

4

ENVIRONMENTAL PROFILE



4.0 Environmental Profile

4.1 Introduction

Federal regulations require that adopted metropolitan transportation plans contain a discussion of potential area-wide (not project-specific) environmental mitigation activities. This is 1 of 12 specific transportation plan requirements listed in Title 23 of the Code of Federal Regulations in Section 450.324(f) (see text box).

This requirement is the result of a past surface transportation reauthorization bill. The current 2015 authorization, the Fixing America’s Surface Transportation (FAST) Act (discussed in Chapter 1), was due to expire on September 30, 2020 but was extended for one year on October 1, 2020. A new reauthorization bill, tentatively titled the Investing in a New Vision for the Environment and Surface Transportation in America (INVEST in America) Act, was introduced in early 2020. If passed, the new bill may or may not alter the current transportation planning requirements.

As seen from the requirement, this environmental mitigation approach is to be developed in consultation with federal, state, and tribal regulatory agencies responsible for land management, wildlife, and other environmental issues. This, in turn, depends on the specific environmental issues that are relevant to the metropolitan area in question.

Accordingly, this chapter describes the environmental regulatory framework from which the 2045 Long Range Transportation Plan (LRTP) was developed, the methodology used to acquire and analyze environmental data with relevance to transportation plans, and the overall approach to environmental mitigation taken by the plan.

Recall from Chapter 1 of this plan that one of the goals (number 6) of the PACOG metropolitan transportation planning process is Environmental Sustainability, which has five supporting goals:

1. Reduce fossil fuel consumption and reduce greenhouse gas and other emissions.
2. Improve and support transportation system improvements that address needs for

citizens with disabilities, low incomes, and other special needs in the region.

3. Reduce transportation-related adverse impacts to communities, neighborhoods, natural environments, and areas identified for cultural and/or historical preservation.
4. Protect and/or avoid both areas containing critical habitat for threatened and endangered species and wildlife travel corridors.
5. Minimize the amount of stormwater runoff and transportation-associated pollutants that enter the region’s streams.

Additionally, PACOG goal number 8, Multimodal Transportation, seeks to improve public health and quality of life by enhancing and integrating transportation alternatives to single-occupant driving, including the active non-motorized transportation alternatives of bicycling and walking.

4.2 Regulatory Framework for Environmental Considerations

There are a number of environmental laws and executive orders that transportation agencies are required to address when planning for transportation within their regions. Relevant federal legislation related to the environment is cited below with a short abstract of key environmental acts and the related agencies that support and enforce them. This list is presented largely in chronological order and does not imply any relative importance of the topics listed.

4.2.1 The National Historic Preservation Act (1966)

The National Historic Preservation Act (NHPA) affects transportation projects that are federally funded. This act requires government agencies to evaluate the impact to cultural resources of all federally funded construction projects through a process dictated by NHPA Section 106. Under the act, agencies conduct their own preservation reviews with consultation from local governments and Native American tribes, with monitoring from the National Council on Historic Preservation.

23 CFR Section 450.324.

Development and content of the metropolitan transportation plan. (f) The metropolitan transportation plan shall, at a minimum, include:

(10) A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The MPO shall develop the discussion in consultation with applicable Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation.

NHPA mandates a three-part process: (1) the identification of potentially historically significant resources, (2) the assessment of potential adverse effects to these resources of the proposed project, and (3) the description of resolution strategies to mitigate the adverse effects. Potentially significant cultural resources are defined as resources evaluated as eligible for listing on the National Register of Historic Places (NRHP). Assessments are conducted by authorized architectural historians as part of specific Section 106 reviews, usually in conjunction with the satisfaction of the National Environmental Policy Act (NEPA) requirements.

Federal power was diffused to the states, which, in turn, were encouraged to further diffuse power to localities. Historic preservation in the United States was thus broadened to include places with local or state as well as national historic significance. The City of Pueblo Historic Preservation Commission is an example of a Certified Local Government (CLG) that is involved in the Section 106 consultation process, in cooperation with the State Historic Preservation Office (see the History Colorado website: <https://www.historycolorado.org/state-historic-preservation-office>).

The Pueblo area has a rich history and numerous cultural resources. The City of Pueblo was incorporated 150 years ago in 1870, and most communities in the PACOG area were settled in the nineteenth century, some of them as stops along the railroad. The region was formerly under Spanish control prior to the Louisiana Purchase in 1803. It had been occupied or used by indigenous Native American peoples and their ancestors for thousands of years.

Potentially impacted resources that are at least 50 years old (i.e., built in 1970 or earlier) can be evaluated to see if they meet eligibility criteria. In addition to properties that are formally listed on the NRHP, resources that appear to meet NRHP eligibility criteria based on evaluation by a qualified historian receive consideration for protection from impacts due to federal transportation projects. In other words, a resource can be treated as historic even though

it is not formally listed. For example, as part of the I-25 improvements project through Pueblo, 856 structures within the Area of Potential Effect were tentatively identified as National Register-eligible.

As of June 2020, History Colorado indicates that 73 resources within Pueblo County are officially listed on the NRHP, including one site newly listed in 2020. The most recent Pueblo Inventory of Cultural Resources, dated September 30, 2019, lists 260 of resources recognized at the local level, including those NRHP resources that are located within the city. It is important to check these sources for updates as resources may be added or removed.

4.2.2 The National Environmental Policy Act (NEPA, 1969)

The focus of NEPA is to ensure that federal agencies consider the social, economic, and environmental consequences of an action and reasonable alternative actions before undertaking or approving an action. Projects expected to have significant impacts require preparation of an Environmental Impact Statement (EIS). Actions with lesser impacts also undergo examination and documentation but in other documents such as an Environmental Assessment and a Categorical Exclusion.

NEPA requirements are addressed and documented at the project level and do not apply to the metropolitan transportation plan itself. For projects undergoing NEPA analysis by U.S. Department of Transportation agencies, the Colorado Department of Transportation (CDOT) typically is a signatory and administers preparation of much of the documentation. Providing meaningful opportunities for input by the public and by affected stakeholder entities and agencies is an important requirement of the NEPA process.

4.2.3 The Clean Air Act (1970)

The Clean Air Act Amendments (CAAA) of 1970 is a United States federal law that requires the Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous

to human health. This law is an amendment to the Clean Air Act originally passed in 1963. The Clean Air Act has undergone substantial amendment, particularly in 1977 and again in 1990. Advancements in technology as well as medical and industrial sciences have spurred revisions to the National Ambient Air Quality Standards (NAAQS) over time.

As part of the Clean Air Act, the concept of “nonattainment areas” was developed. Nonattainment areas are those where generated emissions cause or contribute to violations of the NAAQS. States are required to prepare and submit to EPA air cleanup plans called State Implementation Plans (SIPs) to reduce emissions in nonattainment areas.

Pueblo County meets the national air quality standards and has never been designated as a nonattainment area by the EPA. Given the size of the PACOG communities and their industrial output, continued attainment is expected in the long-term future.

4.2.4 The Clean Water Act (1972)

The Clean Water Act of 1972, which amended the original Federal Water Pollution Control Act of 1948, is the primary federal law in the United States governing water pollution. The act established the goals of eliminating releases to water of high amounts of toxic substances, eliminating additional water pollution by 1985, and ensuring that surface waters would meet standards necessary for human sports and recreation by 1983.

Section 303 of the Clean Water Act authorizes the water quality standards and Total Maximum Daily Load (TMDL) programs. These are risk-based (also called hazard-based) programs that set site-specific pollutant standards for individual water bodies, such as rivers, lakes, streams, and wetlands.

The two main waterways in Pueblo County are the east-flowing Arkansas River and its south-flowing tributary, Fountain Creek. The Arkansas River is polluted with sulfur tetroxide, mercury (found in fish species), and naturally occurring selenium. The contaminant of concern for Fountain Creek is *E. coli* bacteria. These pollutants are not emitted by transportation systems.

Pursuant to Clean Water Act requirements, best management practices (BMPs) are used to control stormwater runoff from impervious surfaces, including roadways, introduced through development. CDOT, Pueblo County, and the City of Pueblo are subject to stormwater management requirements through their Municipal Separate Storm Sewer System (MS4) permits under the EPA National Pollutant Discharge Elimination System (NPDES), administered through the Colorado Department of Public Health and Environment (CDPHE). It is therefore important to consider that roadway improvement projects routinely include the cost of stormwater BMPs.

4.2.5 The Endangered Species Act (1973)

The Endangered Species Act (ESA) is the most wide-ranging of the many United States environmental laws passed in the 1970s. This act was designed to protect critically imperiled species from extinction due to the consequences of economic growth and development (i.e., loss of habitat) without adequate concern for conservation. Under the act, the U.S. Fish and Wildlife Service (USFWS) identifies and lists animal and plant species that warrant ESA protection. An *endangered* species is one that is in danger of extinction throughout all or a significant portion of its range. A *threatened* species is one that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Species can be added or removed from the USFWS threatened and endangered lists over time if their populations decline or increase. The recovery and subsequent delisting of the bald eagle is a well-known ESA national success story.

As of mid-2020, the USFWS website called IPaC, Information for Planning and Consultation listed five endangered species and seven threatened species that may occur within Pueblo County. USFWS identified critical habitat in Pueblo County for only one threatened species, the Mexican Spotted Owl. This species inhabits canyon and montane forest habitats, according to USFWS. The critical habitat is located in extreme western and southwestern Pueblo County, in the San Isabel National Forest.

Colorado Parks and Wildlife (CPW) maintains its own list of species that are considered to be threatened or endangered in Colorado. Some species on this list are also federally listed, whereas others are not. Colorado also lists Species of State Special Concern (not a statutory category), which includes animals such as the black-tailed prairie dog.

With regard to the metropolitan transportation plan, planned new transportation corridors should avoid designated critical habitat for sensitive species.

4.2.6 Presidential Executive Order 11990 (1977)

In 1997, President Jimmy Carter issued Presidential Executive Order 11990, which required all federal agencies “to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands” in the course of carrying out their respective agency functions. The U.S. Department of Transportation requires that wetland impacts be considered in the evaluation of proposed transportation system improvements and their alternatives. Wetlands impacts are to be considered, along with other factors (e.g., impacts to historic resources) when identifying the project’s Least Environmentally Damaging Practicable Alternative (LEDPA). Supplementing this direction from the federal government, CDOT’s policy mandates that its projects shall result in no net loss of wetlands.

¹⁶ Environmental Laboratory, U.S. Army Core of Engineers, *Corps of Engineers Wetlands Delineation Manual* (Wetlands Research Program Technical Report Y-87-1, January 1987), A14,

Based on the definition used by U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual*, the term “wetlands” is defined as: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”¹⁶ Within Pueblo County, wetland areas are commonly found along the Arkansas River and its tributaries such as Fountain Creek.

4.2.7 Environmental Evaluation for Non-Federal Projects

NEPA mandated an environmental assessment for every federally funded project with the potential to impact the environment. If no federal funding is involved, state environmental review requirements or local ordinances and plans may apply with similar requirements for study of impact and assessment of alternatives.

In addition to transportation-related environmental review requirements, a variety of local, state, and federal permits that regulate wetlands, water quality, air quality, noise, and other environmental resources also may be required for projects. Identifying the extent of impacts and mitigation opportunities is a key consideration when planning projects. PACOG recognizes that efforts to avoid, minimize, and mitigate adverse environmental impacts are a standard consideration in the development of project-level plans for transportation projects. The time and money required to do so are accepted as part of the project development process. At the regional level, these same considerations of key environmental constraints apply.

<https://www.lrh.usace.army.mil/Portals/38/docs/USACE%2087%20Wetland%20Delineation%20Manual.pdf>

4.2.8 Natural Resource Management Plans

Various federal agencies, such as the Bureau of Land management and the U.S. Forest Service, are required to develop and maintain plans for how they will manage their resources. These plans are a valuable resource for consideration by PACOG in its regional transportation planning efforts. Knowing the goals of these agencies as expressed through their management plans can help to ensure that future transportation plans are not at cross-purposes with the stated goals of federal agencies.

4.3 Approach to Environmental Planning

4.3.1 Regional Overview

Pueblo County’s snow-capped, ruggedly alpine Wet Mountains rise majestically out of the San Isabel National Forest and provide a western backdrop for one of the most spectacularly beautiful landscapes in Colorado. At their base, rolling, pine-covered foothills give way to juniper and piñon-speckled mesas that in turn break dramatically from their flat tops and fall into hidden canyon lands. These then blend into vast expanses of short-grass prairie and fragrant sand sage ecosystems. Tying all of this variety together is a laced network of braided wetlands, reservoirs, lakes, mountain streams and riparian corridors that together form the numerous tributaries of the greater Arkansas River system. This unique landscape that straddles the continental edge between the Great Plains and the Southern Rocky Mountains provides a setting for more than 250 individual species of birds and land animals. It shelters rare plants and animals that are found nowhere else in the world and provides critical habitat to a number of rare, threatened and endangered species.

The Colorado Natural Heritage Program (CNHP) based at Colorado State University in

¹⁷ Susan Spackman Panjabi, John Sovell, Georgia Doyle, Denise Culver, and Lee Grunau, “Survey of Critical Biological Resources of Pueblo County, Colorado” (report prepared by Colorado Natural Heritage Program, Colorado State University for

Fort Collins has been conducting county-by-county surveys of critical biological resources in Colorado for decades and conducted one for Pueblo County in 2003. This was nearly two decades ago, when the County’s human population was about 102,000, but because the estimated population has grown by only about 10,000 since that time, most of the CNHP findings remain largely valid today. Key information from the survey follows.

Figure 4.1 depicts the ecoregions and principal drainages in Pueblo County. The principal mountainous features located within Pueblo County are the Wet Mountains. Foothills form the transition between the mountains and the plains. Pueblo County is located within the Central Shortgrass Prairie and Southern Rocky Mountains ecoregions as defined by The Nature Conservancy.

- “The Central Shortgrass Prairie ecoregion is characterized by rolling plains and tablelands dissected by streams, canyons, badlands, and buttes, and is dominated by shortgrass, mixed-grass, and sandsage prairie.
- The Southern Rocky Mountain ecoregion includes two major mountain systems and the intervening valleys and parks from southern Wyoming to northern New Mexico. The major ecological zones are alpine, subalpine, upper montane, lower montane, and foothill.

The principal drainage within the County is the Arkansas River. The principal tributaries to the Arkansas River include Fountain Creek, Chico Creek, Saint Charles River, and Huerfano River.”¹⁷

Pueblo County Planning Department, May 2003), 28–29, https://cnhp.colostate.edu/download/documents/2003/final_pueblo_report.pdf

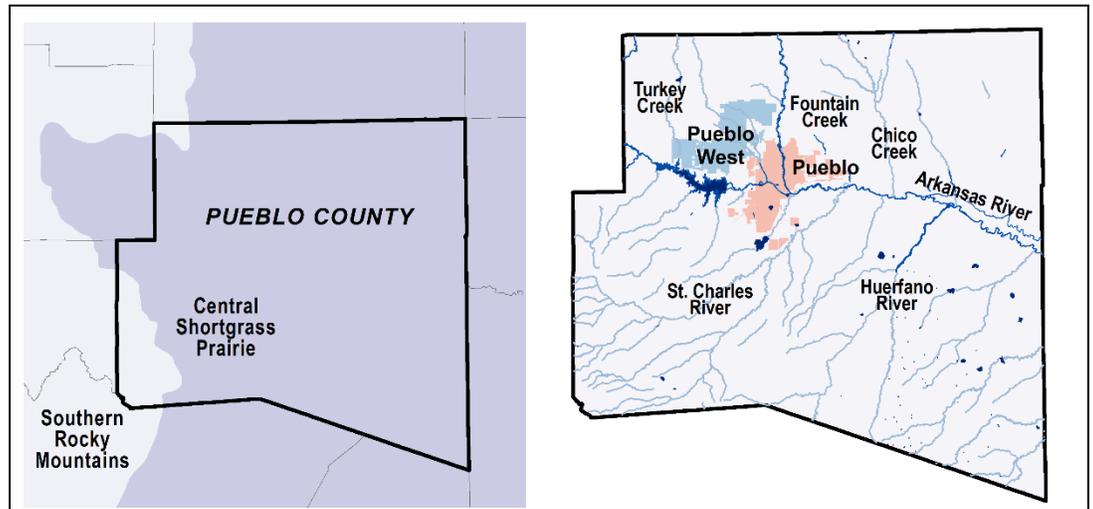
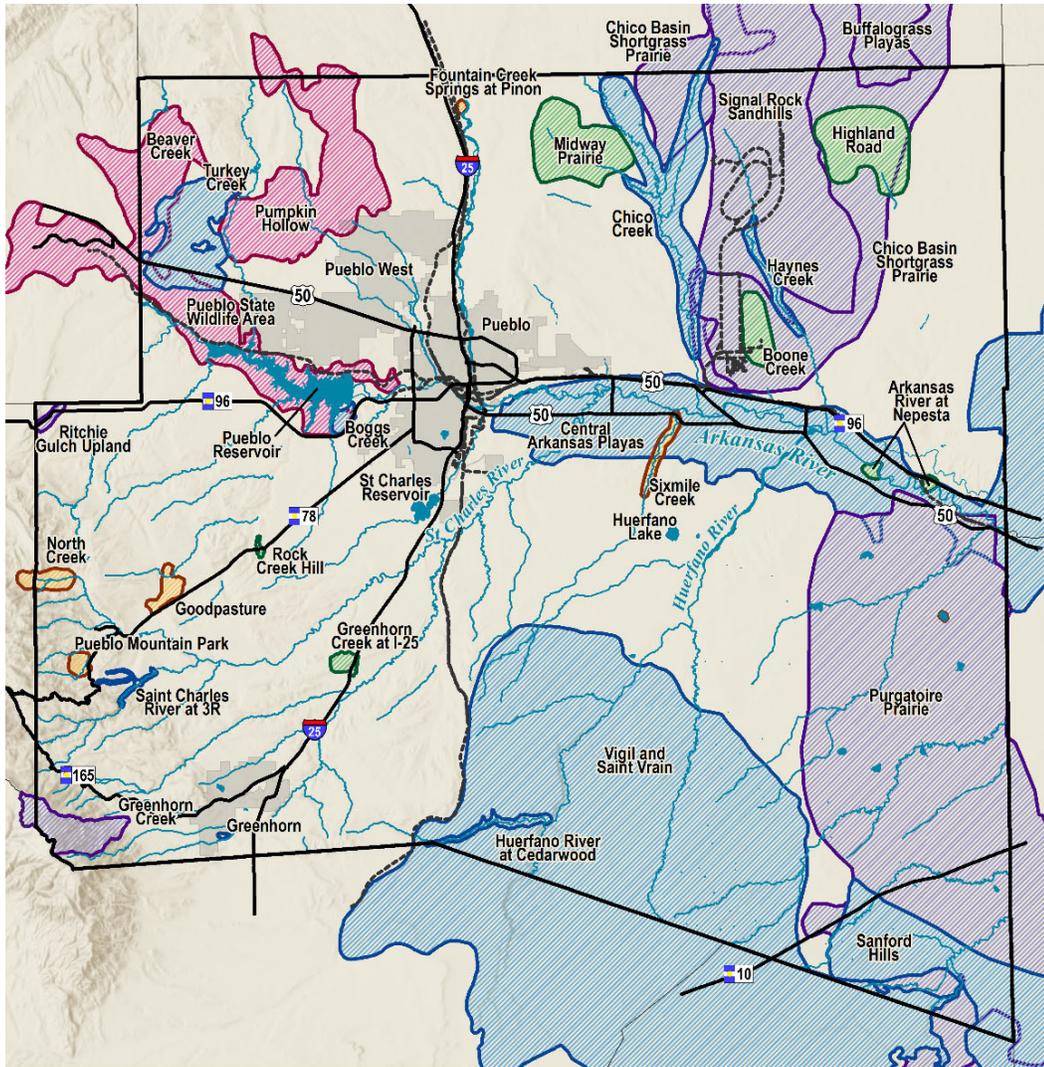


Figure 4.1: Ecoregions and Major Drainages in Pueblo County

A key goal of the CNHP biological surveys is to identify areas of biological significance for purposes of conservation. This does not bestow any protection on such lands, but it is useful in understanding where they are located and how they interrelate. **Figure 4.2** indicates the locations in Pueblo County that were determined to have high biological significance by CNHP in 2003. In particular, these are areas identified for potential conservation. It can be seen from the map that growth in the immediate vicinity of the City of Pueblo would not appear to affect the key potential conservation areas identified by CNHP.

Land along the Arkansas River and its tributaries is also of biological significance, containing valuable wetlands riparian areas and floodplains, and thus already is subject to various federal protections.

ENVIRONMENTAL
PROFILE



Potential Conservation Areas by Biodiversity Significance Rank

- 1: Outstanding Biodiversity Significance
 - 2: Very High Biodiversity Significance
 - 3: High Biodiversity Significance
 - 4: Moderate Biodiversity Significance
 - 5: General Biodiversity Interest
- Interstate/Highway Railroads Rivers, Streams Municipalities
 Pueblo County Counties Lakes, Reservoirs

Disclaimer

The data contained herein are provided on an as-is, as-available basis without warranties of any kind, expressed or implied, including (but not limited to) warranties of merchantability, fitness for a particular purpose, and non-infringement. CNHR, Colorado State University and the State of Colorado further expressly disclaim any warranty that the data are error-free or current as of the date supplied.

Figure 4.2: Biodiversity Significance of Pueblo County Potential Conservation Areas

Source: Panjabi et al., 2003, Figure 8, p.45.

Fountain Creek Watershed

As the urbanized Front Range in Southern Colorado continues to grow, the portion of Pueblo County that lies north of the City of Pueblo and also between the State Land Board properties to the east and Fort Carson to the west has been identified by many planning professionals, developers, and investment groups as a likely area for future growth.

With its current mixture of working ranches, historic trails, wetlands, wildlife corridors, and unique vistas, this subsection of our study area is highly desirable for a number of future land uses. At its heart is the Fountain Creek watershed—a dynamic riparian zone that has been studied by a number of local groups with different goals and objectives. Historically, the Fountain Creek watershed has been the focus of concerted land use/transportation planning. That work has provided to the PACOG LRTP a set of comprehensive planning goals related directly to the plan:

- Creating numerous new recreational opportunities such as camping, fishing, hunting, mountain biking, urban and wilderness hiking, horseback riding, and bicycle commuting.
- Restoring natural ecosystems and wildlife habitat.
- Keeping agricultural lands productive and vibrant.
- Preserving a greenbelt of open space as a community separator and scenic corridor along Interstate 25 between Pueblo and Colorado Springs.
- Finding an effective way to manage stormwater discharges, attenuate flooding, and reduce the dynamic changes of the Fountain Creek and other water features.
- Finding effective ways to maintain or improve the wildlife habitat within the Fountain Creek riparian and upland zones.
- Managing water quality and quantity in Fountain Creek and other water features as growth and urbanization in the watershed changes the natural hydrograph.

- Limiting the impact of urbanization to the region.
- Protecting valuable rare plant communities and critical wildlife migration corridors.

There are many challenges facing elected officials, community leaders, planners, interest groups, and the public. Prominent among them are integrating the numerous and sometimes disparate goals for the lands and accommodating future projected growth while protecting the rich ecological, cultural, and historic resources in the Pueblo area.



4.3.2 The PACOG Corridor Vision Strategy

Transportation planning often uses the concept of “corridor plans” to analyze future roadway systems and expansions in capacity to current systems. This makes rational sense from the standpoint that people have to move from point A to point B along some route roughly between the two points. Buffers are chosen to determine the width of a prospective corridor from the centerline of the proposed alignment (or the current facility) that is reasonable for study. The area, including the alignment and buffers, is delineated and as much information as can reasonably be gathered is traditionally combined into a very detailed analysis of the proposed project corridor.

The challenge with this approach is that it can miss the greater environmental context. Its surgical accuracy leaves it without a reference point. For example, is there a wildlife migration route? How important is this migration route? What does it connect on a landscape level? Is this the single connection between summer and winter habitats? If this migration route is limited by the proposed transportation project, are there other options for the wildlife? These can be difficult questions to answer with limited information about large geographical areas.

To provide a holistic and contextually rich approach, geographic information system (GIS) technology will be used to analyze entire landscapes at the corridor level. Data gathered for the PACOG region will be supplemented by data that has been gathered at state and regional levels, making it possible to answer questions on a project-by-project basis from an ecosystem perspective. The fiscal constraints to transportation development in the Pueblo region provide the opportunity to focus on the larger picture as opposed to the project-driven constraints of areas of the state that are growing more rapidly. The stable growth of Southern Colorado calls for renewed examination of a range of transportation modes to accommodate future needs and conditions. Is it reasonable to believe that the single-occupant, petroleum-fueled vehicle will be the major mode of choice in 30 years? If not, what mode would we recommend as an alternative? How can we

begin to imagine a transition to that mode? What would be the relative environmental cost of the new mode?

PACOG will continue to identify corridors and report on them in the same format used in previous transportation plans. This approach allows the 2045 plan to be easily and seamlessly combined with the reports of the other transportation planning regions at the state level. However, the analysis behind the 2045 corridor visions is radically different from what has been done locally in the past.

Figure 4.3 illustrates the areas that would be identified if only the buffers (shown as lighter areas) three miles in each direction away from existing facilities were studied. However, such a traditional approach restricts our ability to understand the greater functionality of the landscape. The present approach, which examines a relatively large amount of landscape that is not included in these corridors, is consistent with the spirit and letter of the latest regulations for long-range transportation planning as delineated by both CDOT and the Federal Highway Administration (FHWA). PACOG understands the added benefit that this level of analysis provides when working with the local governments within its jurisdiction.

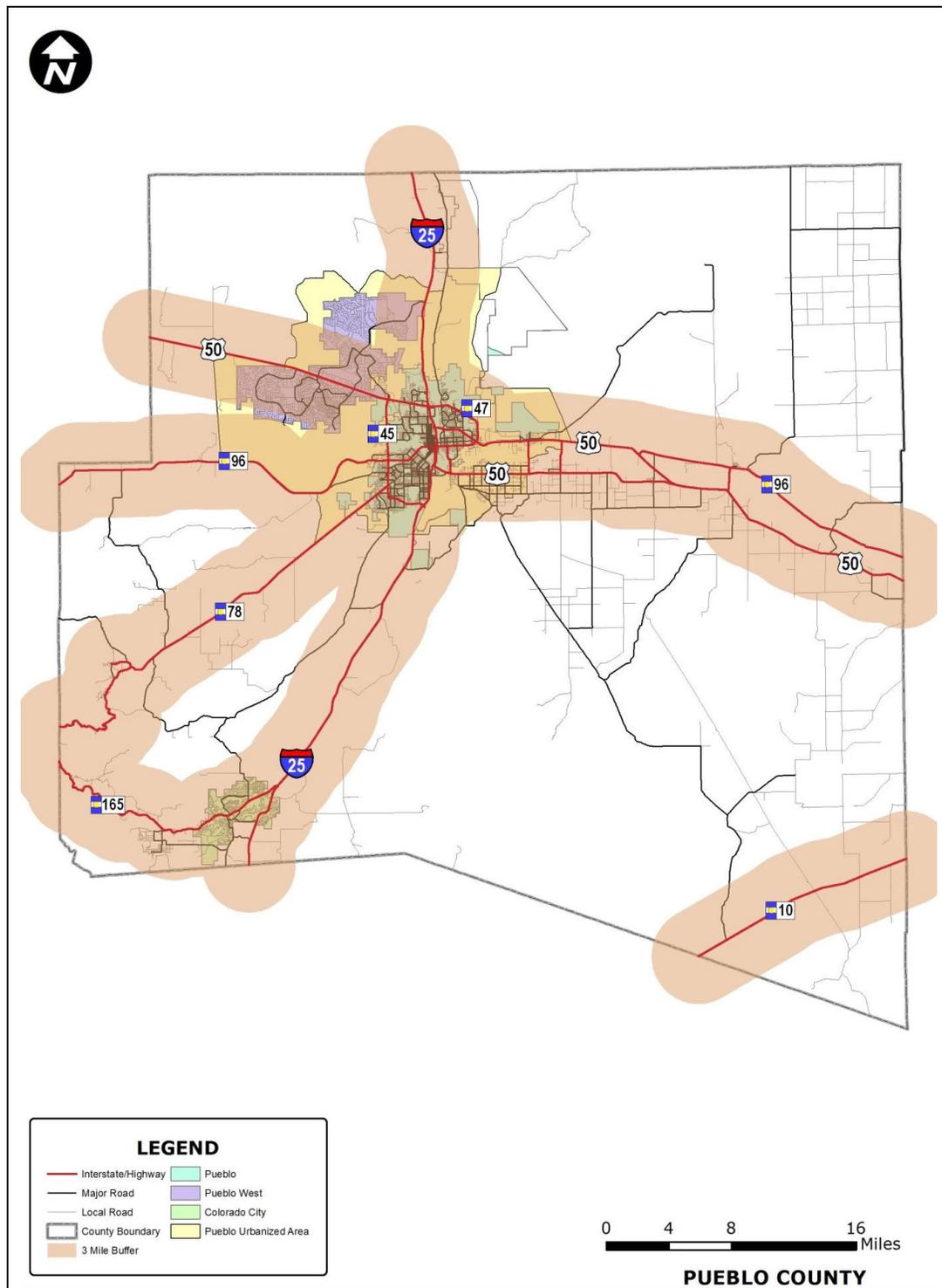


Figure 4.3: Pueblo County Transportation Corridors

4.4 Transportation and Land Use Planning

Under federal transportation planning regulations, metropolitan planning organizations (MPOs) are required to consider projects and strategies that will protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

4.4.1 Transportation /Land Use Planning Objectives

The need to cooperatively plan transportation systems in conjunction with land uses is now widely recognized. There exists a recommended philosophy for integrating land use planning issues into LRTPs. The primary goals of this transportation planning philosophy include the following:

- A desire to improve the connection between transportation and land use.
- Recognition that land use decisions are made by many, often independent, actors and actions.
- An interest in empowering local organizations through a bottom-up approach.
- A readiness to work within the traditional planning process available to MPOs.
- A willingness of the MPO to act as a leader during project conception but ultimately play the role of facilitator for local solutions and innovations.

Consistent with this philosophy, the FHWA recommends MPOs address the following issues, which implicitly require an examination of land use and transportation issues concurrently:

Corridor Planning: State departments of transportation (DOTs), MPOs, cities, and counties can develop transportation corridor plans considering land use as well as transportation issues. Some state agencies have developed handbooks for corridor planning to aid district staff and consultants when conducting planning studies.

Interchange Area Planning: Agencies at various levels have developed and/or implemented land use plans and zoning overlay ordinances to guide land development around freeway interchanges. Interchanges become magnets for development, but unplanned development and unmanaged access can quickly lead to a breakdown of traffic conditions in the vicinity of the interchange, affecting both safety and capacity. State agencies and nonprofits have sponsored the development and adoption of model codes and regulations for interchange areas, and regional agencies and local jurisdictions have sponsored the development of interchange area plans that address access, local circulation, land uses, site design, buffers, and landscaping. In Pueblo County, many of these areas are designated as “special development areas.”

Special Development Areas: These areas are lands with significant development, redevelopment and/or open space potential in strategic locations that suggest the need for careful, location-specific plans for infrastructure and private development. Master plans should be prepared prior to development or redevelopment occurring.

Linking Planning and NEPA: Transportation planning agencies are increasingly expanding the scope of their statewide, regional, and corridor planning efforts to address environmental issues, including land use impacts, at an early stage. Methods include collecting and using regional data on environmental conditions in the long-range transportation planning process; evaluating combined transportation and land use scenarios; involving federal and state resource agencies in long-range transportation planning; and recommending projects and policies in statewide and corridor plans that are designed to reduce environmental impacts.

Planning for Transit-Oriented

Development: Transit agencies, MPOs, and local jurisdictions lead planning processes focusing on existing or planned transit station areas and/or corridors. These processes may involve education and outreach on transit oriented development (TOD) principles and concepts; station area conceptual planning; market assessment; detailed station area plans;



development and adoption of overlay districts or other zoning changes to facilitate transit-supportive development; and application of other tools and incentives. The Pueblo Transit Center is a good example of TOD.

Regional Agency Support for Local Area

Planning: MPOs, regional planning commissions (RPCs), and councils of government (COGs) provide technical and/or financial assistance for local comprehensive planning and/or small-area planning activities that link transportation and land use. Financial support is provided from federal sources, including Surface Transportation Program (STP) and Planning (PL) funds, as well as from funds appropriated by state legislatures.

Regional Visioning and Scenario Planning:

MPOs and nonprofit/community groups lead public processes to develop a transportation and land use "vision" for a region or multi-jurisdictional corridor and to evaluate future transportation and land use scenarios. The results of this process are typically implemented through the next updates of the LRTP and Transportation Improvement Program (TIP) and through additional actions to encourage land use changes at the local level.

State DOT Support for Comprehensive

Planning: State departments of transportation (DOTs) provide assistance for integrating both transportation considerations into local

comprehensive planning and land use considerations into statewide transportation planning. Activities have included the development of agency policies on considering land use in transportation planning, training for state DOT staff and consultants, and provision of technical and financial assistance for local governments.

Sub-area and Neighborhood Planning:

Local agencies develop plans for subareas that include both multimodal transportation and land use strategies to address issues such as traffic circulation, parking, transit service, and pedestrian and bicycle access. Planning subareas have included central cities, activity centers, and neighborhoods. Plans are implemented through capital improvements, changes to zoning, and other strategies.

4.4.2 Framework for Land Use/Transportation Planning

The PACOG 2045 LRTP addresses land use/transportation plans based on best knowledge to date of the land uses projected by the City of Pueblo and Pueblo County.

A taxonomy of major land use categories, which is useful in understanding Pueblo County's land use and transportation planning interface, is shown in **Table 4.1**. Note that there are two primary categories: the built environment and greenspace.

Table 4.1: Land Use Categories

Built Environment	Greenspace
Residential (single and multi-family housing)	Parkland
Commercial (stores and offices)	Agricultural
Institutional (schools, public offices, and other)	Forests and undeveloped land
Industrial	Shorelines
Transportation facilities (roads, parking, sidewalks, and other)	
Plazas and urban parks	
Brownfields (old, unused and underused facilities)	



Land use patterns can be evaluated based on the following attributes:

- **Density** – number of people, jobs, or housing units in an area.
- **Mix** – whether different land use types (commercial, residential, etc.) are located together.
- **Clustering** – whether related destinations are located together (e.g., commercial centers, urban villages, residential developments, etc.).
- **Connectivity** – number of connections within street and path systems.
- **Impervious surface** – land covered by buildings and pavement, also called footprint.
- **Greenspace** – portion of land devoted to gardens, parks, farms, woodlands, and other.
- **Accessibility** – ability to reach desired activities and destinations.
- **Non-motorized accessibility** – quality of walking and cycling conditions.

Land use attributes can also be evaluated at various scales:

- **Site** – an individual parcel, building, facility, or campus.
- **Street** – the buildings and facilities along a particular street or stretch of roadway.
- **Neighborhood or center** – a walkable area, typically less than one square mile.
- **Local** – a small geographic area, often consisting of several neighborhoods.
- **Municipal** – a town or city jurisdiction.
- **Region** – a geographic area where residents share services and employment options. A metropolitan region typically consists of one or more cities and various suburbs, smaller commercial centers, and surrounding semi-rural areas.

Geographic areas are often categorized in the following ways:

- **Urban** – relatively high density (5+ housing units per gross acre), mixed land use, with multimodal transport (typically including walking, cycling, public transit, automobiles, and taxi service).
- **Suburban** – medium density (2–10 residents, 1–5 housing units per acre),

segregated land uses, and an automobile-dependent transportation system.

- **Town** – Smaller urban centers (generally less than 20,000 residents).
- **Village** – Small urban center (generally less than 1,000 residents).
- **Exurban** – low density (less than 1 house per acre), mostly farms and undeveloped lands, located near enough to a city to commute and use services there.
- **Rural** – low density (less than 1 house per acre), mostly farms and undeveloped lands, with a relatively independent identity and economy.
- **Greenspace (also called open space)** – biologically active lands such as gardens, parks, farms, woodlands, and other.

Because sprawl (dispersed, low-density, automobile-dependent land use development patterns) imposes various economic, social, and environmental costs, from a public policy perspective Smart Growth development is preferable.

Transportation and land use decisions affect each other. Some types of land use patterns increase automobile travel, whereas others that support multimodal and public transportation reduce the amount of vehicle travel needed to access goods, services, and activities. Communities designed primarily for automobile transportation are called automobile dependent. Some types of transportation policies and programs also tend to encourage automobile dependency, whereas others tend to encourage multimodal distribution of demand, as summarized in **Table 4.2**.

4.4.3 Roadmap for the Future

In the PACOG region, the complex relationships among existing and proposed land uses and existing and proposed transportation facilities continually are being examined and modified where necessary until each of the components “best fits” with all of the others. Future land use changes will be incorporated into the transportation modeling and planning process and, reflexively, changes in plans are available to be incorporated into regional development planning, development standards, and zoning decisions.



Table 4.2: Transportation Policy and Program Land Use Impacts

Encourages Automobile Dependency	Encourages Multimodal Distribution of Mobility Demand
Maximum Roadway Capacity and Speed	Transit Service Improvements
Generous parking supply	More affordable public transit fares
Low road user charges and fuel taxes	Pedestrian and cycling improvements
Poor walking and cycling conditions	Reduced parking supply and parking management
Inferior public transit	Road and parking pricing
High public transit fares	Traffic calming and traffic speed reductions

Table 4.3: Proposed Future Land Use Intensities

Land Use Definition		Geographic Area			
Land Use Type	Typical Density	Pueblo	Pueblo West	Colorado City	County/Towns
Rural/Ranch	1 unit/35 acres				✓
Production Agriculture	1 unit/35 acres				✓
Large Parks/Open Space	N/A	✓	✓	✓	✓
Country Residential	1 unit/acre	✓	✓	✓	✓
Country Village	1 unit/acre				✓
Suburban Residential	1-3 units/acre	✓	✓	✓	
Urban Residential	4-7 units/acre	✓	✓	✓	
High Density Residential	>7 units/acre	✓			
Urban Mixed Use (MXD)	16 units/acre and 1.5 FAR	✓			
Arterial Commercial MXD	.50 FAR	✓	✓	✓	✓
Office Park/Employment Center	.25 FAR	✓	✓		
Institutional MXD	.50 FAR	✓	✓		
Light Industrial	.25 FAR	✓	✓	✓	✓
Industrial	.25 FAR	✓			✓
Special Development Area	TBA				

Note: FAR = Floor Area Ratio (ratio of building to lot size).

The greater the extent to which both land development and transportation planning are tightly interwoven, the greater the process creates a truly regional plan.

Recognized development action areas of Pueblo County have naturally evolved during the period between LRTPs. Future development has been anticipated to concentrate around the existing Pueblo City limits, especially to the southwest, as well as existing lots within Pueblo West. The taxonomy of future land uses has generally remained constant. Fifteen broad future land use categories classify densities and uses across

the county, with a general expectation of zoning designations consistent with these land use types. Locations of these land use types and proposed density levels are summarized in **Table 4.3**.

A number of development directions have changed in the years since the previous plan was adopted; these directions raise issues that PACOG keeps firmly in mind, discussed below.

First, the growth of the City of Pueblo is expected to shift northward towards El Paso County rather than be accommodated within



and adjacent to the City of Pueblo. As new development occurs, additional connections between portions of the existing network should be made. If higher classifications of roads are not constructed by developers, then there needs to be either an additional mechanism to pay for the upgrades from local roads or a very conscious effort to disallow development that has limited access. If only a local roadway network is to be constructed, it will need the greatest amount of connectivity to reduce the need for minor and principal arterials.

Second, as Pueblo West has grown, traffic patterns have been anticipated to change to utilize routes other than U.S. Highway 50 West. Additional connections to the City of Pueblo will be called for, with additional funding mechanisms.

Third, the growing emphasis on non-motorized travel, including both walking and bicycling, is reflected on the infrastructure side by investing in paths and trails. It is further emphasized on the environmental side by the preservation of existing open lands.

Fourth, the regional role of Fort Carson, the largest employer in southern Colorado, is important to keep in mind because it affects Pueblo County.

4.5 Summary

PACOG is cognizant of the evolution of environmental legislation, much of which directly affects Pueblo. A land use density guidance for floor area ratio (FAR) provides a table of typical values useful for future planning. Regional goals relate closely to the natural resources of the area and include emphasizing recreational opportunities, preserving natural ecosystems and wildlife habitat, preserving a greenbelt of open space, managing stormwater discharges, and protecting critical wildlife migration corridors. The environmentally based tactics are interwoven with the human needs for recreation, for the enjoyment of beauty, and for pedestrian mobility and bicycling.