

SOUTHWEST 2040 REGIONAL TRANSPORTATION PLAN

ENVIRONMENTAL OVERVIEW

Environmental factors include not only natural resources such as water quality, air quality, and wildlife, but also wetlands, threatened and endangered species, noise, historic and cultural sites, hazardous materials sites, and recreational areas.

To avoid and minimize environmental impacts from transportation system improvements, CDOT is required to comply with the provisions of the National Environmental Policy Act (NEPA). NEPA is typically introduced at the earliest stage practicable and should identify areas where both natural and human environmental resources might be compromised as a result of a project.

Although the regional planning process for the Southwest TPR does not require a complete or specific inventory of all potential environmental resources within the corridor, identifying general environmental concerns within the region will provide valuable information for project planners and designers. The information contained in this report will serve as the basis for a more in depth analysis as part of the project planning process. This analysis includes identification of three components:

- General resources within the region that have the potential to be impacted by projects, and
- Agencies with responsibilities for resources within the region; examples may include, the US Forest Service (USFS), the US Bureau of Land Management (BLM), Colorado Parks and Wildlife (CPW), the State Historical Preservation Office (SHPO), or the local Parks Department.
- Possible mitigation strategies for potential environmental impacts.

The information that follows identifies general environmental issues within the region. No identification of an issue in this review should not be taken to mean that it might not be of concern in the Southwest TPR. This section focuses on issues that are easily identifiable and/or which are commonly overlooked. The purpose is to encourage the planning process to identify issues that can be addressed proactively so that the environmental concerns can be mitigated or incorporated into a project.

Threatened or Endangered Species and Species of State Concern

In Colorado, there are 46 species of fish, birds, insects, amphibians, mammals and plants on the federal list of threatened or endangered species. The U.S. Fish and Wildlife Service identified another 8 as candidate species. In addition to the federally listed species, there are 6 additional species listed by the state as threatened or endangered and another 29 listed as State species of concern (Colorado Parks and Wildlife, July, 2014). Impacts can result from destruction of habitat, animal mortality (including from animal-vehicle collisions), fragmenting of habitat, water depletions, or changes in species behavior such as altering foraging or denning patterns.

Mitigation:

To comply with the Federal Endangered Species Act, CDOT evaluates all possible adverse impacts and takes all necessary measures to avoid harming proposed, candidate and listed species before construction and maintenance activities begin. Impacts that are studied and determined to be unavoidable are minimized through highway design and construction techniques. Appropriate compensation is utilized after all reasonable avoidance and minimization techniques have been exhausted.

Senate Bill 40 (SB40) was created primarily for the protection of fishing waters, but it does acknowledge the need to protect and preserve the fish and wildlife resources associated with streams, banks and riparian areas in Colorado. This is accomplished through erosion control, water contaminate control,

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discharge conditions, construction procedures, vegetation manipulation and noxious weed control. These measures, when properly used, can ensure that Colorado waters remain conducive to healthy and stable fish and wildlife populations which depend on the streams of Colorado.

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.

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Wildlife Linkages

To identify and prioritize these vital linkages in Colorado, the Colorado Department of Transportation (CDOT) used funds from an FHWA streamlining grant to launch a collaborative scientific effort called Linking Colorado's Landscapes. The CDOT asked the Southern Rockies Ecosystem Project (SREP), a non-profit conservation organization in Denver, to spearhead the effort and recommend mitigation measures. The SREP was uniquely positioned to lead the project because of its comprehensive database of wildlife and migration patterns in the Southern Rockies, and the organization could expand on CDOT's earlier work in identifying 13 key wildlife-crossing areas in the I-70 transportation corridor.

SREP held a series of interagency workshops in which participating environmental experts analyzed the effects of habitat fragmentation and restricted wildlife movement in Colorado. They identified and evaluated 176 wildlife linkages across the state, assigning "high priority" status to 23 linkages recognized as more important for both wildlife and safety. Of these prioritized linkages, 12 were identified for further study. These were located on stretches of seven highways, including U.S. 550 and U.S. 160 in the Southwest TPR.

Workshop participants used a "landscape approach" which considered land use and other regional factors. They were aided habitat connectivity models developed by Colorado State University for deer,

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elk, bobcat, black bear, Canada lynx, and mountain lion.

Next, SREP staff visited and inventoried the linkages at points where they were bisected by highways. At the same time, Colorado State researchers developed geographic information system computer models of the landscapes important for wildlife movement.

The collected information was then combined with animal-vehicle collision statistics, traffic densities, land ownership, zoning, and other transportation-planning information, to enable the final recommendations phase. Together, SREP, CDOT, Colorado Parks and Wildlife, The Nature Conservancy, and the U.S. Forest Service, identified site-specific recommendations for immediate and future use. For more information, see <http://www.fhwa.dot.gov/ENVIRONMENT/ecosystems/>.

Air Quality

The Colorado Air Quality Control Commission, a division of the Colorado Department of Health and Environment (CDPHE), is responsible for developing and adopting a regulatory program to protect and improve air quality in Colorado. Typically, the commission is involved in the maintenance of the regulations through modification and revision. Much of the air quality management program currently is in place and has been adopted over time. New programs occasionally are considered by the commission. The commission oversees the implementation of the air quality programs. The commission is responsible for hearing appeals of the Air Pollution Control Division's implementation of the programs through permit terms and conditions and enforcement actions. Colorado's air quality management program regulates air pollutant emissions from stationary industrial sources, cars and light duty trucks, burning practices, street sanding and sweeping activities, and the use of prescribed fire. The air quality program also is focused on visibility, odor and transportation planning impacts to future air quality.

The Colorado Air Quality Control Commission distributed a "2012 Air Quality Data Report" from the Air Pollution Control Division addressing air quality issues and attainment designations in the state of Colorado. When discussing air quality in Colorado, the Air Quality Control Commission separates the state into six regions to more clearly address each region's air quality conditions and activities. The Southwest TPR falls within the Western Slope air quality region. Within the Southwest TPR, pollutants originate primarily from motor vehicle emissions, wood burning, street sanding operations, particulate matter (PM)₁₀ emissions from unpaved roads, and construction activities.

During the 1970s and 1980s, the U.S. Environmental Protection Agency (EPA) designated many Colorado cities and towns as nonattainment areas because the areas violated nationwide air quality standards, including Pagosa Springs for PM₁₀. By the mid-1990s, all these areas started coming into compliance with the various standards and were re-designated. Pagosa Springs reached attainment/maintenance status for PM₁₀ in 2001.

These re-designations are made possible by cleaner air, and through development and implementation of air quality management plans known as State Implementation Plans (SIPs). These plans describe the nature of the air quality problems and the probable causes. The plans show projections of future pollutant levels and identify strategies to reduce these pollutants to acceptable levels.

Air quality concerns in this region are primarily from the impacts of a recent surge in energy development. In the 1990s, air quality concerns primarily were related to woodstoves, unpaved roads and street sanding. These "area" sources were addressed in many Western Slope communities and are no longer as significant as the impacts from energy development, including direct emissions, support service

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impacts and associated growth. Controlled and uncontrolled burns are a significant source of air pollution in this region.

Many communities in the Western Slope have taken aggressive action to control residential burning emissions by adopting either mandatory or voluntary control measures during winter seasons. Increased awareness of visibility impacts and fine particle levels spurred the installation of new air monitoring equipment to gauge those impacts. The region also has a number of local agencies that conduct air quality control programs.

The Congestion, Mitigation, and Air Quality (CMAQ) program, jointly administered by the FHWA and the Federal Transit Administration (FTA), is one source of funds for transportation control measures employed for the purposes of reducing congestion and improving air quality. In a successful effort to control PM₁₀ emissions, Pagosa Springs has utilized CMAQ funding for paving and sweeping, and is now in compliance with emissions standards.

In order to comply with the Clean Air Act (CAA), the State of Colorado adopted the following standards/regulations that relate to transportation projects, which in turn apply to the Southwest TPR:

- Ambient Air Quality Standards Regulation - This regulation established ambient air quality standards for the state and dictates monitoring procedures and data handling protocols. It also identified non-attainment areas in the state, which have historically violated federal and state air quality standards.
- State Implementation Plan Specific Regulations – This regulation defines specific requirements concerning air quality control strategies and contingency measures for non-attainment areas in the state.
- Transportation Conformity, Reg. No. 10 – This regulation defines the criteria the Colorado Air Quality Control Commission uses to evaluate the consistency between state air quality standards/objectives, and transportation planning and major construction activities across the state, as defined in the state implementation plans.
- Street Sanding & Sweeping, Reg. No. 16 – This regulation sets specific standards for street sanding and sweeping practices.

Pagosa Springs

Pagosa Springs was formerly a non-attainment area for PM₁₀, but is now in compliance, largely due to ongoing paving and street sweeping programs made possible through the CMAQ program.

Durango At Risk Area

The CDOT Office of Environmental Services identified communities “at risk” for poor air quality in draft documents dated April 1998. The basis for the identifications is the 1996-97 Air Quality Control Commission Report to the public, CDOT traffic data, and the observations of CDOT regional personnel. Specific criteria were used to identify communities “at risk” for poor air quality. The criteria include a combination of:

- Monitored elevated particulate matter PM₁₀ levels
- Recent significant growth in winter VMT
- A location with similar meteorology to an area that has experienced elevated PM₁₀ levels
- Upwind of coal-fired power plants located in New Mexico
- Local concern over air quality

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While the identified areas do not currently violate federal air quality standards, CDOT wants to ensure that sensible steps are taken to prevent unacceptable air pollution. Durango has been identified to be “at risk” for becoming a non-attainment area because of high VMT growth and elevated PM₁₀ values.

Despite the current status that does not exceed federal standards, the impacts of proposed transportation projects in Durango should be considered.

Water Quality/Wetlands

Four major river basins are located within Colorado: Colorado, Missouri, Rio Grande, and the Arkansas. Within these basins are numerous creeks, tributaries, and ditches; as well as lakes, floodplains, and wetlands. Multiple tributaries of the Colorado are present in the Southwest TPR, including the Animas, San Juan, Florida, Los Pinos and Piedra Rivers. The Water Pollution Control Act of 1972, later amended to include the Clean Water Act (CWA), protects the waters of the TPR. 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 these waters is done through regulatory review and permits. Any water quality permits required for transportation projects must be obtained through the Colorado Department of Public Health and Environment, which administers the CWA for the U.S. Environmental Protection Agency.

Mitigation:

Some transportation 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.

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 wetlands as possible and perform the same ecological and societal functions as the impacted wetlands. 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 FHWA Noise Abatement Criteria (NAC) define noise levels which, if approached or exceeded, require noise abatement consideration. FHWA requires all states to define at what value a predicted noise level approaches the NAC, thus resulting in a noise impact. CDOT has defined “approach” as 1dBA 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 increases in the L(eq) of 10.0 dBA 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. As a result of potential impacts, a noise analysis is required for all projects involving federal funding that meet criteria for projects likely to cause noise impacts.

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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 separating traffic from other land uses.

Historical/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>.

Mitigation:

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.

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.

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Hazardous Materials

The potential to find hazardous materials during the construction of a transportation facility always exists. Hazardous materials are regulated under several programs, including the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Until specific transportation corridors and/or improvement projects are identified, no specific data collection at hazardous material sites is recommended at this time. Certain land uses frequently result in a higher potential for location of 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>. Another tool is the National Priorities List of the U.S. Environmental Protection Agency:

<http://www.epa.gov/superfund/sites/query/queryhtm/nplmapsg.htm>

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.

Environmental Permits

The following list of permits is meant to provide information needed to comply with basic environmental permitting requirements for construction activities. It is impossible to be all-inclusive and addressing every situation. These are just some of the more common permits associated with construction activities.

- County/State Air Permit (for construction activities, grading, clearing, grubbing)
- County/State Demolition Permit (these permits may also require a utility disconnect permit from your local utility department)
- Source Air Permit (APEN) (concrete batch plant, haul road, fuel storage tank)
- Sandblasting Permit
- Construction Dewatering Permit
- Sand & Gravel Permits (Certificate of Designation)
- Construction Stormwater Permit
- Compliance with a Municipality Separate Storm Sewer System (MS4) Permit
- US Army Corps of Engineers 404 Permit (waters of the U.S., including wetlands)
- Floodplain Permit
- Wildlife Surveys (New Mexico Meadow Jumping Mouse Survey, Migratory Bird Survey)