Impact Rating Form and coordinate with NRCS for any siting options advanced from this study that are within identified farmlands and are supported with federal funds. The NRCS uses information from the impact rating form to keep inventory of the prime and important farmlands within the state.

Most surficial soil in Segment 4 is mapped as alluvium, fine-loamy till, and alluvium/glacial lake (glaciolacustrine) deposits. From RP 434.9 to RP 442.8, the segment is primarily comprised of fine-loamy till, interspersed with till and some alluvial deposits. Alluvial deposits make up most of the segment from RP 442.8 to the end of the segment at RP 454.3, this includes a section of alluvium/glacial lake deposits from RP 443.5 to RP 448.

NRCS soil surveys indicate the presence of farmland of statewide importance, prime farmland if irrigated, and prime farmland if irrigated (when the product of I [soil erodibility] x C [climate factor] does not exceed 60) within the study segment. These designations occur throughout most of the corridor, with a large break of non-designated land occurring from RP 443 to RP 448. The percentage of the study segment comprised of farmland of statewide importance or prime farmland if irrigated is moderately high.

Geologic Resources

During the safety rest area siting process, MDT considers geologic and seismicity information, which can help determine potential safety rest area design and construction issues. Site-specific geotechnical evaluations are required if potential sites are selected and advanced.

The Judith River Formation (Cretaceous) underlies most of Segment 4 and consists of mainly sandstone interbedded with lesser amounts of siltstone, shale/claystone, and thin lignite beds. RP 439.3 to RP 440.3 is underlain by the Claggett Formation (Cretaceous), which consists of mostly shale with some interbedded sandstone (near the top) and bentonite beds (near the base). Bentonite beds and soils derived from bentonite may have expansive characteristics.

Segment 4 is located along the Milk River. The surficial deposits along the Milk River valley consist mainly of alluvium. The glacial material mapped on the surface of the upland areas is a Quaternary ground moraine. These soils may have a moderate to high frost susceptibility and drainage/moisture issues. Based on the published data reviewed, it does not appear that landslides have been mapped along Segment 4.

A northwest trending fault is mapped at approximately RP 434.2 (just west of the study segment) and a northeast trending fault is mapped at approximately RP 440.3. However, based on MBMG and USGS mapping, the closest Quaternary faults (which may be considered active) are located more than 100 miles away from Segment 4. The study segment is in an area where historic seismicity is low. No significant historic earthquake epicenters are mapped within 100 miles of Segment 4.

Hazardous Substances

MDT considers the presence of contaminated soils during the safety rest area siting process. Areas where pipelines, wells, or mines are located may require additional investigation and coordination during future project development activities for sites advanced from this study.

There are no UST sites, remediation response sites, USEPA designated superfund sites, hazardous waste sites, mining districts, abandoned mine sites, open cut mines, in-service oil and gas pipelines, or oil/gas wells or well directionals located within Segment 4.

Five petroleum release fund sites and three LUST sites are located within the eastern limits of the study segment in or near the town of Dodson (RP 452.3 to RP 454.2). Of the three LUST sites, only one has been resolved (1994).

Air Quality

A review of the DEQ website indicates no non-attainment areas for any of the criteria pollutants are located within or near Segment 4.

According to Table 2, 40 CFR 93.126, safety rest areas are typically exempt from the requirements that a conformity determination be made. As a result, special design considerations are not anticipated to accommodate NAAQS in any future safety rest area project development process.

Surface Waters

MDT considers potential impacts to surface waters and the costs that may be associated with permitting and potential mitigation during the safety rest area siting process. Coordination with federal, state, tribal, and local agencies may be necessary, as work within these surface waters may be regulated by USACE, Montana FWP, the DEQ, and tribal laws and regulations. In

addition, any siting options advanced will trigger the need to obtain coverage under NPDES or MPDES for Storm Water Discharges Associated with Construction Activity for one or more acres of disturbance and comply with the requirements outlined in MDT's Storm Water Management Plans.

Segment 4 is primarily within the Middle Milk River Watershed (HUC 10050004). However, a small portion of the segment from RP 446.8 to RP 448.4 is located within the Peoples Watershed (HUC 10050009).

Threemile Reservoir, Threemile Creek, White Bear Creek, Milk River, and Dodson Creek are the named surface waters within Segment 4. Threemile Reservoir is located directly south of US 2 near RP 435. The primary drainage within the Middle Milk River Watershed portion of Segment 4 is the Milk River. Both White Bear Creek and Dodson Creek, which crosses the study segment at RP 454, flow into the Milk River. In addition to the named drainages, there are several irrigation ditches/canals (discussed later in the Irrigation section) and unnamed ephemeral and intermittent drainages within this watershed that cross or parallel the study segment.

The small portion of the Peoples Watershed located within the study segment includes one primary drainage named Peoples Creek. The creek flows north through the study segment at RP 447.3.

Total Maximum Daily Loads

Segment 4 is located within the Fort Belknap TPA and the Middle Milk and Tributaries TPA. Waterbodies within the Fort Belknap TPA are not listed in the DEQ 303d Water Quality Report. In the Middle Milk and Tributaries TPA, the Milk River where it crosses the study segment is listed as not fully supporting drinking water due to mercury from agricultural, dam or impoundments, and natural sources. MDT considers downstream TMDL standards and potential impacts to water quality within receiving waterbodies during the safety rest area siting process.

Wild and Scenic Rivers

Based on a review of the United States National Park Service website, there are no wild or scenic rivers within or near Segment 4.

Irrigation

During the safety rest area siting process, MDT attempts to avoid impacts to irrigation facilities to the greatest extent practicable, particularly where large ditches/canals and pivots are located as these are costly to mitigate. Any work within these irrigation ditches/canals may also be regulated by the USACE.

Segment 4 is primarily located within the Fort Belknap Reservation, where irrigation water is supplied through the Fort Belknap Irrigation Project, which is owned and operated by the BIA. Once out of the reservation, the study segment crosses lands irrigated through the Milk River Project – Dodson and Malta Irrigation Districts.

WRS maps for Blaine and Phillips County show a great deal of irrigation activity/infrastructure within Segment 4. Starting at RP 434.9, the Lateral 27 A ditch parallels US 2 to the north, within the study segment. It turns to the northeast at RP 435.7. The Lateral 2B3, Lateral 4B, and Three Mile Unit Main Canal (B Canal) all cross US 2 from RP 436.2 to RP 436.7, and two large pivots are located just north of US 2 from RP 437 to RP 438.3.

At RP 442, Fort Belknap Main Canal (Canal A) flows down into the study segment and parallels US 2 to the north before crossing the highway at 442.5. Lateral C canals pulls water out of White Bear Creek near RP 442.9 and parallels US 2 to the south before crossing the highway near RP 444.4. Lateral 4C crosses US 2 at RP 443.6, while Lateral 9C and Lateral 11 C4 cross US 2 near RP 444.8 and RP 445.6. Near RP 447, WRS maps show a series of small ditches crossing US 2.

Once outside the reservation, the Dodson South Canal, which is part of the Milk River Project, crosses US 2 at RP 451.3. At RP 453.5 the Dodson North Canal enters the study segment and parallels US 2 to the north. It crosses US 2 at RP 454.

Floodplains and Floodways

EO 11988, Floodplain Management, requires federal agencies to avoid to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

In addition, Federal-aid Policy Guide, 23 CFR 650, Bridges, Structures, and Hydraulics, calls for the assessment of federally funded highway projects in terms of impacts on flood risk, where such projects must avoid hazardous or incompatible use and development of floodplains, avoid longitudinal or substantial floodplain encroachment, minimize negative impacts on base flood elevations, restore and preserve natural and beneficial floodplain values, and be consistent with FEMA, state, tribal and local government standards for the administration of the National Flood Insurance Program.

During the safety rest area siting process, MDT attempts to avoid areas designated within a 100-year floodplain.

Segment 4 is primarily located on the Fort Belknap Reservation, with a small portion of the segment located outside the reservation in Phillips County. The study segment is comprised of four flood zones.

- Zone A: SFHA - 100-Year Flood, No Base Flood Elevations Determined
- Zone AE: SFHA - 100-Year Flood, Base Flood Elevations Are Determined
- Zone C: Areas Outside the 500-Year Flood
- Zone X (unshaded): Areas Outside the 500-Year Flood

From RP 434.9 to RP 442.5 the study segment is primarily located within a Zone X designation, while Zone AE, which is the 100-year floodplain designation for the Milk River, is located directly to the north. From RP 442.5 to RP 451.8, a large portion of the study segment is within the Milk River and Peoples Creek 100-year floodplains (Zone AE). At RP 451.8 the study segment leaves to reservation. From this RP to the end of the study segment at RP 454.3, the area south of US 2 is within the 100-year floodplain for the Milk River, but it is designated as Zone A. The area north of US 2 is primarily designated as Zone C, with a small portion (RP 453.2 to RP 453.6) within the 100-year floodplain for Dodson Creek (Zone A). The town of Dodson is not included in FEMA mapping.

Wetlands

During the safety rest area siting process, MDT attempts to avoid and minimize adverse impacts to wetlands to the maximum extent practicable, and consider the costs that may be associated with permitting and potential mitigation. For federally funded projects, EO 11990 requires

agencies to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Section 404(b)(1) of the Clean Water Act requires the USACE to only permit discharges of dredge or fill materials into USACE jurisdictional wetlands that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences. Future wetland delineations would be required if safety rest area siting options are forwarded from the study that could potentially impact wetlands. Work within USACE jurisdictional wetlands would require a Clean Water Act 404 permit. Unavoidable impacts to wetlands must be compensated through mitigation in accordance with USACE regulatory requirements and requirements of EO 11990.

NWI mapping within Segment 4 shows wetlands primarily along the Milk River, the larger creeks and drainages, and within depressional areas. Wetland fringe is also likely along the numerous irrigation ditches and canals located within the study segment. From RP 434.9 to RP 436, emergent wetland associated with the Lateral 27 A ditch and Threemile Reservoir are located on both sides of US 2. Emergent wetlands associated with Threemile Creek, White Bear Creek, Peoples Creek, Dodson South Canal, Dodson Creek, and several irrigation ditches and unnamed drainages cross or parallel US 2 within the study segment at RP 436.3, RP 436.7, RP 439.8, from RP 442 to RP 444, from RP 444.5 to RP 446, RP 442.8, RP 447.3, RP 451.3, and from RP 452 to RP 454. Emergent, shrub/scrub, and forested wetlands occur along the various active and inactive channels of the Milk River from RP 451.3 to RP 451.8. In addition, NWI mapping shows several emergent depressional wetlands within the study segment near RP 441, RP 442.2, RP 443.5, RP 447.5, and RP 449.

Groundwater

MDT considers impacts to existing wells during the safety rest area siting process. Wells can be a costly item to mitigate if they are not avoided. Mitigation of a well usually involves drilling a new well for the owner in a new location that will not be impacted by the potential project. Well costs are based on per foot price; the deeper and higher volume needed results in a higher cost. In addition, MDT considers groundwater levels for safety rest area constructability.

Approximately 50 GWIC wells occur within or directly adjacent to Segment 4. Wells throughout the segment show recorded depths that range from 13 feet to 162 feet. Very few wells have static water level recorded. Wells with static water levels recorded range from four feet near RP 454.5 to 100 feet near RP 448.

Shallow groundwater can be expected throughout the study segment, as US 2 primarily traverses the valley floor of the Milk River (particularly from RP 444 to RP 454.3) and is crisscrossed and paralleled by several irrigation canals and major drainages, including Threemile Creek (RP 436.7 to 442.8), White Bear Creek (RP442.8), and Dodson Creek (RP 454). Localized groundwater conditions may be affected by perched aquifers and smaller tributary drainages. Seasonal variation and irrigation may also have a significant impact on groundwater conditions.

5.2 Biological Resources

Vegetation

During the safety rest area siting process, MDT attempts to minimize adverse impacts to suitable wildlife habitat and considers areas where mature tree and shrub removal can be limited to the extent practicable.

Land cover within and adjacent to Segment 4 is dominated by a combination of lowland/prairie grassland, agriculture, sagebrush steppe, and floodplain/riparian. Due to the need for irrigation in the area, agriculture primarily occurs surrounding the floodplain of the Milk River. From RP 434.9 to RP 446 agricultural land is mainly north of US 2, as the Milk River parallels the study segment several miles to the north. At RP 446, agricultural lands migrate to the south of US 2 as the Milk River crosses the highway near RP 451.7. Where agricultural lands and floodplain dominate one side of the US 2, lowland/prairie grassland and sagebrush steppe dominate the other side.

General Wildlife Species

Most of Segment 4 has been moderately developed through the conversion of land to agricultural practices. Small wooded draws and portions of the floodplain along the Milk River still possess specimens of native vegetation that was likely present within this segment prior to conversion to agriculture. These areas provide important movement corridors for wildlife. Wildlife species inhabiting or traversing Segment 4 are typical of those that occur in moderately developed areas of north central and eastern Montana. Since many species occurring within the study segment are habituated to somewhat disturbed areas, species present are predominately, though not exclusively, generalists. Numerous mammal, bird, amphibian, and reptile species likely occur within the study segment.

Threatened and Endangered Species

According to the USFWS database, two threatened, three endangered, and one experimental species are listed as potentially occurring along the US 2 corridor within Segment 4 (Table 10).

Table 10: T&E Species with the Potential to Occur in Segment 4

Species	Status
Mammals	
Black-footed ferret <i>Mustela nigripes</i>	Experimental
Birds	
Interior least tern <i>Sterna antillarum athalassos</i>	Endangered
Piping plover <i>Charadrius melodus</i>	Threatened
Red knot <i>Calidris canutus rufa</i>	Threatened
Whooping crane <i>Grus americana</i>	Endangered
Fish	
Pallid sturgeon <i>Scaphirhynchus albus</i>	Endangered

Source: USFWS, 2017.

Documented occurrences of black-footed ferret and piping plover occur within the three-mile buffer for Segment 4. MDT considers potential effects to T&E species and their habitat during the safety rest area siting process.

Species of Concern and Special Status Species

MDT considers the presence and extent of SOC and special status species and proximity to known eagle nests during the safety rest area siting process.

There are 20 wildlife SOC with recorded observations within and adjacent to Segment 4. These include fish, mammal, bird, and reptile species. Both bald eagles (a special status species) and golden eagles have been observed near Segment 4. While no known nests have been identified, construction timing restrictions are required for work near active nests.

Segment 4 is located within sage grouse general habitat. The MTNHP database also shows recorded observations for greater sage grouse within the study segment.

5.3 Social and Cultural Resources

Economy

Segment 4 includes Blaine County, Phillips County, and is near Valley County. The area also includes Fort Belknap Indian Reservation lands and parts of the Turtle Mountain Indian Reservation.

The mix of employment in the three counties is similar. The largest employment sector in Phillips County is agricultural and the largest employment sectors in Blaine and Valley Counties is educational, health care and social services. Public administration is a relatively large part of the three economies. This could be due to the presence of Fort Belknap Indian Reservation.

The area's observed and forecasted level of unemployment is similar to the state. Like the state, the area's unemployment is expected to continue at the current the rates barring an unforeseen economic development. The highest observed unemployment rate in the year is 6.24% observed in 2011. The lowest observed unemployment rate in the area is 2.98% observed in 2006.

Blaine and Phillips Counties both have median family incomes that are well below the Montana median family income. Valley County's measure of median family income is above the Montana median family income. Valley County also has higher measures of per capita income and retail sales per capita. Blaine County has the lowest values for per capita income and retail sales per capita. These values are also well below statewide measures. Phillips County has a per capita income that is below the Montana statewide measure, but by only a small amount. The retail sales per capita in Phillips County are below the statewide value.

Population and Demographics

Northern Montana has a small population, and only minimal growth is expected. The socio-economic characteristics of this area can be expected to remain constant in the future. The following summarizes population and demographic conditions within and near Segment 4.

Communities within the three counties are relatively small. Valley County is the most populous of the three counties. Phillips and Valley Counties have populations that predominantly identify as White Alone. Both counties have a relatively high percentage of their populations that identify as American Indian. The three counties have similar values for the percentage of the population identifying as Hispanic or Latino. The value of about 2% is below the statewide average. Blaine County is predominantly populated by people identified as American Indian with 48.9% identifying as American Indian. 48.0% of Blaine County's population identifies as White Alone. The rate of owner occupied housing is greater than the statewide value in all the counties.

Phillips County has the highest rate of owner occupied housing of the three, and Blaine County has the lowest. Valley County has roughly double the housing units of Blaine and Phillips Counties.

The counties have similar distribution of by sex relative to the rest of Montana. The population of the three counties does seem to be slightly older than what is average for Montana, however, the overall age distributions are very similar.

In recent years the counties have had a negative yearly growth rate; however, there is an upward trend in the growth rate of these three counties which began growing in population in 2007. The 10-year growth rate for these counties is forecast to be 0.303%. This is lower than the forecasted statewide rate of 0.793%.

Environmental Justice

Title VI of the United States Civil Rights Act of 1964, as amended (USC 2000(d)) and EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, require that no minority, or, by extension, low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects. MDT will further evaluate environmental justice during the project development process for any sites advanced from this study.

Land Ownership and Use

Because privately owned lands and developed lands may be costlier to acquire, MDT attempts to minimize impacts to privately owned lands and developed lands to the extent practicable during the safety rest area siting process.

Segment 4 is almost entirely located on the Fort Belknap Reservation from RP 434.9 to RP 451.5. State Trust land occurs near RP 452 and private land is located from RP 452.5 to the town of Dodson at the end of the study segment.

Most land use in Segment 4 is crop/pasture with mixed urban development near Dodson.

Recreational Resources

MDT considers effects on recreational sites in accordance with Section 4(f) and Section 6. For sites advanced from this study, MDT will conduct a reevaluation of Section 6(f) resources to determine if any new Section 6(f) resources are present at the time of future project development. As general guidance, converting Section 6(f) resources to a non-recreational purpose can be a difficult and time-consuming task and should be avoided if practicable.

Segment 4 is primarily located on the Fort Belknap Reservation, and recreation within the segment is limited. There are no designated fish access sites within the study segment.

Lands owned by federally recognized Indian Tribes are not considered to be “publicly owned” within the meaning of Section 4(f), nor open to the public. Therefore, Section 4(f) does not automatically apply. Significant parks, recreation areas, or wildlife and waterfowl refuges owned by the tribe could be considered a Section 4(f) resource; however, no such resources are located within or adjacent to the study segment.

The town of Dodson is located just outside of the reservation at the eastern end of the study segment. Two potential Section 4(f) resources are in the town. The Dodson Fairgrounds are

located directly north of the study segment near RP 454.3. The Dodson Public Schools recreational fields are located just south of US 2 near RP 453.9.

No LWCFA sites are listed within this study segment.

Cultural Resources

Historic properties have been recorded within Segment 4, including archaeological sites, commercial buildings, and residences. In addition to the historic properties in the communities through which the highway passes, irrigation ditches associated with the BOR's Milk River Project, an active railroad grade (BSNF Railway), farms, ranches, and highway-related structures (i.e., bridges and overpasses) also occur. Also represented in the corridor are churches, schools, government buildings, sand houses, and maintenance section shops.

Archaeological sites that may occur within Segment 4 include buried campsites, stone circle sites, bison kills, human burials, and rock art sites under federal and tribal ownership.

The NHPA of 1966, as amended, defines historic properties as sites, buildings, structures, districts (including landscapes), and objects included on, or eligible for inclusion on, the NRHP, as well as artifacts, records, and remains related to such properties.

To be considered eligible for listing on the NRHP, a property must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Is associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possess high artistic values, or that represents a significant distinguishable entity whose components may lack individual distinction.
- D. Yielded, or may likely yield, information important in prehistory or history (36 CFR Part 60.4).

During the safety rest area siting process, MDT considers recorded historic sites determined to be NRHP-eligible as identified through a Montana SHPO file search. In addition, MDT will conduct cultural resource surveys for siting options advanced from this study.

Noise

The study corridor traverses a variety of land uses. In some portions of the corridor, noise-sensitive receptors are located near US 2 right-of-way. In Segment 4, isolated residential development is found throughout segment, with more concentrated development at Dodson (\pm RP 454).

MDT considers proximity to potential noise receptors during the safety rest area siting process. Options advanced from this study may require a Type I noise analysis.

Visual Resources

Vast, open views of rolling grasslands, large agricultural fields, and meandering floodplains, interspersed with small communities, make up Segment 4. Views of the large Milk River floodplain can also be seen from Segment 4.

MDT evaluates the potential effects on visual resources and viewshed opportunities during the safety rest area siting process.

5.4 Public Water

Investigation into the potential public system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability, connection costs to existing water systems, and water quality during a future Phase I process for any sites advanced from this study. For any new safety rest areas, DEQ must review and approve construction of any new public on-site water systems or connections to existing public water systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

Most of Segment 4 is located within the Fort Belknap Indian Reservation. Published information is limited within this area. Two larger public water systems are located within this segment: Fort Belknap and Dodson. At the time this report was published, the system operators had not responded to a request to verify capacity and operation of each system. If sites near these systems are advanced from this study, MDT will consider system reliability, cost to connect to the water system, water quality, and system capacity.

Approximately 50 GWIC wells are on record within or directly adjacent to Segment 4. Shallow groundwater can be expected throughout this study segment, as US 2 primarily traverses the valley floor of the Milk River. Most of this study segment is in the Judith River Formation (Kjr) and the Milk River Alluvium (Qal). The Kjr formation is made up of interbedded sandstones, shale and coal lenses. Suitable water may be found in the sandstone beds. Due to limited groundwater information, MDT may be required to drill test wells to verify suitable water quality and quantity in these areas.

Localized groundwater conditions may be affected by perched aquifers and smaller tributary drainages. Seasonal variation and irrigation may also have a significant impact on groundwater conditions. MDT may be required to install a test well to verify suitable water quality and quantity in this area.

5.5 Public Wastewater

Wastewater non-degradation factors considered for this report include surface water, floodplain proximity, and high groundwater (greater than four feet). Investigation into the potential public wastewater system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability and cost to connect to existing wastewater systems during a future Phase I process for any sites advanced from this study.

For any new safety rest area, DEQ must review and approve any public on-site wastewater systems or connections to existing public wastewater systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

Most of Segment 4 is located within the Fort Belknap Indian Reservation. Published wastewater information is limited within this area. Two public wastewater systems are located within this segment: Fort Belknap and Dodson. At the time this report was published, the system operators had not responded to a request to verify capacity and operation of each system. It may be possible for future safety rest areas to connect to these systems. If a site is advanced near these existing public wastewater systems, MDT will consider system reliability, cost to connect to the wastewater system, and system capacity.

Potential on-site wastewater system configurations for this segment would be based on soil type. Most surficial soil in this segment is mapped as alluvium, fine-loamy till, and alluvium/glacial lake deposits. From RP 434.9 to RP 442.8, the segment is primarily comprised of fine-loamy till, interspersed with till and some alluvial deposits. The fine-loamy till, and glacial lake deposits are typically medium to slow percolating soils and having sizing application rates between 0.2 to 0.5 gpd/ft². Alluvial deposits make up most of the segment from RP 442.8 to the end of the segment at RP 454.3. The fine-loamy till and glacial lake deposits are typically medium to fast percolating soils with sizing application rates between 0.4 to 0.8 gpd/ft². MDT will evaluate on-site test holes and percolation tests during the Phase I process to determine the feasibility of sites advanced from this study.

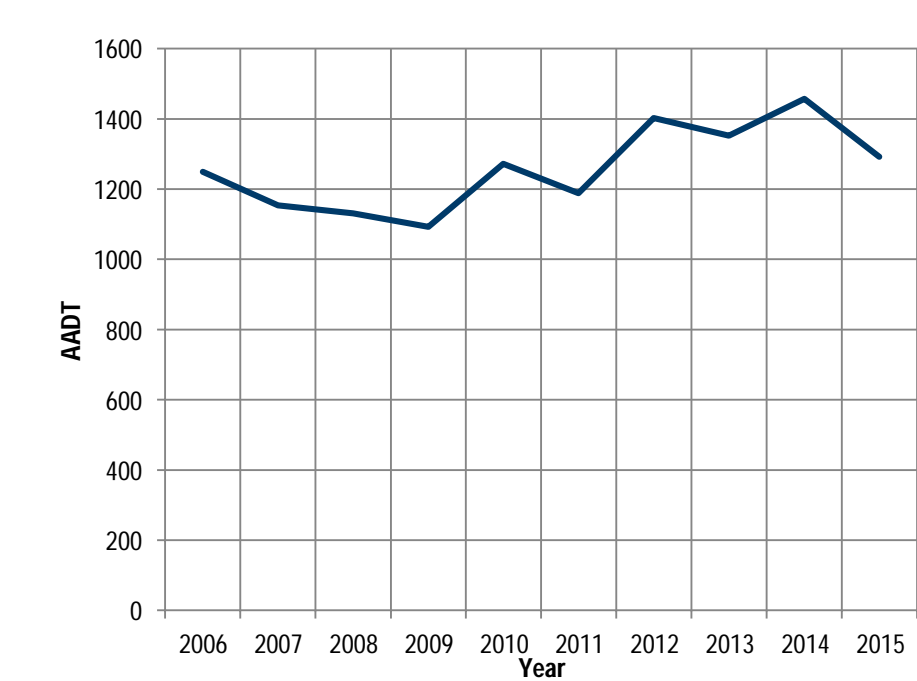
5.6 Traffic Volumes

Traffic volumes are relevant to rest area siting to assess parking and other facility demands. For planning efforts, traffic volumes in combination with other variables can be utilized to determine proportions of mainline traffic stopping at rest areas and then correlated to facility usage demand.

Historic Volumes

AADT is the total of all motorized vehicles traveling in both directions on a highway on an average day. This study uses average AADT volumes from short-term counters to represent historic traffic volumes within the study segment boundaries. Figure 12 summarizes traffic volumes from 2006 to 2015 for Segment 4.

Figure 12: Historic Traffic Volumes – Segment 4



Source: MDT, 2017; Averaged AADT from Traffic Counters 3-4-9, 3-4-10, 36-3-1, and 36-3-10.

AADT volumes for short-term counters near or within Segment 4 have been reasonably consistent, averaging approximately 1,260 AADT for the 10-year period.

Growth Rates and Projected Traffic Volumes

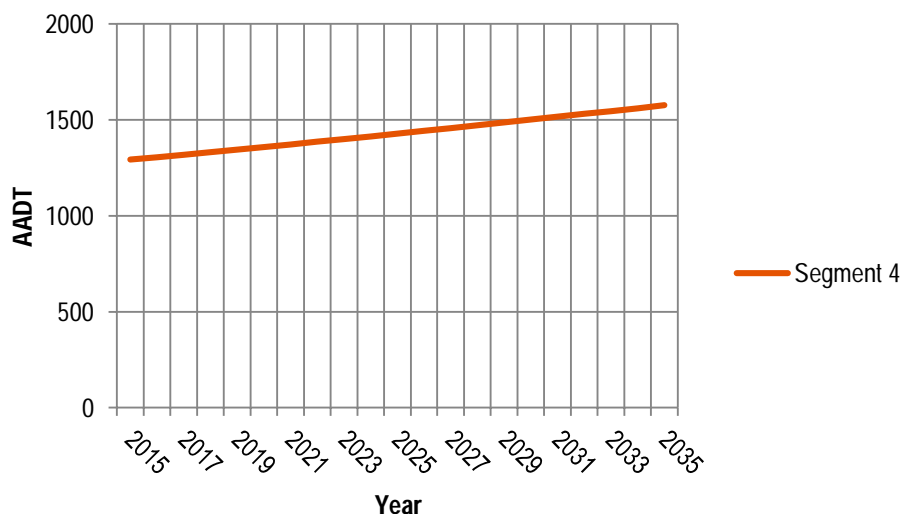
This study uses a compound annual growth rate method to estimate future AADT volumes within the study segment, with a growth rate of 2.16 percent per year for this segment based on analysis of historic traffic volumes as shown in Figure 12 above.

The following compound annual growth rate formula illustrates the method for projecting traffic volumes.

$$(\text{Existing Volume}) * (1 + [\text{Growth Rate in Decimal Form}])^{\text{Number of Years}} = \text{Future Volume}$$

Projected AADT volumes for Segment 4 are illustrated in Figure 13 below.

Figure 13: Projected Future Traffic Volumes – Segment 4



Source: DOWL 2017.

Table 11 presents future traffic volumes as estimates using the growth rate calculation noted above, assuming that the percentage composition of passenger vehicles and trucks would remain the same as existing percentages.

Table 11: Forecasted Traffic Volume by Type – Segment 4

Study Segment	Total AADT (Projected 2035)	Total Passenger & Bus (Types 1-4)		Total Small Truck (Types 5-7)		Total Large Trucks (Types 8-13)		Total Commercial (Types 5-13)	
		AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT
4	1,577	1,339	84.9%	56	3.6%	182	11.5%	238	15.1%

Source: MDT 2017; DOWL 2017.

5.7 Geometric and Access Analysis

US 2 is a Non-Interstate Principal Arterial on the NHS.

The topography of the surrounding land influences the vertical and horizontal alignment of a roadway. The three general types of terrain are described as follows:

- **Level Terrain:** Available stopping sight distances are generally long or can be made to be so without construction difficulty or major expense.
- **Rolling Terrain:** Natural slopes consistently fall below and rise above the road grade, and occasional steep slopes offer some restriction to horizontal and vertical roadway alignment.
- **Mountainous Terrain:** Longitudinal and transverse changes in the elevation of the ground with respect to the road are abrupt and extensive grading is frequently needed to obtain acceptable horizontal and vertical alignments.

A key criterion for consideration of any potential safety rest area site is stopping sight distance. Based on the types of terrain described above, the greatest sight distance opportunities are provided where the terrain is level combined with linear horizontal segments. The three critical stopping sight movements to be evaluated at locations to be considered for rest area sites include:

- left-turn movements from the minor road,
- right-turn movements from the minor road, and
- left-turn movements from the major road.

MDT considers vertical grades of the highway when evaluating potential safety rest area sites. Level grades are preferred over steep grades to minimize the impact steep grades have on stopping sight distance and for starting and stopping movements, especially in adverse weather conditions.

Segment 4 consists primarily of level terrain. The segment runs through Fort Belknap Agency and Dodson. The grades consistently range between zero and two percent. The alignment has long stretches of straight roadway and the geometry is generally linear with subtle horizontal curves throughout the segment.

Primary 66 intersects US 2 from the south near RP 428.5. This junction is outside of the segment limits, west of Fort Belknap Agency. Only a few county and private roads intersect US 2 from the beginning of the segment at RP 434.9 to Secondary 204 near RP 453.9, within the limits of Dodson.

5.8 Safety Analysis

This segment experienced the lowest number of recorded crashes, (14) of the six segments. Half of the incidents were non-injury accidents; however, there was one fatal accident a near RP 453.794. Additionally, twenty carcasses were found along this segment of US 2 with whitetail and mule deer accounting for most of the total. Table 12 lists crash and carcass data for the period 2012 through 2017.

Table 12: Crash Severity and Carcass Counts – Segment 4

Crash Injury Severity	Crash Count
Fatal Accident	1
Non-Incapacitating Evident Injury Accident	5
Non-Injury Accident (Property damage only accident)	7
Unknown	1
Grand Total	14
Carcass – Animal Type	Carcass Count
Other	8
Whitetail Deer	9
Mule Deer	3
Grand Total	20

Source: MDT, July 1, 2012 through June 30, 2017 Crash and Carcass Data.

5.9 Rail Crossings

Constructed in 1887, the BNSF Railway extends east to west across the Montana Hi-Line. The railroad naturally attracted the development of primitive roads connecting towns and stations along its stretch. In 1919, local and regional promoters established the Theodore Roosevelt International Highway (US 2) which connected many of the primitive roads that ran parallel and often crossing the BNSF Railway. Today US 2 generally runs parallel to the BNSF Railway, with some points of intersection.

The BNSF Railway runs adjacent to US 2 from RP 452 to RP 454.2; however, no grade-separated or at-grade crossings occur on US 2 within this segment. Attachment 1 illustrates railroad facilities near the study segment.

5.10 Utilities

Utilities in the study area include underground telephone, underground cable television, underground natural gas, and overhead and underground electric power. A utility assessment was performed using aerial photos, GIS mapping, National Pipeline Mapping System, and visual inspection at each of the study segment locations. Additional utility investigation is required during the project development process for any safety rest area sites forwarded from this study.

Montana has nearly 15,500 miles of transmission, gathering, and distribution pipelines. Approximately 3,821 miles of pipeline transport hazardous and highly volatile liquid commodities throughout the state. Additionally, tens of thousands of miles of high- and low-voltage power lines run throughout the state servicing Montana, neighboring states, and Canada.

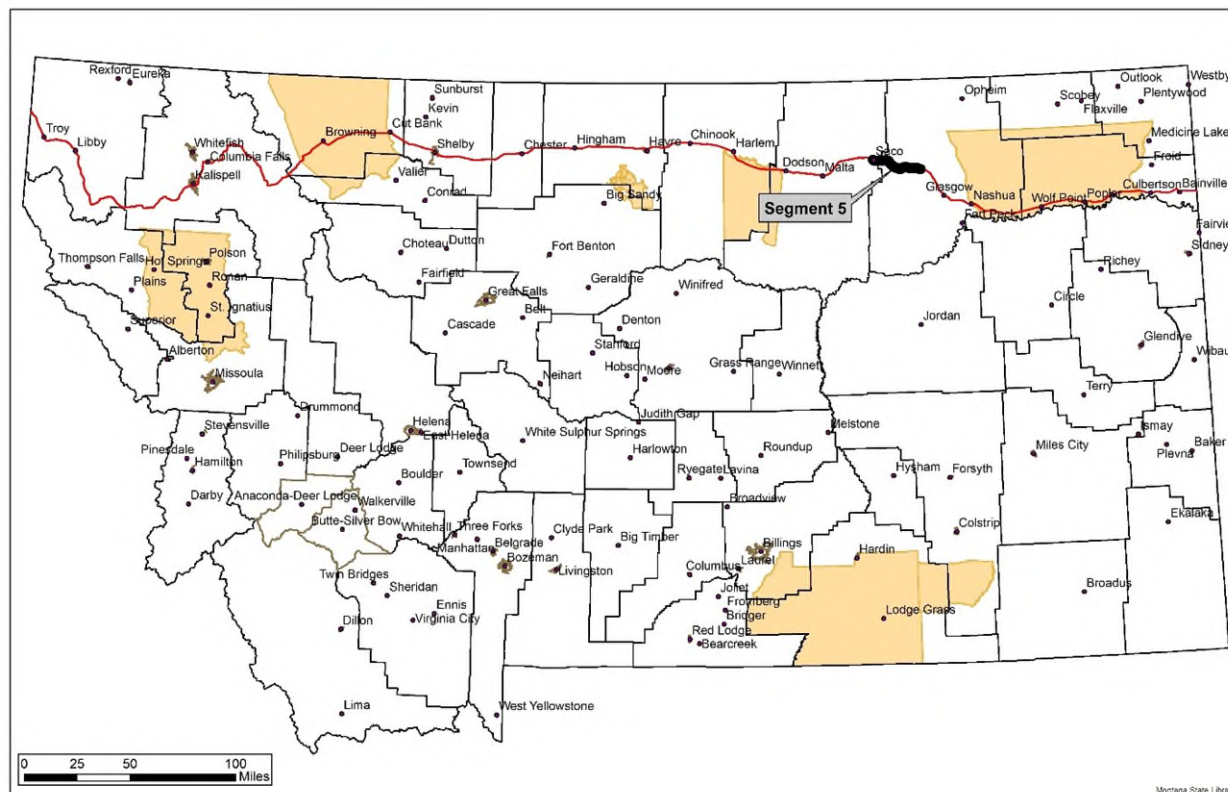
Utilities occur in the following locations within Segment 4.

- Overhead power lines run parallel to the north from RP 434.9 to RP 451.2.
- Overhead power line cross from the north at RP 452.1 and run parallel to the south into the Dodson, RP 453.9.

Attachment 1 illustrates transmission lines near the study segment.

6.0 Segment 5 (RP 499.1 to RP 523.7)

Figure 14. Segment 5 Location



6.1 Physical Environment

Soil Resources and Prime Farmland

MDT considers soil characteristics for constructability (e.g., clay soils) during the safety rest area siting process. In addition, MDT will complete a CPA-106 Farmland Conversion Impact Rating Form and coordinate with NRCS for any siting options advanced from this study that are within identified farmlands and are supported with federal funds. The NRCS uses information from the impact rating form to keep inventory of the prime and important farmlands within the state.

From RP 499.1 to RP 501.5, glacial lake deposits (glaciolacustrine) make up the surficial soils within the study segment. From this RP to the end of the segment, clay becomes predominant in the surficial soil, with soils primarily mapped as clayey alluvium, clayey till, or clayey glacial lake deposits.

Farmland of statewide importance and prime farmland if irrigated are scattered throughout the study segment; however, most lands along the highway are not designated as prime, unique, or important farmlands. Designated farmlands occur near RP 499, RP 501.5, RP 509, RP 511.5 to RP 515.3, and RP 522.5. The percentage of the study segment comprised of farmland of statewide importance or prime farmland if irrigated is low.

Geologic Resources

During the safety rest area siting process, MDT considers geologic and seismicity information, which can help determine potential safety rest area design and construction issues. Site-specific geotechnical evaluations are required if potential sites are selected and advanced.

The Claggett Formation (Cretaceous) which consists of mostly shale with some interbedded sandstone (near the top) and bentonite beds (near the base) underlies most of Segment 5 (from RP 499.1 to RP 520.5). The Judith River Formation (Cretaceous) underlies the study segment from RP 520.5 to RP 523.7 and consists of mainly sandstone interbedded with lesser amounts of siltstone, shale/claystone, and thin lignite beds. Bentonite beds and soils derived from bentonite may have expansive characteristics.

Most of Segment 5 is located along Beaver Creek and the Milk River. The surficial deposits along the Beaver Creek and the Milk River valley consist mainly of alluvial gravel, sand, silt, and clay of variable thickness. Quaternary glacial deposits are mapped along the valley sides and in the upland areas. Quaternary landslide deposits may be encountered near RP 510 to RP 513.

A trace of a northeast trending fault is mapped at approximately RP 518.2. Based on MBMG and USGS mapping, the closest Quaternary fault (which may be considered active) is located about 80 miles east of Segment 5. The study segment is in an area where historic seismicity is low. The closest historic earthquake epicenter is mapped about 70 miles northeast of the study segment.

Hazardous Substances

MDT considers the presence of contaminated soils during the safety rest area siting process. Areas where pipelines, wells, or mines are located may require additional investigation and coordination during future project development activities for sites advanced from this study.

From RP 499.1 to RP 500, Segment 5 crosses through the town of Saco. The DEQ database lists four LUST sites and three petroleum release fund sites within this area. Of the four LUST sites, two have been resolved (1994 and 1996). At the town of Hinsdale (RP 512.7 to RP 513.2) five LUST sites and two petroleum release fund sites are recorded. Of the five LUST sites, three were resolved in 1989 and 1993.

Segment 5 is not located within a mining district, nor are there any abandoned mines within the study segment. Two open cut mines are located within the study segment. One is located on the south side of US 2 at RP 506.4. The other is located on the north side of US 2 at RP 520.5.

WBI Energy Transmission INC has a natural gas pipeline that parallels US 2 within, and directly adjacent to, the study segment on the south side from RP 510 to RP 513.5. Numerous oil/gas wells are located within and directly adjacent to the study segment from RP 499.1 to RP 512.5. These wells are primarily gas wells.

There are no USEPA designated superfund sites within Segment 5.

Air Quality

A review of the DEQ website indicates no non-attainment areas for any of the criteria pollutants are located within or near Segment 5.

According to Table 2, 40 CFR 93.126, safety rest areas are typically exempt from the requirements that a conformity determination be made. As a result, special design

considerations are not anticipated to accommodate NAAQS in any future safety rest area project development process.

Surface Waters

MDT considers potential impacts to surface waters and the costs that may be associated with permitting and potential mitigation during the safety rest area siting process. Coordination with federal, state, and local agencies is necessary, as work within these surface waters may be regulated by USACE, Montana FWP, and DEQ.

In addition, any siting options advanced will trigger the need to obtain coverage under MPDES for Storm Water Discharges Associated with Construction Activity for one or more acres of disturbance and comply with the requirements outlined in MDT's Storm Water Management Plans.

Segment 5 is located within three watersheds: the Beaver Watershed (HUC 10050014) from RP 499.1 to RP 503.5 and RP 508 to RP 512.7, the Middle Milk Watershed (HUC 10050004) from RP 503.5 to RP 508, and the Lower Milk Watershed (HUC 10050012) from RP 512.7 to RP 523.7.

Beaver Creek is the primary drainage within the Beaver Watershed portion of Segment 5. Several irrigation ditches/canals (discussed later in the Irrigation section), Limekiln Coulee (near RP 512), and small ephemeral and intermittent drainages, which all flow into Beaver Creek, also make up this area of the watershed.

The small portion of the Middle Milk Watershed located within Segment 5 is primarily made up of irrigation canals (discussed later in the Irrigation section) and small ephemeral and intermittent drainages, all of which eventually flow into the Milk River located north and northeast of the study segment.

The Milk River is the primary drainage within the Lower Milk River Watershed portion of Segment 5. Tank Coulee flows north through the study segment, and into the Milk River, near RP 513. Long Coulee, Lime Creek, Bear Creek, and Unger Coulee (located at the Vandalia Safety Rest Area) all flow south through the study segment at RP 520, RP 522.4, RP 522.5, and RP 527, respectively. These named drainages all flow into the Milk River south of Segment 5. In addition, several irrigation ditches/canals (discussed in the Irrigation section) and small ephemeral and intermittent drainages also make up this area of the watershed.

Total Maximum Daily Loads

Segment 5 is located within the Beaver TPA and the Lower Milk – Rock TPA. Within the study segment, Beaver Creek (MT40M001_020) is listed as not fully supporting aquatic life due to alteration in stream-side or littoral vegetative covers, nitrogen (Total), phosphorus (Total), physical substrate habitat alternations, and uranium. The likely cause is agriculture. The Milk River within the study segment (MT40O001_010) is also listed as not fully supporting drinking water and recreation due to *Escherichia coli*, lead, and mercury. The likely sources include agriculture, dam/impoundment, and unknown sources. MDT considers downstream TMDL standards and potential impacts to water quality within receiving waterbodies during the safety rest area siting process.

Wild and Scenic Rivers

Based on a review of the United States National Park Service website, there are no wild or scenic rivers within or near Segment 5.

Irrigation

During the safety rest area siting process, MDT attempts to avoid impacts to irrigation facilities to the greatest extent practicable, particularly where large ditches/canals and pivots are located as these are costly to mitigate. Any work within these irrigation ditches/canals may also be regulated by the USACE.

Segment 5 crosses an area that is heavily irrigated, with irrigation water primarily supplied through the Milk River Project – Malta Irrigation District, the Rock Creek Canal Company, and private irrigation.

At the start of Segment 5, near the town of Saco, two unnamed drain ditches cross US 2 at RP 500.6 and RP 501. The drain ditch that crosses at RP 500.6 also parallels US 2 to the south, within the study segment, before turning south at RP 501.5. The Nelson South Canal crosses US 2 near RP 502.1. This same canal crosses US 2 again at RP 506.6.

From RP 507.5 to RP 511.5 a series of ditches and drains cross or parallel US 2 within the study segment. At 507.5, Ditch NS-116 crosses US 2, where it then flows east and then south joining back with US 2 at RP 508.3, where it parallels the highway to RP 508.8 before turning east. At 509.6, Ditch NS-116-2-10 crosses US 2. From here, the ditch parallels the highway to the east, crossing US 2 again at RP 510.4 and RP 511.4. A large pivot is located north of US 2 at RP 512.

The study segment from RP 514 to RP 519 also includes a series of ditches, drains, and canals associated with the Milk River that cross or parallel the highway. The Ophus Ditches occur near RP 514.5. The Black Ditch crosses US 2 at RP 515.7. Hellstern Ditch and Rutter Ditch cross the highway at RP 516.3 and RP 516.8. Rock Creek Canal crosses US 2 at 517.8. It also parallels the highway to the south, with the study segment, from RP 519.9 to RP 520.5. Large pivots are located north of US 2 at RP 517.8, south of the highway at RP 519.5, and south of the highway at RP 521.8.

Floodplains and Floodways

EO 11988, Floodplain Management, requires federal agencies to avoid to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

In addition, Federal-aid Policy Guide, 23 CFR 650, Bridges, Structures, and Hydraulics, calls for the assessment of federally funded highway projects in terms of impacts on flood risk, where such projects must avoid hazardous or incompatible use and development of floodplains, avoid longitudinal or substantial floodplain encroachment, minimize negative impacts on base flood elevations, restore and preserve natural and beneficial floodplain values, and be consistent with FEMA, state, tribal and local government standards for the administration of the National Flood Insurance Program.

During the safety rest area siting process, MDT attempts to avoid areas designated within a 100-year floodplain.

Zone A is the only designated flood zone located within Segment 5.

- Zone A: SFHA - 100-Year Flood, No Base Flood Elevations Determined

All areas outside of this flood zone are undetermined and no zone is specified. From RP 499.1 to approximately RP 502, the study segment is primarily within the 100-year floodplain for Beaver Creek (Zone A). From RP 502 to RP 508 the study segment crosses through an area with no flood zone designation. The segment crosses back over the Beaver Creek 100-year floodplain from RP 508 to RP 509.6. From this RP, the segment remains outside of any designated flood zones until RP 513.9, where the study segment crosses the 100-year floodplain of the Milk River (Zone A). The Milk River floodplain ends at approximately RP 515.8. From this RP to the existing Vandalia Safety Rest Area at RP 527.1 the study segment again primarily crosses through an area with no flood zone designation; however, the smaller 100-year floodplain (Zone A) for Long Coulee parallels the study segment to the south from RP 519.9 to RP 520.6, and the small 100-year floodplains (Zone A) for Lime Creek, Bear Creek, and Unger Creek cross the study segment at RP 522.4, RP 522.5, and RP 527, respectively.

Wetlands

During the safety rest area siting process, MDT attempts to avoid and minimize adverse impacts to wetlands to the maximum extent practicable, and consider the costs that may be associated with permitting and potential mitigation. For federally funded projects, EO 11990 requires agencies to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Section 404(b)(1) of the Clean Water Act requires the USACE to only permit discharges of dredge or fill materials into USACE jurisdictional wetlands that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences. Future wetland delineations would be required if safety rest area siting options are forwarded from the study that could potentially impact wetlands. Work within USACE jurisdictional wetlands would require a Clean Water Act 404 permit. Unavoidable impacts to wetlands must be compensated through mitigation in accordance with USACE regulatory requirements and requirements of EO 11990.

Segment 5 includes emergent, shrub/scrub, and forested wetlands, which are located along the larger creeks and drainages, channels of the Milk River, fringes along irrigation ditches and canals, and within large wet meadows. Emergent wetlands associated with Beaver Creek, Long Coulee, Lime Creek, Bear Creek, Unger Coulee (near the Vandalia Safety Rest Area), and several irrigation ditches and unnamed drainages cross or parallel US 2 within the study segment at RP 499.2, from RP 500.2 to RP 502, RP 508.4, RP 509, from RP 511.6 to RP 512, RP 517.8, RP 520, RP 520.4, RP 522.4, RP 522.5, and RP 527. A large emergent wet meadow is located within the study segment near RP 506.6. Emergent, shrub/scrub, and forested wetlands are found along the various active and inactive channels of the Milk River from RP 514 to RP 515.7.

Groundwater

MDT considers impacts to existing wells during the safety rest area siting process. Wells can be a costly item to mitigate if they are not avoided. Mitigation of a well usually involves drilling a new well for the owner in a new location that will not be impacted by the potential project. Well costs are based on per foot price; the deeper and higher volume needed results in a higher cost. In addition, MDT considers groundwater levels for safety rest area constructability.

According to the MBMG GWIC, there are approximately 67 wells on record within or directly adjacent to Segment 5. Wells with recorded depths range from 18 feet at RP 499.6 to 195 feet near 527.2 at the existing Vandalia Safety Rest Area. Wells with static water levels recorded range from six feet near RP 499 to 54 feet near RP 514.5.

Shallow groundwater can be expected throughout the study segment, particularly where the highway is near Beaver Creek (RP 499.2 to RP 509), the large wetland complex from RP 506.5 to RP 507, the Milk River (RP 513 to 515.8), Lime Creek and Bear Creek (RP 520 to RP 522.5), and Unger Coulee (RP 527). Localized groundwater conditions may be affected by perched aquifers and smaller tributary drainages. Seasonal variation and irrigation may also have a significant impact to ground water conditions.

6.2 Biological Resources

Vegetation

During the safety rest area siting process, MDT attempts to minimize adverse impacts to suitable wildlife habitat and considers areas where mature tree and shrub removal can be limited to the extent practicable.

Agriculture makes up a large portion of the land cover within and adjacent to Segment 5. However, lowland/prairie grassland also dominates the land cover south of the study segment. Irrigation plays a large role along this segment, and agriculture primarily occurs surrounding the floodplains of the Milk River and Beaver Creek. Within the study segment, agriculture surrounds US 2, with lowland/prairie grassland and the Milk River Floodplain becoming more prevalent from RP 510 to RP 516.

General Wildlife Species

Most of Segment 5 has been moderately developed through the conversion of land to agricultural practices. Small wooded draws and portions of the floodplain along the Milk River still possess specimens of native vegetation that was likely present within this segment prior to conversion to agriculture. These areas provide important movement corridors for wildlife. Wildlife species inhabiting or traversing Segment 5 are typical of those that occur in moderately developed areas of north central and eastern Montana. Since many species occurring within the study segment are habituated to somewhat disturbed areas, species present are predominately, though not exclusively, generalists. Numerous mammal, bird, amphibian, and reptile species likely occur within the study segment.

Threatened and Endangered Species

According to the USFWS database, two threatened, and three endangered, and one experimental species are listed as potentially occurring along the US 2 corridor within Segment 5 (Table 13).

Table 13: T&E Species with the Potential to Occur in Segment 5

Species	Status
Mammals	
Black-footed ferret <i>Mustela nigripes</i>	Experimental
Birds	
Interior least tern <i>Sterna antillarum</i>	Endangered
Piping plover <i>Charadrius melodus</i>	Threatened
Red knot <i>Calidris canutus rufa</i>	Threatened
Whooping crane <i>Grus americana</i>	Endangered
Fish	
Pallid sturgeon <i>Scaphirhynchus albus</i>	Endangered

Source: USFWS, 2017.

The pallid sturgeon is the only species with a documented occurrence within the three-mile buffer for Segment 5; however, whooping crane, piping plover, and black-footed ferret have the potential to occur in the segment vicinity due to potential suitable habitat in the area or the area being within the species known/historic range. MDT considers potential effects to T&E species and their habitat during the safety rest area siting process.

Species of Concern and Special Status Species

MDT considers the presence and extent of SOC and special status species and proximity to known eagle nests during the safety rest area siting process.

There are recorded observations of two plant SOC and 16 wildlife SOC within and directly adjacent to Segment 5. Wildlife species include mammals, birds, and fish species. Both bald eagles (a special status species) and golden eagles have been observed near Segment 5. While no known nests have been identified, potential safety rest area siting options will need to consider proximity to any identified active nests as construction timing restrictions are required for work near these nests.

Segment 5 is located within sage grouse general habitat and sage grouse connectivity habitat. The MTNHP database also shows recorded observations for greater sage grouse within Segment 5.

6.3 Social and Cultural Resources

Economy

Segment 5 includes Phillips County and Valley County. The area is located between the Fort Belknap and Fort Peck Indian Reservations. The mix of employment in the two counties is similar. The largest employment sector in Phillips County is agricultural and the largest employment sector in Valley County is educational, health care and social services. Public administration is a relatively large part of the two economies. administration is a relatively large part of the two economies.

The pattern of unemployment in these counties closely follows the patterns around the state and is expected to continue to do so. The lowest displayed unemployment rate is 2.99% and was observed in 2006. The highest displayed unemployment rate is 5.83% and was observed 2010. The counties have had lower than average unemployment rates and this trend is expected to continue.

Phillips County has a median family income that is well below the Montana median family income. Valley County's measure of median family income is above the Montana median family income. Valley County also has higher measures of per capita income and retail sales per capita. Phillips County has a per capita income that is below the Montana statewide measure, but by only a small amount. The retail sales per capita in Phillips County are below the statewide value.

Population and Demographics

Northern Montana has a small population, and only minimal growth is expected. The socio-economic characteristics of this area can be expected to remain constant in the future. The following summarizes population and demographic conditions within and near Segment 5.

These counties are predominantly populated with people who identify ethnically as White Alone. These counties do have relatively large populations of individuals identified as American Indian. The percentage of people identified as American Indians in these counties is larger than the statewide percentage. This is likely explained by both counties' proximity to the Fort Belknap and Fort Peck Indian Reservations. About 2% of the population of both counties identify as Hispanic or Latino. This is well below the proportion of people identified as Hispanic or Latino in all of Montana. Phillips and Valley counties have a higher than average rate of owner occupied housing with rates of 75.0% and 70.5%, respectively.

The two counties have an older population than the state average. More than half of the two counties' populations are in 45 – 64 or older than 65 age categories. The proportion of the population in the age group 25 – 44 is smaller in these two counties than it is in the rest of the state.

In recent years the two counties have experienced population loss. This changed in 2010 when the counties regained a positive growth rate. The 10-year growth rate of these counties is expected to be 0.190%. This is lower than the statewide expected 10-year growth rate of 0.793%. The trend of the growth rate in these counties is expected to be positive in the future. The growth in these counties could be explained by the increased economic activity in the Bakken shale region. This suggests that positive trend in growth predicted may change if the economic outlook of the Bakken shale changes.

Environmental Justice

Title VI of the United States Civil Rights Act of 1964, as amended (USC 2000(d)) and EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, require that no minority, or, by extension, low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects. MDT will further evaluate environmental justice during the project development process for any sites advanced from this study.

Land Ownership and Use

Because privately owned lands and developed lands may be costlier to acquire, MDT attempts to minimize impacts to privately owned lands and developed lands to the extent practicable during the safety rest area siting process.

Land ownership in Segment 5 is predominantly private with some scattered state, county, and federal owners. Saco is located near the beginning of the study segment from RP 499.2 to RP 500. County-owned land is located near RP 501 and RP 507 and some State Trust land occurs near RP 510 and RP 512. Additionally, spot locations of state and BLM lands are located near RP 506.5, RP 510 and RP 523.2. The BNSF Railway runs parallel to US 2 near Saco from RP 499.1 to RP 500.2 and from RP 510 to RP 513.2.

Most land use in Segment 5 is crop/pasture with mixed urban development near Saco.

Recreational Resources

MDT considers effects on recreational sites in accordance with Section 4(f) and Section 6. For sites advanced from this study, MDT will conduct a reevaluation of Section 6(f) resources to determine if any new Section 6(f) resources are present at the time of future project development. As general guidance, converting these resources to a non-recreational purpose can be a difficult and time-consuming task and should be avoided if practicable.

Most lands within Segment 5 are privately owned, and very few recreational opportunities are available. According to the FWP database, there are no designated fish access sites within the study segment.

Within the town of Saco, an “athletic field” is noted on USGS maps within the study segment on the north side of US 2 near RP 500. USGS mapping also indicates an “athletic field” and rodeo fairgrounds in Hinsdale, within the study segment, north of US 2, near RP 513.5. These sites may be potential Section 4(f) resources. The Milk River Park is also located within the town of Hinsdale; however, it is 0.1 mile north of the study segment.

No LWCFA sites are listed within this study segment.

Cultural Resources

Historic properties have been recorded within Segment 5, including archaeological sites, commercial buildings, and residences. In addition to the historic properties in the communities through which the highway passes, irrigation ditches associated with the BOR’s Milk River Project, an active railroad grade (BNSF Railway), farms, ranches, and highway-related structures (i.e., bridges and overpasses) also occur. Also represented in the corridor are churches, schools, government buildings, sand houses, and maintenance section shops.

Archaeological sites that may occur within Segment 5 include buried campsites, stone circle sites, bison kills, human burials, and rock art sites under federal, state, local, and private ownership.

The NHPA of 1966, as amended, defines historic properties as sites, buildings, structures, districts (including landscapes), and objects included on, or eligible for inclusion on, the NRHP, as well as artifacts, records, and remains related to such properties.

To be considered eligible for listing on the NRHP, a property must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Is associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possess high artistic values, or that represents a significant distinguishable entity whose components may lack individual distinction.
- D. Yielded, or may likely yield, information important in prehistory or history (36 CFR Part 60.4).

During the safety rest area siting process, MDT considers recorded historic sites determined to be NRHP-eligible as identified through a Montana SHPO file search. In addition, MDT will conduct cultural resource surveys for siting options advanced from this study.

Noise

The study corridor traverses a variety of land uses. In some portions of the corridor, noise-sensitive receptors are located near US 2 right-of-way. In Segment 5, isolated residential development is found throughout segment, with more concentrated development at Saco (\pm RP 499), Hinsdale (\pm RP 513), and Farrason Road/Happy Flats/Jones Road (\pm RP 514-515).

MDT considers proximity to potential noise receptors during the safety rest area siting process. Options advanced from this study may require a Type I noise analysis.

Visual Resources

Vast, open views of rolling grasslands, large agricultural fields, and meandering floodplains, interspersed with small communities, make up Segment 5. Views of the large Milk River floodplain can also be seen from Segment 5.

MDT evaluates the potential effects on visual resources and viewshed opportunities during the safety rest area siting process.

6.4 Public Water

Investigation into the potential public system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability, connection costs to existing water systems, and water quality during a future Phase I process for any sites advanced from this study. For any new safety rest areas, DEQ must review and approve construction of any new public on-site water systems or connections to existing public water systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

The town of Saco is the only public water system within this segment. A new safety rest area site near Saco may have the potential for connection to the existing system. Discussion in September 2017 with the system operator, Audie Simpson, confirmed that the water system has the capacity for a safety rest area connection. If sites near this system are advanced from this study, MDT will consider system reliability, cost to connect to the water system and water quality.

Approximately 67 wells are on record within or directly adjacent to Segment 5. Most of this study segment is in the Milk River Alluvium (Qal). Recorded well depths range from 18 to 80 feet with yields of 15 to 25 gpm at RP 499.6. Near RP 527.2 at the existing Vandalia Safety Rest Area, the well depth is 195 feet with yields of 16 gpm.

Areas in the eastern portion of this segment are located in Claggett Shale (Kcl). This formation consists of thin-bedded shale with cross-bedded sandstone. Zones of potential water are located within the sandstone layers. Seasonal variation and irrigation may also have a significant impact to groundwater conditions

6.5 Public Wastewater

Wastewater non-degradation factors considered for this report include surface water, floodplain proximity, and high groundwater (greater than four feet). Investigation into the potential public wastewater system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability and cost to connect to existing wastewater systems during a future Phase I process for any sites advanced from this study.

For any new safety rest area, DEQ must review and approve any public on-site wastewater systems or connections to existing public wastewater systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

The town of Saco and the Vandalia Safety Rest Area are the only two public wastewater systems located within this segment. A future safety rest area site near Saco may have the potential for connection to municipal services. Discussion in September 2017 with the system operator, Audie Simpson, confirmed that the wastewater system has the capacity for a safety rest area connection. Mr. Simpson indicated the system was designed for 500 to 800 residents and the town population is currently around 180 residents. If sites near these systems are advanced from this study, MDT will consider system reliability, cost to connect to the wastewater system, and system capacity would need to be addressed when considering this public system.

The existing wastewater system at the Vandalia Safety Rest Area showed signs of problems during the July 2017 field review. Wastewater was present on the ground surface in the location of the septic tank; MDT was notified of this issue upon inspection.

From RP 499.1 to RP 501.5, glacial lake deposits (glaciolacustrine) make up the surficial soils within the study segment. These types of soils are typically slow absorbing soils and having sizing application rates between 0.2 to 0.4 gpd/ft². From RP 502 to the end of the segment, clay becomes predominant in the surficial soil, with soils primarily mapped as clayey alluvium, clayey till, or clayey glacial lake deposits. These types of soils are typically slow absorbing soils and having sizing application rates between 0.2 to 0.15 gpd/ft². MDT will evaluate on-site test holes and percolation tests during the Phase I process to determine the feasibility of sites advanced from this study.

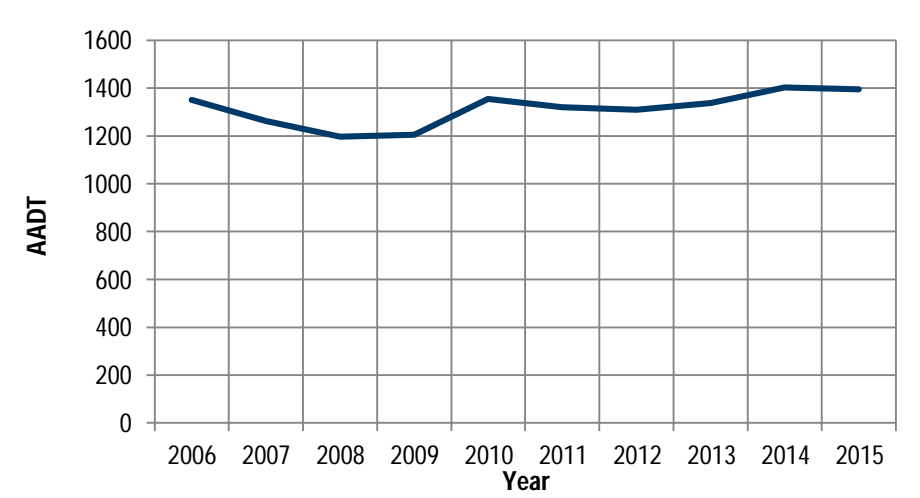
6.6 Traffic Volumes

Traffic volumes are relevant to rest area siting to assess parking and other facility demands. For planning efforts, traffic volumes in combination with other variables can be utilized to determine proportions of mainline traffic stopping at rest areas and then correlated to facility usage demand.

Historic Volumes

AADT is the total of all motorized vehicles traveling in both directions on a highway on an average day. This study uses average AADT volumes from short-term counters to represent historic traffic volumes within the study segment boundaries. Figure 15 summarizes traffic volumes from 2006 to 2015 for Segment 5.

Figure 15: Historic Traffic Volumes – Segment 5



Source: MDT, 2017; Averaged AADT from Traffic Counters 36-4-3, 36-4-4, 36-4-12, 36-4-13, 53-3-1, 53-3-2 and 53-4-1.

AADT volumes for short-term counters near or within Segment 5 have been reasonably consistent, averaging approximately 1,310 AADT for the 10-year period.

Growth Rates and Projected Traffic Volumes

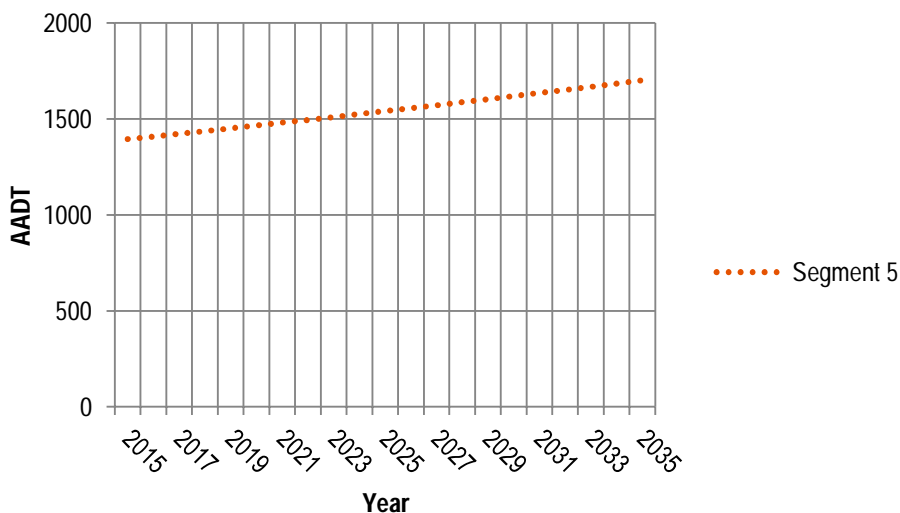
This study uses a compound annual growth rate method to estimate future AADT volumes within the study segment, with a growth rate of 2.16 percent per year for this segment based on analysis of historic traffic volumes as shown in Figure 15 above.

The following compound annual growth rate formula illustrates the method for projecting traffic volumes.

$$(Existing\ Volume) * (1 + [Growth\ Rate\ in\ Decimal\ Form])^{Number\ of\ Years} = Future\ Volume$$

Projected AADT volumes for Segment 5 are illustrated in Figure 16 below.

Figure 16: Projected Future Traffic Volumes – Segment 5



Source: DOWL 2017.

Table 14 presents future traffic volumes as estimates using the growth rate calculation noted above, assuming that the percentage composition of passenger vehicles and trucks would remain the same as existing percentages.

Table 14: Forecasted Traffic Volume by Type – Segment 5

Study Segment	Total AADT (Projected 2035)	Total Passenger & Bus (Types 1-4)		Total Small Truck (Types 5-7)		Total Large Trucks (Types 8-13)		Total Commercial (Types 5-13)	
		AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT
5	1,702	1,421	83.5%	101	6.0%	179	10.5%	281	16.5%

Source: MDT 2017; DOWL 2017.

6.7 Geometric and Access Analysis

US 2 is a Non-Interstate Principal Arterial on the NHS.

The topography of the surrounding land influences the vertical and horizontal alignment of a roadway. The three general types of terrain are described as follows:

- **Level Terrain:** Available stopping sight distances are generally long or can be made to be so without construction difficulty or major expense.
- **Rolling Terrain:** Natural slopes consistently fall below and rise above the road grade, and occasional steep slopes offer some restriction to horizontal and vertical roadway alignment.
- **Mountainous Terrain:** Longitudinal and transverse changes in the elevation of the ground with respect to the road are abrupt and extensive grading is frequently needed to obtain acceptable horizontal and vertical alignments.

A key criterion for consideration of any potential safety rest area site is stopping sight distance. Based on the types of terrain described above, the greatest sight distance opportunities are provided where the terrain is level combined with linear horizontal segments. The three critical stopping sight movements to be evaluated at locations to be considered for rest area sites include:

- left-turn movements from the minor road,
- right-turn movements from the minor road, and
- left-turn movements from the major road.

MDT considers vertical grades of the highway when evaluating potential safety rest area sites. Level grades are preferred over steep grades to minimize the impact steep grades have on stopping sight distance and for starting and stopping movements, especially in adverse weather conditions.

Segment 5 consists primarily of level terrain with some rolling terrain characteristics that navigate over river crossings. The segment runs through Saco and Hinsdale. The grades consistently range between one-half and two percent with a few vertical curves in the three-percent range. The alignment has fairly long stretches of straight roadway; however, the geometry does consist of some significant horizontal curves as the alignment traverses through the braided network of the Milk River and other water crossings throughout the segment. Secondary 243 intersects US 2 from the north near RP 499.5, within the limits of Saco. Intermittent county roads intersect US 2 from RP 500 to Secondary Route 537 near RP 513.0, within the limits of Hinsdale. Additionally, county roads on section lines intersect US 2 from Hinsdale to RP 523.7.

The existing Vandalia Rest Area is located near RP 527.2, and is located on a significant vertical grade and within a horizontal curve. Site observations from the July 2017 field review indicate existing sight distance may be a concern at the east access point due to the vertical curve east of the approach.

6.8 Safety Analysis

Over 70% of the 48 incidents were non-injury, with nine non-incapacitating, two possible injury accidents, two unknown, and one fatal accident near RP 520.532. Similar to Segments 2, 3 and 4, there were very few carcasses, (24) were found over the five-year time period with whitetail and mule deer accounting for most of the total. Table 15 lists crash and carcass data for the period 2012 through 2017.

Table 15: Crash Severity and Carcass Counts – Segment 5

Crash Injury Severity	Crash Count
Fatal Accident	1
Non-Incapacitating Evident Injury Accident	9
Non-Injury Accident (Property damage-only accident)	34
Possible Injury Accident	2
Unknown	2
Grand Total	48
Carcass – Animal Type	Carcass Count
Other	6
Whitetail Deer	13
Mule Deer	5
Grand Total	24

Source: MDT, July 1, 2012 through June 30, 2017 Crash and Carcass Data.

6.9 Rail Crossings

Constructed in 1887, the BNSF Railway extends east to west across the Montana Hi-Line. The railroad naturally attracted the development of primitive roads connecting towns and stations along its stretch. In 1919, local and regional promoters established the Theodore Roosevelt International Highway (US 2) which connected many of the primitive roads that ran parallel and often crossing the BNSF Railway. Today US 2 generally runs parallel to the BNSF Railway, with some points of intersection.

The BNSF Railway runs adjacent to US 2 from RP 499.2 to RP 500.2 and near RP 510.2 to RP 513.5; however, no grade-separated or at-grade crossings occur on US 2. Attachment 1 illustrates railroad facilities near the study segment.

6.10 Utilities

Utilities in the study area include underground telephone, underground cable television, underground natural gas, and overhead and underground electric power. A utility assessment was performed using aerial photos, GIS mapping, National Pipeline Mapping System, and visual inspection at each of the study segment locations. Additional utility investigation is required during the project development process for any safety rest area sites forwarded from this study.

Montana has nearly 15,500 miles of transmission, gathering, and distribution pipelines. Approximately 3,821 miles of pipeline transport hazardous and highly volatile liquid commodities throughout the state. Additionally, tens of thousands of miles of high- and low-voltage power lines run throughout the state servicing Montana, neighboring states, and Canada.

Utilities occur in the following locations within Segment 5.

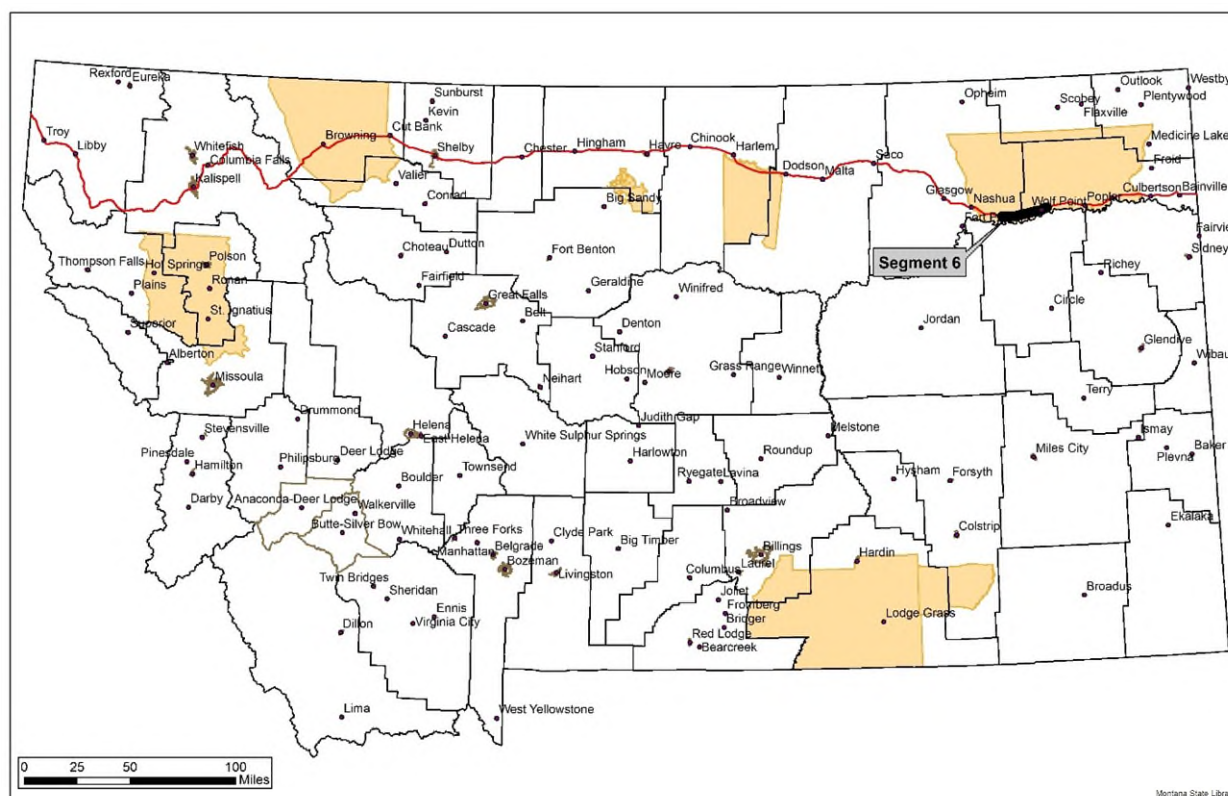
- Saco is located from RP 499.1 to RP 500.1; a thorough utility investigation may be required to locate underground utilities.
- Overhead power lines run parallel to the north side from RP 500.1 to RP 506.0.
- Overhead power lines run parallel to the north side from RP 508.3 to Hinsdale at RP 512.9.
- Overhead power lines run parallel to the north side of US 2 from Hinsdale at RP 512.9 to RP 515.2 then crosses to the south side of US 2.

- Overhead power lines run parallel to the south side from RP 515.2 to RP 516.2 then cross back to the north side of US 2.
- Overhead power lines run parallel to the north side from RP 516.2 to RP 516.8.
- Overhead power lines run parallel to the south side from RP 518 to RP 518.5 then cross back to the north side of US 2.
- Overhead power lines run parallel to the north side from RP 518.5 to RP 522.0.
- The overhead power lines run parallel to the south side from RP 523.2 to RP 523.7.

Attachment 1 illustrates transmission lines near the study segment.

7.0 Segment 6 (RP 571.8 to RP 593.7)

Figure 17. Segment 6 Location



7.1 Physical Environment

Soil Resources and Prime Farmland

MDT considers soil characteristics for constructability (e.g., clay soils) during the safety rest area siting process. In addition, MDT will complete a CPA-106 Farmland Conversion Impact Rating Form and coordinate with NRCS for any siting options advanced from this study that are within identified farmlands and are supported with federal funds. The NRCS uses information from the impact rating form to keep inventory of the prime and important farmlands within the state.

Clayey till is the primary surficial soil from the beginning of the study segment to RP 578. From this RP to the end of the study segment surficial soils are a mix of predominately clayey alluvium, loamy alluvium, and loamy glacial till.

NRCS soil surveys indicate the presence of farmland of statewide importance, prime farmland if irrigated, and prime farmland if irrigated (when the product of I [soil erodibility] x C [climate factor] does not exceed 60) scattered throughout the study segment. Some prime farmland if irrigated and farmland of statewide importance occurs from RP 571 to RP 572. A large area of farmland of statewide importance occurs from RP 581 to RP 588. Prime farmland if irrigated (when the product of I [soil erodibility] x C [climate factor] does not exceed 60) occurs from RP 589 to RP 589.5 and near RP 592.5. The percentage of the study segment comprised of farmland of statewide importance or prime farmland if irrigated is moderate.

Geologic Resources

During the safety rest area siting process, MDT considers geologic and seismicity information, which can help determine potential safety rest area design and construction issues. Site-specific geotechnical evaluations are required if potential sites are selected and advanced.

The Bearpaw Shale (Cretaceous) underlies Segment 6. Some of the Bearpaw Shale contains bentonite beds. Bentonite beds and soils derived from bentonite may have expansive characteristics.

Most of the study segment is located along the north side of the Missouri River valley. The surficial deposits along the Missouri River valley consist mainly of alluvial gravel, sand, silt, and clay of variable thickness. Quaternary glacial deposits are mapped along the valley sides and in the upland areas. Based on the published data reviewed, it does not appear that landslides have been mapped along Segment 6.

No faults are mapped along Segment 6. Based on MBMG and USGS mapping, the closest Quaternary fault (which may be considered active) is located about 25 miles east of the study segment. Segment 6 is in an area where historic seismicity is low. The closest historic earthquake epicenter is mapped about 50 miles north of the study segment.

Hazardous Substances

MDT considers the presence of contaminated soils during the safety rest area siting process. Areas where pipelines, wells, or mines are located may require additional investigation and coordination during future project development activities for sites advanced from this study.

Segment 6 crosses through the town of Frazer from RP 571.8 to RP 572.5. Within this portion of the study segment, one LUST site, which was resolved in 1997, and one UST site are recorded. Near RP 580.3, at the MDT Oswego right-of-way site, the DEQ database shows one LUST site and one petroleum release fund site. As Segment 6 crosses through Wolf Point (RP 590 to RP 591.3) 17 LUST sites, 19 UST sites, six petroleum release fund sites, and one hazardous waste site are recorded. Of the 17 LUST sites, 14 have been resolved. The hazardous waste site is the Wolf Point High School, labeled as a small quantity generator. One remediation response site, the Montana CCC Grain Bins, is located within the study segment at RP 592.8.

The study segment is not located within a mining district, nor are there any abandoned or open cut mines within the segment.

The WBI Energy Transmission Inc. – Frazer natural gas lateral crosses US 2 directly west of Segment 6 near RP 571.7. The WBI Energy Transmission Inc. – Saco-Morgan Creek natural gas pipeline parallels US 2 within the study segment, on the north side, from RP 584 to RP 584.5, where it then crosses US 2. There are no oil/gas wells or well directionals within the study segment.

There are no USEPA designated superfund sites within Segment 6.

Air Quality

A review of the DEQ website indicates no non-attainment areas for any of the criteria pollutants are located within or near Segment 6.

According to Table 2, 40 CFR 93.126, safety rest areas are typically exempt from the requirements that a conformity determination be made. As a result, special design considerations are not anticipated to accommodate NAAQS in any future safety rest area project development process.

Surface Waters

MDT considers potential impacts to surface waters and the costs that may be associated with permitting and potential mitigation during the safety rest area siting process. Coordination with federal, tribal, and local agencies may be necessary, as work within these surface waters may be regulated by USACE and tribal laws and regulations. In addition, any siting options advanced will trigger the need to obtain coverage under NPDES for Storm Water Discharges Associated with Construction Activity for one or more acres of disturbance and comply with the requirements outlined in MDT's Storm Water Management Plans.

Segment 6 is comprised of one watershed, the Prairie Elk-Wolf Watershed (HUC 10060001). From west to east, named drainages that cross or parallel the study segment include Little Porcupine Creek (RP 571.7), Oswego Creek (RP 579.5), Flynn Creek (RP 582), Littleman Creek (RP 585.1), Wolf Creek (RP 588.8), Little Wolf Creek (RP 592.6), and Brown Coulee (RP 594.7). In addition to the named drainages, several ephemeral and intermittent drainages also cross the study segment within this watershed.

Total Maximum Daily Loads

Segment 6 is located within the Fort Peck TPA. Waterbodies within this segment are not listed in the DEQ 303d Water Quality Report; however, MDT still considers potential impacts to water quality within receiving waterbodies.

Wild and Scenic Rivers

Based on a review of the United States National Park Service website, there are no wild or scenic rivers within or near Segment 6.

Irrigation

During the safety rest area siting process, MDT attempts to avoid impacts to irrigation facilities to the greatest extent practicable, particularly where large ditches/canals and pivots are located as these are costly to mitigate. Any work within these irrigation ditches/canals may also be regulated by the USACE.

Segment 6 is located within the Fort Peck Reservation, where irrigation water is supplied through the Fort Peck Irrigation Project, which is owned and operated by the BIA, or private irrigation. The only WRS mapping available for the segment is for Valley County. No WRS has been conducted for Roosevelt County.

The only irrigation infrastructure identified within the study segment is Little Porcupine Canal which crosses US 2 at RP 572.7. No other ditches or pivots were noted during the Valley County WRS review and a review of aeriels and USGS topographic maps for the remainder of the segment in Roosevelt County.

Floodplains and Floodways

EO 11988, Floodplain Management, requires federal agencies to avoid to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

In addition, Federal-aid Policy Guide, 23 CFR 650, Bridges, Structures, and Hydraulics, calls for the assessment of federally funded highway projects in terms of impacts on flood risk, where such projects must avoid hazardous or incompatible use and development of floodplains, avoid longitudinal or substantial floodplain encroachment, minimize negative impacts on base flood elevations, restore and preserve natural and beneficial floodplain values, and be consistent with FEMA, state, tribal and local government standards for the administration of the National Flood Insurance Program.

During the safety rest area siting process, MDT attempts to avoid areas designated within a 100-year floodplain.

Segment 6 is located on the Fort Peck Reservation. The study area is comprised of two flood zones.

- Zone A: SFHA - 100-Year Flood, No Base Flood Elevations Determined
- Zone X (unshaded): Areas Outside the 500-Year Flood

At the start of the segment RP 571.8 to RP 573, the area north of US 2 is within the 100-year floodplain (Zone A) for Little Porcupine Creek. From RP 573 to the end of the segment at RP 593.7, a large portion of the study segment is designated as Zone X. However, from RP 582 to RP 582.8 the segment crosses the 100-year floodplain (Zone A) for Flynn Creek and an unnamed tributary to Flynn Creek. From RP 584.7 to RP 585.3 the study segment crosses the 100-year floodplain (Zone A) for Littleman Creek and an unnamed tributary to Littleman Creek. At 586.3 the segment crosses the 100-year floodplain for a second unnamed tributary to Littleman Creek. Near RP 588.8 and RP 592.6, the study segment crosses the 100-year floodplains (Zone A) for Wolf Creek and Little Wolf Creek.

Wetlands

During the safety rest area siting process, MDT attempts to avoid and minimize adverse impacts to wetlands to the maximum extent practicable, and consider the costs that may be associated with permitting and potential mitigation. For federally funded projects, EO 11990 requires agencies to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Section 404(b)(1) of the Clean Water Act requires the USACE to only permit discharges of dredge or fill materials into USACE jurisdictional wetlands that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences. Future wetland delineations would be required if safety rest area siting options are forwarded from the study that could potentially impact wetlands. Work within USACE jurisdictional wetlands would require a Clean Water Act 404 permit. Unavoidable impacts to wetlands must be compensated

through mitigation in accordance with USACE regulatory requirements and requirements of EO 11990.

NWI wetlands within Segment 6 include fringe wetlands along creeks and drainages, wetlands associated lakes, small depressional wetlands, and wet meadows. Emergent wetlands associated with Little Porcupine Creek, the Little Porcupine Canal, Oswego Creek, Flynn Creek, Littleman Creek, Wolf Creek, Little Wolf Creek, and several unnamed drainages cross the study segment at RP 571.7, RP 572.7, RP 574, RP 575.5, RP 579.5, RP 580.4, RP 582, RP 583.7, RP 585.1, RP 587.7, RP 588.3, RP 588.8, RP 591.6, and RP 592.6. A large emergent wetland associated with the more seasonal Frazer Lake occurs directly south of the study segment near RP 573. Several depressional emergent wetlands and emergent wet meadows are located along the study segment near RP 573, RP 577.4, RP 583.2, RP 589.6, and RP 590. A large emergent wetland associated with an old oxbow channel of the Missouri River is located just south of US 2 near RP 587.2.

Groundwater

MDT considers impacts to existing wells during the safety rest area siting process. Wells can be a costly item to mitigate if they are not avoided. Mitigation of a well usually involves drilling a new well for the owner in a new location that will not be impacted by the potential project. Well costs are based on per foot price; the deeper and higher volume needed results in a higher cost. In addition, MDT considers groundwater levels for safety rest area constructability.

The GWIC database shows 172 recorded wells within or directly adjacent to Segment 6. Wells with recorded depths range from five feet near RP 583.1 to 1,090 near RP 572.8. Wells with static water levels recorded range from three feet near RP 572 to 87 feet near RP 571.3.

Shallow groundwater can be expected throughout the study segment, particularly near the larger drainages including Little Porcupine Creek (RP 571.7), Oswego Creek (RP 579.5), Wolf Creek (RP 588.8), and Little Wolf Creek (RP 592.6). Localized groundwater conditions may be affected by perched aquifers and tributary drainages. Seasonal variation and irrigation may also have a significant impact to ground water conditions.

7.2 Biological Resources

Vegetation

During the safety rest area siting process, MDT attempts to minimize adverse impacts to suitable wildlife habitat and considers areas where mature tree and shrub removal can be limited to the extent practicable.

Agriculture, lowland/prairie grassland, sagebrush steppe, and floodplain/riparian make up the land cover within and adjacent to Segment 6. While agriculture occurs along both sides of US 2, it is more dominant south of the highway where the Missouri River floodplain parallels the study segment to the south. Lowland/prairie grassland and sagebrush steppe are also located on both sides of US 2, but predominately occur north of the highway in more rolling terrain.

General Wildlife Species

Most of Segment 6 has been moderately developed through the conversion of land to agricultural practices. Small wooded draws and portions of the floodplain along the Missouri River still possess specimens of native vegetation that was likely present within this segment prior to conversion to agriculture. These areas provide important movement corridors for wildlife. Wildlife species inhabiting or traversing Segment 6 are typical of those that occur in moderately

developed areas of north central and eastern Montana. Since many species occurring within the study segment are habituated to somewhat disturbed areas, species present are predominately, though not exclusively, generalists. Numerous mammal, bird, amphibian, and reptile species likely occur within the study segment.

Threatened and Endangered Species

According to the USFWS database, three threatened and three endangered species are listed as potentially occurring along the US 2 corridor within Segment 6 (Table 16). In addition to the species listed below, designated critical habitat for the piping plover is found just south of Segment 6. Segment 6 is also within the western limits of the whooping crane migration corridor.

Table 16: T&E Species with the Potential to Occur in Segment 6

Species	Status
Mammals	
Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened
Birds	
Interior least tern <i>Sterna antillarum</i>	Endangered
Piping plover <i>Charadrius melodus</i>	Threatened
Red knot <i>Calidris canutus rufa</i>	Threatened
Whooping crane <i>Grus americana</i>	Endangered
Fish	
Pallid sturgeon <i>Scaphirhynchus albus</i>	Endangered

Source: USFWS, 2017.

Occurrences of least tern, piping plover, pallid sturgeon, and whooping crane have been documented within the three-mile buffer for Segment 6. The MTNHP database search also notes the potential for black-footed ferret to occur in the segment vicinity due to the presence of potential suitable habitat or the area being within the species known/historic range. MDT considers potential effects to T&E species and their habitat during the safety rest area siting process.

Species of Concern and Special Status Species

MDT considers the presence and extent of SOC and special status species and proximity to known eagle nests during the safety rest area siting process.

Within and adjacent to Segment 6, there are recorded observations of one plant species and 19 wildlife species, including mammal species, fish species, and bird species. Observations of bald eagle and bald eagle nests (a special status species), and observations of golden eagle have also been recorded near Segment 6. Potential safety rest area siting options will need to consider proximity to known eagle nests as construction timing restrictions are required for work near active nests.

Segment 6 is located within sage grouse general habitat. The MTNHP database also shows recorded observations for greater sage grouse within Segment 6.

7.3 Social and Cultural Resources

Economy

Segment 6 is in Valley and Roosevelt Counties. McCone County is adjacent to the south, and the segment includes or is near the communities of Glasgow, Wolf Point and Poplar. The entire study segment is located on the Fort Peck Indian Reservation. This area is located on the western most edge of the Bakken shale region. There are some producing oil wells in the area.

Valley and Roosevelt Counties have a similar mixture of industry. Both counties have large sectors devoted to educational, health care and social services. Valley and Roosevelt Counties also have large public administration and agriculture, forestry and mining sectors. McCone County has a larger agriculture, forestry and mining sector than the other two counties in the study area. The mixture of businesses in Valley and Roosevelt Counties is likely greatly influenced by the Indian Reservations in these counties. The increase in proportion of jobs in the public administration and education and health care industries seems to be somewhat expected for counties near Indian Reservations. McCone County has a blend of industry more typical of counties in northeastern Montana that are not in the direct vicinity of Indian Reservations.

The three counties have had an unemployment rate below the statewide average since 2006. This trend is expected to continue. The unemployment rate in the counties is expected to decrease in the future. The lowest unemployment for the counties displayed in the graph is 2.06% is expected to be reached in 2026. The highest unemployment rate displayed in the graph is 5.41% and was observed 2009. This area is within the Bakken shale area, and economic conditions are somewhat tied to the future production of the Bakken shale.

McCone and Valley Counties have median family incomes that are above the state average. Roosevelt County's measure of median family income is about \$10,000 below the statewide value. The per capita income in McCone and Valley Counties is also above that of the wider state. Roosevelt County's per capita income is below that of Montana. Retail sales per capita in McCone and Roosevelt Counties are on par with the statewide averages. Valley County has the highest retail sales per capita. The retail sales per capita in Valley County are much higher than the statewide average. McCone and Valley Counties do not have much if any income deficiencies compared to statewide averages. Roosevelt County does exhibit signs of income deficiencies compared to statewide averages and compared to neighboring counties.

Population and Demographics

Northern Montana has a small population, and only minimal growth is expected. The socio-economic characteristics of this area can be expected to remain constant in the future. The following summarizes population and demographic conditions within and near Segment 6.

Roosevelt is the most populous of the three counties. Valley and McCone Counties are both predominantly populated with people who identify as White Alone. Valley County does have a relatively large population of people who identify as American Indian. Roosevelt County's population is primarily composed of individuals who identify as American Indians. This is likely due to the Fort Peck Indian Reservation. All these counties have a low proportion of people who identify as Hispanic or Latino in their populations. The owner-occupied housing rate in McCone County is much higher than the state average. Valley County's rate of owner occupied housing

is also greater than that of the larger state. Roosevelt County has an owner-occupied housing rate that is lower than the state.

The counties do not display a drastically different age distribution by sex than the large state. There are slightly few people in the 25-44-year age category. Apart from this difference, the distributions of age by sex are similar.

The counties have experienced positive and negative growth rates in recent years. The long-term trend of growth shows almost no change in the average growth rate in the coming years. The 10-year predicted growth rate for the three counties is 0.346%. This is lower than the 10-year predicted growth for the state of Montana, 0.793%. These counties have been experiencing, and will continue to experience, a relatively stagnant level of growth.

Environmental Justice

Title VI of the United States Civil Rights Act of 1964, as amended (USC 2000(d)) and EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, require that no minority, or, by extension, low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects. MDT will further evaluate environmental justice during the project development process for any sites advanced from this study.

Land Ownership and Use

Because privately owned lands and developed lands may be costlier to acquire, MDT attempts to minimize impacts to privately owned lands and developed lands to the extent practicable during the safety rest area siting process.

Segment 6 is entirely located on the Fort Peck Reservation. The BNSF Railway runs adjacent to US 2 from RP 571.8 to RP 573 and near Wolf Point from RP 589.5 to RP 590.5.

Most land use in Segment 6 is crop/pasture with mixed urban development near Wolf Point.

Recreational Resources

MDT considers effects on recreational sites in accordance with Section 4(f) and Section 6. For sites advanced from this study, MDT will conduct a reevaluation of Section 6(f) resources to determine if any new Section 6(f) resources are present at the time of future project development. As general guidance, converting these resources to a non-recreational purpose can be a difficult and time-consuming task and should be avoided if practicable.

Segment 6 is located on the Fort Peck Reservation. Recreation would be limited primarily to fishing and hunting.

There are no designated fish access sites within the study segment.

As noted above, lands owned by federally recognized Indian Tribes are not considered to be “publicly owned” within the meaning of Section 4(f), nor open to the public. Therefore, Section 4(f) does not automatically apply. Significant parks, recreation areas, or wildlife and waterfowl refuges owned by the tribe could be considered a Section 4(f) resource; however, no such resources are located within or adjacent to the study segment.

The FWP LWCFA site list by county shows funds allotted for the Frazer-Community Park (outside the study segment limits) in Frazer, MT. LWCFA funds are also shown for several park locations in Wolf Point (Borge Park and Southside Park); however, all parks appear to be outside of the study segment limits.

Cultural Resources

Historic properties have been recorded within Segment 6, including archaeological sites, commercial buildings, and residences. In addition to the historic properties in the communities through which the highway passes, irrigation ditches, an active railroad grade (BSNF Railway), farms, ranches, and highway-related structures (i.e., bridges and overpasses) also occur. Also represented in the corridor are churches, schools, government buildings, sand houses, and maintenance section shops.

Archaeological sites that may occur within Segment 6 include buried campsites, stone circle sites, bison kills, human burials, and rock art sites under federal and tribal ownership.

The NHPA of 1966, as amended, defines historic properties as sites, buildings, structures, districts (including landscapes), and objects included on, or eligible for inclusion on, the NRHP, as well as artifacts, records, and remains related to such properties.

To be considered eligible for listing on the NRHP, a property must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Is associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possess high artistic values, or that represents a significant distinguishable entity whose components may lack individual distinction.
- D. Yielded, or may likely yield, information important in prehistory or history (36 CFR Part 60.4).

During the safety rest area siting process, MDT considers recorded historic sites determined to be NRHP-eligible as identified through a Montana SHPO file search. In addition, MDT will conduct cultural resource surveys for siting options advanced from this study.

Noise

The study corridor traverses a variety of land uses. In some portions of the corridor, noise-sensitive receptors are located near US 2 right-of-way. In Segment 6, isolated residential development is found throughout the segment, with more concentrated development at Frazer (\pm RP 572), Oswego (\pm RP 579), Highway 250 Junction (\pm RP 589), Wolf Point (\pm RP 590-592).

MDT considers proximity to potential noise receptors during the safety rest area siting process. Options advanced from this study may require a Type I noise analysis.

Visual Resources

Vast, open views of rolling grasslands, large agricultural fields, and meandering floodplains, interspersed with small communities, make up Segment 6. Views of the Missouri River floodplain can also be seen from Segment 6.

MDT evaluates the potential effects on visual resources and viewshed opportunities during the safety rest area siting process.

7.4 Public Water

Investigation into the potential public system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability, connection costs to existing water systems, and water quality during a future Phase I process for any sites advanced from this study. For any new safety rest areas, DEQ must review and approve construction of any new public on-site water systems or connections to existing public water systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

Segment 6 is located within the Fort Peck Reservation. The ASRWSS/Dry Prairie Rural Water System parallels US 2 the entire length of this segment. Public water availability from this system would be the preferred choice for any new safety rest area facility. This system provides reliability, capacity, and quality for a proposed drinking water source. Public drinking water would not be a concern for this segment.

7.5 Public Wastewater

Wastewater non-degradation factors considered for this report include surface water, floodplain proximity, and high groundwater (greater than four feet). Investigation into the potential public wastewater system connections consisted of verification of system capacity and operation. MDT will further investigate system reliability and cost to connect to existing wastewater systems during a future Phase I process for any sites advanced from this study.

For any new safety rest area, DEQ must review and approve any public on-site wastewater systems or connections to existing public wastewater systems. Additional coordination with other federal, state, tribal, and local agencies may be necessary.

The town of Frazer and city of Wolf Point are the only public wastewater systems located within this segment. A possible safety rest area site near Frazer or Wolf Point may have the potential for connection to municipal services. Discussion in September 2017 with the Wolf Point system operator, Ward Smith, confirmed that the wastewater system has the capacity for a safety rest area connection. He indicated that the current sewer line extends west to 8th Ave and east to 1st Ave. At the time this report was published, the Frazer system operator had not responded to a request to verify capacity and operation of the system. If sites near these systems are advanced from this study, MDT will consider system reliability, cost to connect to the wastewater system and system capacity.

Any potential new on-site wastewater system for this segment outside of the public wastewater system connections would be based on soil type. Clayey till is the primary surficial soil from the beginning of the study segment to RP 578. These types of soils are typically slow percolating soils and having sizing application rates between 0.15 to 0.2 gpd/ft². From RP 580 to the end of the study segment, surficial soils are a mix of predominately clayey alluvium, loamy alluvium, and loamy glacial till. These types of soils are typically slow absorbing soils and having sizing application rates between 0.2 to 0.4 gpd/ft². MDT will evaluate on-site test holes and percolation tests during the Phase I process to determine the feasibility of sites advanced from this study.

7.6 Traffic Volumes

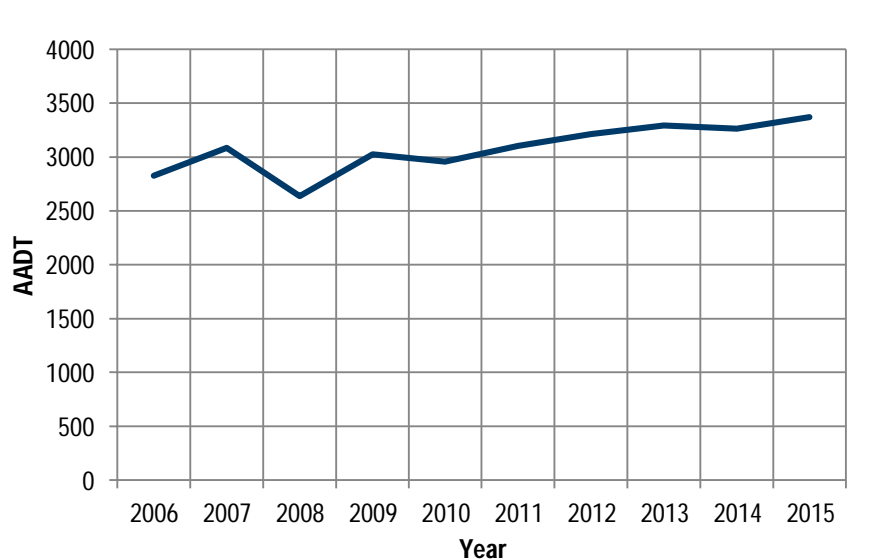
Traffic volumes are relevant to rest area siting to assess parking and other facility demands. For planning efforts, traffic volumes in combination with other variables can be utilized to determine

proportions of mainline traffic stopping at rest areas and then correlated to facility usage demand.

Historic Volumes

AADT is the total of all motorized vehicles traveling in both directions on a highway on an average day. This study uses average AADT volumes from short-term counters to represent historic traffic volumes within the study segment boundaries. Figure 18 summarizes traffic volumes from 2006 to 2015 for Segment 6.

Figure 18: Historic Traffic Volumes – Segment 6



Source: MDT, 2017 Averaged AADT from Traffic Counters 43-3-1, 43-3-2, 43-3-3, 43-3-4, 43-3-14, 43-3-15, 43-3-16, 53-8-4 and 53-8-4.

AADT volumes for short-term counters near or within Segment 6 have been reasonably consistent, averaging approximately 3,080 AADT for the 10-year period.

Growth Rates and Projected Traffic Volumes

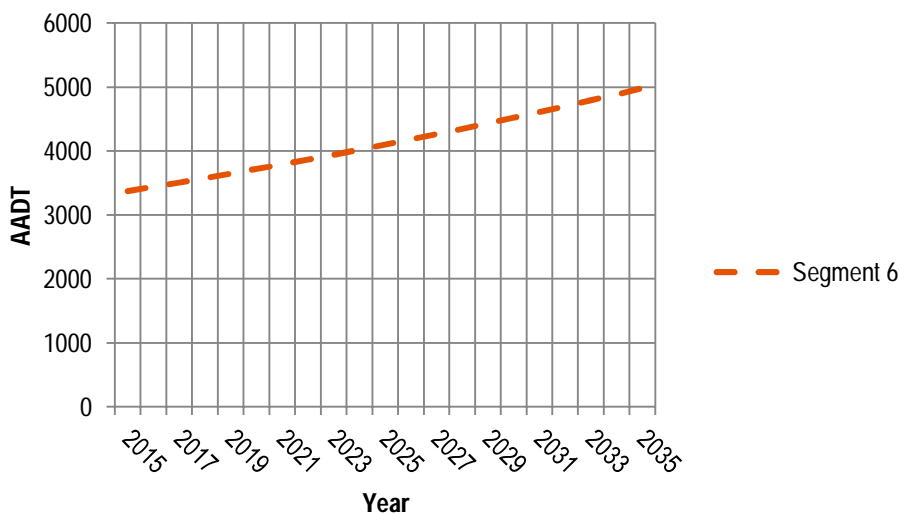
This study uses a compound annual growth rate method to estimate future AADT volumes within the study segment, with a growth rate of 2.16 percent per year for this segment based on analysis of historic traffic volumes as shown in Figure 18 above.

The following compound annual growth rate formula illustrates the method for projecting traffic volumes.

$$(\text{Existing Volume}) * (1 + [\text{Growth Rate in Decimal Form}])^{\text{Number of Years}} = \text{Future Volume}$$

Projected AADT volumes for Segment 6 are illustrated in Figure 19 below.

Figure 19: Projected Future Traffic Volumes – Segment 6



Source: DOWL 2017.

Table 17 presents future traffic volumes as estimates using the growth rate calculation noted above, assuming that the percentage composition of passenger vehicles and trucks would remain the same as existing percentages.

Table 17: Forecasted Traffic Volume by Type – Segment 6

Study Segment	Total AADT (Projected 2035)	Total Passenger & Bus (Types 1-4)		Total Small Truck (Types 5-7)		Total Large Trucks (Types 8-13)		Total Commercial (Types 5-13)	
		AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT	AADT	% of Total AADT
6	4,982	4,658	93.5%	93	1.9%	230	4.6%	324	6.5%

Source: MDT 2017; DOWL 2017.

7.7 Geometric and Access Analysis

US 2 is a Non-Interstate Principal Arterial on the NHS.

The topography of the surrounding land influences the vertical and horizontal alignment of a roadway. The three general types of terrain are described as follows:

- **Level Terrain:** Available stopping sight distances are generally long or can be made to be so without construction difficulty or major expense.
- **Rolling Terrain:** Natural slopes consistently fall below and rise above the road grade, and occasional steep slopes offer some restriction to horizontal and vertical roadway alignment.
- **Mountainous Terrain:** Longitudinal and transverse changes in the elevation of the ground with respect to the road are abrupt and extensive grading is frequently needed to obtain acceptable horizontal and vertical alignments.

A key criterion for consideration of any potential safety rest area site is stopping sight distance. Based on the types of terrain described above, the greatest sight distance opportunities are provided where the terrain is level combined with linear horizontal segments. The three critical stopping sight movements to be evaluated at locations to be considered for rest area sites include:

- left-turn movements from the minor road,
- right-turn movements from the minor road, and
- left-turn movements from the major road.

MDT considers vertical grades of the highway when evaluating potential safety rest area sites. Level grades are preferred over steep grades to minimize the impact steep grades have on stopping sight distance and for starting and stopping movements, especially in adverse weather conditions.

Segment 6 consists of level terrain. The segment runs through Frazier and Wolf Point. The grades consistently range between one-half and one percent. The alignment has long stretches of straight roadway and is generally linear with subtle horizontal curves throughout the segment. Local roads located in the town of Frazer intersect US 2 near RP 572. County roads occasionally intersect from Frazer to Secondary 250 near RP 589.3, just west of Wolf Point. Primary 25 intersects US 2 from the south near RP 590.6, within the limits of Wolf Point.

7.8 Safety Analysis

Over 70% of the 58 incidents were non-injury, with eight non-incapacitating, five possible injury accidents, three incapacitating, and one fatal accident near RP 574.16. Almost no carcasses, (7) were found on this segment of US 2 for the five-year time period. Table 18 lists crash and carcass data for the period 2012 through 2017.

Table 18: Crash Severity and Carcass Counts – Segment 6

Crash Injury Severity	Crash Count
Fatal Accident	1
Incapacitating Injury Accident	3
Non-Incapacitating Evident Injury Accident	8
Non-Injury Accident (Property damage only accident)	41
Possible Injury Accident	5
Grand Total	58
Carcass – Animal Type	Carcass Count
Other	4
Domestic	1
Whitetail Deer	1
Mule Deer	1
Grand Total	7

Source: MDT, July 1, 2012 through June 30, 2017 Crash and Carcass Data.

7.9 Rail Crossings

Constructed in 1887, the BNSF Railway extends east to west across the Montana Hi-Line. The railroad naturally attracted the development of primitive roads connecting towns and stations along its stretch. In 1919, local and regional promoters established the Theodore Roosevelt International Highway (US 2) which connected many of the primitive roads that ran parallel and

often crossing the BNSF Railway. Today US 2 generally runs parallel to the BNSF Railway, with some points of intersection.

The BNSF Railway runs adjacent to US 2 from RP 571.8 to RP 573 and near Wolf Point from RP 589.5 to RP 590.5; however, no grade-separated or at-grade crossings occur on US 2 within this segment. Attachment 1 illustrates railroad facilities near the study segment.

7.10 Utilities

Utilities in the study area include underground telephone, underground cable television, underground natural gas, and overhead and underground electric power. A utility assessment was performed using aerial photos, GIS mapping, National Pipeline Mapping System, and visual inspection at each of the study segment locations. Additional utility investigation is required during the project development process for any safety rest area sites forwarded from this study.

Montana has nearly 15,500 miles of transmission, gathering, and distribution pipelines. Approximately 3,821 miles of pipeline transport hazardous and highly volatile liquid commodities throughout the state. Additionally, tens of thousands of miles of high- and low-voltage power lines run throughout the state servicing Montana, neighboring states, and Canada.

Utilities occur in the following locations within Segment 6.

- Frazer is located from RP 571.8 to RP 572.5; a thorough utility investigation may be required to locate underground utilities.
- Overhead power lines run parallel to the south side from RP 572.5 to RP 573.0.
- Overhead power lines run parallel to the north side from RP 573.4 to RP 588 then cross to the south side of US 2.
- Overhead power lines run parallel to the south side from RP 588 to RP 589.5.
- Wolf Point is located from RP 590 – RP 591.5; a thorough utility investigation may be required to locate underground utilities.
- Overhead power line run parallel to the north side from RP 592 to RP 572.8 then cross to the south.

Attachment 1 illustrates transmission lines near the study segment.

8.0 Local, Regional, and Statewide Planning

Local, regional, and statewide plans provide important context for this safety rest area study. Summaries are provided below, with particular focus on references to travel demands and stopping opportunities on US 2.

Montana Rest Area Plan - 2014

The Montana Rest Area Plan represents MDT's comprehensive statewide vision for the MDT Rest Area Program in the context of challenges such as aging infrastructure, high rest area demand and visibility, and limited funding. The plan utilizes an asset management approach based on policy goals and objectives, utilizing quality information and defined analysis process, long-term planning needs, defined project delivery process, and continued monitoring to ensure a successful program. Rest Area siting options identified as part of the US 2 Rest Area Siting Study will reflect the strategies identified in the Montana Rest Area Plan for identified emphasis areas.

Montana State Rail Plan – 2010

The 2010 Montana State Rail Plan was prepared by MDT to describe historical and forecasted rail freight trends throughout the state. The plan additionally highlights rail planning, passenger service, grain car consolidation facility impacts, public rail funding programs, and other rail issues. The 2017 Montana Freight Plan builds on this premise as a foundation for a broader look at freight movement in Montana. Rest Area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the strategies for freight movement within the identified emphasis areas.

Montana Freight Plan – 2017

The Montana Freight Plan provides a comprehensive evaluation of freight transportation in the state and provides guidance for both short and long-term freight-related transportation investment decisions. The Montana Freight Plan aligns with National Freight Policy goals as detailed in 23 USC 167 as well as TranPlanMT goals. The Montana Freight Plan details the role freight movement plays in Montana's economy, identifies significant freight system issues, provides a framework for freight investment decisions, and provides transparency to the public as to how transportation system decisions are made.

Although US 2 is not a federally designated freight corridor in Montana, it is still considered a major thoroughfare for freight movement. The Montana Freight Plan specifically notes the importance of port freight traffic and the role that US 2 plays for providing reliable corridor connectivity. Rest area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the strategies for Montana Freight Plan goals within the identified study segment areas.

Montana Comprehensive Highway Safety Plan (CHSP) – 2015

The CHSP identifies the top traffic safety problems on all of Montana's public roadways and includes a strategic focus on coordinating statewide efforts to reduce fatalities and incapacitating injuries. The plan is data driven and includes 10-year crash data trend analysis to determine emphasis areas with the greatest opportunity to reduce crashes. The CHSP identifies four emphasis areas including roadway departure crashes, intersection crashes, impaired driving crashes, and crashes involving unrestrained occupants. The plan includes measurable objectives and identifies safety strategies and implementation steps to reduce emphasis area crashes. MDT recognizes that safety rest areas play an important role in enhancing safety on public roadways by providing an opportunity for drivers to rest, stretch, walk, eat, and access mobile devices, combating drowsy and distracted driving. Rest Area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the strategies for fatality and serious injury reduction within the identified emphasis areas.

Lincoln County Growth Policy – 2009

The Lincoln County Growth Plan was prepared by the county to highlight current conditions and projected trends, outline short- and long-term goals, and outline policies and implementation strategies. The planning area covers Lincoln County, MT; however, this plan specifically identifies the need to reconstruct a 12-mile section of US 2 near Swamp Creek; a six-mile portion of US 2 is addressed in the 2017-2021 MDT Statewide Transportation Improvement Program (STIP) for reconstruction in 2018. Rest area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the needs recognized in the Lincoln County Growth Policy and STIP.

Flathead County Growth Policy – 2012

The 2012 Flathead County Growth Policy provides information regarding future transportation needs for projected growth and development. The plan examines travel patterns and trends and

outlines policies addressing safety, mobility, and future demand needs. However, the plan does not outline any recommendations directly relevant to the US 2 Rest Area Siting Study. Rest Area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the plan policies.

[Blackfeet Nation 2014 Tribal Transportation Safety Plan - 2014](#)

The Blackfeet Tribe updated the 2008 Safety Management Plan to refocus transportation safety efforts occurring on the Reservation and to identify additional strategies that could reduce fatal and serious injury crashes. The plan focuses on implementing education, enforcement, engineering, and other strategies to meet safety goals. The plan covers the Blackfeet Reservation; however, it does not specially address portions of US 2 within the study segment. Rest Area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect plan safety objectives.

[City of Shelby Growth Policy – 2012](#)

The City of Shelby Growth Policy is intended to provide the framework to better understand current challenges and provide a guide for local government to implement solutions. The ultimate purpose of this plan is to provide Shelby citizens a better place to live, work, and play. The plan recommends that consideration of adjacent city land uses minimize traffic conflicts and provide sufficient capacity to handle present and future traffic flows. The plan proposes a new collector loop to serve residential development and connect to US 2 near the east side of Shelby. Rest area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect plan recommendations.

[Fort Belknap Tribal Transportation Safety Plan – 2014](#)

The Fort Belknap Tribal Transportation Safety Plan outlines programs/policies and identifies solutions that can be implemented to further improve transportation safety. The Fort Belknap Indian Community is committed to reducing the number of deaths and serious injuries as well as improving the overall safety of the transportation system. The plan focuses on implementing education, enforcement, engineering, and other strategies to meet safety goals. The plan covers the Fort Belknap Reservation; however, it does not specially address portions of US 2 within the study segment. Rest area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the plan safety objectives.

[Phillips County Growth Policy - 2013](#)

The growth policy examines the importance of land, population, housing, and economic patterns in Phillips County. The plan strives to actively participate in processes related to land use and management impacting Phillips County and the region, in particular the MDT TRED impact study on US 2. Rest Area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the plan objectives.

[Fort Peck Tribes Safety Management Safety Plan - 2014](#)

The Fort Peck Tribes Safety Management Safety Plan outlines programs/policies and identifies solutions that can be implemented to further improve transportation safety. The Assiniboine and Sioux Tribes are committed to reducing the number of deaths and serious injuries as well as improving the overall safety of the transportation system. The plan focuses on implementing education, enforcement, engineering, and other strategies to meet safety goals. The plan covers the Fort Peck Reservation and identifies potential hazardous locations for pedestrian crossings, including locations specifically on US 2 west of Wolf Point, US 2 near the Tribal Express in Poplar, and from US 2 across the Poplar River Bridge. Rest area siting options identified as part of the US 2 Rest Area Siting Study will consider and reflect the plan safety objectives.

9.0 Planned Projects

Montana Statewide Transportation Improvement Program (STIP), 2017-2021

The STIP is developed in accordance with the requirements of Section 135 of 23 United States Code (USC). The STIP details projects that will address Montana's transportation needs for fiscal years 2017 through 2021. Several projects are programmed in the current STIP within and near Segments 1, 2, 3, 4 and 6. Planned and proposed projects are listed in Table 19 below.

Table 19: Planned Future Projects

Segment	Route	Reference Post	Length	Project Name	UPN	Scope	Fiscal Year Construction Phase
1	US 2	49	4.823	Swamp Creek - East	1027	Reconstruction	2018
1	US 2	80.7	8.650	McGregor Lake	9226	Chip Seal	2019
1	US 2	89.4	13.82	Marion West	9227	Chip Seal	2019
2	US 2	218.8	2.31	Browning – South West	9399	Chip Seal	TBD
2	US 2	221.3	13.97	JCT US-89 East(Browning)	9395	Chip Seal	TBD
2	US 2	233.6	13.47	JCT S-444 – East (US-2)	9400	Chip Seal	TBD
3	US 2	278.1	1.94	Main Street – Shelby	9394	Chip Seal	TBD
3	US 2	280	11.76	Shelby – East	9168	Chip Seal	2018
3	US 2	299.7	8.29	Galata – E & W	5135	Major Rehab	2018
3	MT 67	0	1.75	Shelby – North	9396	Mill & Fill	TBD
4	US 2	458.6	8.05	West of Malta – West	9000	Overlay	2020
6	US 2	573	30	Wolf Point – E&W	9180	Chip Seal	2020
6	MT 13	0	6.21	JCT MT-25 – North (Wolf Point)	9406	Overlay	TBD

Source MDT, 2017-2021 STIP. Orange rows indicate projects with construction phase to be determined (TBD).

10.0 Conclusion

This report identifies existing conditions and resources within the each of the study segments that may influence or be affected by safety rest area siting options. Project-level analysis would be required during the project development process for any safety rest area sites forwarded from this study. Information contained in this report may be used to support future NEPA/MEPA environmental documentation.

11.0 References

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