



# TOWN OF NEDERLAND TRAILS MASTER PLAN

AUGUST 2005



## ACKNOWLEDGEMENTS

The Town of Nederland Trails Master Plan was made possible by a State Trails Grant from Colorado State Parks and matching funds from the Indian Peaks Homeowners Association, Town of Nederland, and Peak to Peak Healthy Communities Project. Special thanks go to the individuals below for their insight, input, and review.

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## PURPOSE AND GOALS OF THE PLAN

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**Purpose** The Nederland Trails Master Plan (Trails Plan) is a strategic guide toward implementation of a trail network for the Town of Nederland meant to: support safe recreational experiences; provide routes for alternative transportation; and spotlight natural features, open space, and resources unique to the Town. The Trails Plan is an extension of the Town of Nederland and Surrounding Areas Open Space, Trails, Parks and Outdoor Recreation Master Plan (Master Plan) (Town of Nederland 2001).



Developed with citizen input, the Master Plan highlights the immediate need for a high-quality trail system both within the Town and linking the Town to adjacent public lands and trail networks. The Trails Plan serves to guide the spatial planning, appropriate uses, design standards, phasing strategies, and funding strategies that will make this citizen-desired trail system a reality in the near future.

The Town of Nederland Open Space, Parks, Trails and Outdoor Recreation Advisory Board requested that community input be solicited during development of the Trails Plan. Therefore, citizen comment, generated from periodic public meetings held through the development of the Trails Plan, was a considerable force in shaping the guidelines and recommendations presented in this report.

**Goals** of the Trails Plan, as outlined in the Master Plan, include:

- \* Provide high quality and safe recreational trail experiences for users in the Nederland area.
- \* Develop non-motorized multiple use trail linkages in the Town of Nederland that promote alternative transportation and a more pedestrian- friendly environment.
- \* Protect and enhance Nederland's legacy of natural features, open space, and unique resources through sensitive trail development.
- \* Provide connector routes extending outward from the Town into the greater Nederland area.

**Actions** presented in this report that aid in the realization of these goals:

- ✓ Document existing trail locations and conditions.
- ✓ Inventory and analyze trail development constraints and opportunities.
- ✓ Design the most feasible trail network that identifies specific trail alignments and appropriate uses.
- ✓ Develop trail standards (including sign standards) and management guidelines.
- ✓ Provide construction cost estimates, priorities, and funding strategies.

## BACKGROUND

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(Taken from the Town of Nederland and Surrounding Areas Open Space, Trails, Parks and Outdoor Recreation Master Plan, 2001.)

Nederland is located in southwestern Boulder County, 17 miles west of Boulder. The Town occupies the gently sloping Middle Boulder Creek basin and extends west to the base of a long, forested glacial ridge, north to Mud Lake (a lake possibly formed by a meteorite impact) and south along the forested ridges above Barker Reservoir.

The Town began as a settlement for gold, silver, and later, tungsten miners. It grew through successive mining booms and drew thousands of residents to the area in the late 1800s and early 1900s. Early growth was spurred primarily by the 1871 development of the famous Caribou Mine four miles west of present-day Nederland. The Town had more than 3,500 residents at its peak.

In the 1920s, tourism helped Nederland rebound from the bust that followed the tungsten boom of World War I. From 1990 to 2000, the population of Nederland grew 27 percent. According to the 2000 Census, Nederland has a population of about 1,400 and serves an additional rural population of at least 5,000. The Town attracts some tourism and is a popular jumping off point for outdoor recreation activities. Residents, as well as tourists, enjoy hiking, biking, camping, fishing, horseback riding in summer and skiing, snowboarding, and snowshoeing in winter. The Nederland community especially values its natural features, scenic views, history, and a diverse citizenry that works together to create a healthy legacy and vision for Nederland's future livability.

In June 1999, Peak to Peak Healthy Communities Project convened a community meeting to capture the vision for the Greater Nederland Area. Over a span of several months, more than 200 community members met and crafted eight vision statements collectively known as *The Greater Nederland Area Vision 2010*. This visioning process identified open space, trails, recreation and environmental preservation all as top priorities for the community.

Following the precedent set by this visioning process, the Town of Nederland, with ERO Resources Corporation, Computer Terrain Mapping, Inc, The Trust for Public Land, and Peak to Peak Healthy Communities Project, developed the **Town of Nederland and Surrounding Areas Open Space, Trails, Parks and Outdoor Recreation Master Plan** (Master Plan) in September 2001. The Master Plan was largely directed through citizen input during public meetings and by response to a written Citizen Survey. Of particular interest to this report were the findings in the Master Plan that the citizens of Nederland view trails as important to the future of the Nederland area and that they desire a well marked, maintained multi-use trail network both within Town limits and linking to surrounding areas.

There is significant need for a trails plan for the Town of Nederland. Currently, the Town has just one developed trail (approximately 1.8 miles), designated only for pedestrian use. Additional trails (totaling about 1.1 miles) are sparse, are not maintained, and lack signage. A trails plan will not only serve as an impetus to create new trails; it will also set a framework for the design, use, construction, and management of a trail network both within the Town and connecting to surrounding areas.

A grant from Great Outdoors Colorado (GOCO) and matching funds from Peak to Peak Healthy Communities Project, the Indian Peaks Homeowners Association and Colorado State Trails Program made possible the completion of the Trails Plan. The Trails Plan is the next step in realizing the Town's vision for conserved open space and opportunities for trails, parks and outdoor recreation, set forth by the Master Plan. For the purposes of this document, the planning area includes the Town of Nederland and lands within one-half-mile of the incorporated Town boundaries, approximately 3-square miles.

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## DEVELOPMENT OF THE TRAILS PLAN

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**The Trails Plan** was developed in a series of stages that allowed for public comment at two open houses and feedback from the Advisory Board and the community during the planning and design process.

### Existing Trails (See Exhibit A)

The Town of Nederland currently has approximately 2.9 miles of soft surface trails. The primary existing trails include:

- Trail along Middle Boulder Creek, from covered pedestrian bridge to Barker Dam; this is the only developed trail in Nederland and is approximately 1.8 miles long.
- Trail along Highway 119 (about .3 mile)
- Trail along School Road into Mud Lake
- Open Space (about .4 mile)
- Trail from School Road towards water tank (about .4 mile)
- Several social trails also connect between existing trails, neighborhoods and community destinations.



There are miles of trails in jurisdictions surrounding Nederland. These include trails through the following areas:

- North side of Barker Reservoir
- Reynolds Ranch Open Space
- Forest Service Lands to the south, west and northeast of Nederland (Including Kyndall's Corner)
- Mud Lake Open Space
- Wild Bear Center for Nature Discovery
- Caribou Ranch Open Space



# DEVELOPMENT OF THE TRAILS PLAN

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## Trail Opportunities and Constraints (See Exhibit B)

**Opportunities** for trail development include linking both in-Town and surrounding area destinations.

### \* In-Town Destinations

Points of interest that may potentially be linked within Town limits include several parks, open spaces, a school, and community services.

<u>Parks/Open Spaces</u>	<u>Schools</u>
<ul style="list-style-type: none"><li>● Flarty Park (.5 acre, Neighborhood park)</li><li>● Indian Peaks Open Space Joe Smith Park (1.5 acres, Rocks for children to climb)</li><li>● Tom Riley Park</li><li>● Cemetery</li><li>● Angel Park (&lt;.5 acre)</li><li>● Tilden Park ( 4 lots, Split rail fence around aspen grove)</li><li>● Chipeta Park (2 acres, Basketball court, fishing pond for children, playground, shelter capacity of 150)</li><li>● Big Springs Park</li></ul>	<ul style="list-style-type: none"><li>● Nederland Elementary School</li></ul>
	<u>Community Services</u>
	<ul style="list-style-type: none"><li>● Community Center</li><li>● Mining Museum</li><li>● Post Office</li><li>● RTD Park and Ride</li><li>● Visitor Center Town Hall</li></ul>
	<u>Additional Points of Interest</u>
	<ul style="list-style-type: none"><li>● Water Tank</li><li>● Ice Rink and Tennis Courts</li><li>● Barker Reservoir</li><li>● Middle Boulder Creek</li></ul>

### \* Surrounding Area Destinations

The Town of Nederland is surrounded by public land with scenic vistas and existing trails that support many outdoor recreation opportunities. Below is a list of opportunities for connecting the Town of Nederland to existing trail networks.

<u>Forest Service Lands</u>
<ul style="list-style-type: none"><li>● Arapaho Roosevelt National Forest</li></ul>
<u>Boulder County Open Space</u>
<ul style="list-style-type: none"><li>● Mud Lake Open Space (185 acres). Future home of Wild Bear Center for Nature Discovery.</li><li>● Reynolds Ranch Open Space (860 acres). Some mountain biking and hiking along informal trails. Portions of "Dot" trails.</li><li>● Caribou Ranch Open Space (2100 acres).</li></ul>

Nederland Middle/Senior High School is located about one-half mile outside the Town boundary, and could be linked to the Town with a trail to encourage alternative modes of travel and a safe route to and from school. Currently, community members must walk, bike, or skateboard on the unsafe narrow shoulder of busy County Road 130.

# DEVELOPMENT OF THE TRAILS PLAN

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## Constraints

### Steep Slopes

Nederland is nestled in the foothills of the Rocky Mountains; therefore, there are naturally steep slopes throughout the Town. Some of these areas may be cost prohibitive to trail construction. One significant area in Nederland with steep slopes is the south bank of Barker Reservoir.

### Highways/Roads

Three main roads pass through Nederland Highway 72, Highway 119, and County Road 130. Potential trails will need to be sensitive to safety threats posed by higher speeds of vehicles.

### Sensitive Natural Resources

A vegetated buffer should be maintained around Middle Boulder Creek, which runs through the center of the Town.

Additional sensitive natural resources are located outside the Town boundary, and include the following:

- Caribou Ranch Open Space
- Boulder County Conservation Easement Land
- Forest Service Land and private land to the west of Nederland
- Section of land in Reynolds Ranch Open Space and adjacent Forest Service Land
- Vegetated buffer around Boulder Creek to the east of the dam

## Public Input Process

Two public open houses, arranged by the Advisory Board and facilitated by Peak to Peak Healthy Communities Project and the consultant team, were held at the Nederland Community Center.

The first open house was held on January 31, 2005 for the public to review the maps of existing trails and give suggestions for proposed trail alignments. About three-dozen people were present and included members of the Advisory Board, Town staff, consulting team, International Mountain Bike Association, general community and local newspaper.

Suggestions from this open house included a wish list for the following:

- Trails/sidewalks linking the Community Center to downtown and the RTD parking lot.
- Trails linking historical sites in Town, including Wolf Tongue Mill, the Mining Museum, the Gillaspie House and the old flume.
- Well defined loops and routes in downtown.
- Better trail signage needed around Town.
- Seating and rest stops along trails.
- A tunnel needed under Highway 72 along Middle Boulder Creek from the pedestrian bridge to the visitor's center.
- Extension of trail on 128 E (Ridge Road).
- Trailheads and signage from central location in Town for cyclists.
- Trails from the elementary and high schools to Town.
- Trails along Middle Boulder Creek.
- Safe highway crossings.
- A loop trail around the reservoir.

## DEVELOPMENT OF THE TRAILS PLAN

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The second open house was held on March 29, 2005 for the public to review and give feedback on proposed trail alignments. Present were members of the Advisory Board, Town staff, consulting team and about twenty people from the community. The existing trails plan, opportunities and constraints plan, and proposed trail alignment plan were displayed and discussed.

Comments from this open house included the following:

- The need for safe trails along the highway; these trails should be constructed to allow for the clearing of snow and dirt accumulated from highway plowing.
- Generally, people liked the various loop trails around and through Town, especially the loop around the reservoir.
- Landowners who support the trail plan requested a fence to keep people from using a social trail on their property.
- Another landowner who supports trails requested that the proposed trail along Middle Boulder Creek west of the highway be routed along the south side of the creek, as there are private residences and businesses along the north side that wish to discourage trespassing.

The community then broke up into three groups and decided which trails it would like to see as priorities. The highest priority trails as determined by the community included:

- The Barker Reservoir Loop
- The trail along Middle Boulder Creek
- The trail from the Sundance Neighborhood to the Community Center

Another opportunity for public input occurred as part of the Nederland Community Center Redesign Charrette on April 23, 2005. As part of the Community Center redesign/rebuild vision, community members, designers, planners, architects, landscape architects, Town staff and others agreed that an improved trail and/or stairway linking the south Community Center parking lot to Fourth Street and down to Third Street was a high priority. Also a priority was to safely link the west entry to the Community Center property with the Sunnyside neighborhood. These linkages would help achieve a major goal of the Community Center vision, which includes accessibility by alternative forms of transportation.



## Trails Master Plan (see Exhibit C)

The recommended Trails Plan (see Exhibit C) for the Town of Nederland would create loops through the center of the Town and loops extending from the Town into neighborhoods and into surrounding parks and open space. Many of the loops are interconnected so that one's journey can be as lengthy as desired. Key features include:

- Loop through center of Town, linking community facilities and historical sites of interest.
- Trail linking the Community Center to Sundown Trail (Sunnyside neighborhood) and the Nederland Elementary School.
- North-south trail along Highway 72 from Mud Lake Open Space to existing trails in Forest Service land to the south of Town.
- Trail from Town to the Nederland High School.
- Connector trail along south side of Barker Reservoir to complete a loop around the reservoir. Trail extending from the Barker Reservoir to Boulder Falls.
- East-west trail along Ridge Road, connecting to existing trail through Forest Service Land and Boulder County Open Space and looping back towards Mud Lake Open Space.
- East-west trail along Indian Peaks Drive, connecting Highway 72 trail to existing trails in Mud Lake Open Space, Nederland Parks and Open Space, and to water tank trail.
- Trails through southeast portion of Town, creating loops through neighborhoods linking with existing trails in Boulder County Open Space and Forest Service Land.

## Types of Trails

### Hard Surface Trails

Hard surface trails are typically constructed of asphalt or concrete. Concrete is preferred because it is much more durable with lower maintenance requirements. Hard surface trails accommodate a variety of users including walkers, bicyclists, roller bladers, skateboarders, pedestrians with baby strollers, and wheelchairs. Snow is also easily cleared from hard surface trails making these ideal along roadways and frequently used sidewalks in Town.

### Soft Surface Trails

Soft surface trails are typically constructed of natural earth, crusher fines, or recycled concrete materials. Crusher fines are a by-product of gravel mining and generally include materials that pass through a 3/8-inch sieve. This preferred material for soft surface trails creates a smooth, firm, and stable surface.

# TRAILS RECOMMENDATIONS

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## Trail Design Standards

### Hard Surface Trails

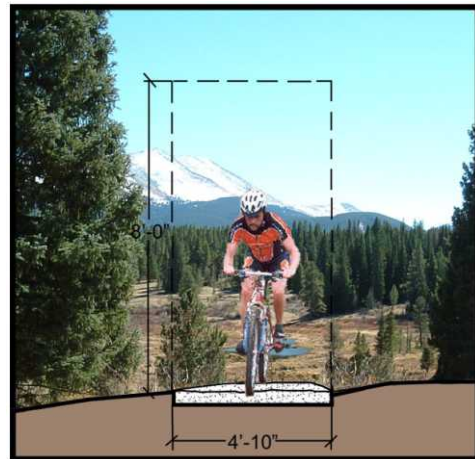
Concrete is the preferred material for hard surface trails and should typically be 4 to 6 inches thick depending on the need for heavy maintenance vehicles. Concrete trails should be 8 to 10 feet wide depending on the amount of intended use. Sawcut or zipstrip joints should be used every 8 to 10 feet to create a smooth surface for wheeled users. Expansion joints should only be used adjacent to existing structures such as walls, steps, etc. Shoulders 2 to 3 feet wide with minimal slope for positive drainage are recommended on each side of the trail.



Hard Surface Trail

### Soft Surface Trails

Soft surface trails should be constructed of crusher fines material approximately 4 inches thick. Soft surface trails should be 4 to 10 feet wide depending on the amount of intended use. Smaller nature trails should be 4 feet wide and for use by pedestrians only. Filter fabric used to be specified under the crusher fines material to control weeds on the surface and spread vehicular weight loads to prevent rutting. With proper installation, soft surface trails do not require filter fabric because it usually ends up at the surface creating a maintenance issue.



Soft Surface Trail



On-Street Trail with Carsonite Post

### On-Street Trails

On-street trails are typically delineated by “carsonite” posts on existing, low traffic volume streets.

# TRAILS RECOMMENDATIONS

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## Signage

Trail signs should be limited to only those necessary for regulatory, informational, and interpretive or educational purposes.

Regulatory signage includes stop, yield, sharp turns, low clearance, steep grades, and other warning signs and should be located along trails to provide for user safety.

Informational signs should be located at trailheads, key destinations, and periodic locations along trails to provide maps showing the location within the larger trail system context and distances between points on the trail. Informational signs should have trail etiquette, rules and regulations, emergency information, maintenance information, and general information about the trail system.



Examples of appropriate interpretive signage.

Interpretive signs should be located at strategic locations along the trail system to educate trail users about natural, cultural, or historical resources. It is important to create a system-wide theme for a unified interpretive program. Interpretive signs also can be used to help protect sensitive natural resources.

## Trail Construction

All proposed trails should be constructed with a minimum of disturbance to the existing landscape. Existing vegetation should be protected from disturbance as much as possible. Erosion control measures should be implemented to minimize runoff and protect water quality. Trails should be constructed by qualified contractors. Some of the simple, soft surface trails can be constructed by volunteer groups such as the Mountain Youth Corps with Town oversight.

## Trail Grades

All trails should have a 2% cross slope to create positive drainage across the trail. Longitudinal slopes of 5% or less are ideal. Longitudinal slopes should not exceed 8.33% unless there are no practical alternatives to steep grades. All trail grades shall conform to the intent of the Americans With Disabilities Act (ADA) wherever possible.

## Trail Underpasses

Where trails pass under roadway bridges or through concrete box culverts, sufficient clearance and security lighting should be provided for safe trail use. Street signs attached to the bridge or culvert helps to orient trail users. Trails under bridges should be widened to at least 10 feet wherever possible with 2- to 3-foot shoulders on each side of the trail. Box culverts for trails should be at least 12 feet wide because the 2 feet adjacent to the walls are unusable for bicyclists; therefore, a 12-foot wide trail is, in effect, an 8-foot wide trail. Minimum vertical clearance is 8 feet.

## Centerline Striping

On heavily used hard surface regional trails, a centerline stripe may be painted on the surface of the concrete as an additional safety measure to delineate direction of traffic. Yellow painted 4-inch wide lines are suitable for this purpose. Centerline stripes are also recommended at all trail underpasses.

# TRAILS RECOMMENDATIONS

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## Site Furniture

Site furniture such as benches, picnic tables, and trash receptacles should be unique and consistent within the Town to distinguish the trail system from that of other jurisdictions.

## Trail Right-of-Way

When a new trail right-of-way is formally dedicated to the Town, the suggested width should be 50 feet. This will allow for a 10-foot wide trail with 3-foot shoulders on each side. This includes room for grading.

## Trail Landscape

Where appropriate, trails should have native vegetation, trees, or landscaping to match the contextual surroundings. Trails developed in open space should have native, low water consumptive, and low maintenance landscaping. Urban trails may use bluegrass turf, shade trees, and ornamental landscaping in addition to native, low water consumptive, and low maintenance landscaping.

## Vertical Clearance

Minimum vertical clearance from obstructions such as overhead branches should be 8 feet.

## Curb Ramps

When trails enter a roadway, a curb ramp must be provided that is at least as wide as the trail and that meets the intent of the ADA guidelines.

## Bridges

Bridges over ditches or drainageways should be 12 feet wide and should be designed to allow for access by maintenance and emergency vehicles. Bridges should be constructed of cor-ten weathering steel to blend into open space areas. Bridge railings should be 3.5 feet high. The bridge deck should be constructed of concrete for user safety and durability. Wood is slippery when wet and requires additional maintenance.

## Culverts

Culverts for minor drainage crossings should be designed to allow for the trail tread width including shoulders. Culverts should be located to allow for 1.5 feet of clearance between the top of the pipe and the finished trail surface.

## Miscellaneous Structures

Structures such as signs, railings, walls, and benches should be located a minimum of 2 feet from the edge of any trail.



**Example of a pedestrian bridge.**



APPENDIX  
COST ESTIMATE  
FUNDING SOURCES

