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.

In an effort 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 does not require a complete specific inventory of all potential environmental resources within corridors, establishing 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. There are three components to this analysis:

- Identifying general resources within the region that have the potential to be impacted by projects.
- Identifying agencies with responsibilities for resources within the region. 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 Gunnison Valley TPR. No identification of an issue should not be taken to mean that the issue might not be of concern in the region. This section focuses on issues that are easily identifiable and/or which are commonly overlooked. The purpose is to encourage identification of issues that can be acted upon 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 the Gunnison Valley TPR serves.

Threatened or Endangered Species

In Colorado, there are 46 species of fish, birds, mammals, insects, amphibians, 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), fragmentation of habitat, 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,

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 more than 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.

Air Quality

The Colorado Air Quality Control Commission, a division of the Colorado Department of Health and Environment, 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. Establishing new programs is occasionally 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 fires. 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 Gunnison Valley TPR falls within the Western Slope air quality region.

During the 1970s and 1980s, the U.S. Environmental Protection Agency (EPA) designated many Colorado cities and towns as non-attainment areas because the areas violated nationwide air quality standards. By the mid-1990s, many of these areas came into compliance with the various standards. All areas have been re-designated.

The re-designations are made possible by cleaner air, and through development and implementation of air quality management plans known as State Implementation Plans or "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. Telluride was re-designated as an attainment/maintenance area for the federal PM10 standards in 2001. The Congestion, Mitigation, and Air Quality (CMAQ) program, jointly administered by the FHWA and the Federal Transit Administration (FTA), is one source of funds to reduce congestion and improve air quality.

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 Gunnison Valley

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.

San Miguel County

The San Miguel County Planning and Environmental Health Department administer regulations aimed at protecting county air quality. The County has banned installation of solid-fuel burning devices in a 27-square mile area around Telluride to limit particle emissions. Paving is required for all new streets in this area to prevent pollution from vehicle re-entrained dust. The county has approved plans to pave existing roads as necessary to protect air quality and has installed permanent traffic counters on its most active highway segments to aid in correlating traffic volumes with pollution levels.

A computer model ("Wyndvalley 3") is being developed to help the county understand pollutant dispersions in the Telluride airshed and improve prediction of future pollution levels. A recently installed Graseby Beta Gauge, which provides real-time air quality monitoring, already has proven beneficial in charting daily patterns of accumulation and dispersion of particles.

Telluride became a demonstration site for the state's $PM_{2.5}$ monitoring network in 2000. Improved street sweeping, sanding and chemical de-icing practices by the town of Telluride - and a free gondola system linking Telluride and Mountain Village that opened in late 1996 - have helped reduce particle emissions to the lowest levels measured in the region since monitoring began in 1973.

Telluride/Mountain Village also has been re-designated from a PM_{10} non-attainment area to maintenance mode, largely resulting from the use of CMAQ funds to pave dirt streets and implement a street sweeping program to help reduce emissions.

Water Quality/Wetlands

The Gunnison Valley TPR is primarily in the Colorado River Basin except for portions of Hinsdale County, which is in the Rio Grande Water Basin. Blue Mesa Reservoir is a major reservoir in the Colorado River Basin within the Gunnison Valley TPR. In addition, the Gunnison River is the major river within the Colorado River Basin in the TPR. The Rio Grande Reservoir in the Rio Grande River Basin is located in Hinsdale County. For more information see http://waterknowledge.colostate.edu/rivers.htm.

Water quality in Colorado River Basin generally is satisfactory, although runoff from agricultural areas, abandoned mines, and naturally occurring saline ground water discharges causes localized problems. In the Gunnison Valley TPR, previous mining activities have also impacted tributaries to the Gunnison River. The Colorado River main stem is subject to elevated salinity levels due to naturally occurring springs and agricultural drainage through saline deposits. No notable water quality issues were specifically identified for the Rio Grande Reservoir.

The Water Pollution Control Act of 1972, later amended to include the Clean Water Act (CWA), protects the waters of the Gunnison Valley 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. The U.S. Environmental Protection Agency (USEPA) administers the CWA across the nation, but has 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.

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 Federal Highways Administration (FHWA) Noise Abatement Criteria (NAC) defines 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 of all projects involving federal funding the meet criteria that define projects likely to cause noise impacts.

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, more than 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 subfossil 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.

Mitigation:
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.

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). The CERCLIS (Comprehensive Environmental Response, Compensation and Liability

Information System) Database contains information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation. The database includes sites that are on the National Priorities List (NPL) or being considered for the NPL. There are two NPL sites within the Gunnison Valley TPR:

- Standard Mine in Gunnison County
- Union Carbide's Uravan Uranium Project in Montrose County

However, this does not include other potential hazardous material contamination. 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; for information on sites identified as having serous hazardous waste issues, see http://www.epa.gov/superfund/sites/query/queryhtm/nplmapsg.htm

Mitigation:
Typical mitigation/remediation strategies associated with common hazardous materials discovered 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. Mitigation also can include a site-specific health and safety plan for construction workers that specifies how 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 Storm water 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
- Plant and Wildlife Surveys (Colorado hookless cactus, Migratory Bird Survey)

- Incidental Takes Statement (USFWS)