

Purgatoire River Trail System

2009 Master Plan



City of Trinidad, Colorado



RESOLUTION NO. 1349

A RESOLUTION OF THE CITY OF TRINIDAD, COLORADO, ADOPTING THE 2009 PURGATOIRE RIVER TRAIL SYSTEM MASTER PLAN OF THE CITY OF TRINIDAD, COLORADO

WHEREAS, the City of Trinidad, Colorado, recognizes a need for a coordinated and continuous system of parks, trails, and open space that serves as a catalyst for recreation, education, tourism and ecological enhancement for the residents and visitors of Trinidad and the area; and

WHEREAS, the Purgatoire River Trail System concept has been in the hearts and minds of community residents for many years; and

WHEREAS, the City's 2008 Comprehensive Plan called for the development of a trail master plan; and

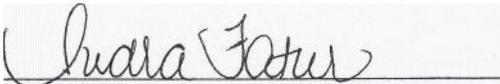
WHEREAS, a trails and open-space task group was formed as a sub-group of the 2008 Comprehensive Plan tasked with the development of a trail master plan to build on the existing trail system to continue with this community amenity for the benefit of its citizens and visitors.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TRINIDAD, COLORADO:

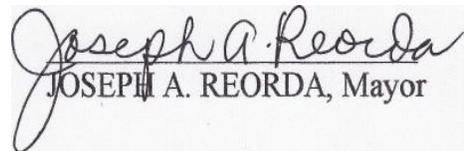
The City of Trinidad hereby adopts the Purgatoire River Trail System 2009 Master Plan of the City of Trinidad, Colorado, a copy of which is attached hereto as Exhibit "A" and incorporated herein by this reference, and extends heartfelt appreciation to the volunteers who developed the Plan.

INTRODUCED, READ, AND ADOPTED this 6th day of October, 2009.

ATTEST:



AUDRA FATUR, City Clerk



JOSEPH A. REORDA, Mayor

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Table of Contents

Executive Summary

Trail Alignment and Design Features

Project Implementation (6)

Introduction (6)

Background (6)

Purpose (6)

Opportunities and Constraints (7)

Purgatoire River Corridor Opportunities and Constraints (7)

Water Resources (7)

Development in Purgatoire River Corridor (8)

Demographics (8)

College Resources (8)

History (8)

Flooding (9)

Environmental Conditions (9)

Trail Access (9)

Trail Planning and Development Process (9)

Priority for New Trail Alignments 10

Segment A (10)

Segment B (10)

Segment C (10)

Segment D (10)

Segment E (10)

Segment F (10)

Segment G (11)

Segment H (11)

Typical Trail Design (11)

Roadway Crossings (12)

Bridges (12)

Trail Access (12)

Potential Trail Heads (12)

Landscaping (13)

Trail Amenities (13)

Information Kiosks (13)

Signage (13)

Trail Head Access Signage (14)

Trail Etiquette Signage (14)

Directional Signage (14)

Interpretive Signage (14)

Public Art (14)

Fencing (15)

Lighting (15)

Phasing (15)

- Phase I (15)
- Phase II (15)
- Phase III (15)

Trail Safety (16)

- Provide Good Access to the Trail (16)
- Good Visibility from Adjacent Neighbors (16)
- High Level of Maintenance (16)
- Programmed Events (16)
- Community Projects (16)
- Adopt-A-Trail (17)
- Design Elements that Improve Trail Safety (17)
- Privacy of Adjacent Property Owners (17)
- Litter & Dumping (17)
- Trespassing (17)
- Intersection Safety (18)
- Vandalism (18)
- Safety Inspections (18)
- Bollards (19)

Trail Maintenance (19)

- Trail Closure (19)
- Corridor Maintenance (19)
- Vegetation (20)
- Surfacing (20)
- Bridges (20)
- Invasive Vegetation (20)
- Litter and Illegal Dumping (20)
- Restoration Opportunities (21)
- Signage (21)
- Flooding (21)
- Maintenance Costs (21)

Map (Attached)**Addendums (22-24)**

- Addendum A (22)
- Addendum B (24)
- Addendum C (25)

EXECUTIVE SUMMARY

The vision for the Purgatoire River Trail System (PRTS) Master Plan is to ensure the development of a coordinated and continuous system of parks, trails, and open space that serves as a catalyst for recreation, education, tourism and ecological enhancement for the residents and visitors of Trinidad and the area. It includes plans for recreational opportunities and access to connect neighborhoods, parks, schools, businesses, open spaces, and community facilities, including connection to the planned Colorado Front Range Trail System.

For several decades, dedicated community members of Trinidad and Las Animas County have been working to increase access to and educate citizens about the Purgatoire River and its watershed. Their primary goal has been to improve the quality of the river, watershed, and corridor.

The PRTS Master Plan takes this goal a step further. In addition to serving as a catalyst for heritage tourism, recreation, education and ecological enhancement, the PRT Master Plan will provide a non-automotive transportation alternative for local trips within the community. As the community continues to grow, the PRTS will serve as a connection linking neighborhoods, schools, parks, the historic district, Trinidad Lake State Park, the Cougar Canyon trail system and the Colorado Front Range Trail. The trail will also provide additional recreation and open space preservation opportunities and the associated economic development opportunities.

The master plan analyzes, prioritizes, and recommends trail alignments with environmentally-sensitive trail design features, trail amenities, and safety and security measures for the corridor. The purpose of the master plan is to guide the future development, safe use, and operation of the PRTS as a non-motorized recreational and commuter trail, and establish guidelines for future greenway development and enhancement activities. The master plan will also serve as a useful tool when applying for grants to implement the various stages of construction.

TRAIL ALIGNMENT AND DESIGN FEATURES

- The preferred trail alignment will follow the Purgatoire River corridor east to connect with the Cougar Canyon trail system, west to connect with the Trinidad Lake trail system, south to the Gagliardi Sports Complex and north to connect to the Colorado Front Range Trail.
- Various segments of the 8-10 foot wide trail of hard and soft surfaces will accommodate a wide variety of non-motorized uses, including pedestrian, recreational and commuting bicyclists, horses, wheelchairs, in-line skaters and others.
- Environmentally-sensitive design will respect wetlands and intact riparian areas, improve drainage, use native plants, and enhance degraded areas.
- Development of additional trailheads and pedestrian access points will provide good access for local trail users.
- The trail will provide off-street connections to parks, schools, and neighborhoods.
- Intersection improvements will insure safe trail crossing at existing roads.
- Directional and regulatory signage will help orient trail users and inform them about trail etiquette.
- Interpretive signage will feature the rich cultural and ecological history of the river and its surrounds.
- Public art projects will involve local and regional artists.
- Safety and security features will include lighting and good definition between the trail and adjacent neighbors.

- Trail amenities will include signage, benches, restrooms where practical, and trash cans.
- Design features will maximize the trail's aesthetic and functional qualities.
- Community involvement in crime prevention and education will be encouraged through Trail Watch and Adopt-a-Trail programs.
- Volunteer events and community trail projects will involve citizens in long-term maintenance activities.
- The Purgatoire River Corridor offers a unique opportunity to improve and build on an under-utilized community resource. With assistance from the Purgatoire River Conservancy District, City of Trinidad, Las Animas County, Corps of Engineers Albuquerque District, Colorado State Forestry Service, Colorado State Parks, The Nature Conservancy, Trinidad Community Foundation, Colorado Historical Society, Trinidad Historical Society and other entities both public and private have a trail system that is started that can include nature trails, historic interpretation, river recreation and many other possible uses.

PROJECT IMPLEMENTATION

The Purgatoire River Trail construction is proposed in multiple phases. Successful implementation of each phase will set the stage for future funding. A list of potential funding sources at the federal, state and local levels is being recommended. Funding for environmental, historical, recreational, and related enhancements should be pursued.

INTRODUCTION

Background

The Purgatoire River Trail System (PRTS) concept has been in the minds and hearts of community residents for many years. The PRTS began with a trail from Linden Street to the Kit Carson by-pass. This was followed by a concrete trail system from Animas Street to Linden Street. In 2008, a trails and open space task group was formed as a sub-group of the 2008 Comprehensive Plan. This group outlined a rough trail alignment recommendation and the recommendation that a trails master plan be developed. As part of the process of updating the Comprehensive Plan, several public meetings were held to allow for citizen's input into the Comprehensive Plan as well as issues related to trails and open space. In early 2009, a task group was created consisting of community volunteers charged with the task of creating a trails master plan to build on the existing trail system.

Purpose

The purpose of the Purgatoire River Trail System Master Plan is two-fold:

1. Develop a trail alignment that will link important community destinations such as parks, schools, neighborhoods, museums, the historic district, Trinidad Lake State Park and the Colorado Front Range Trail.
2. Establish the Purgatoire river corridor as a greenway for future waterway restoration and rehabilitation projects, community open space, flood control, habitat preservation, and recreation.
3. The PRTS Master Plan is intended to be a tool for successful trail development and implementation. Included are specific recommendations for trail alignment and funding sources. The master plan can also be a very effective tool in seeking funding.

OPPORTUNITIES AND CONSTRAINTS

There are many opportunities for trail development in the Purgatoire River corridor. While the number of constraints is small, the issues surrounding them are not. The constraints to trail implementation will be challenging to overcome. This chapter of the master plan discusses the opportunities and constraints in the corridor in both generalized and specific terms.

Generalized opportunities and constraints consist of larger, non-site specific characteristics of the corridor and surrounding community, including the rich histories of Trinidad, educational opportunities, and demographic changes. Specific opportunities and constraints can often be pinpointed to a location in or around the corridor, such as a public parcel of land adjacent to the river, a narrow bridge, or steep slopes.

Purgatoire River Corridor Opportunities and Constraints

The riparian corridor along the Purgatoire River creates a major vegetation association. Cottonwood, alders, willows, tamarisk and Russian olive are the dominant over story species in the riparian corridor. Understory species include sedges, cattails, inland saltgrass, and other water-tolerant species.

Trinidad has a unique set of geographic and ecological conditions that create one of the most diverse wildlife populations in the state. The Colorado Division of Wildlife lists 98 species of birds found in Las Animas County and 43 mammal species. Federal threatened or endangered species in the county include the American peregrine falcon, bald eagle, least tern, Mexican spotted owl, southwestern willow flycatcher, western snowy plover, and whooping crane. Typical mammal and bird species found within city limits include black bear, mountain lion, mule deer, elk, beaver, and Merriam's turkey.

The Trinidad area has the highest concentration of black bear in the state due to the high quality habitat. Human conflict with bears is thus a significant problem inside as well as outside city limits, making it critical to install bear proof trash cans along the trail. The second largest elk herd in the state is found outside the city, mostly in the high country to the west.

Within Trinidad, the riparian corridor along the Purgatoire River and its side canyons provide a diverse and productive habitat. A wide variety of bird species use these corridors, as well as mammals such as mule deer and black bear.

The vegetated hillsides on the outskirts of town, particularly oak brush areas also provide key habitats. Preserving the riparian corridor and as much of the vegetated hillsides as possible will help protect wildlife populations. Preserving the vegetated side canyons is also important, since they function as movement corridors.

Water Resources

The Purgatoire River is the major drainage way for Trinidad, with ten tributaries contributing to the city's drainage area. The Purgatoire River flows to the northeast, draining into the Arkansas River downstream of La Junta. The Trinidad Dam, located upstream of the city, controls 671 square miles of the Purgatoire River watershed. Trinidad is also affected by 90 square miles of the Purgatoire River drainage basin below the dam.

The nature of the Purgatoire River changes drastically as it leaves the mountains for the plains. Upstream of Trinidad, within the headwaters, the streambed slopes several hundred vertical feet per

mile, compared to 29 vertical feet per mile in the city. The river valley upstream of Trinidad is narrow, varying in width from a few hundred feet to about one-fourth mile.

The Purgatoire River at Trinidad is characterized by a wide streambed with low banks. The majority of its tributaries are ephemeral with narrow channels. The main source of runoff in the Arkansas River basin is snowmelt, with high runoff occurring from early June through July. Heavy rains in the warmer times of the year can also contribute to this flow.

In the Purgatoire River basin, three small reservoirs in the Trinidad area are used for flood control dams, one in Carbon Arroyo, one in Fishers Peak Basin, and one in Piñon Canyon. In addition to these small reservoirs, Trinidad Lake provides flood control, irrigation, sediment control, and recreation. The lake was built by the U.S. Army Corps of Engineers in 1978 and is located three miles southwest of Trinidad.

Development in the Purgatoire River Corridor

Population growth can be a constraint to trail development as larger parcels of land in the community are subdivided for new housing without a plan in place. New development can reduce the number of opportunities that cities have for gaining easements along the corridor.

Demographics

In addition to the recreational benefits of a community trail, there are four groups of people who benefit enormously from the access and transportation opportunities a trail would provide: children, the elderly, college students, and those without vehicles who depend on public forms of transportation. Because children and many elderly people cannot drive, they are largely dependent on themselves and others to transport them. A trail presents an opportunity to meet the needs of a large portion of the population who depend on getting around on foot, bicycle, motorized and non-motorized mobility devices, and skateboard.

Trinidad is the home of Trinidad State Junior College. College students typically do not have vehicles on campus due to limited or expensive parking, and they travel primarily by foot and bicycle to classes and local services. Faculty and staff members typically live close to the college and have similar parking issues. A trail system in the Purgatoire River corridor provides an opportunity to connect students, faculty, and staff to the community.

College Resources

An opportunity exists to utilize resources at Trinidad State Junior College for community support, trail implementation, maintenance, education, and interpretation. Student projects, letters of support, educational field trips, "Adopt-a-Trail" programs, and community outreach are some of the many ways that students and staff at TSJC can support and participate in the development of the PRTS. There are also opportunities to partner programs and/or students from college with children from local community schools for various learning experiences.

History

There are a number of opportunities to incorporate historical elements and heritage tourism into and along the trail, including information about native populations, pioneers and land settlement, river culture, agriculture, and Hispanic populations.

Flooding

Periodic flooding is both an opportunity and a constraint to trail development. Special care will need to be taken to ensure that the trail does not contribute to additional flooding and that the trail is able to withstand damage from normal flooding over time. There are also opportunities to protect a riparian corridor along the river to enhance wildlife and habitat. Constraints include permitting requirements and the potential for bank erosion.

Environmental Conditions

There are opportunities to improve the environmental conditions through trail development. Specific opportunities include the following:

- Removing invasive plants such as Russian olive and tamarisk
- Re-establishing native tree and plant populations
- Improving fish habitat and water quality
- Stabilizing the creek banks and reducing erosion
- Closing “demand trails” to the water and routing people through less sensitive areas
- Removing trash, unnecessary riprap, and garden debris.
- Establishing PRTS as an “educational laboratory” for local schools, instructing students about watersheds, flooding, flora and fauna, and ecosystems, among other topics.
- Controlling and eliminating unrestricted ATV and OHV use to reduce impact on stream bank, wet lands and river habitat.

Trail Access

Trail connections can be viable and visible by implementing a comprehensive signing system that clearly highlights trailheads and access points and provides trail system maps at key trailhead locations. Trail locations near schools will draw children and their parents to the trail.

Trail Planning and Development Process

The development of this master plan is a by-product of the development of the 2008 Comprehensive Plan for Trinidad. The entire process is described in detail in Chapter One of the 2008 Comprehensive Plan. A series of public meetings and a questionnaire that provided members of the community an opportunity to provide input to all aspects of the plan was distributed. Concurrently, five task groups were meeting regularly to provide additional input on the Plan. Each task group was comprised of several citizens and led by a member of the Planning and Zoning Commission. One of these groups was the Trails, Linear Parks & Open Space Task Group. This group’s recommendation was the development of a trails master plan.

PRIORITY FOR NEW TRAIL ALIGNMENTS

Segment A: Historic District Loop

The Trail Task Group recommends an historic trail component utilizing existing sidewalks, tentatively called the “Heart of Trinidad Historic Loop,” to provide walkers with an urban trail experience and benefit to cafes, restaurants, gift shops, and other downtown businesses. The Trail Task Group also recommends signage regarding historical topics at selected locations on the larger trail system. (See Addendum A)

Segment B: Purgatory River Bottom Nature Trail North Along the river from Kit Carson By-Pass to Commercial Street.

This trail located on the north side of the river will be primitive in nature with possibly picnic tables and benches to be included.

Segment C: Carbon Arroyo South from Cimino Park to Gagliardi Sports complex

The Carbon Arroyo trail segment allows for connection of the existing Purgatoire River Trail System with the Gagliardi Sports Complex, which includes the Community Center, the Skate Park, and the Aquatic Center. This portion of the trail could also lead to the eventual trail system extending south to Allendale and Fisher’s Peak Elementary School and also east to tie into other proposed trail routes. (See Addendum B)

Segment D: East to Cougar Canyon, via River Bottom Nature Trail and/or Purgatoire River Trail

It is recommended that the current PRTS and the River Bottom Nature Trail be extended beneath the Kit Carson By-pass along existing city right of way to connect with the utilities right of way owned by Cougar Canyon then crossing highway 160 to connect the Cougar Canyon trail system. (Disclaimer: CDOT may not allow an at-grade pedestrian crossing)

Segment E: Boulevard Addition Loop

Extend the trail system west with a foot bridge crossing the river south of the I-25 Interstate creating a trail loop in the Boulevard addition, with a possible access through the large culverts beneath the railroad tracks to Central Park.

Segment F: Trinidad Lake State Park Connect

Extend the trail system south along I-25 (a portion of which is currently under construction consideration by CDOT) to connect with CR 20.8 and to the extensive trail system at Trinidad Lake State Park.

Segment G: Garfield Connect

Extend the trail systems south to Allendale and Fisher's Peak Elementary School and also east to tie into other proposed trail routes.

Segment H: Kit Carson Park Connect

Route to be determined

TYPICAL TRAIL DESIGN

Optimum trail width is considered to be 10 feet to which the current 2 mile trail system adheres. This appears to be achievable along most of the PRTS corridor. Much of the current trail system is paved with blacktop or concrete. Recommendations for trail expansion are for primarily dirt surfaces overlaid with bark mulch created from the clearing of the trail and routine city pruning and maintenance. Used in a number of areas around the country, this approach has proven to be preferred by hikers and is extremely economical. Vertical clearance along the trail should be maintained so as not to present hazards to pedestrians or bikers.

Currently only one foot bridge is being proposed and that is in segment E (Boulevard Addition loop).

Development setbacks from rivers are important for maintaining river bank integrity, preserving habitat, and reducing the potential for erosion and sedimentation into the river system. In general, the larger the setback from the river, the greater the benefit to the river system. However, large setbacks are not always feasible in developed areas. Most river/stream protection ordinances specify setbacks for buildings because trail development is a relatively new occurrence. Some communities require setbacks ranging from 25 to 100 feet, depending on the width of the stream. For structural development near waterways and wetlands, another method of determining the setback distance or riparian buffer is using the Site Potential Tree Height (SPTH) method. In this case, the ideal riparian buffer width is equivalent to the height a mature canopy tree is expected to grow at the site. There are several areas along the Purgatoire River where trail development options are constrained by land ownership, and the preferred trail alignment is less than 40 feet from the top of the stream bank. While this does not preclude trail development, there are several considerations for developing a trail adjacent to the stream:

- Avoid or minimize grading.
- Avoid or minimize the removal of native mature trees and shrubs.
- Restrict vegetation removal and paving within 10 feet of the top of stream bank. It is recommended that any vegetation proposed for removal in the Purgatoire River riparian zone should require the preparation of a management plan utilizing existing data from the appropriate agencies.
- Use buffer averaging – increase the setback in other areas along the creek system to offset development adjacent to the stream.
- Locate bridges at natural constrictions in the stream channel or at previously disturbed sections.
- Mitigate for impacts by planting native trees and thicket-forming shrubs along the stream bank

Note: The Trail task group recommends that staff develop a river protection ordinance for consideration by the City Council.

Roadway Crossings

The proposed Purgatoire River Trail System crosses a number of roads/streets. Depending on alignment, they either cross at-grade or below-grade under existing bridges (including under the bridges of Kit Carson, Commercial Street, and Nevada Avenue) to or through a new undercrossing. Most of these roadways are lower volume, low-speed roadways that do not require extensive treatment to accommodate users safely. One exception is the crossing on segment B where the trail enters Cougar Canyon on Highway 160.

Roadway crossings represent one of the key challenges to trail implementation. Motorists often do not expect to see bicyclists and pedestrians at unprotected locations at trail crossings. Most of the trail-roadway crossings on the PRTS have low to moderate traffic volumes, and have good visibility on the approaches, both from the trail user's and the automobile driver's points of view. In addition, the vast majority of the trail-roadway intersections should be designed to meet at a simple 90 degree angle or will travel under the roadway.

Bridges

While bridges can be some of the most interesting features of a trail system, they can also be the most challenging. Bridges should be at least as wide as the trail. ADA guidelines require handrails no shorter than 36 inches and decking material that is firm and stable. Bridges should accommodate maintenance/emergency vehicles if necessary. Footings should be located on the outside of the stream channel at the top of the stream bank. The bridge should not impede fish passage or constrict the floodway. Any bridges along the corridor will need to be designed by a registered structural engineer. Cost, design, and environmental compatibility will dictate which structure is best for the trail corridor. Design of all bridges must meet FEMA criteria and be approved by the U.S. Army Corps of Engineers.

Trail Access

The PRTS is a multi-use trail that will be used by pedestrians, bicyclists (both recreational and commuters), in-line skaters, and for other non-motorized uses. While not all segments of the trail will be accessible to every user type, some segments are accessible to people in wheelchairs and people with walking aides who require a smooth surface for navigating. Good access to the trail for as many user types as possible is a key element to its future success. If people cannot get to a trail easily, they will not use it. Neighborhood access will be achieved from all local streets crossing the trail. Each street crossing will be identified and directional signage will be placed at street intersections, identifying destinations and distances along the trail and within the surrounding community.

Potential Trailheads

Trailheads (formalized parking areas) serve all trail users. They provide information about the trail (i.e., maps) and may have trail user facilities such as restrooms, trash receptacles, information kiosks, and benches. Trailhead locations should ideally be located every two to three miles along the trail. Suggested locations are:

- Linden Avenue
- Cimino Park
- Trinidad History Museum
- Central Park

- South Side Sports Complex

Landscaping

When possible, landscaping is the first choice for creating separation between the trail and adjacent properties. Vegetative buffers have the dual purpose of creating a natural privacy screen, providing habitat for wildlife that live in the creek corridor, and stabilizing the creek bank. Landscaping can also be an effective barrier to unwanted access where needed.

TRAIL AMENITIES

In order for the PRTS to continue to be a successful community amenity, the trail should appeal to a wide variety of users. To achieve this, the PRTS should be designed to provide a high level of user conveniences. The trail will be used more often if amenities are provided. Recommended trail amenities include:

- Benches: similar to those already in place along the trail.
- Covered bench areas
- Bike racks
- Picnic Tables
- Mile post markers: Mileposts greatly increase the use of the trail by joggers and cyclists looking for set workout distances. The group recommends the incorporation of milepost markers onto fixed wood bollards. Signage should be consistent with other trail signage.
- Restrooms and water fountains: Utilize existing restrooms and water fountains. Signage should be provided to indicate these facilities.
- Trash cans: The trail should establish the National Park Service ethic of “pack it in, pack it out.” Wherever possible bear resistant trash containers should be used.
- Dog waste pickup stations: Dog waste pickup bag dispensers should be placed at trailheads and key neighborhood access points along the route. Signs should be placed along the trail notifying dog owners of the local ordinances requiring dog owners to pick up after their dogs.



Information Kiosks

Trailhead stations should provide trail users with information about the ecology and history of PRTS and its watershed. Educating the public about the creek corridor will help reduce dumping, littering, and other abuses to the waterway. Involving school children, college students, and civic organizations in the research, design, and construction of these kiosks would be an excellent community activity and would also reduce implementation costs.

For recycling and maintenance purposes, materials used for amenities should use wood composite materials for amenities where wood is specified; wood composites have the aesthetic qualities of wood, but are better suited for park amenities. Local materials could also be used for some trail amenities.

Signage

As a general rule, caution should be exercised to not “over sign” the trail. Incorporation of signage into planned trailside vertical elements such as bollards should be encouraged. This will avoid visual pollution of too many signs along the trail.

Trailhead Access Signage

Trailheads serve as access points to people who may not be as familiar with the trail, information signage should be provided that includes a “You Are Here” map and trail etiquette signs. These should be placed on an information kiosk, designed to be reflective of the corridor or adjacent surroundings. Kiosks should be ADA compliant wherever possible.

Trail Etiquette Signage

The trail etiquette sign will clearly spell out proper rules and customs for trail users. This will be based on national standards and accepted trail practices.

Directional Signage

Directional signage provides orientation to the trail user and emphasizes the continuity of the trail. Street names, mileage markers, Adopt-A-Trail and place names are key elements of an effective trail system. Street names should be indicated at all trail intersections with roadways. Mileage markers should be placed at quarter-mile increments. Directional signage should be used to identify key destinations along the trail route and include the following:

- Schools
- Parks
- City of Trinidad Downtown
- Commercial areas
- Museums
- Points of interest
- Trinidad State Junior College
- Adopt-A-Trail

Interpretive Signage

Interpretive signage enriches the trail user experience, strengthens the uniqueness of the local community, and provides educational opportunities. Key interpretive opportunities include:

- Environmental education about river ecology
fish, conservation, native plants, riparian corridors, and the watershed
- Archeological and indigenous cultures
- Historic signage
- Water quality, process and conservation strategies
- Land settlement patterns/place name history
- Topography/local geologic formations, Simpson’s Rest, Fisher’s Peak et. al.

Public Art

Public art along a trail provides an opportunity to add interest to the trail experience and serve as a public draw. Art can be aesthetic or functional, doubling as sitting or congregation areas. Regional artists and area organizations should be encouraged to produce artwork. A potential source of coordination and funding could be the Arts and Cultural Advisory Committee. The Trinidad City Council must approve the installation of any artwork.

Fencing

As a general policy, fencing will be the responsibility of the adjacent resident. Although the public often perceives fencing as a means of assuring safety by prevention of unwanted access, too much fencing can have the opposite effect by impairing informal trail surveillance. Inappropriate fencing can also degrade the experience of trail users, obscure views, and create a “tunnel” effect that makes users feel trapped. A fencing height of six feet is typically sufficient to provide security. Lower fencing of approximately four feet can also provide a sufficient barrier to denote private property or deter most access. Should adjacent property owners choose to build fences, a variety of fencing applications can be considered. Solid fencing that does not allow any visual access to the trail should be discouraged. Fencing that allows a balance between adjacent residents’ privacy and informal surveillance of the trail should be encouraged. If fencing is desired purely for privacy reasons, vegetative buffers are recommended.

Lighting

The primary focus for lighting should be safety. Utility and maintenance costs are factors that must also be considered.

PHASING

The primary purpose for a trail phasing plan is to ensure a logical sequence of implementation that provides a high degree of success as each phase is built, thereby building momentum for each future phase of the project. Success is directly correlated with a substantial level of use, strong public and political support, and proven effective management of the trail as each phase is implemented. Success of the first built phase is critical to securing future funding. The first phase must be well received by the public and become a model for all other future phases.

Phase I 1-3 Years

- Planning and completion of segments A through C
- Invasive species management
- Trail surveying of the River Bottom Trail

Phase II 3-5 Years

- Continue trail improvement and trail expansion
- Planning and completion of segments D, E, F, G.

Phase III 10 years

- Maintain and expand

TRAIL SAFETY

Trail safety is a major concern of both trail users and those whose property is adjacent to the trail. Creating a safe trail environment goes beyond design and law enforcement, and should involve the entire community. The most effective and most visible deterrent to illegal activity on the PRTS will be the presence of legitimate trail users. Getting as many “eyes on the corridor” as possible is a key deterrent to undesirable activity in the Purgatory River corridor.

There are several components to accomplishing this, as outlined below:

Provide Good Access to the Trail

Access ranges from providing conveniently located trailheads along the trail, to encouraging the construction of sidewalks and trails to accommodate access from private developments adjacent to the trail. Access points should be inviting and signed so as to welcome the public onto the trail.

Good Visibility from Adjacent Neighbors

Neighbors adjacent to the trail can potentially provide 24-hour surveillance of the trail and can become an ally to the City’s Police Department. Though some screening and setback of the trail may be needed for privacy of adjacent neighbors, complete blocking of the trail from neighborhood view should be discouraged. This eliminates the potential of neighbors’ “eyes on the trail,” and could result in a “tunnel effect” for trail users.

High Level of Maintenance

A well maintained trail sends a message that the community cares about the public space. This message alone will discourage undesirable activity along the trail.

Programmed Events

Community events along the PRTS will help increase public awareness and thereby attract more people to use the trail. Various civic organizations can help organize public events along the trail which will increase support for the trail. Events might include a trail clean-up or a series of short interpretive walks led by long-time residents or a naturalist.

Community Projects

The support generated by the PRTS could be further capitalized by involving neighbors and friends of the trail in a community project. Ideas for community projects include volunteer planting events, art projects, interpretive research projects, or even bridge building events. These community projects are the strongest means of creating a sense of ownership along the trail, and are perhaps the strongest single deterrent to undesirable activity along the trail.

Adopt-a-Trail Program

Nearby businesses, community institutions, and residential neighbors often see the benefit of their involvement in the trail development and maintenance. Businesses and developers may view the trail as an integral piece of their site planning and be willing to take on some level of responsibility for the

trail. Service clubs provide an excellent opportunity to make contact with local business leaders. Creation of an Adopt-A-Trail program is being explored by the Trinidad Community Foundation in partnership with the City of Trinidad.

Design Elements that Improve Trail Safety

Below are common trail safety concerns and ways in which thoughtful design treatments can prevent safety problems along the PRTS:

Privacy of Adjacent Property Owners

- Encourage the use of neighborhood friendly fencing and also planting of landscape buffers.
- Clearly mark all trail access points.
- Post trail rules that encourage respect for private property.
- Place lighting strategically, utilizing light shields to minimize unwanted light in adjacent homes.

Litter and Dumping

- Post trail rules encouraging “pack it in, pack it out” etiquette.
- Place trash receptacles at trailheads.
- Provide good visual access to the trail.
- Manage vegetation within the right-of-way to allow good visual surveillance of the trail from adjacent properties and from roadway/trail intersections.
- Encourage local residents to report incidents as soon as they occur.
- Remove existing dumpsites as soon as possible.
- Respond proactively to ensure potential new dumpsites are not created.
- The City should locate potential providers and promote the use of yard debris recycling services.

Trespassing

- Clearly distinguish public trail right-of-way from private property through the use of vegetative buffers and good fencing.
- Post trail rules that encourage respect for private property.
- Manage vegetation so that corridors can be visually surveyed from adjacent streets and residences.
- Select shrubs that grow below three feet in height and trees that branch out greater than six feet in height.
- Place lights strategically and as necessary to ensure safety.
- Place benches and other trail amenities at locations with good visual surveillance and high activity.
- Provide mileage markers at quarter-mile increments and clear directional signage for orientation.
- Create a “Trail Watch Program” involving regular users and local residents.
- Proactive law enforcement. Where practical, design the trail so that emergency vehicles can access the entire trail system.

Intersection Safety

- Require all trail users to stop at public roadway intersections through posting of stop signs.
- Provide crosswalk striping and trail crossing warning signs for vehicle drivers. Put PRTS logo on warning signs.
- Manage vegetation at intersections to allow visual access at crossings.
- The use of bollards at intersections of trails and streets.

Vandalism

Select benches, bollards, signage, and other site amenities that are durable, low maintenance, and vandal resistant.

- Respond through removal or replacement in rapid manner.
- Keep a photo record of all vandalism and turn over to local law enforcement.
- Encourage local residents to report vandalism.
- Create a trail watch program; maintain good surveillance of the corridor.
- Involve neighbors in trail projects to build a sense of ownership.
- Place amenities (benches, etc.) in well used and highly visible areas.
- Expanding camera system for surveillance of high-risk areas.

Safety Inspections

Regular inspection of the trail and associated amenities is a key factor to trail safety. Periodic visual inspections should be conducted by Staff and Adopt-A-Trail groups. These inspections can help identify and correct problems before they become an issue. A fallen tree or limb, for example, can be readily removed from the trail or coned off to divert trail users away from the hazard until such time as maintenance crews can remove the hazard. A written record of inspections is recommended. This will help create a database of information that can assist in several ways. Written records can reveal safety trends and use patterns that can assist Trinidad with prioritizing maintenance dollars. Written records also can help protect the City from potential liability by providing documentation of diligent maintenance inspection records which could include:

- Inspection reports noting any hazards that have been found along the trail, along with remedial action. This should note basic items such as debris found on the trail, wash outs, or other trail obstructions.
- Monthly inspections of the entire trail should be conducted. These inspections should document the condition of the trail, and notes should be made of any potential hazards on the trail (cracks, erosion, overhead vegetation, etc.). Corrective actions should be integrated into the next 30-day work plan.
- Quarterly visual and operational inspections should be made of all of the trail amenities such as benches, signage, drinking fountains, bike racks, etc. Recommended corrective actions should be made and be integrated into a three-month maintenance work plan. The City should set up a resident response system so that problems with the trail can be systematically recorded if maintenance crews are unable to visit the trail daily.

Bollards

Posts or bollards at roadway-trail intersections and trail entrances will be necessary to keep vehicles from entering the trail. Posts should be designed to be visible to bicyclists and others, especially at nighttime, with reflective materials and appropriate striping. Posts will be designed to be removable by emergency and maintenance vehicles.

- Fixed bollards: Should be used at roadway-trail intersections. Bollards should be heavy timber structures and spaced at five feet on center.
- Removable bollards: Install center removable bollards at intersections that can be keyed and locked to allow maintenance and emergency service vehicle access to the trail. Metal is recommended.

TRAIL MAINTENANCE

Trail Closure

The PRTS should be closed if any heavy equipment is expected to use the trail during flooding events, or when any maintenance or construction activities are occurring that could be injurious to the general public. The City of Trinidad should take appropriate measures to notify the public of closure of the segment of trail and arrange detours where appropriate.

Corridor Maintenance

A high level of trail maintenance is critical to the overall success and safety of the PRTS. It includes such activities as pavement stabilization, landscape maintenance, facility upkeep, sign replacement, fencing, mowing, litter removal, painting, and pest control. However, the effects of a good maintenance program are not limited to the physical and biological features of the trail:

- A high standard of maintenance is an effective way of helping advertise and promote the trail as a regional and state recreational resource.
- The psychological effects of good maintenance can be an effective deterrent to vandalism, litter, and encroachments.
- Good maintenance is necessary to preserve positive public relations between the adjacent land owners and government.
- Good maintenance can help make enforcement of regulations on the trail more efficient. Local clubs and interest groups will take pride in “their” trail and will be more apt to assist in protection of the Corridor.
- A successful maintenance program requires continuity and, often, a high level of citizen involvement. Regular, routine maintenance on a year-round basis will not only improve trail safety, but will also prolong the life of the trail. Maintenance activities required for safe trail operations should always receive top priority.

The following should be part of the maintenance checklist:

Vegetation

In general, visibility between plantings at trailside should be maintained so as to avoid creating the feeling of an enclosed space. This will also give trail users good, clear views of their surroundings, which enhances the aesthetic experience of trail users. Understory vegetation along the trail corridor shall not be allowed to grow higher than 36 inches. Tree species selection and placement should be made to minimize vegetative litter on the trail and root uplifting of pavement. Tree branching should be pruned up to a minimum of six feet.

Surfacing

The hard trail surfaces should be kept free of debris, especially broken glass and other sharp objects, loose gravel, leaves, and stray branches. Trail surfaces should be swept periodically where applicable.

Bridges

Bridge structures will need to be kept clear of debris to prevent washouts along the trail and maintain positive flow. Checks for erosion along the trail should be made periodically during the wet season, and immediately after any storm that brings flooding to the local area.

Invasive Vegetation Management

Some basic measures should be taken to protect the trail investment. This includes a bi-annual mowing along both sides of the trail to prevent invasion of plants into the pavement area. Recommended time of year for mowing is in fall and in spring. All run-off will flow to the Purgatoire River. Therefore, the use of chemical sprays for vegetation control should be avoided. Wherever possible, vegetation control should be accomplished by mechanical means or hand labor. Use of chemical sprays should be limited to use only on those plants that are harmful to the public such as Russian olive. Effort should be made to eradicate invasive species. Volunteer removal via hand labor is recommended. Vertical clearance along the trail should be periodically checked and any overhanging branches over the trail should be pruned to a minimum vertical clearance of 10 feet.

Litter and Illegal Dumping

Staff, volunteers and Adopt-A-Trail groups should remove litter along the trail. Litter receptacles should be placed at access points such as trailheads. Litter should be picked up once a week and after any special events held on the trail. Alternatively, the trail corridor could be signed "pack it in, pack it out." This technique has been met with mixed results, but if maintenance funds are not available to meet trash removal needs, it is best to remove trash receptacles. Illegal dumping should be controlled by vehicle barriers, regulatory signage, and fines as much as possible. When it does occur, it must be removed as soon as possible in order to prevent further dumping. Neighborhood volunteers, friends groups, alternative community service crews, and inmate labor should be used in addition to maintenance staff.

Restoration Opportunities

Several restoration opportunities exist along the PRTS. Some sections have been disturbed from past dumping of trash, illegal vehicle traffic, and excessive foot traffic on denuded banks.

Native vegetation should be reestablished to provide bank stabilization and stream shading, and to improve water quality and riparian habitat for wildlife. Removal of aggressive invasive species such as the Russian olive and tamarisk along the river is one imperative. Complete eradication of invasive species may not be feasible; however the continuation of local efforts in collaboration with various agencies will continue to improve the area.

Signage

Signage should be replaced along the trail on an as-needed basis. A monthly check on the status of signage should be performed with follow-up as necessary.

Flooding

Many portions of the trail are subject to flooding due to its location in the 100-year floodplain. Debris accumulated on the trail surface should be removed after each recession of water. In addition, debris should be periodically removed from the waterway under bridge structures.

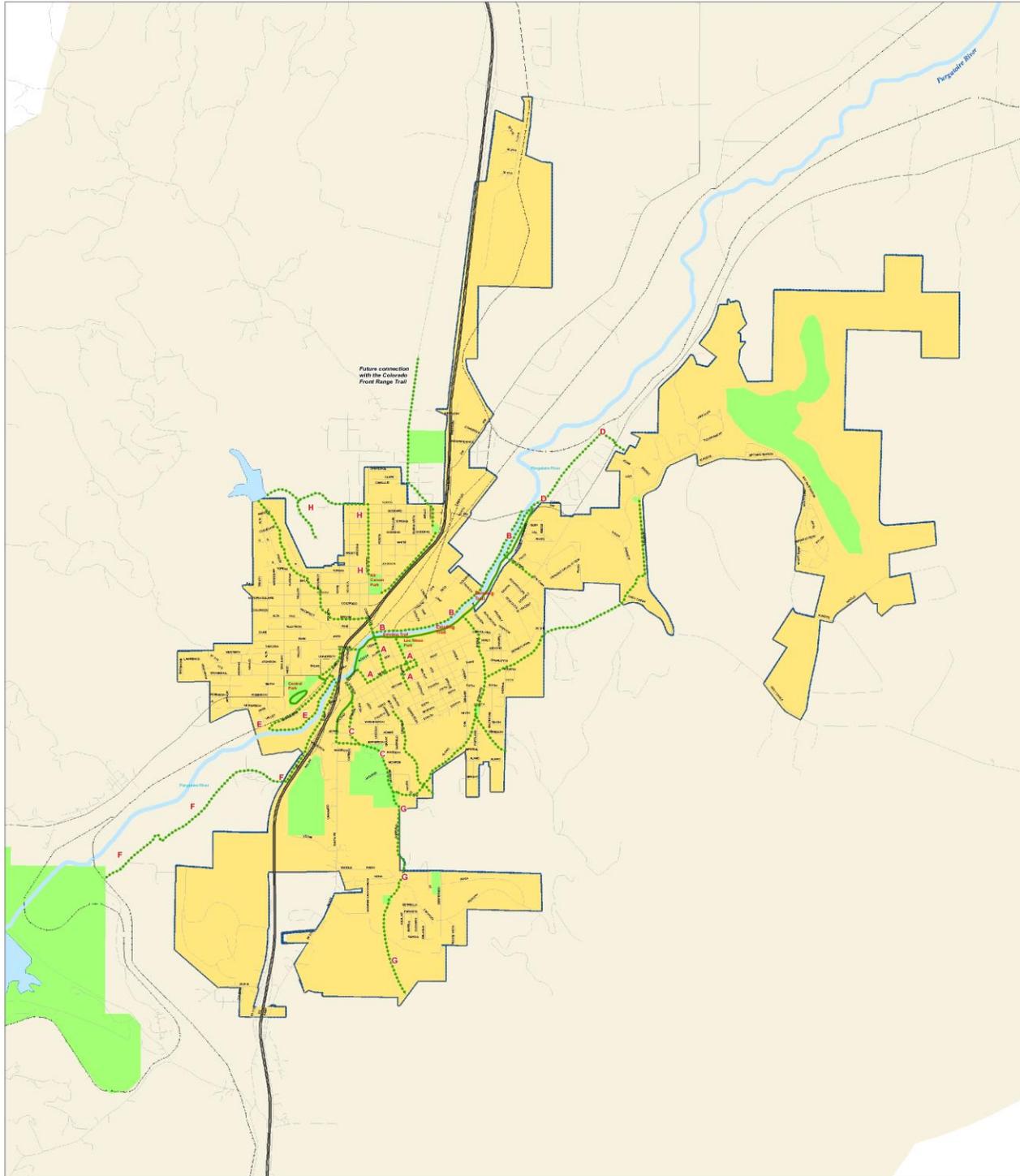
Maintenance Costs

Annual costs of maintaining the trail has been estimated by City Staff to be a minimum of \$1.17 per linear foot.

MAP

Map 1. Trail Master Plan (Attached)

Trail Plan Map



Trinidad, Colorado

DISCLAIMER: This map is for general planning purposes only and is subject to updates and changes. Any user should check with the City of Trinidad prior to use to be sure that the data shown is current. Because of the scale of the map, any user should not rely on this map for the exact definition of any boundary or division line shown on said map.

This map is based on information from numerous sources and the accuracy of which is not guaranteed by the City of Trinidad. The City of Trinidad is not responsible and shall not be liable to the user for damage of any kind arising from the data or information shown on this map.

0 0.25 0.5 1 Miles



Proposed Trail Segments not
Prioritized will be part of Phase 3

Trail Segment Prioritization A-H

- A Historic District Loop
- B Purgatoire River Bottom Trail
- C Carbon Arroyo
- D East to Cougar Canyon
- E Bidwell Addition Loop
- F Trinidad State Lake Park Connect
- G Garfield Connect
- H Kit Carson Connect

Legend

- Existing Trail
- Proposed Trail
- Park

- Purgatoire River
- Lake
- City of Trinidad Boundary
- Los Animas County
- Interstate 25
- US or State Highway
- Road
- Railroad

ADDENDUM A

Heart of Trinidad Historic Loop

In the Downtown, a historic loop easily can be accomplished by expanding and connecting existing resources including an established downtown walking tour, the Trinidad History Museum, and Cimino Park. Resources that are part of the Heart of Trinidad Historic Loop can be visually linked by stripes, hearts, or footprints painted on sidewalks and crosswalks.

Fifteen existing historic markers, highlighting buildings and events, are located on Main, Commercial, and Church streets. The self-guided walking tour through “El Corazon de Trinidad National Historic District” is a project of the Trinidad Historical Society that was funded in part by the State Historical Fund of the Colorado Historical Society.

The Trail Task Group recommends adding markers at two distinctive buildings, Trinidad Water Works and Schneider Brewery, to link the Purgatoire River Trail to the central downtown district. The buildings are located near Cimino Park, which is one anchor and amenity island for the Heart of Trinidad Historic Loop.

The task group suggests historic markers be placed at the Columbian Hotel (landmark hotel at an historic intersection) and the Fox Theater (formerly called the West Theater, where John Lawson and Mother Jones persuaded coal miners to go on strike in 1913). Markers at these locations will expand the western portion of the urban trail, bring into the loop businesses on West Main Street, and provide a link to the Allendale Branch of the South Loop.

Markers also are recommended for the Las Animas County Courthouse (an impressive historic building), Fort Wootton (a WPA project built for veterans during the Great Depression), and Temple Aaron (synagogue with eclectic architecture). Markers at these buildings will expand the eastern segment of the loop located near the Trinidad History Museum.

At the Trinidad History Museum, existing free self-guided walking tours, based on a site map/guide and signs in the Baca-Bloom Heritage Gardens, are easily integrated into the Heart of Trinidad Historic Loop. The museum complex, which is a property of the Colorado Historical Society, also offers guided tours of the Baca House and Bloom Mansion and self-guided tours of the Santa Fe Trail Museum for a modest fee. The museum also serves as an amenity anchor for people walking on the urban trail.

At opposite ends of the Heart of Trinidad Historic Loop, the state-owned Trinidad History Museum and city-owned Cimino Park serve as loop anchors and amenity islands with shaded lawns, seating areas, water fountains, and public restrooms. The museum also has staff to answer questions, a gift shop, and the Trinidad and State Byways Information Center. Cimino Park has a playground and water feature for children and is adjacent to the Purgatoire River Walk, Water Works Building, and Schneider Brewery.

Historic Topics for the River Corridor and Other Loops

The entire Trail system offers many opportunities for interpreting the area's rich and varied social history, which often overlaps with natural history. For example, signs along the main river trail could interpret riparian flora and fauna and their importance to Native American groups as well as the importance of the river to the Santa Fe Trail, pioneer farmers, and Trinidad's development. The intersection of natural and social history is also evident in the geology of coal deposits, coal mining, mining communities, the miners' strike of 1913-14 (which impacted national labor policy,) and today's coal-bed methane gas industry.

The Trail Task Group recommends that an Advisory Board be formed to determine historical topics, the number of interpretive signs to be installed and their placement in the Trail system, and the best types of signs in terms of materials and maintenance. The Advisory Committee will also explore sources available to design, fabricate, install, maintain, and replace outdoor signage.

Potential Supporters

The Trail Committee recommends seeking assistance to research, develop, fund, and maintain the Heart of Trinidad Historic Loop and historical signage on other segments of the trail system. Potential partners include the Trinidad Historical Society, Friends of Historical Trinidad, the Santa Fe Trail Chapter of the Daughters of the American Revolution, Santa Fe Trail Scenic and Historic Byway, Scenic Highway of Legends, and Trinidad State Junior College.

Other potential stakeholder agencies include the Colorado Scenic and Historic Byways Office, Colorado Department of Transportation, Federal Byways Enhancement Program, the Colorado Historical Society (which includes the Trinidad History Museum and the State Historical Fund), and the National Park Service for Santa Fe Trail related interpretation.

Local service and youth organizations and businesses could provide financial support and manpower to monitor the condition of signs and provide general clean-up along the Heart of Trinidad Historic Loop through an "Adopt a Trail" program.

ADDENDUM B

Carbon Arroyo Trail Alignment Narrative

The Carbon Arroyo trail segment will allow for connection of the existing PRTS with the Gagliardi Sports Complex, which includes the Community Center, the Skate Park, and the Aquatic Center. This portion of the trail can also lead to the eventual trail system extending south to Allendale and Fisher's Peak Elementary School and also east to tie into other proposed trail routes.

The Carbon Arroyo trail segment begins at the intersection of the existing Purgatoire River Trail at the intersection of Purgatoire Drive and State Highway 12 extension. From here the proposed trail runs south, with at-grade crossings of both Main Street and West First Street. Then the trail travels along the westerly side of Carbon Arroyo along the fringe of the existing riparian corridor. The trail continues along the westerly side of Carbon Arroyo in a southerly direction for approximately 1000 feet to the end of the existing traveled surface of Carbon Avenue.

An existing area located approximately 600 feet south of First Street has a large open area that could make an ideal mini park area. This area contains approximately 3 large cottonwood trees which provide ideal shade for trail users. This mini park area would make a great trail amenity with some clearing of small brush and undergrowth.

Due to the possibility of limited space and/or private ownership along the southerly end of this alignment, a crossing may be required across Carbon Arroyo to provide an access point with Carbon Avenue, where the trail could then continue within the Carbon Avenue right of way.

At the end of the improved section of Carbon Avenue, the Trail could take two alternate routes. One proposed route is along the former road grade that exists along the easterly side of Carbon Arroyo, which leads south towards the existing southerly entrance of the Gagliardi Sports Complex at Jefferson Street.

An alternate route is to keep the trail along the westerly side of Carbon Arroyo for its entire length, and connect into the existing Carbon Avenue right of way. From there the trail continues southerly to Jefferson Street, and then runs along Jefferson Street and connects with the Gagliardi Sports Complex.

ADDENDUM C

Public Comments to the Final Draft

A public comment has been provided suggesting that a “Vita Course” be added as an amenity into the Trail System. A “Vita Course” is a 12-Station exercise course which includes signs. The course is slightly less than a half-mile and participants go at their own pace. The exercises are designed to increase flexibility and muscle tone through stretching and strengthening routines.