

## Open Space Maintenance & Improvements

Throughout the planning process residents made it clear that the community values preservation of undeveloped open space equally as much as maintaining and improving the trail system. In many cases, these considerations go hand in hand. As noted in the Open Space Management Plan, trails are the primary way that most residents experience the County's Open Space system. To maintain its open space, the County must continue to employ a mixture of regular maintenance efforts, new improvements, targeted restoration and conservation efforts, wildfire mitigation, and sensitive habitat (plant and animal) protections.

	Priority			
	Ongoing	Short	Mid	Long
<b>Open Space Management &amp; Improvements</b>				
Eliminate feral cattle in the canyon not only on County land, but on all jurisdictions	X			
Remove trash from below Overlook point and develop methods to discourage additional illegal dumping.	X			
<b>Open Space Administration</b>				
Develop a Los Alamos County Open Space System that recognizes open space to protect and preserve the community's recreational, cultural and natural resources and to promote recreational use by residents and visitors	X			
While engaging citizens, the Parks and Open Space Division will update the county development code and develop necessary county laws and zoning regulations that support and protect trails, trail access, and natural and cultural resources within trail corridors.	X			
<b>Cultural &amp; Historical Resources Protection</b>				
Ensure adequate stewardship of the Los Alamos County's Archeological District through effective monitoring of cultural resources.	X			
Respect the traditions of local Pueblos and protect cultural resources.	X			
In Pueblo and Rendija canyons, protect tent rocks from damage from erosion and human use.	X			
<b>Conservation &amp; Restoration</b>				

Reduce arroyo downcutting and re-establish riparian zones in Canyons				X
Reduce erosion damage and sediment transport caused by stormwater runoff from urbanized areas.	X			
Reduce soil loss along the rim and on the flats within the canyon by reestablishing 60% ground cover and reducing erosion potential by 40 percent (White Rock Canyon)				X
Control vehicle access to reduce erosion potential along White Rock Canyon Rim Trail		X		
Work closely with Los Alamos National Laboratory (LANL) to minimize sediment and contaminant transport in Pueblo and Bayo canyons.	X			
<b>Restoration – Location Specific</b>				
<b>Barranca Crossing</b> crossing drainage; Channel incision; Trail and drainage erosion; Repair should focus on trail surface and drainage			X	
<b>Upper Acid Canyon</b> loss of floodplain function; Eroding banks; Active headcut; Some nonnative species; Utilize machinery to build trail ; grade control; Access and potentially contaminated soils are issue			X	
<b>Middle Pueblo Canyon</b> Channel; Grade control at Utilities creates scour; Treat with rebuilt grade control using large boulders and geomorphic concepts				X
<b>Rendija Canyon</b> through old alluvial deposit; Requires channel restoration to appropriate dimensions				X
<b>Perched Wetlands- Walnut Canyon</b> Small shallow pockets of wetland plants supported by alluvial soils and runoff on hill slopes; Erosion through fine soils; Repair with hand build rock structures		X		
<b>Lower Pueblo Canyon</b> sediment supply from urban runoff; Existing grade control; Invasive Reed Canary Grass; Create meandering wetland channel; Revegetate				X
<b>Walnut Canyon</b> Canary Grass& Russian Olive Infestation; Incision into wetland; Weed Treatment; Replanting; Hand built Grade control		X		
<b>White Rock Canyon</b> Russian Olive and Tamarisk; Remove and revegetate				X

<b>Kwage Mesa</b>	Control run-	X			
off and erosion from utility road					
<b>Wildfire Mitigation</b>					
Because wildland fighting ability is reduced by the inaccessibility of many of the canyons, develop better access to the management unit by establishing new and connecting existing trails.		X			
Maintain wildlife habitat and corridors in fuel mitigation project areas.		X			
<b>Ponderosa Pine Management Unit</b>					
a. Maintain healthy forest conditions in ponderosa pine stands through continued active management of pine forests		X			
b. Monitor changing conditions in ponderosa pine forests that are the result of drought, increasing temperatures, and insect activity.		X			
<b>Canyons Management Unit</b>					
a. Manage all forest stands for improved forest health and to protect adjacent housing areas from wildfire with a fire management plan that combines mechanical and hand thinning, piling and burning, and broadcast burning.		X			
b. Monitor and if necessary continue forest restoration efforts in the upper watersheds of School, Walnut, Pueblo, and Rendija canyons.		X			
<b>Mesa Top Management Unit</b>					
a. Use adaptive fuel reduction techniques to manage woodlands in a manner that permits containment of wildfires to individual mesa tops.		X			
b. Control erosion and sediment transport from areas of exposed soils across the mesa tops.			X		
<b>Western Perimeter Management Unit</b>					
a. Maintain low fuel density for protection of adjacent housing.		X			
b. In areas altered by stand-replacement fire, re-establish ponderosa pine forest at historic stem densities.				X	
c. Continue monitoring the effects of mastication debris on re-establishment of ground cover		X			
<b>White Rock Canyon Management Unit</b>					
a. Reduce threat of fire to homes adjacent to open space along Meadow Lane, Kayenta, Joya Loop, Rover Boulevard, Glenview drive and court, and Kimberly Lane.		X			
<b>Lower Rendija/Guaje Management Unit</b>					
a. Implement fuel reduction along the foot of Barranca Mesa.		X			

<b><i>Sensitive Species/Habitat Management</i></b>				
Monitor and protect habitat for Helleborine orchids, Grama grass, Cactus, Cardinal flower, and Springer blazing star	X			
Manage and protect environmentally sensitive places and species through a variety of methods:			X	
Public awareness campaigns to alert trail/open space users to consequences of uncontrolled access and encourage good stewardship. These could include:			X	
- Trailhead signage				
- Localized, specific interpretive signage				
- Public service announcements on local radio or TV stations				
- Social media posts on Nextdoor or other local online groups				
- Brochures for distribution at bike shops, schools, public events, etc.				
- School activities, field trips, or classroom sessions				
- See additional information in Public Education and Engagement section, below				
Identify and emphasize a variety of points of interest, natural features, and habitats available to open space and trail users to spread impacts across the system, rather than concentrating them in popular areas	X			
Employ seasonal closures as needed to protect especially vulnerable habitats and/or species during certain times of year, such as breeding or nesting season, or during icy or muddy conditions	X			
- Make sure that extent of closure is made clear via signage and other means				
- Identify potential alternate routes to circumvent closure area				
- Employ similar techniques for fire closures, if/when necessary				

# Trail System Maintenance & Improvements

The trail system in and around Los Alamos has evolved extensively over time, dating back to historic and even prehistoric times as people and animals sought to gain access to the natural resources of the area. It is clear from community feedback that the trail system is an extremely valuable community asset. However, as closely as the trails and open space programs are aligned, they can sometimes be at odds: as ease of access increases so do the hazards of overexposure. The recommendations provide improvements to the trail system in a sustainable way that takes into consideration multijurisdictional collaboration, regular maintenance, new improvements, connectivity, and protection of environmentally and culturally sensitive areas.

## Trail Construction Guidelines in use:

[USFS Accessibility Guidebook for Outdoor Recreation and Trails by U.S. Forest Service](#)

[Standard Trail Plans and Specifications by U.S. Forest Service](#)

	Priority			
	Ongoing	Short	Mid	Long
<b>Trail System Administration</b>				
The Parks and Open Space Division, with input from the community, will coordinate, design, and implement trail projects on an ongoing basis.	X			
The Parks and Open Space Division will seek community input before initiating projects in locations where trails may be affected.	X			
The Parks and Open Space Division will seek approval to apply for and secure Federal and State funding for trail building, maintenance, and remediation projects.	X			
<b>Trail Maintenance &amp; Improvements</b>				
The Parks and Open Space Division will ensure that trails are:				
A. built to safe standards for specific uses and users.	X			
B. designed to enhance the non-motorized commuter potential from all parts of Los Alamos.	X			

C. designed to make surfaces as natural as possible, except for trail marking and erosion control measures.	X			
D. designed and maintained in a natural state as possible for intended users, except for trail marking and erosion control measures.	X			
<b>Trail Connectivity</b>				
Create and enhance recreational loops	X			
The county trail network will better interface with nearby destinations, pathways, and sidewalk to promote connectivity to key community nodes and promote commuting by non-motorized means.	X			
<b>Social Trails &amp; Conservation</b>				
Identify and assess social trails and determine a closure plan	X			
A. White Rock Canyon Rim Trails		X		
B. Perimeter Trails		X		
C. Pueblo and Bayo Canyon cattle trails		X		
Utilize volunteer groups to lead re-routing and re-planting efforts of areas with a high number of social trails		X		
<b>Alternate Transportation &amp; Motorized Vehicles</b>				
The Community Services Department and Public Works Department will support land-use patterns and transportation policies that promote increased use by non-motorized users as commuting alternatives.	X			
On an ongoing basis, in collaboration with the Transportation Board, the Parks and Open Space Division will develop cooperative promotions with Los Alamos National Laboratory and the business community.	X			
<b>Interfacing with Development</b>				
The Community Services Department will suggest new developments to include access to the Trail Network. Dedicating trail corridors, green space and/or playlots should be required of developers, depending on what is appropriate in specific situations.	X			
Work with Planning & Public Works/Transportation Divisions to improve street crossings at key locations that interface with the trail network as identified through public input: 35thSt/Orange St/Olive St; Diamond Dr at Ridgeway; and Trinity Drive crossings (multiple).		X		
The Los Alamos County Utilities and Public Works departments should consult with Parks and Open Space to avoid or mitigate disturbances during utility installation or repair, especially where trails and utility lines or other infrastructure share the same corridors; they will require and monitor work done by private utility and cable companies to meet the same standards.	X			

<b>Trailhead Improvements</b>				
Improve trailhead parking and amenities at trailheads				
A. Bayo Canyon Trailhead		X		
B. Quemazon Trailhead			X	
C. Red Dot Trailhead			X	
D. Mitchell Trailhead				X
<b>Location Specific</b>				
In the long term, work with LANL management as facility plans change with an eye toward creating a trail link between Los Alamos and White Rock				X
The Community Services Department will continue to work with Public Works Department by extending Canyon Rim Trail westward	X			
Support and advocate for a White Rock Loop (WZ-1)				X
Improve connectivity of existing Perimeter trail			X	
Improve trail equestrian opportunities around Kwage Mesa/Bayo Canyon			X	
Expand trail opportunities on Deer Trap Mesa			X	
Repair River Trail to provide quality backcountry experience			X	
Use volunteer labor to improve eroding parts of Blue Dot and Red Dot trails		X		
Improve connectivity to Quemazon trail across upper Pueblo Canyon			X	
Improve access to upper Pueblo Canyon across Diamond Drive	X			
<b>Trail Difficulty &amp; Variation</b>				
Create a Family Bike Skills Area.	X			
With the advice from the community the Parks and Open Space Division will recommend connections and new trails for a greater variety of trail destinations, lengths, and linkages.	X			

The Parks and Open Space Division will encourage variations in trail design and development to accommodate different uses and users by investigating new trail designs.

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*For Policies and Standards related to Development and Maintenance of the Trail Network Please see [Appendix Z](#)*



## Public Education and Engagement

During public engagement, trail etiquette was often mentioned as something all community members highly value. The County should take the lead on setting the standards for trail and open space etiquette and proactively educate members of the community to avoid future conflicts or misunderstandings. The tone the County creates around these issues will set an example for the rest of the community. Without clear guidance, members will continue to have different expectations and frustrations. Public engagement should also include collaboration with community and volunteer organizations, high quality educational materials, and open dialogue between the community and staff.

	Priority			
	Ongoing	Short	Mid	Long
<b>Community Communication</b>				
The Parks & Open Space Division will continue to collaborate with schools to use the Trail Network in their teaching of natural history, environmental science, local history, and art.	X			
Highlight Open Space & Trails Accomplishments	X			
A. Better communicate what projects have been done and what is in the pipeline		X		
B. Add signage when work is being completed on the ground		X		
Integrate clear messaging on boundaries of County maintenance & operations		X		
A. If including areas outside of County jurisdiction in marketing/ trail resources, evaluate if online materials should be housed on a different webpage (PEEC or Tourism) to signal that the County Open Space and Trails division does not maintain all of the mentioned trails			X	
<b>Communication Resources</b>				
Create an online hub for videos and instructions on etiquette in Los Alamos County				
A. How to interact between user groups (hikers, birders, cyclists, equestrians, etc.)		X		
B. How to treat historical and cultural sites		X		

The Parks & Open Space Division will produce maps and brochures that describe the Trail Network and make them readily available to both citizens and tourists.	X			
Ensure trails are named the same across all materials – printed, maps, interactive maps, etc.		X		
<b>Trail Stewardship</b>				
Create a trail maintenance certification for interested volunteer groups & individuals		X		
For all volunteer projects, techniques, tools, site visits and trail standards must be submitted to the county in the form of a site plan for approval		X		
The Parks & Open Space Division will involve the community in trail planning, development, and maintenance by holding public meetings on trail issues when appropriate.	X			
The Parks & Open Space Division will organize and support, volunteer trail building, maintenance, and remediation activities through the County volunteer project coordinator, local trail user groups, and other agencies.	X			
The Parks & Open Space Division will work to support the County Council in linking the Trail Network to trails on surrounding jurisdictions, such as those of the DOE, USFS, Bandelier National Monument, adjacent pueblos, and neighboring communities.	X			
The Parks & Open Space Division, will involve trail users in promoting appropriate trail use and etiquette through public education.	X			
Support and advocate for inter-user group to foster better community partnerships (Example: Trail Partners Foundation Best Practices)				
A. Invite speaker from Trail Partners Foundation or similar org to host community panel.		X		
B. Host 'Tails & Tires' Workshops to discuss safety concerns especially related to equestrians - Horses can get used to cyclists and cyclists can spend time to better understand the horses (Galisteo Basin Preserve in Santa Fe hosted a similar		X		
<b>Cultural Stewardship</b>				
Continue to include San Ildefonso Pueblo and Santa Clara Pueblo in any interagency coordination and collaboration to ensure that indigenous interests are represented	X			
Educational signage should be placed at all trailheads that lead to areas with cultural sites that requests respect of the land, structures, and objects without disclosing exact locations.		X		
A. Utilize trail re-routing to manage and protect historic/culturally sensitive sites		X		
B. Illustrate clear boundaries where County lands meet Pueblo lands on all public maps, guides, signage, etc.		X		
C. Provide clear signage regarding trespassing onto Pueblo lands at commonly used (but illegal) entry points		X		

## Signage & Wayfinding

Trail signage is an essential communication tool for trail users. Given the many trail options available in Los Alamos County, it is important to provide key information about the routes, appropriate use, and safety to ensure users are well-informed and have a positive experience. The County has worked to improve the network signage and standards in recent years. New trailhead kiosks and trailhead guides attest to this with consistent design and content.

	Priority			
	Ongoing	Short	Mid	Long
<b>Signage Guidelines</b>				
The Parks and Open Space Division, with advice from the community, will mark trails, access points, and trail junctions clearly to protect trail users, trail corridors, and surrounding open space.	X			
Wayfinding improvements to better guide visitors (eg. Red Dot needs specific signage and wayfinding guides at its uppermost stream crossing)		X		
Place confidence markers where appropriate.	X			
Discourage the use of painted dots and arrows as navigational aids on the Red Dot and Blue Dot trails.				
Add signage when boundaries change (public entity or private entity)		X		
The Parks and Open Space Division will incorporate interpretive signage where trails pass through areas of natural and historical significance.	X			

<b>Interactive, Digital Maps</b>				
Continue maintaining its interactive GIS trail map and place it clearly on the County's website.	X			
<b>Location specific</b>				

Construct secondary trailheads at key locations: Deer Trap Mesa, Kwage Mesa, Rendija Trailhead, Los Alamos Nature Center, 48th Street access to Perimeter Trail, Woodland Trail, and Bayo Canyon Trail.			X	
Install additional primary trailheads at Smith's Marketplace along the Canyon Rim Trail and Urban Trail			X	

***For individual trailhead assessments, please see Appendix Z***

## Data & Reporting

A reoccurring theme during engagement was a disconnect in the public perception of what the Opens Space & Trails Division is doing and what has actually been accomplished by staff. The division thoroughly understands the needs of the community and is managing a large trail system with minimal staffing. Even with these constraints, Los Alamos County has a high-quality trail system that draws people to the County from the region and beyond. With more information sharing by the division, the Los Alamos community could better understand the magnitude of the Los Alamos system and appreciate the work being completed. Furthermore, staff could benefit from enhanced data gathering and tracking to identify trends, goals, and accomplishments.

	Priority			
	Ongoing	Short	Mid	Long
<b>Information Maintenance</b>				
The Community Services Department will continue to assist Information Management on maintaining the Trail Network on the County Geographic Information System (GIS).			X	
Clean up current GIS data		X		
A. Confirm Ownership, Trail names, etc.		X		
B. Consolidate trail segments by trail name		X		
Document and track key metrics to verify progress, using relevant software such as Cartegraph		X	X	
A. Miles of accessible trails, difficulty level, type of trail etc..			X	
Maintain a map of known locations of sensitive plant and animal species and monitor populations yearly	X			
Rank maintenance needs and create maintenance schedule per trail or other organizational unit		X		

A. Begin to track differed maintenance or unfunded maintenance		X		
<b>Assessment &amp; Reports</b>				
The Parks and Recreation Board and the Parks and Open Space Division will review and recommend updates of the Open Space and Trails Management Plan to the County Council	X			
The Parks and Open Space Division, with advice from the community, will report the status of the implementation of this plan to the County Council		X		
Provide for the protection of historic and cultural resources by maintaining an accurate inventory, monitoring sites annually, developing a protection plan for threatened resources, and implementing projects as necessary				
Establish baseline conditions for cultural sites and monitor the sites for potential erosion damage			X	
The Parks and Open Space Division will assess yearly the safety of trail structures such as bridges	X			

## Improved Accessibility for All Ages and All Abilities

For community members who have limited mobility or disabilities, enjoying nature is highly desired, but requires more planning and preparation to access. Right now, Los Alamos County does not have sufficient resources to ensure that differently-abled members of the community can access the open space and trails network. However, the County has a great foundation to begin implementing stronger, more targeted support for these members of the Los Alamos community. Often, outdoor access looks different depending on ability.

	Priority			
	Ongoing	Short	Mid	Long
<b>Accessibility Information Availability</b>				
Produce detailed information relevant for trail users with different abilities: Partner with volunteers to evaluate each trail using an uniform rating system.			X	
Publish an online information hub for accessible trails with detailed trail descriptions that are designed to be used with screen readers and keyboard-only navigation.		X		
<b>Improve Outdoor Access</b>				
The Parks & Open Space Division will look for additional locations where trails might be made ADA-compliant and where a trail would provide a meaningful outdoor experience, such as a vista or unique natural feature. Whenever possible, they will develop trails to provide universal access, following best practice guidelines as provided by the U.S. Access Board's Public Right-of-Way Accessibility Guidelines (PROWAG).	X			
The Parks & Open Space Division, with advice from the community, will seek opportunities for addressing the accessibility needs of the community that are in balance with practical consideration of cost, terrain, retaining the special character of open and scenic vistas, and retaining opportunities for solitude, inspiration, and renewal within the landscape.	X			
Work with Public Works Division to increase public transportation on weekends to provide access to recreational opportunities.		X		