

UPPER FRONT RANGE 2040 REGIONAL TRANSPORTATION PLAN

ENVIRONMENTAL OVERVIEW

Environmental factors not only include natural resources such as wildlife, threatened or endangered species, air quality, and water quality, but also the human environment. The human environment includes noise, hazardous waste sites, public and recreational areas, historic, and cultural sites. CDOT's environmental ethic states, "CDOT will support and enhance efforts to protect the environment and the quality of life for all of Colorado's citizens in the pursuit of the best transportation systems and services possible."

As an effort to help protect the environment from potential impacts created by transportation system improvements, CDOT is required to have all projects that involve federal funds be subject to a NEPA analysis and review. NEPA is introduced at the earliest practical stage and compares alternatives based on their ability to meet the purpose and need of the project and by their impacts to the natural and human environment.

This document attempts to identify major environmental resources within the TPR. Although the regional planning process does not require a complete or specific inventory of all potential environmental resources within a corridor, identifying general environmental concerns within the region provides valuable information for project planners and designers. The information contained in this report serves as a basis for a more in depth analysis, typically a NEPA process. There are three components to the analysis in this section:

- General identification of resources within the region that have the potential to be impacted by projects.
- Identification of agencies with responsibilities for resources within the region, where appropriate; examples may include the US Forest Service, the State Historical Preservation Office, or the local parks department.
- Identification of possible mitigation strategies for potential environmental impacts.

The information that follows identifies general environmental issues within the region. The fact that an issue is not identified in this overview should not be taken to mean that the issue might not be of concern along a corridor. This section focuses on issues that are easily identifiable and/or issues that can be addressed proactively so that the environmental concerns can be mitigated or incorporated into a project in a manner that supports the values of the citizens and communities in the region.

Wildlife

General wildlife habitat is an important resource in the Upper Front Range. There are a number of regulations and laws that protect general wildlife species and their habitat. The primary habitats in the Upper Front Range are the native short grass prairie and major waterways. Wildlife linkages in the north are for mountain lion and pronghorn, and the linkage in the west is for wolverine. The linkages in the eastern portion of the region are for black-tailed prairie dogs, Mountain Plover, pronghorn, and swift fox.

AGENCIES

The U.S. Fish and Wildlife Service (USFWS), USDA Forest Service (USFS), and Colorado Parks and Wildlife (CPW) maintain lists of native species, important habitat, and designated wildlife areas.

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MITIGATION

CDOT has recognized the importance of the shortgrass prairie habitat and created a proactive mitigation strategy by participating in the Shortgrass Prairie Initiative (SGPI). The SGPI includes the Nature Conservancy, USFWS, and other federal agencies and protects over 55,000 acres of the shortgrass prairie in eastern Colorado. This allows for CDOT to offset the project impacts against the areas that have been protected through the SGPI.

The Department of Natural Resources is responsible for protecting and preserving the state’s fish and wildlife resources from actions of any state agency, or funded by a state agency, which may obstruct, damage, diminish, destroy, change, modify, or vary the natural existing shape and form of any stream or its bank or tributaries.

Certification from the CPW must be obtained for actions with adverse impacts to streams or its bank or tributaries. Certification is provided by the CPW which includes appropriate measures to eliminate or diminish adverse effects to such streams or their banks or tributaries.

The Migratory Bird Treaty Act (MBTA) protects all birds native to North America, with the exception of non-migratory upland game birds (e.g. quail, grouse, pheasant, turkey, etc.) and non-native birds (e.g., House Sparrow, European Starling, Rock Dove (common pigeon), and Eurasian Collared Doves). The MBTA states that it is “unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird.” The MBTA currently protects over 800 species of birds that occur in the U.S. CDOT has developed a set of specifications (Spec. 240) that are designed to protect migratory birds and comply with act.

Table 15. Federally Threatened or Endangered Species with Potential Habitat in Upper Front Range

Common Name	Scientific Name	Listing Status
Black-footed Ferret	<i>Mustela nigripes</i>	Endangered
Canada Lynx	<i>Lynx canadensis</i>	Threatened
Colorado Butterfly Plant	<i>Gaura neomexicana</i> <i>ssp. coloradensis</i>	Threatened
Greenback Cutthroat Trout	<i>Oncorhynchus clarki</i> <i>stomias</i>	Threatened
Interior Least Tern	<i>Sternula antillarum</i>	Endangered
Mexican Spotted Owl	<i>Strix occidentalis</i>	Threatened
North Park Phacelia	<i>Phacelia formosula</i>	Endangered
Pallid Sturgeon ¹	<i>Scaphirhynchus albus</i>	Endangered
Piping Plover ¹	<i>Charadrius melodus</i>	Threatened
Preble's Meadow Jumping Mouse ²	<i>Zapus hudsonius</i> <i>preblei</i>	Threatened
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	Threatened
Western prairie fringed orchid	<i>Platanthera praeclara</i>	Endangered
Whooping Crane ¹	<i>Grus americana</i>	Endangered
State Historic Preservation Office (SHPO)	<ul style="list-style-type: none"> • CDOT has a program to have outside entities “adopt” historic bridges. US • Highway 34 crosses some historic irrigation ditches that may need to be mitigated during road projects. The Bureau of Reclamation has a preservation plan for certain identified irrigation ditches that should be consulted before work begins on US 34 road improvements. Several miles of US 287 north of Fort Collins might need to be realigned if the Northern Colorado Water 	

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Threatened or Endangered Species

The Endangered Species Act of 1973 (ESA) provides for the protection of threatened or endangered plants and animals and the habitats in which they are found. Currently the USFWS has listed 13 threatened and or endangered species (ten animals and three plants) in the Upper Front Range TPR. Projects in the Upper Front Range TPR need to determine if their project will impact any of these species and/or their habitat. This can be conducted through consultations with both federal and state agencies that have the responsibility to ensure the successful recovery of these species.

AGENCIES

The USFWS administers the ESA and maintains the federal list of threatened or endangered species. If a project has the potential to affect any of these species, a formal consultation called a "Section 7 Consultation" process with the USFWS must be conducted. Section 7 of the Endangered Species Act directs all Federal agencies to use their existing authorities to conserve threatened or endangered species and, in consultation with the Service, to ensure that their actions do not jeopardize listed species or destroy or adversely modify Designated Critical Habitat. Section 7 applies to management of

Federal lands as well as other Federal actions that may affect listed species, such as Federal approval of private activities through the issuance of Federal permits, licenses, or other actions.

The USFS should also be contacted if a project goes through or is adjacent to USFS lands because they maintain a list of threatened or endangered species known to utilize USFS land. They also have a list of species that are considered sensitive by the USFS. USFS lands generally occur in the western portion of the Upper Front Range TPR and in the Pawnee National Grasslands.

The Bureau of Land Management (BLM), similarly to the USFS, also maintains a list of sensitive species known to utilize land owned and/or maintained by the BLM. Small pieces of BLM lands occur in the extreme northwestern portion of the Upper Front Range TPR. The CPW collects data for many other species, such as the bald eagle, elk, deer, etc. They also maintain the list of State Threatened or Endangered species, as well as Species of Special Concern.

MITIGATION

Primary mitigation techniques used to offset impacts to threatened or endangered species is determined through the Section 7 consultation process with the USFWS. Additionally, the previously mentioned SGPI provided protection of habitat for species such as the Piping Plover, burrowing owl, black-tailed prairie dog, and swift fox.

Air Quality

Motor vehicle emissions are a significant contributor to many of the air pollution problems experienced in Colorado. Federal transportation planning/air quality regulations are an important factor guiding transportation decision-making in areas that have violated federal air quality standards. Areas that violated federal air quality standards (non-attainment areas) must develop plans to attain and maintain air quality standards. Portions of Weld and Larimer Counties are part of the 8-hour ozone non-attainment area. The area officially became an ozone non-attainment area on November 20, 2007, when the Early Action Compact lapsed because the fourth highest average ozone readings for 2005 – 2007 exceeded the Federal standard. The Upper Front Range, North Front Range MPO, and the Denver Regional Council of Governments work together to meet the requirements of the 8-hour ozone

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standards for the Upper Front Range. Fort Collins and Greeley (both in the North Front Range MPO) are attainment/maintenance areas for carbon monoxide.

AGENCIES

The U.S. Environmental Protection Agency (USEPA) administers the CWA across the nation, but have given the Colorado Department of Health and Environment (CDPHE) the authority to administer the CWA in Colorado. Therefore, any water quality permits required for projects must be obtained through the CDPHE.

Water Quality

The two major watersheds in the Upper Front Range TPR are the South Platte Watershed, which eventually drains into the Missouri River, and the upper portions of the Colorado River Watershed. Within the watersheds, there are numerous creeks, tributaries, and ditches, as well as lakes, floodplains, and wetlands. The federal Clean Water Act (CWA), protects the waters of the region and state. This Act promulgated the National Pollution Discharge Elimination System (NPDES) and created water discharge standards which include maintaining the chemical, physical, and biological integrity of the nation's waters. Protection of water quality is completed through regulatory review and permits issued for discharge into waters of the U.S. or the state.

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PERMITS

Although many of the cities and towns within the Upper Front Range are not large enough to require a municipal separate storm sewer permit, there are other permits that may apply to transportation projects, including:

- If a project disturbs one acre or more, a Colorado Discharge Permit System (CDPS) is required for construction activities.
- Dewatering permit if dewatering will occur during construction.

It should be noted some projects that occur near highly sensitive water bodies, such as drinking water sources or impaired streams, can be required to implement best management practices to ensure that degradation of the water body does not occur.

Wetlands

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. In Colorado and the Upper Front Range TPR, wetlands are often found along streams, in areas where the local water tables rise to the land surface and in isolated areas where rain ponds for an extended period of time. Wetlands are extremely important and increasingly rare natural resources in the U.S. Impacts to wetlands are covered under Section 404 of the CWA.

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AGENCIES

The USEPA administers the CWA; however, authority is the responsibility of the U.S. Army Corps of Engineers (USACE). Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. It requires a permit before dredged or fill material may be discharged into waters of the United States.

MITIGATION

Impacted wetlands are required to be mitigated on at least a 1:1 basis. For example, if five acres of wetlands are impacted, then five acres of wetlands must be replaced. The replacement wetlands are typically created as close to the impacted wetland as possible and perform the same ecological and societal functions as the impacted wetland. Wetland banks are becoming more prevalent and are available to purchase credits to replace impacted wetlands, if they are both in the same watershed.

Noise

The Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC) define noise levels which, if approached or exceeded, require noise abatement consideration. FHWA requires all states to define at which value a predicted noise level approaches the NAC, thus resulting in a noise impact. CDOT has defined “approach” as 1 dBA less than the FHWA NAC for use in identifying traffic noise impacts in traffic noise analyses.

Noise abatement guidelines also state that noise abatement must be considered when the noise levels “substantially exceed the existing noise levels.” This criterion is defined as an increase of 10.0 decibels or more above existing noise levels.

As existing higher-speed transportation facilities are widened or new facilities are constructed, noise becomes a greater issue. Noise can also be an issue for lower-speed facilities where steep grades or a high percentage of trucks exist. All projects receiving federal funding must be evaluated by FHWA criteria to determine if a noise study is warranted.

AGENCIES

The CDOT is responsible for implementing its guidelines regarding noise abatement. When a project has the potential to impact receivers from vehicle noise, a noise analysis is conducted.

MITIGATION

If noise impacts exceed the FHWA criteria, mitigation is evaluated based on its feasibility and reasonableness. Common noise mitigation techniques include walls and earthen berms between the traffic and receptor to reduce the traffic noise.

Hazardous Materials

Because roadways are adjacent to many different land use types, the potential to find hazardous materials during the construction of a transportation facility can be high. Hazardous materials are regulated under several laws, including: the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). There are no federally listed superfund sites within the Upper Front Range; however, there are multiple RCRA sites in the Upper Front Range TPR. Certain land uses frequently result in a higher potential for location of

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hazardous waste or materials. Examples of land uses often associated with hazardous materials include industrial and commercial activities such as existing and former mining sites; active and capped oil and gas drilling operations and pipelines; agricultural areas using chemical fertilizers, insecticides, and pesticides; and railroad crossings where there have been accidental cargo spills. Active, closed, and abandoned landfill sites are also potential problem areas for transportation facility construction, as are gasoline stations that potentially have leaking underground storage tanks. The RCRA online tool is: <http://www.epa.gov/emefdata/em4ef.home>

The majority of the RCRA sites occur in the southern and western portions of the region, while the landfills are scattered across the eastern portion.

AGENCIES

Access to information regarding existing hazardous waste sites is obtained through private searchable databases during the NEPA or design phases of projects. The CDPHE is the primary agency to be consulted if a project has the potential to encounter hazardous materials during construction

MITIGATION

Typical mitigation/remediation strategies associated with common hazardous materials encountered during construction are to remove the contaminated soil from the site and dispose of the materials appropriately or stabilize contamination on site where possible. Depending upon the type of contamination, disposal can include solid waste landfills, hazardous waste landfills, or on-site treatment. The mitigation will also include a site-specific health and safety plan for construction workers that specifies how potentially hazardous materials will be handled.

Public Lands

The Upper Front Range TPR contains 1.3 million acres of public lands, including National Forest/Grasslands, National Park, Bureau of Land Management, and State lands (State Parks, State Wildlife Areas, and State Habitat Areas).

Public lands typically have a park and recreational component that the public utilizes. These resources are important to the citizens of Colorado because they provide the opportunity for physical and mental relaxation and can also provide focus points for community activities and events. Potential impacts to this type of use trigger an FHWA analysis to ensure that these resources are maintained and continue to provide these resources to the community.

The major public lands in the western portion of the Upper Front Range TPR are the Rocky Mountain National Park and the Arapahoe National Forest. The eastern portion of the region contains the Pawnee National Grasslands, State Parks (Jackson Lake, Lory, and St. Vrain), State Habitat Areas (Bollinger, Musgrave, and Thunder Mountain) and 33 different State Wildlife Areas.

AGENCIES

When projects are located in the vicinity of parks and recreational resources, CDOT works closely with the public agency or official with primary responsibility for the park or recreational resource (official with jurisdiction). The public agency can be the USFS, BLM, State of Colorado, or any local municipality.

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When working with the public agency, CDOT strives to identify mitigation that will at least replace any features or attributes of the park or recreational resource that are impacted by the project. In many instances CDOT and the official with jurisdiction can identify opportunities to enhance the park or recreational resource features and attributes. Additionally, to the extent practical, access to parks and recreational resources should be maintained during construction, and detours for bike and pedestrian paths should be provided.

Historical and Archaeological Sites

Section 106 of the National Historic Preservation Act (NHPA) sets forth the process that federal agencies and their designated representatives must follow when planning undertakings that have the potential to affect significant historical and archaeological resources, known collectively as “historic properties.” Typical historic resources include buildings, residential neighborhoods, commercial districts, agricultural complexes, bridges, canals, ditches, reservoirs, railroad lines and landscapes. Archaeological sites include surface scatters of chipped stone, ground stone or ceramic artifacts, architectural and non-architectural features (e.g., pit houses and fire hearth remains, respectively), or any area exhibiting evidence of intact subsurface cultural materials. More information on properties presently on or determined eligible for the National Register of Historic Properties is available on the website of History Colorado (formerly the Colorado Historical Society) at <http://www.historycolorado.org/oahp>.

The State Historic Preservation Officer (SHPO) must be consulted to determine if sites that have not been entered into the National Register of Historic Places are eligible for inclusion on that list. The SHPO must also be consulted to determine the effects projects may have on historic properties. In addition, over 40 Native American tribes have a historic interest in various parts of Colorado. The NHPA mandates that FHWA and CDOT consult with Native American tribes during the planning of federal-aid transportation projects both on and off Indian Reservations.

AGENCIES

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The State Historic Preservation Office (SHPO) must be consulted to determine if sites that have not been recorded in the National Register of Historic Places are eligible for inclusion on the list. They are also required to be consulted to determine the lack of or the severity of impacts resulting from a project.

MITIGATION

For construction projects, an on-the-ground survey to identify, record, and evaluate cultural resources for eligibility for inclusion on the National Register of Historic Places must be conducted. When significant sites are identified within a proposed project area, an interdisciplinary team determines how best to avoid the localities or minimize adverse effects during construction.

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Paleontological Resources

Paleontological resources are non-renewable resources that include fossils (defined as the remains or traces of once-living organisms preserved in the geological record, generally more than 10,000 years old), some sub-fossil remains, and the geological context in which fossil or sub-fossil remains are found. Some fossils found in Colorado include the bones and tracks of vertebrates such as dinosaurs and mammoths, shells of marine invertebrates such as ammonites, and leaf impressions of prehistoric plants. Although paleontological resources specifically exclude any remains which are found in a human-oriented or archaeological context, they are protected under many of the same federal and state regulations as archaeological resources. Regulations specific to paleontological resources include the Paleontological Resources Preservation Act (PRPA) of 2009.

Colorado is very rich in paleontological resources, but the density of those resources varies depending on the geology of the specific area being studied. For this reason, the first step in determining the paleontological sensitivity of a project area is to check its geology based on the best available maps. If the project will be disturbing sensitive geologic units, a search of museum records and a pedestrian survey of the project area are conducted to determine whether any previously identified or new fossil localities, respectively, will be disturbed. Clearance or mitigation will then be recommended at the discretion of the trained and permitted paleontologist conducting the search and survey.