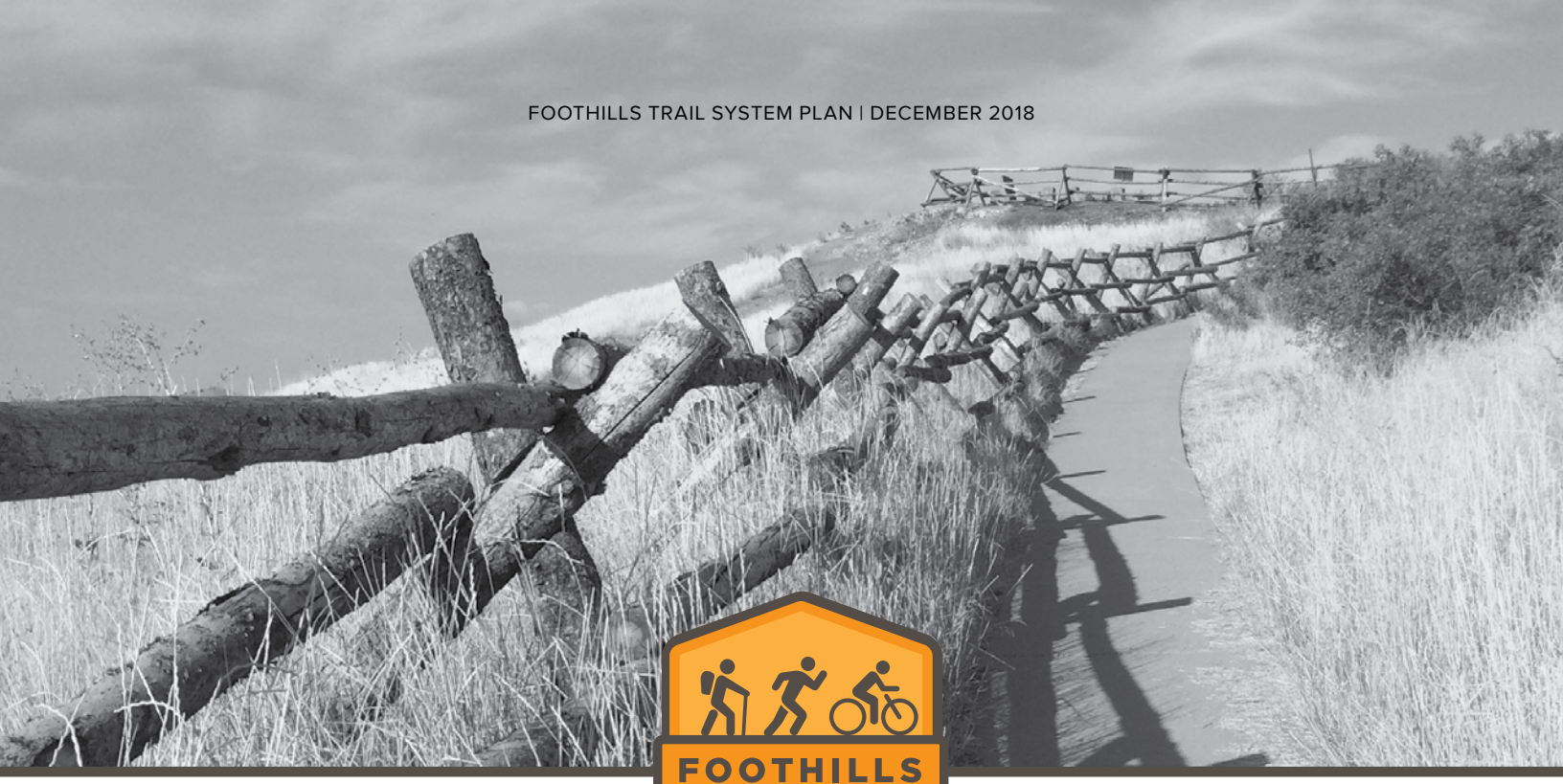
DECEMBER 2018

FOOTHILLS NATURAL AREA

SALT LAKE CITY FOOTHILLS TRAIL SYSTEM PLAN

A Vision for Sustainable Recreation in the Foothills Natural Area



ACKNOWLEDGMENTS

Salt Lake City Parks & Public Lands would like to thank the partners and residents who helped shape this plan. Special thanks to *Trails Utah* for their unflagging advocacy, encouragement, and assistance with trails improvements in Salt Lake City. Additionally, special thanks and acknowledgment to the *Bonneville Shoreline Trail Committee* and their many partners for their efforts to complete the Bonneville Shoreline Trail's Salt Lake City sections.

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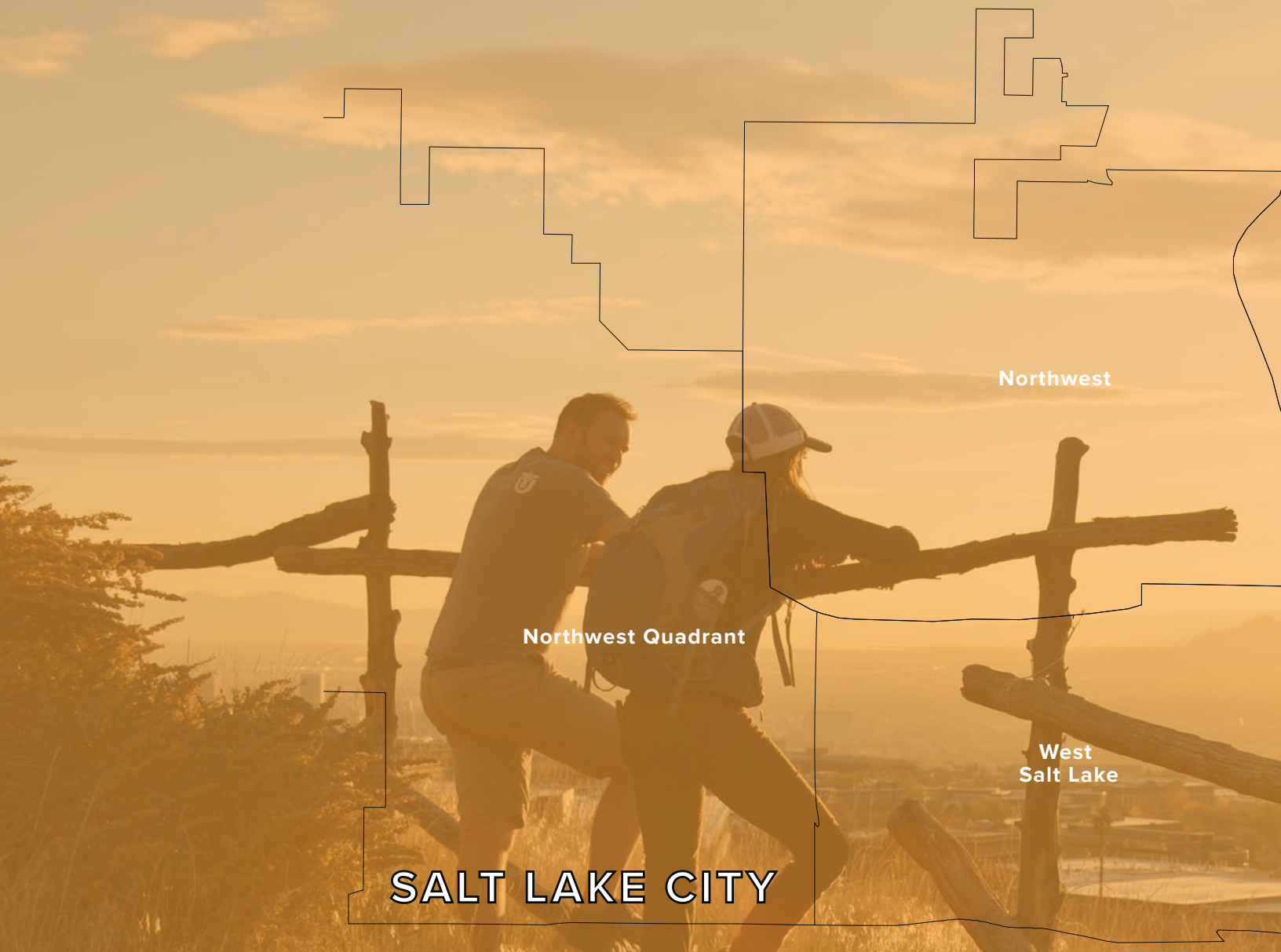
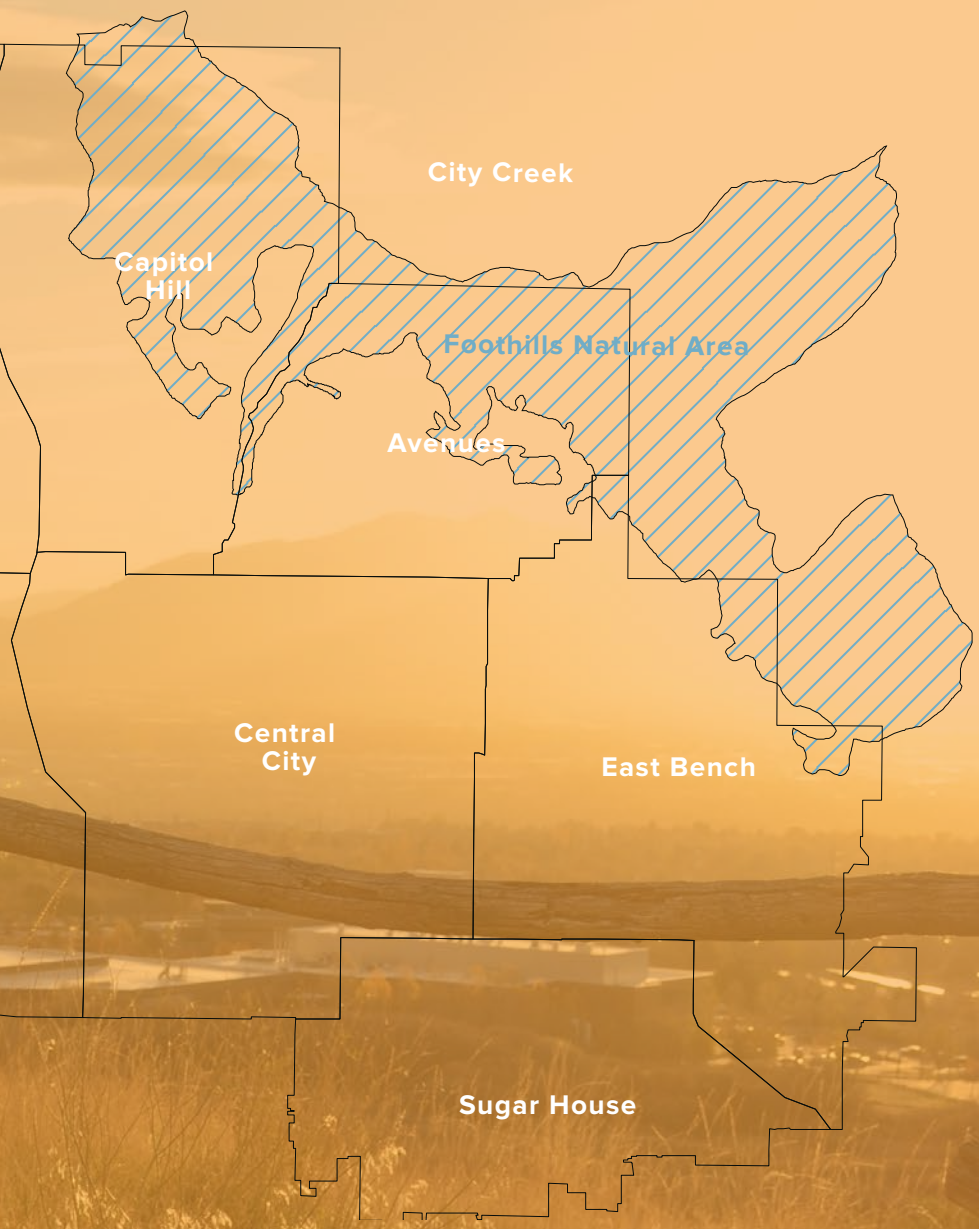


THE FOOTHILLS NATURAL AREA

The Salt Lake City Foothills Natural Area consists of approximately 6,000 acres of canyons and foothills bordering the northern and eastern limits of Salt Lake City. The Foothills are bordered by Davis County to the north, established neighborhoods to the west and south, and protected Salt Lake City watershed lands to the east.

The Salt Lake City Foothills Natural Area (FNA) consists of open sagebrush grasslands and scrub-oak woodlands that rise from the upper line of development at around 5,000 feet above sea level. These slopes rise steeply to prominent peaks and ridgelines above the city, at elevations ranging from 6000 to 7000 feet above sea level. In some places, distinct terraces are present which indicate the shoreline level of ancient Lake Bonneville. The FNA is bisected by City Creek Canyon, Red Butte Canyon, and bordered on the south by Emigration Canyon. Many smaller canyons and gullies also exist in the FNA, including Dry Creek, Perry's Hollow, and others.

The Foothills Natural Area provides important habitat for a variety of birds, small mammals, and other wildlife, and many plants native to the Salt Lake Valley. Big game such as deer and elk also utilize the FNA, and the upper slopes



and ravines are important winter range for these mammals. Agricultural use of the foothills, especially sheep grazing during the early years of the last century, created substantial erosion and vegetative disruption, the results of which can still be observed today. In many ways, the foothill ecosystem is fragile and susceptible to lasting damage. These lands also have tremendous potential to provide a refuge for city residents, and an escape into the natural world only minutes from the heart of downtown. In order to minimize our human footprint and ensure that this unique natural area is protected for future generations, it is imperative that recreational trails in the FNA be carefully planned, designed, and constructed. This Foothills Trail System Plan establishes a vision for a recreational trail system that balances user needs with the needs of the Foothills environment so that the property can be enjoyed by Salt Lake City residents and visitors for decades to come.

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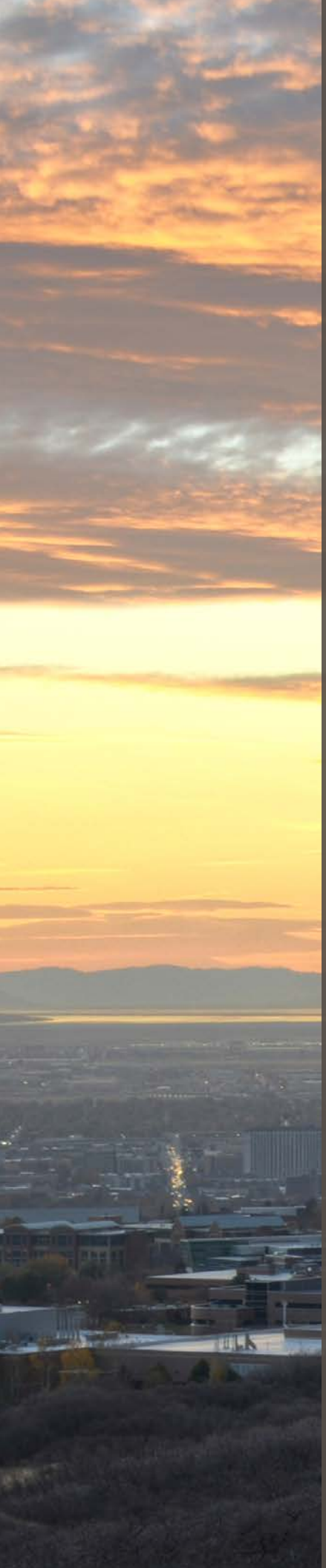

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ACRONYM LIST

AASHTO- American Association of State Highway Transportation Officials
BST- Bonneville Shoreline Trail
CPTED- Crime Prevention Through Environmental Design
UDNR- Utah Department of Natural Resources
FNA- Foothills Natural Area
IMBA- International Mountain Biking Association
NEPA- National Environmental Policy Act
RRFB- Rectangular rapid flashing beacon
SHPO- State Historic Preservation Office
SLC- Salt Lake City
SLCo- Salt Lake County
UDOT- Utah Department of Transportation
USFS- United States Forest Service
USGS- United States Geologic Survey
UTA- Utah Transit Authority

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INTRODUCTION

PROJECT VISION

The Foothills Natural Area will provide a variety of recreational trail experiences for all ages and abilities while managing the Foothills' environmental resources for future generations.

INTRODUCTION

PROJECT BACKGROUND

The Salt Lake City Foothills Natural Area consists of approximately 6,000 acres of canyons and foothills bordering the northern and eastern limits of Salt Lake City. The Foothills are bordered by Davis County to the north, established neighborhoods to the west and south, and protected Salt Lake City watershed lands to the east.

Nearly 100 miles of official and user-created trails currently exist within the Foothills Natural Area. Of these trails, the Bonneville Shoreline Trail (BST) is the most notable. As envisioned, the BST will one day stretch from the Idaho border, nearly 310 miles south to Nephi. The route attempts to follow the shoreline of the ancient lake Bonneville at an elevation of approximately 5,250 feet.

Salt Lake City trails are managed by the Trails & Natural Lands Program of the City's Parks and Public Lands Division. Trails and Natural Lands Program manages trails in the City's foothills, such as the Ensign Peak Trail, Bonneville Shoreline Trail, and various other foothill trails. Trail maintenance is accomplished with dedicated maintenance crews as well as volunteer stewards.

Development and implementation of this Foothills Trail System Plan is consistent with the specific policy guidance and recommendations of the Salt Lake City Open Space Master Plan, and addresses many of the issues currently facing the lands and trails in the Foothills Natural Area.

INTRODUCTION

TRAIL SYSTEM GOALS

ENVIRONMENTALLY SUSTAINABLE

Trails avoid sensitive habitat, minimize erosion / sedimentation and vegetation disturbance, and make efficient use of available natural lands. The wild and scenic nature of the foothill landscape is protected. Fragile natural or cultural features are avoided, and trails direct users away from closed or protected watershed areas.

ENJOYABLE

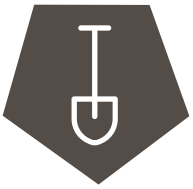
Trails cater to a variety of recreation types, and also to a variety of desired experiences, including solitude, escape and connection to the natural world; challenge and exercise; and fun and excitement. Trail layout and construction is optimized to the intended user group of any individual trail segment, and trails are routed to take users to desirable areas and points of interest.

ACCESSIBLE

Trails are accessible to a broad audience of beginner-to-intermediate trail users, including families, seniors, and disabled individuals. Trailheads are sited and designed to make it easy for people to get on the trails, and are connected to alternative transportation routes. Wayfinding signage and supplemental trail information makes it easy for people to understand and navigate the trail system.

SAFE

Trail user collisions and conflicts are mitigated and minimized through trail design and use regulations. Signage and natural barriers minimize incidences of lost or disoriented persons, and make it easier for emergency personnel to locate accident victims. Trails are routed to discourage trespassing on private property. CPTED principles are incorporated in trailhead design to mitigate theft and vandalism to parked cars.



LOW-MAINTENANCE

Trails drain water naturally, follow contours instead of fall-lines, and effectively encourage users to remain on-trail, minimizing maintenance and reconstruction needs and costs. Thoughtful trail layout reduces the creation and use of informal trails and routes. Trails are sited to bring regular trail users through “problem areas” to reduce incidence of vandalism, graffiti, and illicit activity.

02

EXISTING CONDITIONS

EXISTING CONDITIONS

REVIEW OF EXISTING STUDIES

The first efforts to plan for the Foothills Natural Area dates back to 1992. The Salt Lake City Open Space Plan laid out the vision for the Bonneville Shoreline trail as a multi-use facility that would limit land development into the foothills. Since then, numerous plans, studies, and ordinances have been developed by the various institutions and communities located throughout and adjacent to the Foothills Natural Area. The review of existing studies summarizes the important role that Foothills trails can play in connecting people to places, and providing an important recreation asset to Salt Lake City residents.

SALT LAKE CITY OPEN SPACE PLAN (1992)

Document purpose: Define an approach to connecting open space resources and providing a safe, and enjoyable experience of the natural features of Salt Lake City.

Relevant goals:

- Conserve the natural environment;
- Enhance open space amenities for all citizens;
- Connect the various parts of the City to natural environments;
- Educate the citizens on the proper use of open space.

Key recommendations related to this study: The vision for the Shoreline Trail is a combined hiking and mountain biking trail that allows controlled access to other trails into the foothills and provides a development limit line protecting the natural foothill environment from further residential encroachment into the foothills.

Volunteer performing trail maintenance in the Foothills Natural Area. Photo Credit: Bingham Cyclery

UNIVERSITY OF UTAH HERITAGE PRESERVE MANAGEMENT PLAN (2007)

Document Purpose: Provide a guide for the administration, management and use of the Heritage Preserve property that fosters a predominantly natural and open condition to the area.

Relevant goals:

- Provide a space for various activities, including non-motorized recreation, that does not interfere with other environmentally-related activities taking place.

Key Recommendations related this study:

- Series of erosion control projects;
- Restrict access or enhance enforcement of trail protection policies in the Lime Kiln area;
- All trail improvements to the BST need to follow AASHTO guidelines (8-10' trail with 2' clear zones on each side). Backcountry secondary trails should be constructed to IMBA standards.
- Redundant trails should be removed and the landscape restored to natural conditions.

EMIGRATION CANYON TRAILS MASTER PLAN (2007)

Document Purpose: Identify a preferred trail system for Emigration Canyon in order to provide good connectivity with the regional trail system.

Relevant goals: Providing good trail connections within the canyon and at least one regional trail link, avoiding conflicts with private land whenever possible, and locating alignments on public land wherever possible.

Key Recommendations related to this study:

- Mouth of Canyon Trailhead located on the north edge of Emigration Canyon Rd. This trailhead already exists, however the plan called for a facility containing "modern bathroom facilities, drinking fountains and picnic facilities."
- New mid-slope trail located on the north side of the canyon (North Slope Regional Trail) with connections to the Bonneville Shoreline Trail and continuing northwest to Lookout Peak.

EXISTING CONDITIONS

REVIEW OF EXISTING STUDIES (CONT.)

UNIVERSITY OF UTAH CAMPUS MASTER PLAN (2008)

Document Purpose: Guide the University of Utah's campus development in a way that fosters the University's goals of serving as a place for the dissemination of knowledge, technology, arts and community engagement. The plan has a 20-year reach and embodies strategic business, educational and service initiatives.

Relevant goals: Enhance routes to better support bicycling on campus, as well as walking, and recreation.

Key Recommendations related to this study:

- Proposed connection to Foothills Trails on East Campus next to the Huntsman Cancer Institute.
- Two buildings are proposed along N Campus Dr (Huntsman Cancer Institute Phase III and Medical Research Lab), as well as an additional access path between these buildings.
- Medical Dr. E is proposed to be improved to include a safe walking environment.
- Current and predicted university shuttle routes accessing Medical Dr.

UNIVERSITY OF UTAH BICYCLE MASTER PLAN (2011)

Document Purpose: Provide recommendations for the establishment of a safe, sustainable and integrated bicycling and walking network within the University of Utah campus.

Relevant goals: Encourage campus residents and users to travel by bike more frequently, and accommodate bikes on university shuttles.

Key Recommendations related to this study:

- Shared Lane on Medical Dr and Wakara Way that can be used to connect to the foothills trails.
- Bonneville Shoreline Trail (BST) Signage: Coordinate with SLC to install wayfinding signage on the south side of Dry Creek to encourage people to use the JCC access road to access the trail rather than the dirt road that drops straight onto North Campus; boulders may be desirable on the dirt road south of the 180-degree bend to keep bicyclists from using it.
- Trailheads proposed located behind Huntsman Cancer Hospital, at the Parking lot SE of Huntsman Cancer Hospital, and at the Parking lot NW of Red Butte Canyon Rd (Recommendation from the Heritage Preserve Management Plan).

Photo Credit: University of Utah Campus Master Plan (2008). Vision for the Interdisciplinary corridor connecting the Health Sciences Center to the College of Engineering and Science.

PLAN SALT LAKE (2014)

Document Purpose: Citywide vision for Salt Lake City that aims to guide sustainable growth and development until 2040.

Relevant goals: Neighborhoods that provide a safe environment, opportunity for social interaction, and services needed for the wellbeing of the community therein, and protecting the natural environment while providing access and opportunities to recreate and enjoy nature.

Key Recommendations related to this study:

- Provide access to opportunities for a healthy lifestyle (including parks, trails, recreation).
- Provide accessible parks and recreation spaces within 1/2 mile of all residents.
- Protect and enhance existing parks, recreational facilities, and trails allowing for modifications to enhance usability and promote activity.
- Enhance trail and open space connectivity through improved visual and physical connections.
- Create opportunities to connect with nature in urban areas.

EAST BENCH MASTER PLAN (2017)

Document Purpose: Chart a course for future growth of the East Bench Community by providing policy direction and a framework to measure future achievements. This community plan works by following the citywide "Plan Salt Lake" study guidelines that provide recommendations for Salt Lake City's growth for the next 25 years.

Relevant goals: Providing choices to connect people to places, and protecting the natural environment while providing access and opportunities to recreate and enjoy nature.

Key Recommendations related to this study:

- Future development near the foothills should integrate pedestrian and bicycle connections to the foothill trail system. The City and the regional facilities should develop a partnership for the purpose of implementing the Salt Lake City Open Space Plan related to the Red Butte Creek Corridor.
- Better access to cultural facilities such as the Hogle Zoo, This is the Place State Heritage Park, the Natural History Museum, and Red Butte Gardens to the Bonneville Shoreline Trail.
- Incorporate the Bonneville Shoreline Trail into the Cultural District. Cultural facilities could utilize the nearby trails, or the BST, as part of their learning and other programs.
- Provide Off-leash dog areas within walkable distance of the community.
- Preserve and expand Foothill trails and trailheads. The city and county should work with the owners of the property located outside of the city boundary to establish trail easements to the public Forest Service lands. The foothill trail system should be designed to reduce user conflicts and enhance the user experience.

EXISTING CONDITIONS

REVIEW OF EXISTING STUDIES (CONT.)

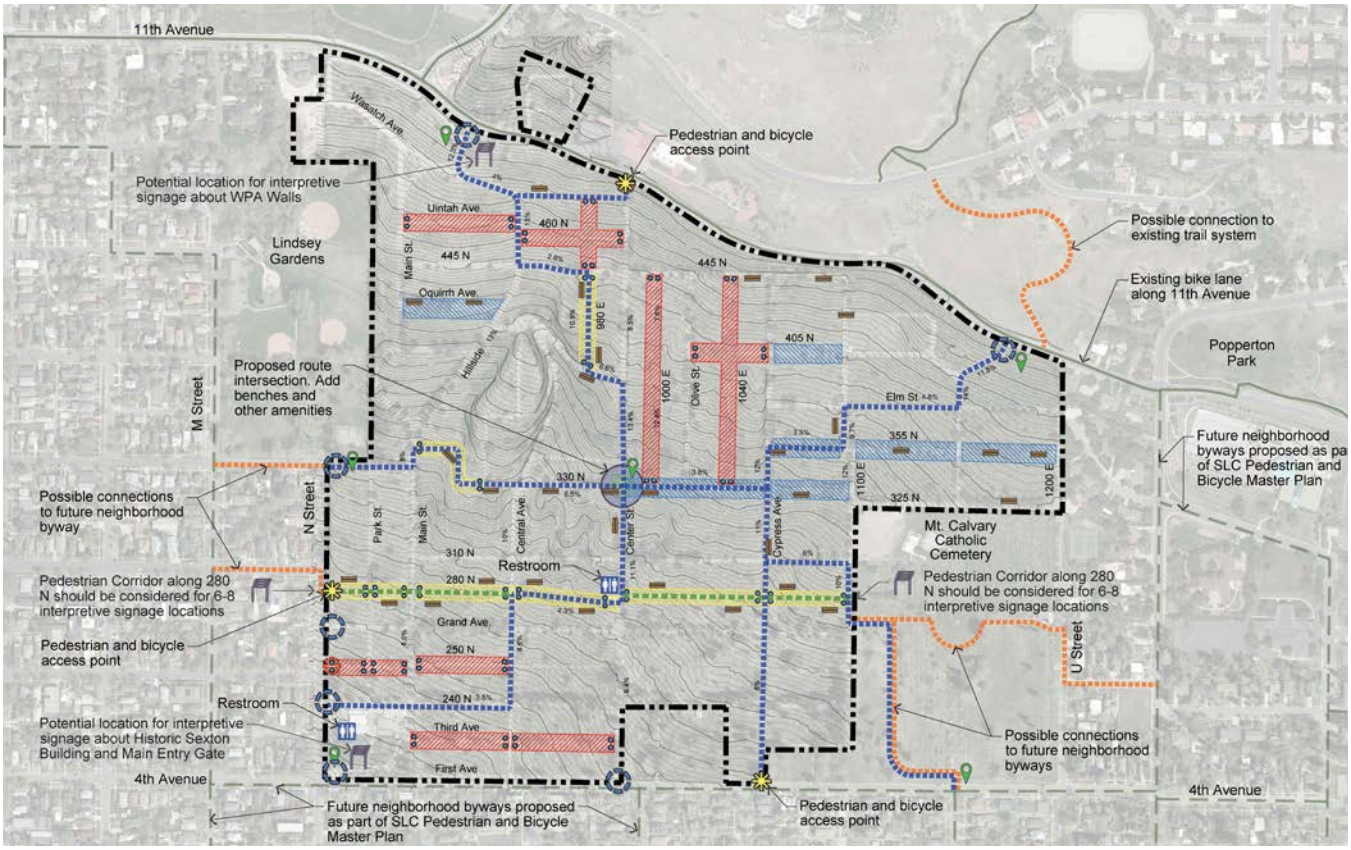
SLC CEMETERY MASTER PLAN (2017)

Document Purpose: Combine community feedback with national best practices to enhance the cemetery's historic, natural, and recreational assets.

Relevant goals: Improve pedestrian and bicycle connections within the cemetery and surrounding areas.

Key Recommendations related to this study:

- Trail connection between 11th Ave and Chandler Dr. This will allow Foothills trail users to access 4th and M Streets via internal cemetery paths.
- Pedestrian and bicycle access points on 4th and 11th avenues, as well as N street (opportunity for wayfinding).



LEGEND

- SLC Cemetery boundary
- Open gate
- Closed gate
- Pedestrian and bicycle access point
- Existing contours (2' contour interval)
- Wayfinding signage location
- Approximate bench locations. Exact placement of benches to be reviewed to maximize views and accommodate existing grades.
- Approximate locations for interpretive signage
- Restrict public vehicular access
- Restrict public vehicular access & enhan with pedestrian amenities
- Restrict public vehicular access & enhan with pedestrian amenities
- Add enhancements within existing right-of-way, maintain public vehicular ac
- Restrict public vehicular access (ex. removable bollards)
- Proposed active transportation (commute bike) route through Cemetery
- Proposed East-West Pedestrian Corridor (along 280 North)
- SLC Existing Pedestrian and Bicycle Path/Route (see SLC Pedestrian and Bicycle Master Plan)
- SLC Proposed Pedestrian and Bicycle Path/Route (see SLC Pedestrian and Bic Master Plan)

NORTH 0 200 400

SECONDARY PLANS REVIEWED

In addition to the previous plans and studies, the Planning Team also reviewed a number of older documents that have some relevance to the current Foothills trail system. These included:

- Avenues Master Plan (1987)
- Beck Street Reclamation Framework and Foothill Area Plan (1999)
- Capitol Hill Master Plan (2001)
- Wasatch Cache Forest Travel Plan (2003)

Key Recommendations related to this study:

- Inventory existing Foothill trails and identify trails to be preserved, desired trails, and maintenance strategies (Avenues Master Plan).
- Specify appropriate trails uses and coordinate with respective landowners to promote a cohesive, official, and protected trail system (Avenues Master Plan).
- Prioritize preservation of public lands, bench lands, and trailhead locations (Beck Street Plan).
- Provide a pedestrian connection between Warm Springs Park and the Foothills (Capitol Hill Master Plan).
- Redevelop the salt storage site on Bonneville Boulevard into a trailhead facility serving the Foothills (Capitol Hill Master Plan).
- Enhance the Radio Tower road for trail use (Capitol Hill Master Plan).

EXISTING CONDITIONS

EXISTING TRAIL SYSTEM

OVERVIEW

The Foothills Natural Area trail system is largely comprised of informal social trails. Users have carved out these trails to the various peaks, canyons and groves present in the area through years of use. Approximately 87 miles of social trails exist within the study area.

The majority of these social trails follow ridgelines or drainage bottoms, and run perpendicular to existing contours. Some trails follow old jeep roads and routes, almost all of which were constructed at grades that are unsustainable and require frequent maintenance.

The largest designated or planned trail in the Foothills Natural Area, the Bonneville Shoreline Trail (BST) was conceived to follow the shoreline of the ancient Lake Bonneville, as well as to represent the encroachment limit from development into the Foothills. About 20 miles of the BST is located within Salt Lake City limits, providing a space for people to bike, hike, run, and recreate.

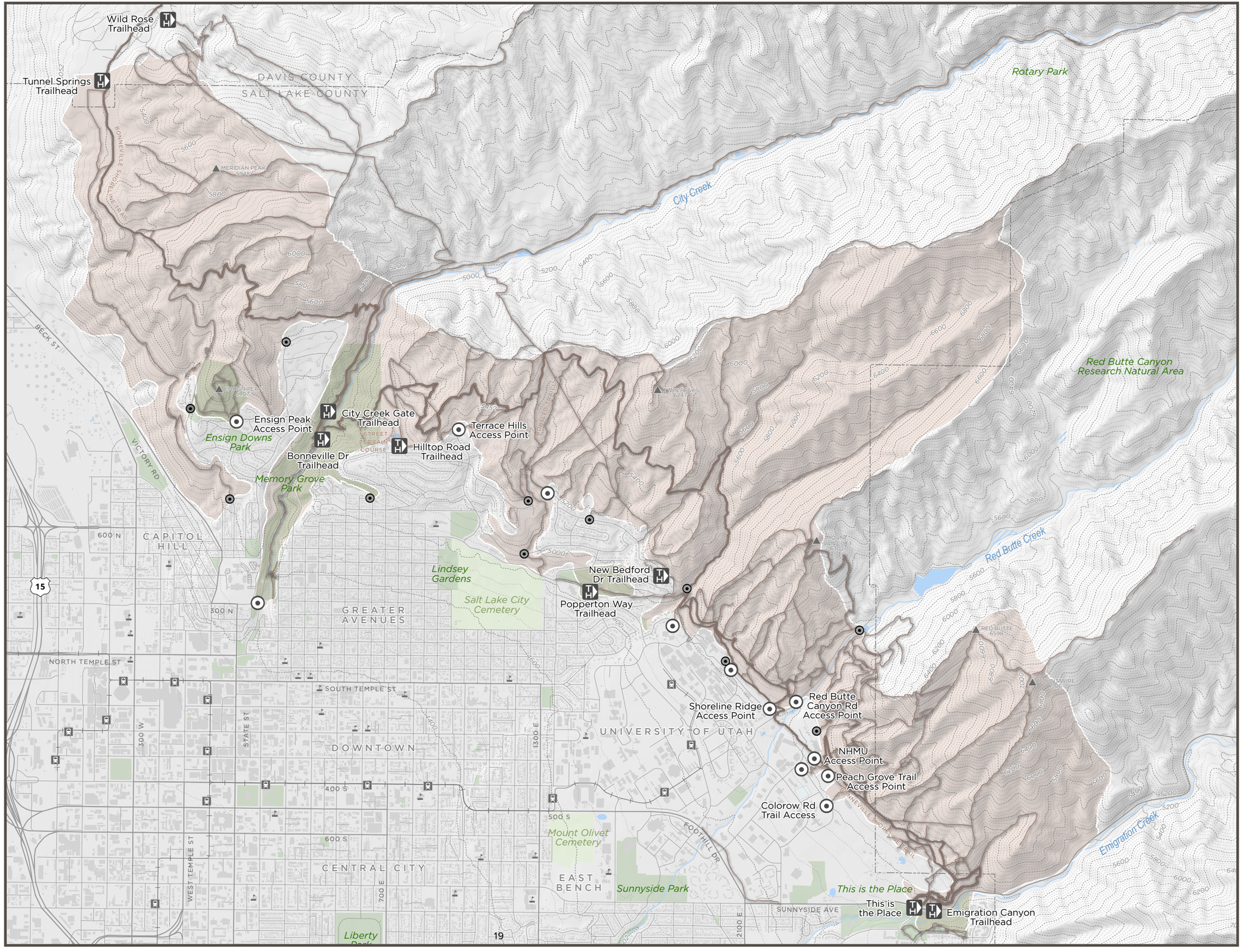
The existing network consists of a regional multi-use "through-trail" that traverses the Foothills Natural Area at mid elevation, and a great number of social trails that accommodate direct access to the BST and area peaks. The relationship between these two trail types is random. As a result, there are few loop trails that cater to any particular user experience, and the BST in places becomes a funnel for more trail users than can be safely accommodated. In these locations, trail conflicts between users are commonplace. Relatively few types of user-experiences are provided by a network that includes many trail miles, and most trails are accessible only to the most physically-fit. Severe erosion becomes commonplace as user-traffic increases on any "fall-line" trail.

Access to the trail system is also problematic. As build-able land near the upper line of development was subdivided and platted in the 1980s and 1990s, public trail easements were retained by the City to preserve public access. However, in most cases, these access easements were not associated with any trailhead infrastructure, and some occur behind gated subdivisions. In the vicinity of Capitol Hill, access to the foothill trail system is primarily funneled through the Ensign Peak trailhead, which occurs on a small residential street with no off-street parking. Impacts to nearby residents at this area are sometimes severe, and the public has few other options for trail system access. Above the Avenues, trail access points are more commonplace, but the majority of these have little or no place to accommodate public parking, and parking and traffic impacts can be quite disruptive. In the vicinity of the University of Utah and This Is The Place Heritage Park, almost all parking near the trail system is designated for other uses, leading to frequent parking conflicts and frustration.

EXISTING CONDITIONS

EXISTING TRAIL SYSTEM

The existing trails system in the Foothills Natural Area consists of about 87 miles of informal social trails and 20 miles of the Bonneville Shoreline Trail.



TRAIL NETWORK

EXISTING

- Bonneville Shoreline Trail
- Other Trails

DESTINATIONS + BOUNDARIES

- Official Trailhead
- Major Access Point
- Secondary Access Point
- Train Stations
- School
- Project Boundary
- Special Use Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

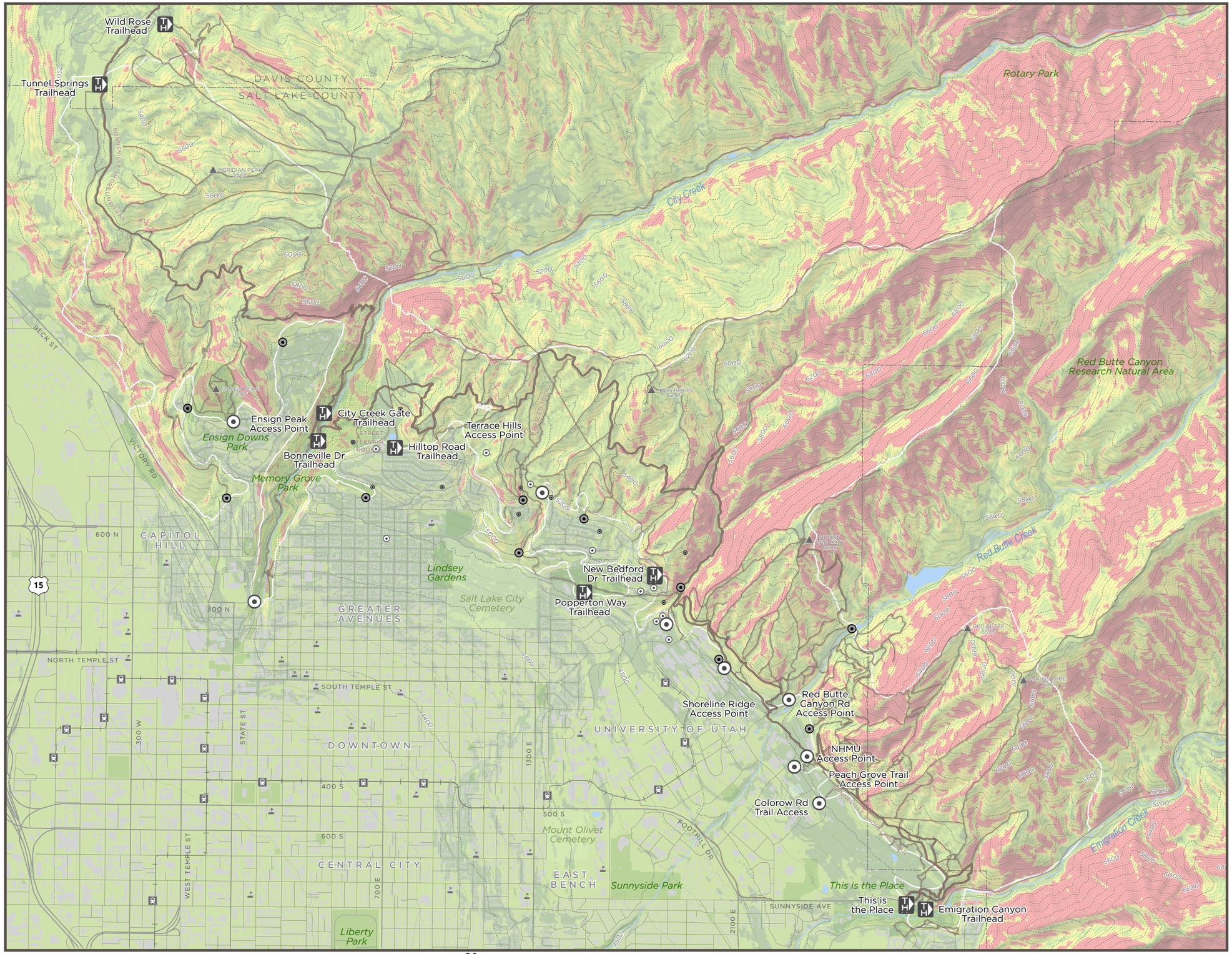
0 0.5 1 MILES

N

EXISTING CONDITIONS

EXISTING TERRAIN

Slope and terrain are critical considerations to developing a sustainable trail system. Steep slopes suffer from increased erosion and level ground is difficult to drain well. The most suitable slopes for trail constructions range from 8 to 20% and require less construction and maintenance efforts over time.



EXISTING CONDITIONS

EXISTING TERRAIN

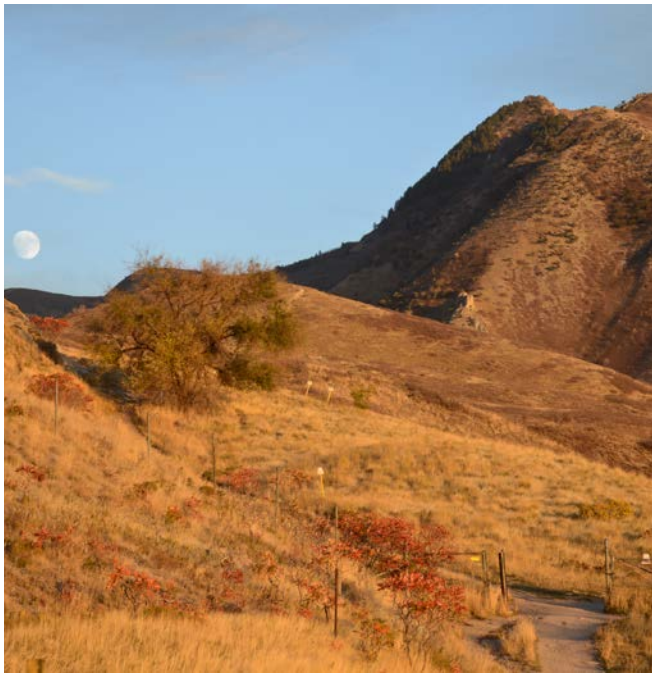
OVERVIEW

Slope and terrain are some of the most important considerations in the layout of a sustainable trail system. Steep slopes are inherently more prone to erosion than gentle slopes. On the other hand, very gentle slopes (0-5%) are difficult to drain adequately and present their own challenges for trail construction and ongoing maintenance.

The map at left has categorized the slopes at the Foothills Natural Area into four categories

- **8 - 20% slopes (most suitable)**
- **0-8% and 20 - 40% slopes (moderate suitability)**
- **40- 55% slopes (moderate-low suitability)**
- **55% + slopes (least suitable)**

Slopes in the central and southern Foothill canyons of City Creek, Dry Creek, Red Butte, and Emigration are relatively steep. However, slopes in the north foothills adjacent to Davis County are more moderate facilitating easier trail construction and more user-friendly trail grades.



Slopes in the Central and Southern Foothills are generally steep.

The North Foothills possess more gradual slopes.

EXISTING CONDITIONS

EXISTING TRAIL PROFILE SLOPES

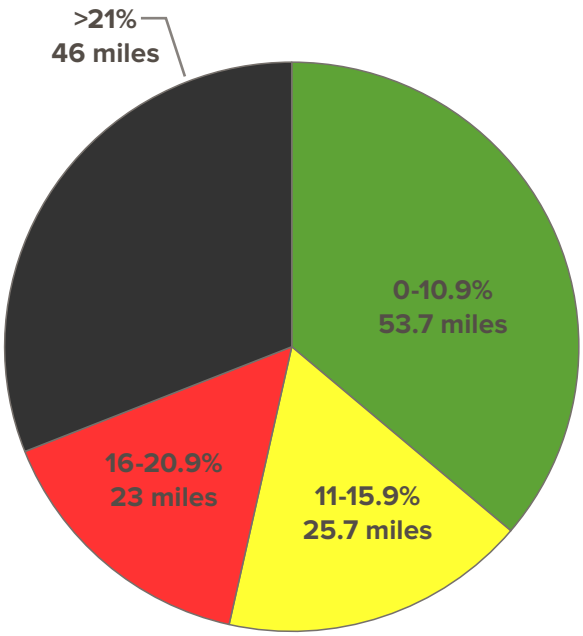
OVERVIEW

The Foothills Natural Area (FNA) contains over a hundred miles of existing trails. Some of these trails have been carefully planned and constructed while others are simply the result of decades of informal, social use. As such, the steepness and subsequent sustainability of trails throughout the Foothills can vary significantly.

As a rule of thumb, sustainable trails should be constructed with an overall grade of 10% or less. Short sections of trail may approach 15-20% based on a variety of factors such as soils, anticipated user types, desired level of difficulty, and site-specific constraints. These should be carefully considered in the implementation of any trail segment.

The analysis at right illustrates existing trail profile slopes throughout the FNA. This analysis reveals segments of trails that are constructed at reasonably sustainable slopes and those that likely should be considered for re-alignment, closure, or abandonment.

As the map on page 23 illustrates, many of the existing ridgeline trails throughout the Foothills greatly exceed sustainable trail grades. The BST, Freedom Trail, and a handful of trails in the north Foothills are some of the few examples of existing trails that are aligned at relatively sustainable or moderates grades.



Trails that follow existing contours are less prone to erosion and are accessible by a wider range of trail users

Fall line trails, such as the one, above are prone to erosion and rutting.

EXISTING CONDITIONS

EXISTING TRAIL SYSTEM PROFILE SLOPES

The existing trails in the Foothills vary widely in steepness and sustainability. Sections with grades of 10% or less are generally considered sustainable. Overall sustainable trails might also contain short sections of 15-20% grade. Trails that are largely over 10% should be considered for re-alignment, closure or abandonment.

TRAIL SEGMENT SLOPE

Bonneville Shoreline Trail

- 0 - 10.9%
- 11 - 15.9%
- 16 - 20.9%
- 21%+

Other Trails

- 0 - 10.9%
- 11 - 15.9%
- 16 - 20.9%
- 21%+

DESTINATIONS + BOUNDARIES

- Official Trailhead
- Major Access Point
- Secondary Access Point
- Train Stations
- School
- Project Boundary
- Special Use Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

0 0.5 1 MILES

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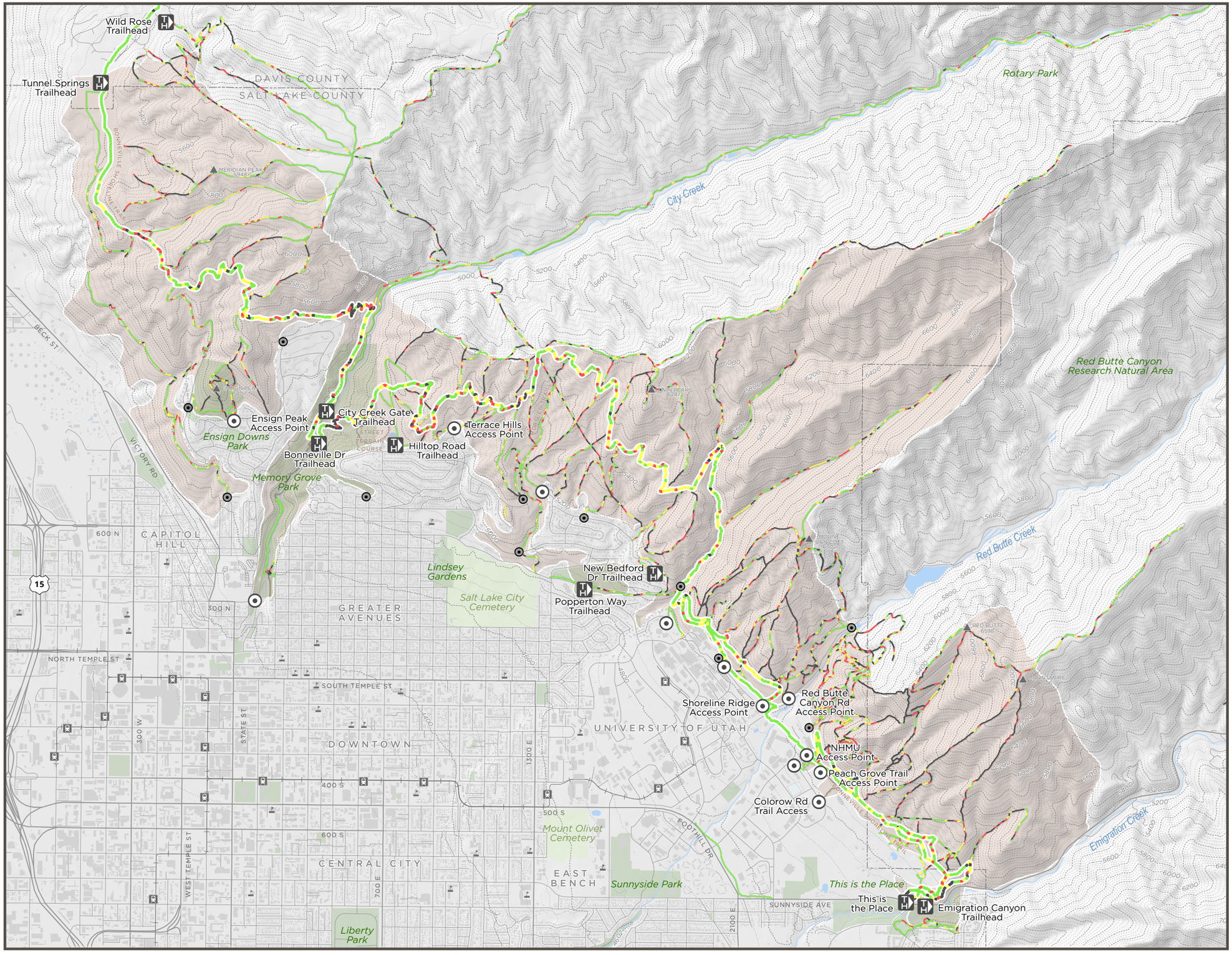

EXISTING CONDITIONS

EXISTING DEMAND

Analysis of manual count and Strava Metro data informed the planning team of the most popular trailheads, trails and on-road routes that connect to the study area. The understanding of existing demand and use is important for planning an attractive trail system.

MANUAL COUNTS

25
50
100
200
300
400

Manual counts are the sum of one 3-hour weekday count and one 3-hour weekend count at key trailheads and access points.

STRAVA METRO COUNTS

2016 YEAR TOTAL*

0-900
900-3000
3000-8000
8000-16000
16000-25000

Strava counts likely represent a fraction of the overall number of Foothill Trail users.

* Intervals determined using Jenks Natural Breaks Optimization

TRAIL NETWORK

EXISTING

Bonneville Shoreline Trail
Other Trails

DESTINATIONS + BOUNDARIES

Official Trailhead
Major Access Point
Secondary Access Point
Train Stations
School
Project Boundary
Special Use Area
Cemetery
Parks
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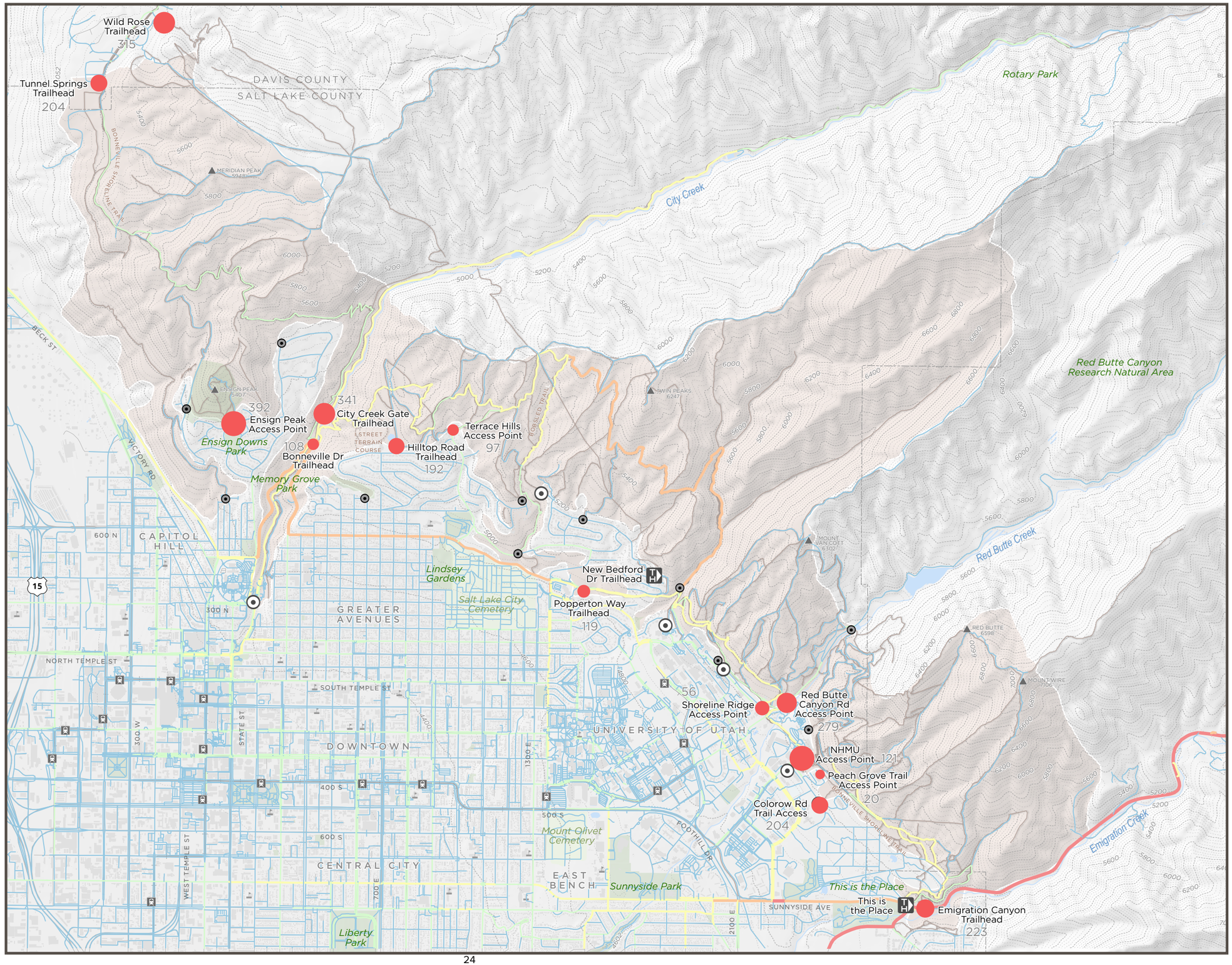


EXISTING CONDITIONS

EXISTING DEMAND

OVERVIEW

Understanding existing demand and use of the Foothills trails system is important for both decisions in the present and planning for the future. As a part of this plan, a manual counts at key trailheads were conducted to gather data on existing demand and use. Use counts from a common fitness tracking application, Strava, were also analyzed to better understand existing demand and use. Although not without limitations, these counts agree with casual observations of heavy use.

Foothill Trails Plan Survey and Manual Counts

Manual trail user counts were conducted alongside the Foothill Trails Plan Intercept Survey. Three hour counts were taken at key trailheads and access points during both weekdays and weekends. Each count was subdivided into 15 minute increments, and included user type, perceived gender, presence of on-leash or off-leash dogs, as well as number of cars at the trailhead.

Ensign Peak, City Creek and Wild Rose trailheads saw the most users during the count period. Identifying high-usage trailheads and access points helped the planning team to focus and deepen their understanding on popular trails, amenities and user types.

Automated Trail Counts

Automated Infrared Trail Counters were installed at various trailhead locations, and provided hour-by-hour user counts 24 hours a day. These counts did not differentiate different user types (hikers vs mountain bikers) but provide good information about peak use times and total daily use at various access points.

Strava Metro Counts

Strava is an application designed and marketed primarily toward recreational bicycle users. It reports trip route, length, speed, elevation gain, and provides various methods of display and comparison with previous trips and trips by other users of the application. The Strava user base is biased toward middle-aged males, and although it is also used by runners and mountain bikers, it is primarily used by road cyclists. This is reflected in the existing demands map, showing very heavy use of the Emigration Canyon.

With these limitations in mind, and understanding that Strava data represents only a fraction of the user population, the use of Strava data provides an opportunity to reduce the time, expense, and effort required to understand bicycle trip use in the study area.

Overall, the BST shows moderate to high-usage throughout the study area, specially leading to the Bobsled Trail, a popular mountain biking route. Analysis of popular on-road routes connecting to the Foothills also provide good insight on trail access and usage. An example is 11th Street in the Avenues. Through this street, riders are able to connect from the bottom of the Bobsled Trail to adjacent trailheads, such as Popperton Way and New Bedford Dr, as well as west to Bonneville Dr.

Projected Demand

With Salt Lake City's growing population and an expressed public interest in trails and trail-related recreation, user demand in the Foothills is steadily climbing, and could see dramatic growth in users from both Salt Lake City and the region. Currently, lack of trailhead facilities and crowded trails are the limiting factors in attracting broader public use. With improvements to parking areas, better connectivity to transit and the active transportation network, and more trail opportunities and mileage; the Foothills Natural Area could accommodate significant growth in recreational pressure while maintaining desirable trail experiences and limiting environmental degradation.

EXISTING CONDITIONS

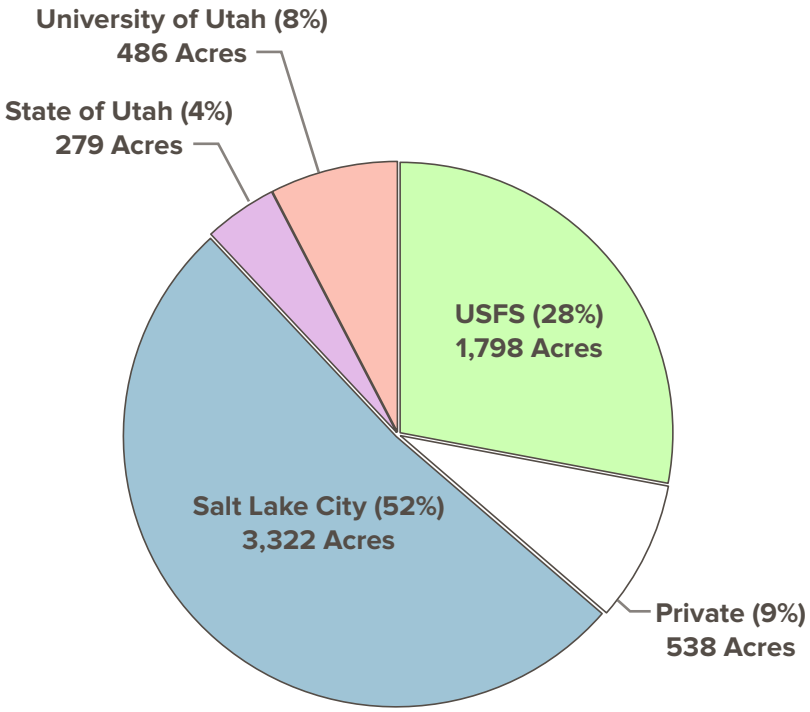
PROPERTY OWNERSHIP

OVERVIEW

Although trail users generally experience the Foothills as a singular open space system, the underlying ownership is comprised of many different entities including:

- Salt Lake City Corporation
- The US Forest Service
- The State of Utah
- The University of Utah
- Private lands with public trail easements

Although the intent of this planning process is to have the trail system function consistently regardless of underlying ownership, landowners ultimately hold the final decision-making power in deciding if and where trails should be routed and what types of impacts are acceptable. The following section gives an overview of each landowner and any unique management or implementation issues that may exist on their property.



Note: 493 acres (57 acre Bonneville Shoreline Preserve + 436 acre University Heritage Preserve) in the FNA are held under conservation easement by Utah Open Lands and Salt Lake County. Utah Open Lands & Salt Lake County jointly hold conservation easements on the Bonneville Shoreline Preserve.)

Salt Lake City Corporation

Acreage: 3,322 acres

Salt Lake City owns over 3,300 acres with the Foothills Natural Area. Much of this land has been purchased with water quality protection in mind and managed with non-motorized recreation as an acceptable secondary use. Trails proposed within Salt Lake City property are relatively simple to develop as no external coordination is required unless other easements (such as utilities) exist. Watershed protection requirements around City Creek and Red Butte Canyons are paramount and require limited trail development in these areas. Vegetation disruption by invasive weeds and associated soil erosion could have catastrophic consequences for Salt Lake City's drinking water supply, or protection of key habitat in the Red Butte Natural Area. Due to the unavoidable distribution of invasive species along recreational trail corridors, expanded recreation into protected areas and buffer lands should be prevented or extremely limited.

The US Forest Service

Acreage: 1,798 acres

The US Forest Service owns many parcels within the Foothills Natural Area. Many of these properties abut the urban interface or are isolated out parcels. As such, the US Forest Service will need to work with Salt Lake City Parks and Public Lands to facilitate trail access within the Foothills Natural Area where appropriate and feasible. Implementation of trails on USFS land would require that proposed trails receive a categorical exclusion, or that a National Environmental Policy Act (NEPA) analysis be performed for the proposed trail segment(s), and the trail be approved. Additionally, the US Forest Service and other Federal land managers have (at the time of this study) ruled that e-bikes are "motorized vehicles". As such e-bikes are officially prohibited in areas that are closed to motorized vehicles.

The State of Utah

Acreage: 279 acres

The State of Utah owns This is the Place Heritage Park as a State Park. The park is managed by a non-profit foundation created by the Utah Legislature in 1998, with additional oversight by the Board of Trustees. This Is The Place is a unique state park that is operated to provide visitors with a firsthand experience with the history and settling of the West. Entrance to the park is by paid admission, and the park offers myriad diverse activities for visitors, including historical tours, horseback trail rides, handcart demonstrations, and festivals. Free access across the park is allowed for Bonneville Shoreline Trail users, but conflicts between trail users and regular park visitors are becoming increasingly commonplace. Coordination will be required to ensure that new or realigned trails and trailhead facilities do not impact the This is the Place Heritage Park operations or visitor experience, and that the right of trail users to access the BST above This is The Place is protected.

The University of Utah

Acreage: 486 acres

The University of Utah owns much of the land adjacent to the University Medical Center, Research Park, and the Natural History Museum. The University is willing to consider public use of existing and future foothill trails for recreational purposes so long as:

- The use is consistent with and does not impede or interfere with the current or future operations of the University
- The use in consistent with the University's mission and its property management plans
- The use does not pose unreasonable legal risk to the University or violate the provisions of any applicable agreements.
- The use does not create a financial burden on the University that would be at odds with the University's legally-defined financial requirements.

Additionally, the University maintains the right to relocate or close trails as deemed necessary by the University in its discretion.

Private lands

Acreage: 538 acres

Some lands in the Foothills Natural Area are privately owned, but subject to public trail easements and/or open space protection easements dedicated to Salt Lake City. The majority of these properties are above the Avenues Neighborhood, in the vicinity of the Federal Heights Subdivision. Currently, the easements on these lands provide important benefits for recreation, wildlife habitat, and scenery. Realignment or expansion of existing easements will require coordination and collaboration with willing landowners.

EXISTING CONDITIONS

PROPERTY OWNERSHIP

Land ownership in the Foothills Natural Area is made up of a variety of Federal, state, Salt Lake City, and private lands.

Note: Inclusion of USFS, State, University of Utah, and private lands in the FNA planning area is for trail planning purposes only. Inclusion does not confer any special protection or designation, or require any action by the landowner."

OWNERSHIP TYPE

- Private - Easements may exist
- University of Utah
- City
- County
- State
- USFS
- Conservation Easements

TRAIL NETWORK

EXISTING

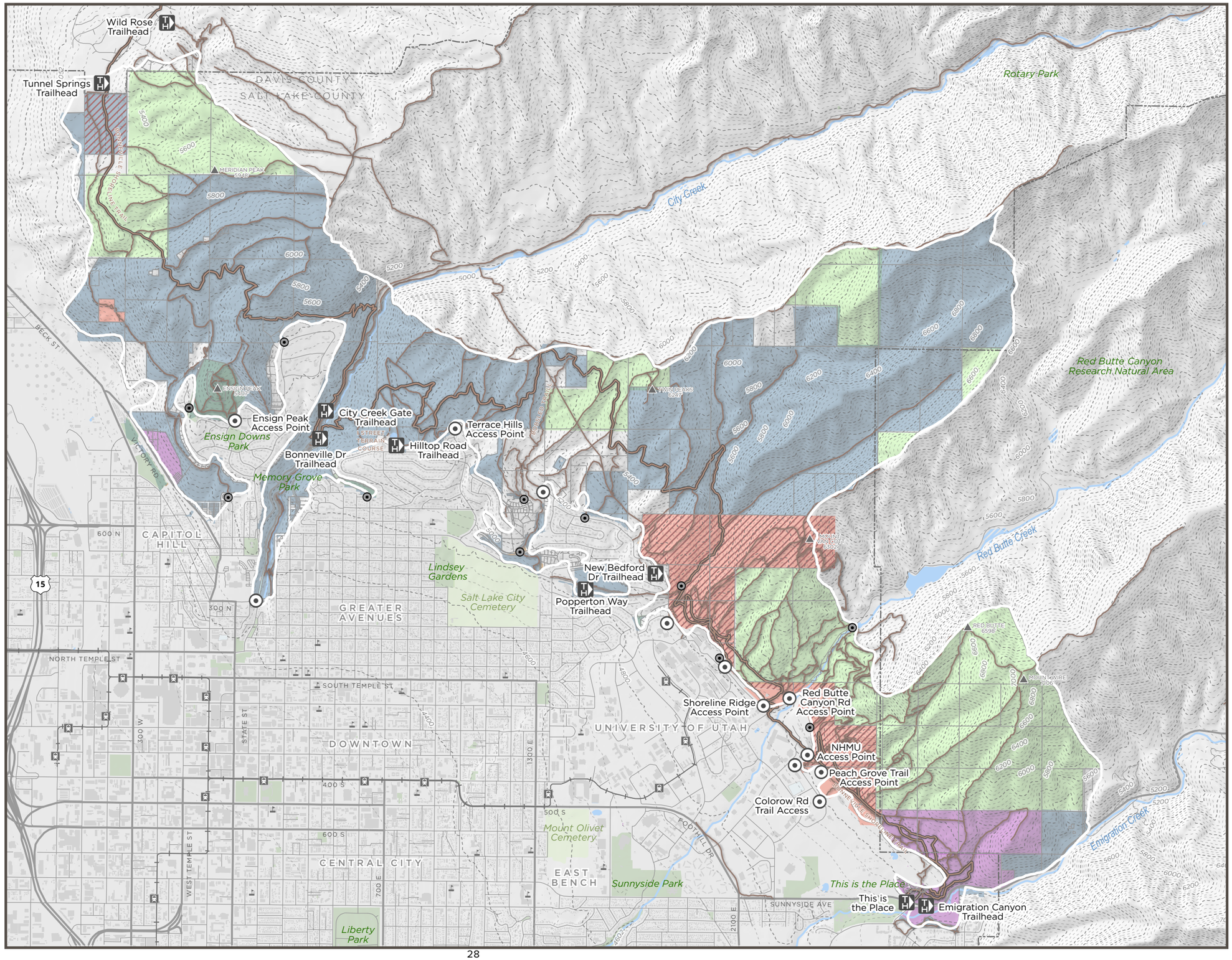
- Bonneville Shoreline Trail
- Other Trails

DESTINATIONS + BOUNDARIES

- Official Trailhead
- Major Access Point
- Secondary Access Point
- Train Stations
- School
- Project Boundary
- Special Use Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

0 0.5 1 MILES

N



EXISTING CONDITIONS

POSITIVE & NEGATIVE CONTROL POINTS

CONTROL POINTS

Identifying control points is an important step in planning a recreational trail system. Positive control points reflect places that should be connected to the proposed trail system. These could be scenic views, existing stream crossing infrastructure (culverts or bridges), unique landscapes, or other interesting features. Negative control points are features that the proposed trail system should avoid. These could be sensitive natural or cultural resources, areas that pose safety or security hazards, or areas where trespassing could occur.

Historic quarry structure

Natural Warm Springs South of Beck St

Existing Beck Street gravel pit

Wildflower meadow overlooking Salt Lake City

Steep and Eroded Slope near Ensign Peak

EXISTING CONDITIONS

POSITIVE & NEGATIVE CONTROL POINTS

Positive control points are places which should be connected to the trail system, such as scenic views or existing bridges. Negative control points are places to be avoided, such as areas with safety hazards or locations where trespassing may occur.

CONTROL POINTS

Positive

Positive control points are places where resource managers want users to visit, including scenic overlooks, historic sites, waterfalls, rock outcroppings, lakes, rivers, and other natural features or points of interest

Negative

Negative control points are places resource managers want users to avoid (such as low-lying wet areas, flat ground, extremely steep cross slopes or cliffs, unstable soils, environmentally sensitive areas, sensitive archaeological sites, safety hazards, and private property).

TRAIL NETWORK

EXISTING

- Bonneville Shoreline Trail
- Other Trails

DESTINATIONS + BOUNDARIES

- Official Trailhead
- Major Access Point
- Secondary Access Point
- Train Stations
- School
- Project Boundary
- Special Use Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

0 0.5 1 MILES

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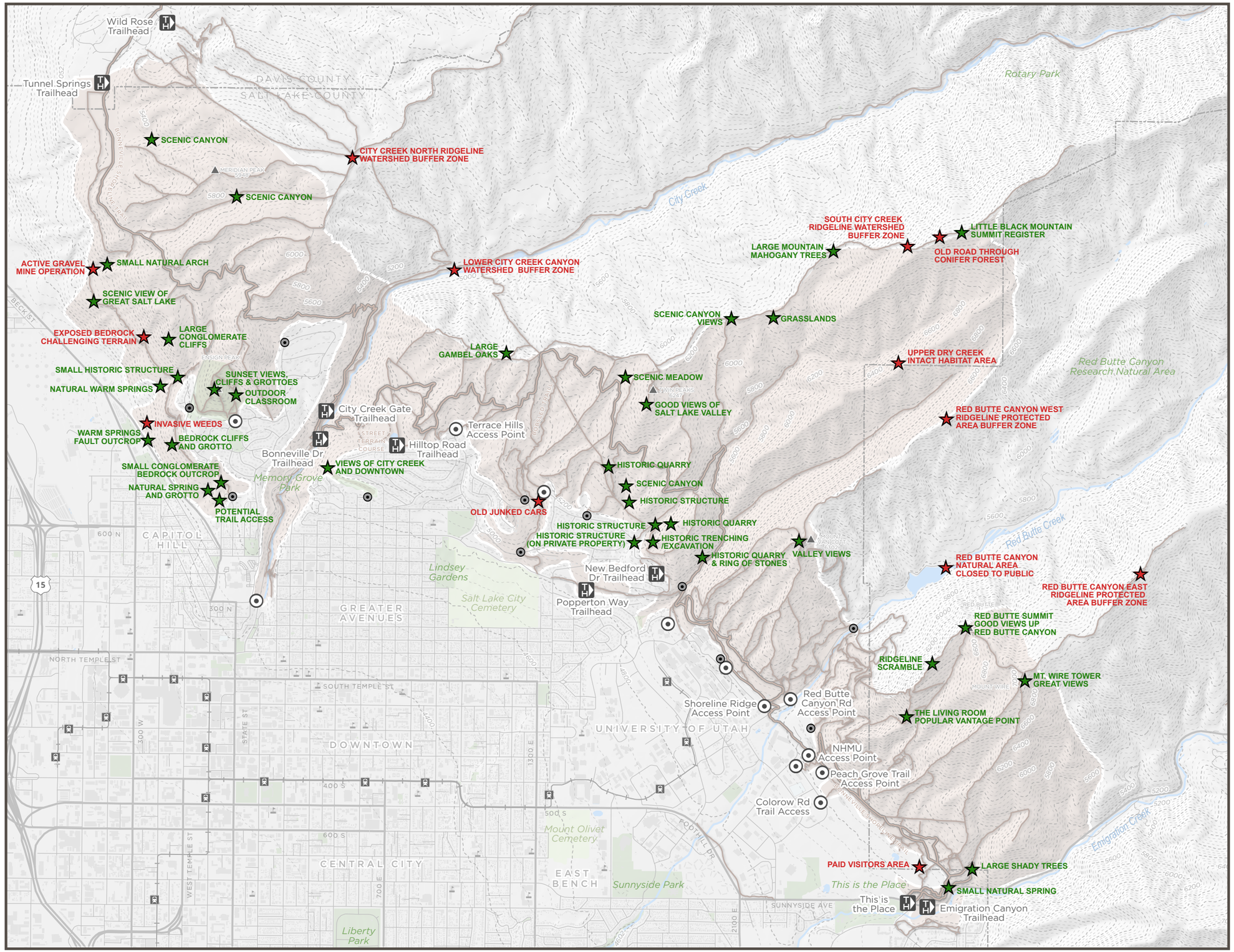

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CAMPER

03

PUBLIC INPUT

Photo Credit: Bingham

April 2018 public meeting for the Foothills Trail System Plan at the Natural History Museum of Utah

PUBLIC INPUT

OVERVIEW

Efforts to understand public needs and desires for the Foothills Trail System have effectively been underway since the Summer of 2016. Between 2016 and 2018, Salt Lake City Parks and Public Lands and the Planning Team conducted a variety of outreach strategies including surveys, interviews, workshops, online outreach, and traditional public meetings. This robust and diverse outreach approach has resulted in well-vetted plan that possesses broad public support among landowners, stakeholders, and trail users. While not every potential trail user engaged in the planning process, and not every stakeholder will agree with each recommendation, the plan has been based on a thorough understanding of public interests for the FNA, the Foothills Trail System, and surrounding neighborhoods... and the balance of these interests with the five fundamental plan goals."

PUBLIC INPUT

TIMELINE

Deep Dive workshop

April 2018 public meeting at the Natural History Museum

April 2018 public meeting at the Sweet Library Branch

Primary public input opportunity

Salt Lake City Parks and Public Lands conducted interviews with key stakeholders. A full list of stakeholder participants is included in Appendix C.

15 interviews

Salt Lake City Parks and Public Lands conducted trail user counts and intercept surveys throughout the Foothills Natural Area to estimate trail use and further explore trail user preferences.

50 intercept surveys

From June 2016 to June 2017, Salt Lake City Parks and Public Lands administered the Foothills Open Space Online Survey. The survey assessed frequency of use, user preferences, maintenance and management concerns and support for future improvements (See Appendix E)

1400+ Responses

2017

FEB MAR APR MAY JUN JUL AUG SEP OCT

Salt Lake City Parks and Public Lands conducted a statistically valid survey to assess needs within the Salt Lake City parks and open space system including the Foothills Natural Area.

768 Responses

Salt Lake City Parks and Public Lands kicks off the Foothill Trails Plan

The Planning Team conducted a week-long "Deep Dive" workshop with landowners, stakeholders, and trail advocates to develop preliminary trail system recommendations.

55 participants representing 37 stakeholders or entities

PUBLIC OUTREACH BY THE NUMBERS

15 stakeholder interviews

758 survey responses

50 intercept surveys

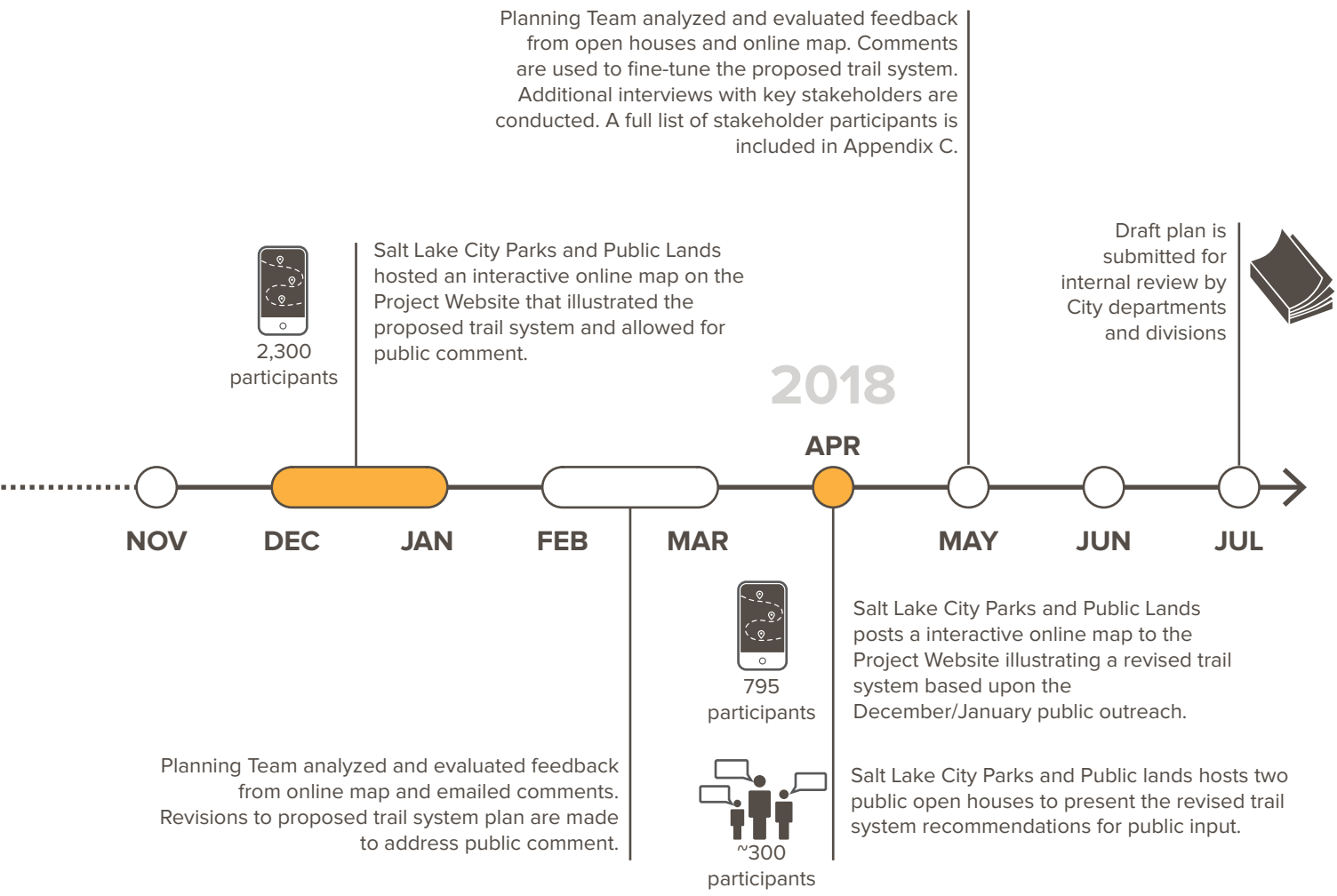
7 council / committee presentations

2 public meetings

3,130 online map participants

Note: A full list of stakeholder participants is included in Appendix C.

Input / prioritization commenting station at the April 2018 public meeting



PUBLIC INPUT

OUTREACH ACTIVITIES

FOOTHILLS OPEN SPACE ONLINE SURVEY

Dates: June 2016 - April 2017

Participants: 1466

Outreach Description:

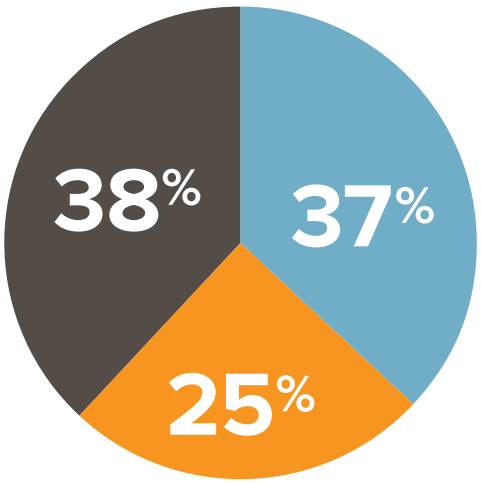
Salt Lake City Parks & Public Lands advertised a 21-question survey via email lists, social media and other events in order to acquire answers from a diverse group of people that live and recreate in the Foothills area. The survey polled participants on how they used the Foothills trail system (hike, bike, dog-walking, etc...), how often they visited the Foothills Open Space, what their priorities are for the future of the open space, and their willingness to support trail and open space improvements through tax increases. The survey identified the following top priorities for improvements within the Foothills Open Space:

1. Sustainable trail construction
2. Protecting natural open space
3. More trail mileage
4. Posted rules / etiquette
5. Enforcing trail rules and regulations
6. Separation of user groups
7. Better information on trails
8. Security at trailheads
9. More or improved trailhead parking
10. Wayfinding signs and maps

Trail Type & Trail Density

38% of respondents stated,

"THE MORE TRAILS, THE BETTER, ESPECIALLY FOR TRAILS DESIGNED FOR SPECIFIC USER GROUPS."



37% of respondents stated,

"THE MORE TRAILS, THE BETTER, ESPECIALLY FOR TRAILS DESIGNED FOR ALL USER GROUPS."

25% thought there are enough trails or too many trails.

SALT LAKE CITY PARKS AND PUBLIC LANDS NEEDS ASSESSMENT

Dates: July 2017

Participants: 768

Outreach Description:

For this survey, 768 Salt Lake City residents completed online surveys. Survey invitations were sent to randomly selected mailing addresses in Salt Lake City and residents were given instructions to complete the survey online (in both English and in Spanish). The data was weighted to reflect the demographics of Salt Lake City residents according to US Census data from the American Community Survey, specifically in regards to age, gender, home ownership, and ethnicity. Although the survey was focused on the entire Salt Lake City Parks & Public lands system, some key conclusions were able to be derived regarding the Foothills open space.

2nd

MOST VISITED PARK/OPEN SPACE

in Salt Lake City

MOST VISITED

TRAIL SYSTEM

USER COUNTS & INTERCEPT SURVEYS

Dates: September 2017

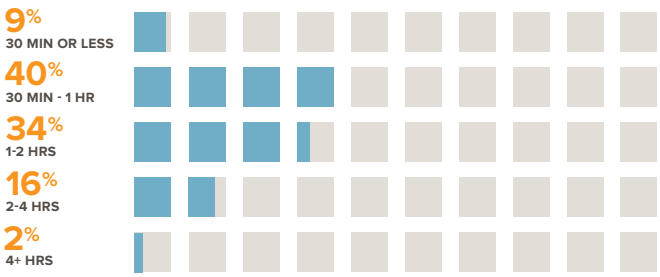
Participants: 50

Outreach Description:

To fill gaps in understanding from the Foothills Natural Area survey and the Salt Lake City Parks and Public Lands assessment, the Planning Team conducted counts and user intercept surveys at key locations throughout the FNA. Counts and surveys were facilitated by Salt Lake City Parks & Public Lands and the University of Utah Urban Rangers program. This effort helped to identify why users are visiting the FNA trail system and on average, how long they are staying.

Primary Reason for Visiting

How much time does the average user spend in the Foothills?



PUBLIC INPUT

OUTREACH ACTIVITIES

STAKEHOLDER INTERVIEWS

Dates: September 2017

Participating Entities :

- Trails Utah
- Singletrack Trails
- State Historical Preservation Office
- Capitol Hill Community Council
- Natural History Museum of Utah
- East Bench Community Council
- Red Butte Garden
- Huntsman Cancer Institute
- Salt Lake Valley Trails Society
- University of Utah Active Transportation & Sustainability
- University Trails Committee
- University of Utah Commuter Services
- University of Utah Healthcare
- Mayor's Accessibility & Disability Advisory Council
- Wasatch Mountain Club
- US Forest Service, Uintah-Wasatch-Cache National Forest

Outreach Description:

The Planning Team developed three unique interview templates for land managers, neighboring residents or businesses, and trail users. Salt Lake City Parks & Public Lands and the SLC Public Engagement Team conducted interviews over 2-month time frame leading up to the Deep Dive workshop. These interviews established a solid understanding of stakeholder issues.

DEEP DIVE WORKSHOP

Dates: September 2017

Participants: 53

Outreach Description:

The Planning Team organized and facilitated a week-long "Deep Dive" workshop at the University of Utah Guest house in September, 2017 to explore and develop the preliminary trail masterplan. The agenda included:

Day 1: Preliminary Trail Routing / Stakeholder Interviews

Day 2: Trail Master Plan Refinement

Day 3: Trail / Trailhead Design Guidelines

Day 4: Trail System Refinement with Key Stakeholders

Day 5: Presentation to Stakeholders

Over 53 stakeholders representing 39 agencies or organizations attended throughout the week including the primary landowners within the FNA (This is the Place, University of Utah, Salt Lake City Parks & Public Lands, Salt Lake City Utilities, and the US Forest Service). Trail alignments and narratives were developed collaboratively with field work verifying recommendations. At the conclusion of the Deep Dive, the Planning Team had developed a relatively complete trail system master plan that possessed broad public support from a diverse group of stakeholders. The trail system master plan was further refined and input into an online interactive map for public comment. A full list of deep dive participants is included in Appendix C.

The Planning Team worked closely with stakeholders such as Davis County, Salt Lake City Utilities, and North Salt Lake during the Deep Dive workshop.

ONLINE INTERACTIVE MAP- PHASE I

Dates: December 2017 / January 2018

Participants: 2303

Outreach Description:

Following the Deep Dive, the Planning Team refined the trail system and developed an online mapping tool to illustrate the proposed trail recommendations and facilitate public comment on specific trail alignments, The interactive map was live for almost two months from December 2017 through January 2018. Participation was encouraged by emailed outreach to thousands of names on email lists maintained by Salt Lake City Parks & Public Lands, Planning, and City Council and Community Council online newsletter distribution lists; news articles on KSL, KUER, and the University of Utah's online newspaper and blog; thousands of flyers distributed in public locations around the city; postings at all major foothill trailheads; and newsletters and social media posts by many of the Plan's stakeholder participants.

In addition to the interactive mapping tool, pdf versions of the recommended trail system were also posted to the project website at www.slc.gov/parks/trailsplan.

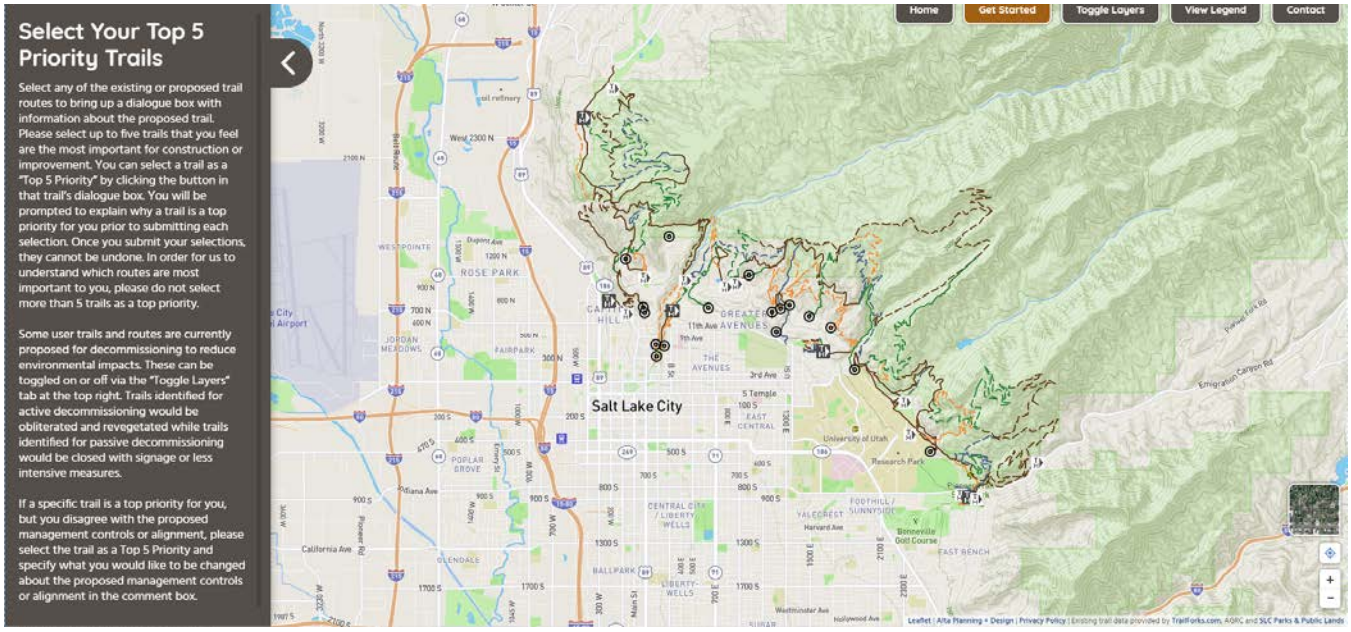
ONLINE INTERACTIVE MAP- PHASE II

Dates: March / April 2017

Participants: 827

Outreach Description:

After the closure of the initial online interactive map in January 2018, the Planning Team reviewed hundreds of comments on the draft trail system recommendations. Modifications were made to the trail network based on public input and a second version of an interactive map was published in May of 2018. Salt Lake City Parks & Public Lands printed 1000 flyers promoting the online map that were posted at popular local destinations such as bike shops and the University of Utah. This interactive map again allowed for public comment on proposed trails, but also allowed participants to identify their "Top 5" trails. This public ranking process informed the prioritization of projects, and ultimately the project phasing.

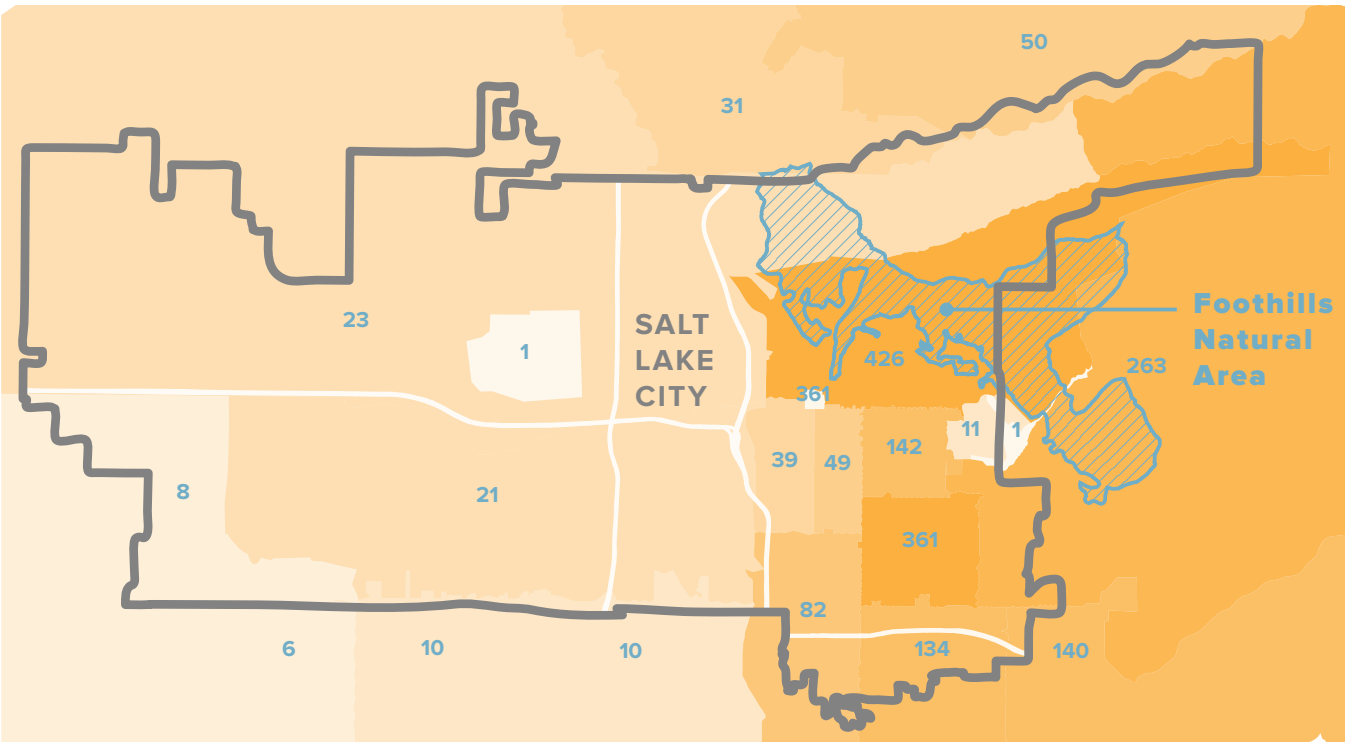


Online Interactive Map- Phase II screen shot.

PUBLIC INPUT

OUTREACH ACTIVITIES

ONLINE INTERACTIVE MAP-RESPONSES BY ZIP CODE



Public participation in both phases of the interactive online maps was strong with 2,303 people commenting during the December/January outreach period and 827 commenting during the April/May outreach period. The map above illustrates the number of online map participants by zip code for both phase I and phase II. Neighborhoods adjacent to the FNA, such as the Avenues and Capitol Hill, are well represented but there was strong participation throughout much of Salt Lake City. Additionally, interest in the project was high outside of Salt Lake City, reinforcing the Foothill's value as a regional recreational destination.

PUBLIC MEETINGS

Dates: March / April 2018

Participants: 273

Outreach Description:

In tandem with the rollout of the Phase II Online Input map, the Planning Team also conducted two in-person public meetings. The meetings were held at the Natural History Museum of Utah and the Sweet Branch Library in the Avenues. Meeting attendees were invited to review maps of the proposed trail system and supporting improvements for trailheads and wayfinding signage. Similar to the online input map, participants were asked to identify their top five priority projects for implementation. This input was compiled with the online responses and tabulated to provide a clear picture of the public's priorities. Public Meetings were advertised via postings and flyers at public locations around the city, email newsletters and list servs, social media posts by project partners, notification to Community Councils, and 10,000 direct mailings to all postal service routes that bordered the Foothills Natural Area between Emigration Canyon and North Salt Lake.

April public meeting at the Sweet Branch Library.

March public meeting at the Natural History Museum of Utah.

04

PROPOSED TRAIL SYSTEM

Urban rangers leading children on a hike along the BST

PROPOSED TRAIL SYSTEM

OVERVIEW

Developing the trail network recommendations was a multi-step process involving ongoing dialogue with the public, Salt Lake City Parks and Public Lands Division and other stakeholders. Network recommendations were informed both by quantitative findings and a qualitative understanding of the Foothills Natural Area.

The project vision of providing a variety of recreational trail experiences for all ages and abilities while managing the Foothills' environmental resources for future generations, and it's goals (environmentally sustainable, enjoyable, accessible, safe, and low-maintenance) were considered throughout the recommendation development process.

The proposed network seeks to:

- Improve regional connectivity;
- Address the needs of current and future users;
- Provide a variety of trail experiences and loop options that serve numerous trail user types;
- Reduce impacts and ensure effective management of the Foothills' environmental resources, and;
- Identify opportunity sites for potential trailheads or trail access locations for safer easier access to the trail network.

PROPOSED TRAIL SYSTEM

PROPOSED TRAIL NETWORK

OVERVIEW

The proposed trail network for the Foothills Natural Area includes an array of uses and experiences while prioritizing user safety and trail sustainability. It combines the rehabilitation of existing routes with the recommendation of new sustainable and enjoyable trails.

When fully constructed the system will be composed of:

- 45.77 miles multi-directional shared use trails
- 25.75 miles of uphill mountain bike/multi-directional hiking trails;
- 16.62 miles of mountain bike-only trails;
- 18.35 miles of hiking-only trails;

Of these miles, 41 already exist in the Foothills Natural Area and will most likely require rehabilitation and maintenance as part of the new system. The remaining 65 miles of trails are new additions to the system, connecting gaps, and creating an environmentally sustainable, enjoyable, accessible, safe and low-maintenance trail system.

HABITAT STUDY AREAS

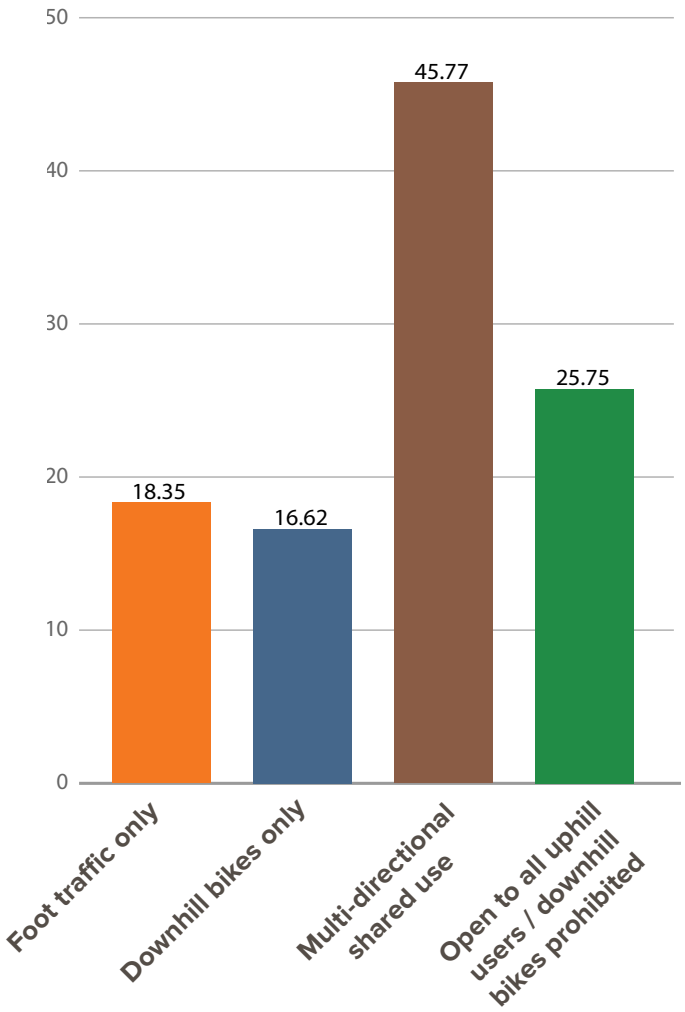
Habitat Study Areas represent areas of the Foothills Natural Area that currently receive relatively low recreational use, and are known to provide habitat for desirable plants and animals. Implementation of recommended trail segments within these Habitat Study Areas has the potential to significantly impact and/or disrupt native species populations, but a full assessment of that potential is outside the scope of this plan. More complete biological impact assessments should be conducted by Salt Lake City for each Habitat Study Area, prior to new trail construction in those locations. The Foothill Trail System Plan should be updated with recommended management strategies, trail segment realignments, and/or elimination of select trail segments within the Habitat Study Areas based on the findings these impact assessments. Impact assessments should be conducted under the supervision of qualified biological scientists, and reviewed by environmental professionals prior to incorporation into the Foothill Trail System Plan.

PROPOSED TRAIL NETWORK BY THE NUMBERS

65 miles of proposed new tails

41 miles of existing trails incorporated into the trail system

106 miles of trails at full build-out



PROPOSED TRAIL SYSTEM

PROPOSED TRAIL NETWORK

The proposed system combines existing and recommended routes to generate an environmentally sustainable, enjoyable, accessible, safe and maintainable trail system.

TRAIL NETWORK

EXISTING

- Multi-directional Shared Use
- Open To All Uphill Users/Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only
- Bonneville Shoreline Trail

PROPOSED

- Multi-directional Shared Use
- Open To All Uphill Users/Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only

DESTINATIONS + BOUNDARIES

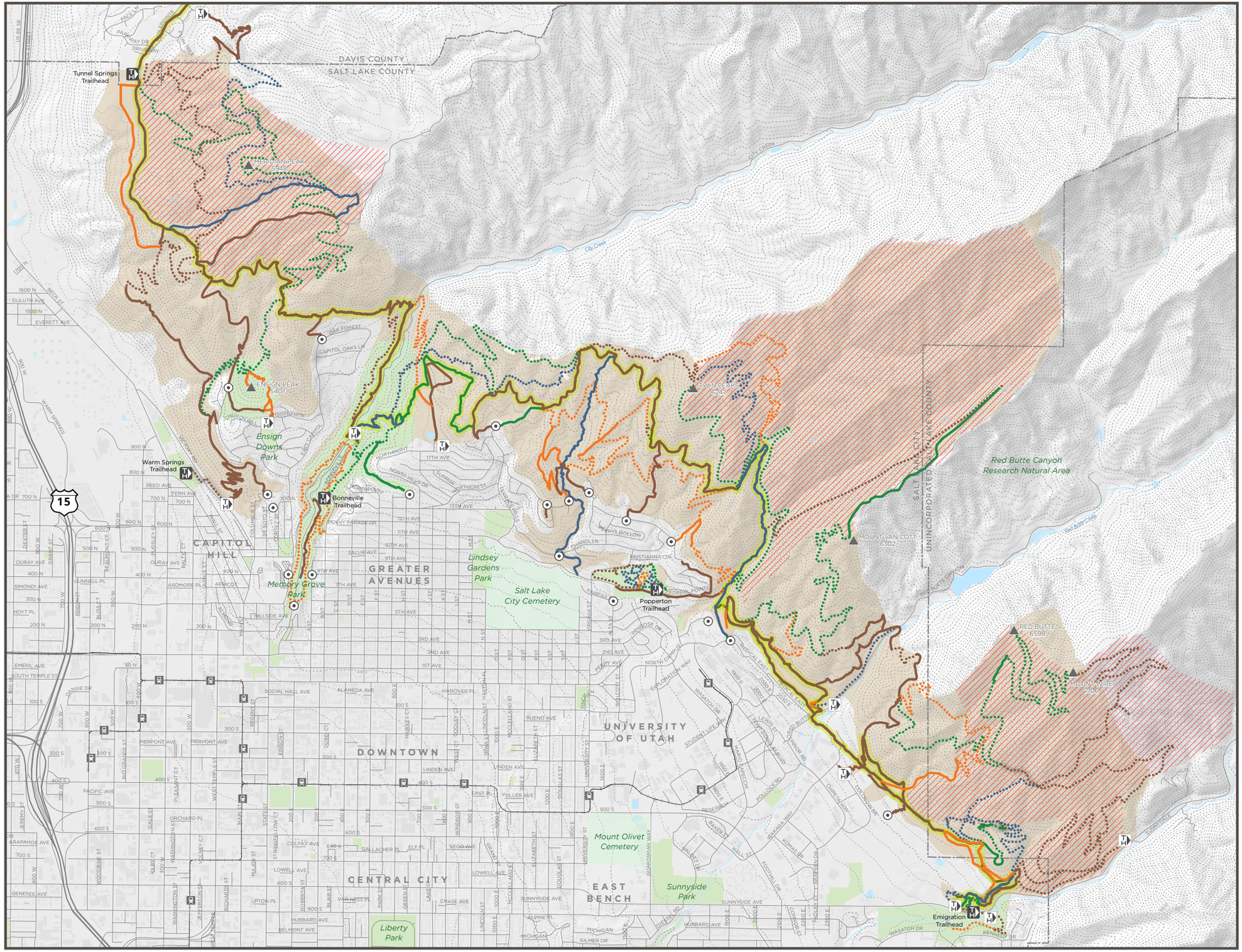
- Major Trailhead
- Minor Trailhead
- Access Point
- TRAX Station
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

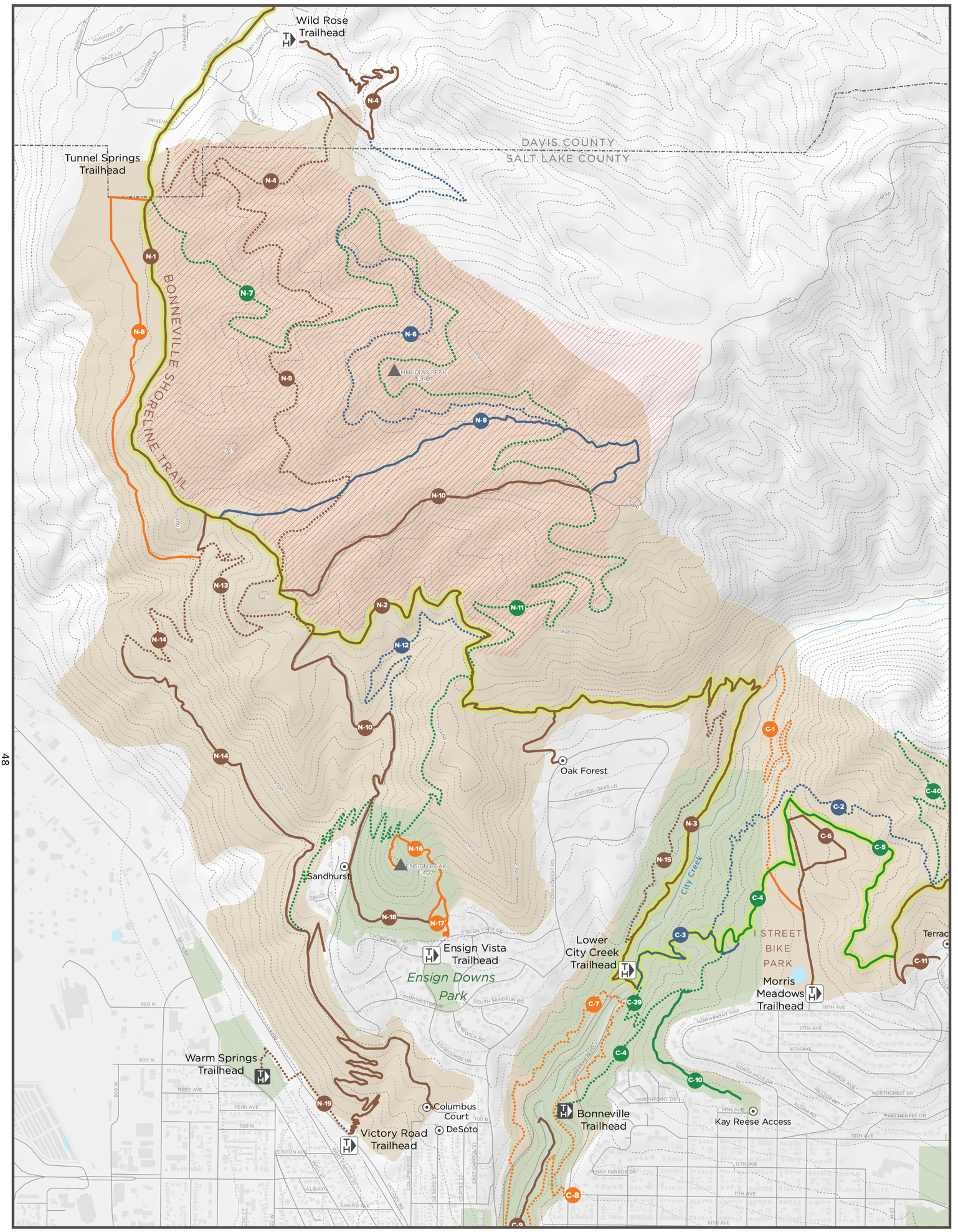
Parks & Public Lands

0 0.5 1 MILES

N

Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018





PROPOSED TRAIL SYSTEM

TRAIL NETWORK
NORTH SUB AREA

The north sub area includes the recommended and existing trails from Davis County to City Creek.

TRAIL NETWORK

EXISTING

- Multi-directional Shared Use
- Open To All Uphill Users/Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only
- Bonneville Shoreline Trail

PROPOSED

- Multi-directional Shared Use
- Open To All Uphill Users/Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only

DESTINATIONS + BOUNDARIES

- Major Trailhead
- Minor Trailhead
- Access Point
- TRAX Station
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

Parks & Public Lands

0 400 800 Feet

N

Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018

NORTH SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
N-1	Terraces Trail	2.11	0	2.11	Multi-directional shared use	This wide trail (a former jeep road) will continue to provide an easy, low-grade route for out-and-back hikes in the Bonneville Shoreline Preserve, and facilitate longer loop trips via connections to the new BST alignment upslope, the Under the Cliffs Trail, Lakeview Trail, Meridian Peak Trail, Towers Trail, and North City Creek Ridgeline Trail. This route also facilitates access to bikes climbing to the Hell Canyon, Jones Canyon, or Prime Meridian downhill trails from Tunnel Springs Trailhead. The trail is wide enough to easily accommodate multi-directional foot traffic and cyclists. A steep, eroding section near the south end of the trail may be considered for future closure and restoration.	40”
N-2	Bonneville Shoreline Trail - Hell Canyon Section	1.21	0	1.21	Multi-directional shared use	This moderately-wide trail across the head of Hell Canyon facilitates foot and bicycle traffic in both directions. In addition to accommodating through-traffic along the BST, this trail segment also provides the north-most connection for loop trips from City Creek or Victory Road Trailheads, and the southernmost connection for loop trips from Tunnel Springs and Wild Rose Trailheads.	40”
N-3	Bonneville Shoreline Trail - City Creek Section	2.08	0	2.08	Multi-directional shared use	This moderately-wide trail provides for multi-use, multi-directional trail traffic between the City Creek gate and the ridgeline north of Ensign Peak. Switchbacks on this trail segment are difficult to navigate by bicycles, and directional traffic or use limitations may be considered in the future after the construction of proposed North City Creek Trail N-15.	40”
N-4	NSL BST	1	0.96	1.96	Multi-directional shared use	This new trail alignment will connect with the planned extension of the multi-use Bonneville Shoreline Trail heading northward into Davis County. This moderately-wide trail will accommodate foot traffic and cyclists in both directions, heading out from or returning to the Tunnel Springs Trailhead. Connections include the new mid-slope alignment of the Bonneville Shoreline Trail between Tunnel Springs and the City Creek microwave towers, the Wild Rose Trailhead, and the bottom of the Prime Meridian downhill MTB trail.	40”
N-5	New BST - North Foothills	0	2.28	2.28	Multi-directional shared use	This trail will provide a new, mid-slope elevation for the Bonneville Shoreline Trail between Hell Canyon and North Salt Lake, effectively maintaining elevation between the existing Hell Canyon segment and the proposed North Salt Lake segment planned for implementation in the near future. This moderately-wide, gently rolling trail will accommodate foot traffic and cyclists in both directions, provide scenic views of the Great Salt Lake, and take trail users on short, interesting jogs into the many small canyons that cut westward down through the North Foothills, including Jones Canyon and Lime Canyon. The intersection with the Jones Canyon downhill MTB trail will be designed to mitigate conflict with downhill cyclists.	40”
N-6	Prime Meridian Trail	0	2.35	2.35	Downhill Bikes Only	This trail will provide a long, fun cross-country style descent trail from the north City Creek ridgeline down to the Wild Rose Trailhead in North Salt Lake. This narrow, intermediate-level MTB trail will accommodate an enjoyable MTB loop trip from the Wild Rose or Tunnel Springs Trailheads while keeping bicycles off of the (Foot Traffic Only) Meridian Peak Trail. This trail is closed to uphill traffic for user safety and enjoyment. This trail will provide a long, fun cross-country style descent trail from the north City Creek ridgeline down to the Wild Rose Trailhead in North Salt Lake. This narrow, intermediate-level MTB trail will accommodate an enjoyable MTB loop trip from the Wild Rose or Tunnel Springs Trailheads while keeping bicycles off of the (Foot Traffic Only) Meridian Peak Trail. This trail is closed to uphill traffic for user safety and enjoyment.	40”
N-7	Meridian Peak Trail	0	3.47	3.47	Open to All Uphill Users/Downhill bikes prohibited	Well-graded trail intended for foot traffic and uphill bikes only. Provides a route to/from Meridian Peak and the microwave towers above the Bonneville Shoreline Preserve. Expected use either as an out-and-back, or loop trails of varying length when combined with the multi-use Bonneville Shoreline Trail and/or Below The Cliffs Trail. Trail intersections with the downhill MTB Jones Canyon and Prime Meridian Trails will be designed to mitigate conflict with downhill cyclists.	40”
N-8	Under The Cliffs Trail	1.24	0	1.24	Foot Traffic Only	This narrow, existing trail will provide a quiet, scenic option for hikers looking for a relatively flat out-and-back or loop hike while avoiding higher user traffic on the old Bonneville Shoreline Trail through the Bonneville Shoreline Preserve. The downhill side of this trail should be well-marked with signage to prevent unauthorized access into the active Beck Street mines	30”

Planning level alignments and mileages are approximate, and may be modified in the field during final pre-construction surveying.

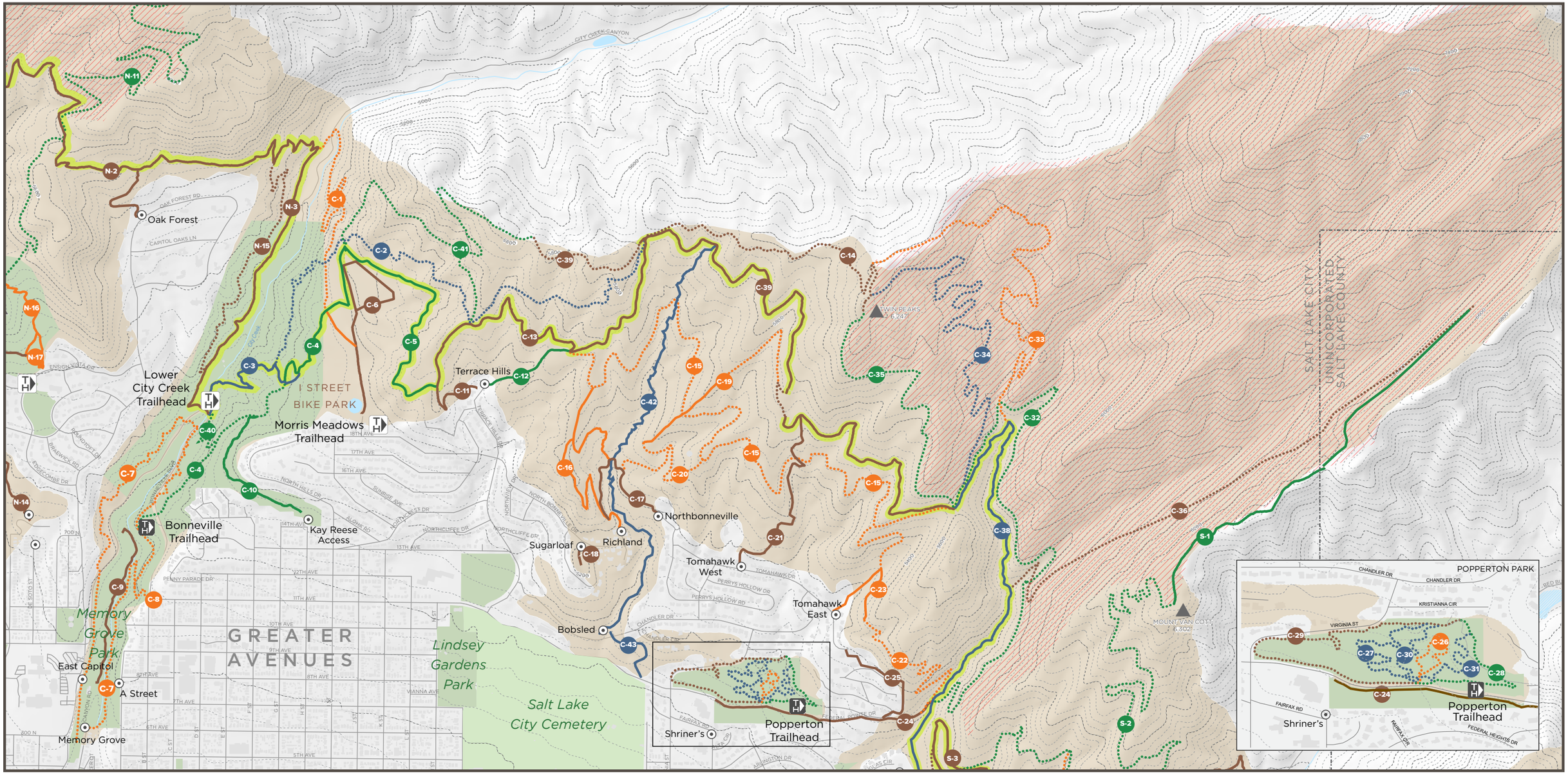
- Multi-directional shared use
- Open to all uphill users/downhill bikes prohibited
- Downhill bikes only
- Foot traffic only

NORTH SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
N-9	Jones Canyon Trail	1.47	0	1.47	Downhill Bikes Only	This existing downhill bike trail accommodates intermediate to advanced mountain bikers on a fast and exciting descent from the City Creek ridgeline down Jones Canyon to the Bonneville Shoreline Bench. Uphill traffic on this trail is prohibited for safety reasons.	40”
N-10	North City Creek Ridgeline	2.01	0	2.01	Multi-directional shared use	This existing trail also serves as limited vehicular access for maintenance of the many microwave towers along the North City Creek ridgeline. The road may be uncomfortably steep for some users, but is wide enough to easily accommodate multiple uses. The uppermost section provides a connection from the top of the Towers Trail to the start of the Jones Canyon and Prime Meridian downhill MTB trails. The lower section accommodates loop options around Ensign Peak.	40”
N-11	Towers Trail	0	3.67	3.67	Open to All Uphill Users/Downhill bikes prohibited	This moderately-wide trail accommodates multi-directional hiking traffic to and from a variety of destinations including Ensign Peak, the BST, the City Creek microwave towers, and Meridian Peak. The trail also accommodates uphill bikes accessing the Hell Canyon, Jones Canyon and Prime Meridian downhill trails and the multi-use BST.	40”
N-13	Over The Cliffs	0	0.58	0.58	Multi-directional shared use	This trail provides a sustainably-graded connection between the Bonneville Shoreline Trail and the Lakeview and Under-the-Cliffs Trails, and would retain access should the south (steep) end of the Terraces Trail be closed and restored. This relatively-wide trail would facilitate two-way traffic by foot traffic and cyclists, and would provide excellent views of Antelope Island to the west.	40”
N-14	Lakeview Trail	2.1	0.75	2.85	Multi-directional shared use	This wide trail, formerly the historic Bonneville Boulevard route, provides a long, gentle route along an ancient shoreline bench with excellent views to the Great Salt Lake. The trail traverses above active and inactive open pit mines, climbing back up to the trail network above before reaching the south end of the Eagle Ridge pit mine. This trail will accommodate mellow out-and-back hikes and bike rides, as well as longer loops when combined with the Bonneville Shoreline Trail to City Creek or the Towers Trail in Hell Canyon. Primary access to this trail is from the Victory Road Trailhead. Signage along this trail should provide information about several interesting historic and geologic features.	40”
N-15	North City Creek Trail	0	0.92	0.92	Multi-directional shared use	This rolling contour trail provides an alternative to the steep, tight switchbacks climbing out of City Creek Canyon, and will likely be popular with ascending cyclists. This route will also help decrease congestion on the BST climbing out of City Creek canyon, and could become a directional or use-restricted trail in the future if bike-hiker conflicts increase in lower City Creek. This trail, combined with the existing City Creek BST section, will also provide a moderate-length loop option for those looking for a morning or afternoon loop while avoiding the City Creek Canyon Road.	40”
N-16	Ensign Peak Trail	0.52	0	0.52	Foot Traffic Only	This popular hiking trail currently accommodates over 100,000 visitors annually (based on automated trail counts), and is likely the most heavily-used single trail in the Foothills Natural Area. Steep grades and fall-line alignments currently create substantial maintenance issues, but user demand for a direct route to the summit of Ensign Peak makes major grade reductions unlikely to succeed. Aggressive water management, trail width reductions, minor realignments, and trail hardening interventions should be used to maintain acceptable trail conditions. Due to the large amount of foot traffic and steep grades, use is limited to foot travel only.	30”
N-17	Lower Viewpoint Trail	0.12	0	0.12	Foot Traffic Only	This existing trail is paved in the lower (steeper) section and moderate grades in the upper section make it highly sustainable. Mountain bikers on the Ensign Fire Road en route to Ensign Vista Drive should be made to dismount and walk their bikes on this section to prevent conflicts.	30”
N-18	Ensign Fire Road	0.28	0	0.28	Multi-directional shared use	The Ensign Fire Road trail should continue to accommodate loop hikes around Ensign Peak, and facilitate bicycle loop trips from the Lower City Creek & Bonneville Boulevard Trailheads. Bicyclists will be required to walk their bikes on the short, paved segment of the Ensign Vista lower viewpoint trail, for safety reasons. Shortcutting from the Fire Road up to the Ensign Peak summit, or down to Churchill Drive, should be discouraged with signage and/or fencing.	40”
N-19	Switchback Trail	1.51	0	1.51	Multi-directional shared use	This wide and gradual trail provides a critical connection from Victory Road and the Marmalade neighborhood up to the Lakeview and Towers Trails, with connectivity to the rest of the North Foothills section of the Foothills Natural Area. The trail is not optimized for any one use, but will comfortably accommodate both up-and downhill foot and bike traffic. The trail provides a longer and more scenic approach to Ensign Peak. The Switchback Trail and easternmost portion of the Lakeview Trail make a pleasant, short neighborhood loop. The lower section of the trail connects to Warm Springs Park via an undercrossing beneath Victory Road.	40”

Planning level alignments and mileages are approximate, and may be modified in the field during final pre-construction surveying.

- Multi-directional shared use
- Open to all uphill users/downhill bikes prohibited
- Downhill bikes only
- Foot traffic only



PROPOSED TRAIL SYSTEM

PROPOSED TRAIL NETWORK

CENTRAL SUB AREA

The central sub area includes the recommended and existing trails from City Creek to Dry Creek

TRAIL NETWORK

EXISTING

- Multi-directional Shared Use
- Open To All Uphill Users/Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only
- Bonneville Shoreline Trail

PROPOSED

- Multi-directional Shared Use
- Open To All Uphill Users/Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only

DESTINATIONS + BOUNDARIES

- Major Trailhead
- Minor Trailhead
- Access Point
- TRAX Station
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

Parks & Public Lands

0 500 1,000 Feet

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Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018

CENTRAL SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
C-1	Morris Creek Trail	0.14	1.03	1.17	Foot Traffic Only	This trail provides a desirable connection from Morris Meadows to the start of the switchbacks climbing north out of City Creek Canyon, and eliminates substantial elevation gain/loss currently required for trail users wishing to travel either north or south across City Creek Canyon on the Bonneville Shoreline Trail. It also provides additional loop options for hikers and joggers from the Lower City Creek and Bonneville Boulevard Trailheads. Due to recurring bicycle closures in City Creek Canyon, either full-time or part-time bicycle closures are recommended for this alignment. Anticipated replacement of a water pipeline in the vicinity should be allowed to occur prior to construction of this trail segment.	30”
C-2	Long Way Home Trail	0	1.94	1.94	Downhill Bikes Only	This XC-style trail alignment will provide a fun, sustained downhill directional trail for mountain bikes, connecting the “starfish” junction on the ridgeline east of Morris Mountain to the Lower City Creek Trailhead. In addition to providing a more enjoyable downhill experience for northbound cyclists dropping into City Creek, this alignment is expected to substantially reduce trail congestion and user conflicts on other trail alignments between Morris Meadows and Perry’s Hollow. It will also encourage cyclists to utilize major trailheads on Bonneville Boulevard, helping to relieve pressure from the minor trailhead on Hilltop Road (off of 18th Ave.).	40”
C-3	Long Way Home Trail (Lower)	0.57	0	0.57	Downhill Bikes Only	Like the upper segment, this XC-style trail alignment will provide a fun, sustained downhill directional trail for mountain bikes, connecting the “starfish” junction on the ridgeline east of Morris Mountain to the Lower City Creek Trailhead. In addition to providing a more enjoyable downhill experience for northbound cyclists dropping into City Creek, this alignment is expected to substantially reduce trail congestion and user conflicts on other trail alignments between Morris Meadows and Perry’s Hollow. It will also encourage cyclists to utilize major trailheads on Bonneville Boulevard, helping to relieve pressure from the minor trailhead on Hilltop Road (off of 18th Ave.).The lower segment utilizes the existing alignment of the Bonneville Shoreline Trail, but limits the usage to downhill bicycles. Foot traffic and uphill bicycle traffic will be accommodated by new BST alignments a short distance upslope. A short additional segment connects to the bottom of the I-Street Bike Park, allowing bike park users an option to descend directly downhill from the bottom of the park, back to City Creek, avoiding the primary trail that is restricted to foot traffic and uphill bicycles	40”
C-4	New Bonneville Shoreline Trail Alignment	0.4	0.68	1.08	Open to All Uphill Users/Downhill bikes prohibited	This moderately-wide, gradual trail will connect the proposed Bonneville Boulevard Trailhead to Morris Meadows, utilizing the upper section of the existing BST alignment. This trail is intended to accommodate the majority of trail users accessing trails above the northern Avenues, including foot traffic in both directions, and uphill bicycle traffic. Downhill bicycles are prohibited to reduce conflicts and collisions.	40”
C-5	Bonneville Shoreline Trail	1.22	0	1.22	Open to All Uphill Users/Downhill bikes prohibited	This wide, gradual trail accommodates the majority of user traffic ascending to the trails above the Avenues from Morris Meadows. It follows an existing alignment, except the northernmost segment, which has been realigned to eliminate a steep and eroding section in a wooded gully. This realignment also helps separate trail users in Morris Meadows from general BST traffic. Due to high usage, downhill bicycles are prohibited to reduce conflicts except between Trails C-2 and C-11.	40”
C-6	Morris Meadows Loop	0.78	0	0.78	Multi-directional shared use	This existing, mellow trail loops around one of the largest shoreline benches in the Foothills Natural Area, and is very popular among neighborhood residents, especially dog owners. The trail is wide and flat, and can accommodate multiple users. The alignment has been modified very slightly to separate users from the main Bonneville Shoreline Trail, to reduce user conflicts.	40”
C-7	Memory Grove	0	2.56	2.56	Foot Traffic Only	This moderately-wide, rolling contour trail traversing the slopes above Memory Grove provides a desirable natural-surface alternative to the popular walking and jogging routes on the Freedom Trail and Bonneville Boulevard. It also creates multiple loop options of various lengths, and substantially increases the available trail mileage accessible from Memory Grove, the west Avenues, and the State Capitol. Due to high anticipated user traffic, only foot traffic is allowed for safety reasons.	30”
C-8	11th Ave Connector	0	0.09	0.09	Foot Traffic Only	This short trail provides a direct connection between 11th Avenue and the Memory Grove Hiking Trail.	30”
C-9	Freedom Trail	0.52	0	0.52	Multi-directional shared use	This existing trail follow City Creek above Memory Grove and is very popular with dog walkers. The trail is designated as open to off-leash use.	40”
C-10	Kay Reese Trail	0.48	0	0.48	Open to All Uphill Users/Downhill bikes prohibited	This narrow, existing trail provides neighborhood connectivity to the Foothill Trail System, especially for residents in and around the Northpointe area. Downhill (southbound) bicycles are prohibited on this trail for safety reasons.	40”
C-11	West Terrace Hills Trail	0.23	0	0.23	Multi-directional shared use	This popular trail provides access to the Foothills Trail System from the end of Terrace Hills Drive. It is wide enough to accommodate bicycles and hikers in both directions. It is also used occasionally by utility maintenance vehicles.	40”
C-12	East Terrace Hills Trail	0.29	0	0.29	Open to All Uphill Users/Downhill bikes prohibited	This popular trail provides access to the Foothills Trail System from the top of Terrace Hills Drive. The existing alignment follows a steep gully, and is highly prone to erosion, which causes washout problems at the Terrace Hills cul-de-sac and threatens the physical sustainability of this alignment. However, this wide trail (a former jeep road) would be very difficult to realign due to terrain and property constraints. Downhill bicycles are prohibited on this alignment to reduce user conflicts and reduce skidding and related soil loosening. Frequent maintenance of this segment, including installation of soil traps, is advised.	40”

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- Multi-directional shared use
- Open to all uphill users/downhill bikes prohibited
- Downhill bikes only
- Foot traffic only

CENTRAL SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
C-13	Old Bonneville Shoreline Trail	1.02	0	1.02	Multi-directional shared use	This popular trail segment accommodates many trail users traveling between the BST on the south City Creek ridgeline and Morris Meadows or Terrace Hills. It is generally wide enough to accommodate foot traffic and mountain bikes in both directions, but use dispersion onto other trail alignments will help reduce conflicts. The upper portion of the trail is steep and actively eroding, and aggressive water control and soil stabilization measures should be taken to slow trail damage.	40”
C-14	Avenues Ridgeline Trail	0	1.18	1.18	Multi-directional shared use	This scenic, gently climbing trail provides access from the “starfish” junction east of Morris Mountain to the summit of Twin Peaks, and opens up loop options around Twin Peaks. It eliminates the unsustainable, very steep ridgeline ascent of Twin Peaks. It also provides trail users with an alternative to going up and down the smaller “peaks” on the City Creek ridgeline, which most trail users will appreciate.	40”
C-15	Gullies & Hollows Trail	0	2.79	2.79	Foot Traffic Only	This relatively narrow, mellow trail follows the (approx.) 5,500’ contour from the saddle west of Dry Creek to the west ridge of Perry’s Hollow, with bends and twists into the many gullies that cut down through the foothill open spaces above the avenues. This trail is optimized for hiking and limited to foot-traffic only to provide a peaceful, relaxing trail experience.	30”
C-16	Perry’s Hollow West Loop Trail	1.02	0	1.02	Foot Traffic Only	This mostly-existing hiking trail provides short loop options and connectivity from Perry’s Hollow access points up to mid-elevation hiking trails. It is popular with neighborhood trail users. Realignment of a short section just above Richland Drive will eliminate an unsustainablly steep trail section that is actively eroding.	30”
C-17	North Bonneville Fire Road	0.46	0	0.46	Multi-directional shared use	This flat, wide trail follows a public easement that contours around the mid-elevation portion of Perry’s Hollow and is popular with neighborhood trail users. It provides important connectivity between the Foothills Trail System and neighborhood access points in the central Avenues. Multiple uses are easily accommodated, but measures should be taken to educate trail users crossing the Bobsled Trail and mitigate conflicts at that intersection.	60”
C-18	Sugarloaf Trail	0.06	0	0.06	Multi-directional shared use	This very short trail follows a public easement to a viewpoint at the top of Sugarloaf. Connectivity to other trails is probably not feasible, and use is expected to be primarily by neighborhood residents.	40”
C-19	East Fork Perry’s Trail	0.3	0.5	0.8	Foot Traffic Only	This hiking trail provides a desirable route from Perry’s Hollow up to the BST with connectivity to Twin Peaks and multiple loop options. The bottom section of the trail follows a public trail easement along a gentle ridgeline. Above the gas pipeline, the trail contours across the East Fork of Perry’s Hollow, connecting with the BST near the Twin Peaks Trail. While some trail users may prefer to remain on the ridgeline, many will appreciate a more gradual, interesting trail through an oak forest. This also reduces use pressure on a fall-line social trail. Realignment of the lowermost portion will eliminate an unsustainably steep and eroding section.	30”
C-20	East Fork Parleys Trail (Alternate)	0	0.47	0.47	Foot Traffic Only	This short trail provides a connection between the East Fork of Perry’s Hollow and the Gullies and Hollows Trail, making possible a short, enjoyable loop hike.	30”
C-21	Tomahawk Trail	0.67	0	0.67	Multi-directional shared use	This steadily-climbing trail provides neighborhood connectivity to the BST and Twin Peaks trails from Tomahawk Drive, with scenic views of Spring Gulch.	40”
C-22	Block U Hiking Trail	0.17	1.18	1.35	Foot Traffic Only	This hiking trail provides public access to the Block U from the mouth of Dry Creek, as well as connectivity to the Gullies & Hollows hiking trail. It also provides a foot-traffic-only alternative from the mouth of Dry Creek to the trail system above the Avenues, helping to reduce congestion in Dry Creek. This trail alignment will also help reduce parking pressure on New Bedford and East Tomahawk Drive, related to hikers accessing the Block U.	30”
C-23	Limekiln Gulch Trail	0.19	0	0.19	Foot Traffic Only	This short hiking trail follows a public pedestrian easement across private property up Limekiln Gulch to a large, historic limekiln structure. It also provides connectivity from Tomahawk Drive to the Block U and Gullies & Hollows hiking trail.	30”
C-24	Federal Pointe Trail	0.69	0	0.69	Multi-directional shared use	This wide, mostly paved trail is the primary connector for foot traffic and bikes between the major Popperton Trailhead and the Foothill Trail System (via the mouth of Dry Creek). The alignment of this trail should be adjusted if feasible in order to eliminate the steepest sections just east of the Federal Pointe vehicle gate.	60”
C-25	Federal Pointe Connector Trail	0.36	0	0.36	Multi-directional shared use	Short, utilitarian connection for the Federal Heights neighborhood.	40”
C-26	Popperton Nature Gulch Trail	0	0.25	0.25	Foot Traffic Only	This foot traffic only trail provides a nice hiking experience through Popperton Park’s scenic ravine.	24”
C-27	Popperton - Beginner Mountain Bike Trail	0	0.4	0.4	Downhill Bikes Only	Beginner-level downhill bike trail for fun and skill-building by beginner riders and children. Compatible with adaptive cycles for users with physical disabilities. Adoption, maintenance and stewardship by experienced organization should be formalized.	40”

Planning level alignments and mileages are approximate, and may be modified in the field during final pre-construction surveying.

- Multi-directional shared use
- Open to all uphill users/downhill bikes prohibited
- Downhill bikes only
- Foot traffic only

CENTRAL SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
C-28	Popperton Climbing Trail	0	0.35	0.35	Open to All Uphill Users/Downhill bikes prohibited	A compacted-surface all-weather walking path and uphill climbing trail would provide access to several downhill mountain bike trails. The trail would connect to Poppertoon Loop Trail to provide a complete loop route through the Popperton open space area. This would substantially increase public enjoyment of this area, and realize plans developed years ago by the neighborhood but never implemented.	40”
C-29	Popperton Loop Trail	0	0.74	0.74	Multi-directional shared use	A compacted-surface all-weather Multi-directional shared use trail would be a continuation of the Popperton Climbing Trail and provide a shared use, downhill trail. A suspension footbridge across the prominent ravine would add an interesting and unique feature.	40”
C-30	Popperton - Blue Square Descending	0	0.24	0.24	Downhill Bikes Only	Descending-direction, bike-only trail to provide fun and skill-building for intermediate riders. Short length encourages looping for practice. Built features are discouraged but natural features such as rock are encouraged to provide technical challenge. Adoption, maintenance and stewardship by experienced organization should be formalized.	40”
C-31	Popperton - Black Diamond Descending	0	0.3	0.3	Downhill Bikes Only	Descending-direction, bike-only trail to provide fun and skill-building for intermediate to expert riders. Short length encourages looping for practice. Built features are discouraged but natural features such as rock are encouraged to provide technical challenge. Adoption, maintenance and stewardship by experienced organization should be formalized.	40”
C-32	New Bonneville Shoreline Trail (Dry Creek Section)	0	2.13	2.13	Open to All Uphill Users/Downhill bikes prohibited	This proposed trail segment would provide the primary access to the Foothill Natural Area trail system above the Avenues via Dry Creek. To mitigate hiker/biker conflicts in Dry Creek, downhill bicycles are prohibited on this trail, while the original BST location in the gully bottom becomes a downhill-only trail. At the very bottom of this segment, a multi-use connection between the BST and Medical Drive is recommended, in conjunction with development of a new Huntsman Cancer Center building.	40”
C-33	North Fork Dry Creek Trail	0	1.64	1.64	Foot Traffic Only	This narrow, rugged backcountry-style trail provides a quiet, hiking-only option for climbing to or descending from Twin Peaks and the south City Creek ridgeline via the broad, gentle, oak-timbered benches above the North Fork of Dry Creek.	24”
C-34	Dry Spell	0	1.92	1.92	Downhill Bikes Only	This trail provides an intermediate bike-optimized descending trail from Twin Peaks. This trail will provide a sustained, fun flow trail with technical challenges, but easier and more physically-sustainable than existing user-created downhill trails from Twin Peaks. The trail empties into the Dry Creek downhill directional trail, which provides additional bike-optimized trail miles for a run with substantial vertical.	40”
C-35	Twin Peaks Trail	0	1.13	1.13	Open to All Uphill Users/Downhill bikes prohibited	This trail provides a more direct route to the summit of Twin Peaks for users ascending from Dry Creek or Tomahawk Drive. This provides loop options around Twin Peaks, and will reduce proliferation of social trails. To reduce erosion and prevent user conflicts, downhill bicycles are prohibited.	40”
C-36	South Fork Dry Creek Trail	0	1.41	1.41	Multi-directional shared use	This narrow, rugged trail provides surprising solitude only a short distance from the BST. The trail is open to both foot and bicycle traffic, but the rugged nature of the trail will keep all users moving slowly and preclude high speeds, which will help mitigate user conflicts on the narrow trail. Trail construction should coincide with removal/revegetation of the social trail in the wet bottom of the ravine. This trail provides access to the summit of Mt. Van Cott via the ridgeline north of the peak.	30”
C-38	Dry Creek Downhill	1.65	0	1.65	Downhill Bikes Only	This existing trail currently provides the primary access to the Foothills Natural Area trail system above the Avenues, but trail user conflicts and safety hazards are commonplace. With the creation of a parallel hiking / uphill biking trail on the north-facing slope above, this gully-bottom trail will be limited to descending bicycles, and allow cyclists a fun and speedy descent.	40”
C-39	Bonneville Shoreline Trail & New BST	2.08	0.57	2.65	Multi-directional shared use	This scenic, moderately-wide, gently rolling trail provides primary E-W connectivity across the Foothills Natural Area above the Avenues, and accommodates hikers, runners and mountain bikers in both directions. Clear sight-lines and wide areas allow users to safely pass each other, but dispersion on alternate trail alignments will also help reduce crowding. A small realignment in the eastern portion of this trail segment will eliminate an unsustainably steep segment. A new alignment on the western end of this segment will connect to the top of the Morris Mountain Trail for improved connectivity. While some trail users prefer the steep, undulating social trail on the ridgetop, most users will prefer this more moderate and physically-sustainable alignment.	40”
C-40	City Creek Ponds Trail	0	0.22	0.22	Open to All Uphill Users/Downhill bikes prohibited	This short trail segment will provide needed connectivity for trail users parking at the Lower City Creek Trailhead, with access to Morris Meadows and points beyond. The trail will climb to a connection with the new BST alignment between the Bonneville Boulevard Trailhead and Morris Meadows, and like that trail, will be limited to foot traffic and uphill bicycles only.	40”

Planning level alignments and mileages are approximate, and may be modified in the field during final pre-construction surveying.

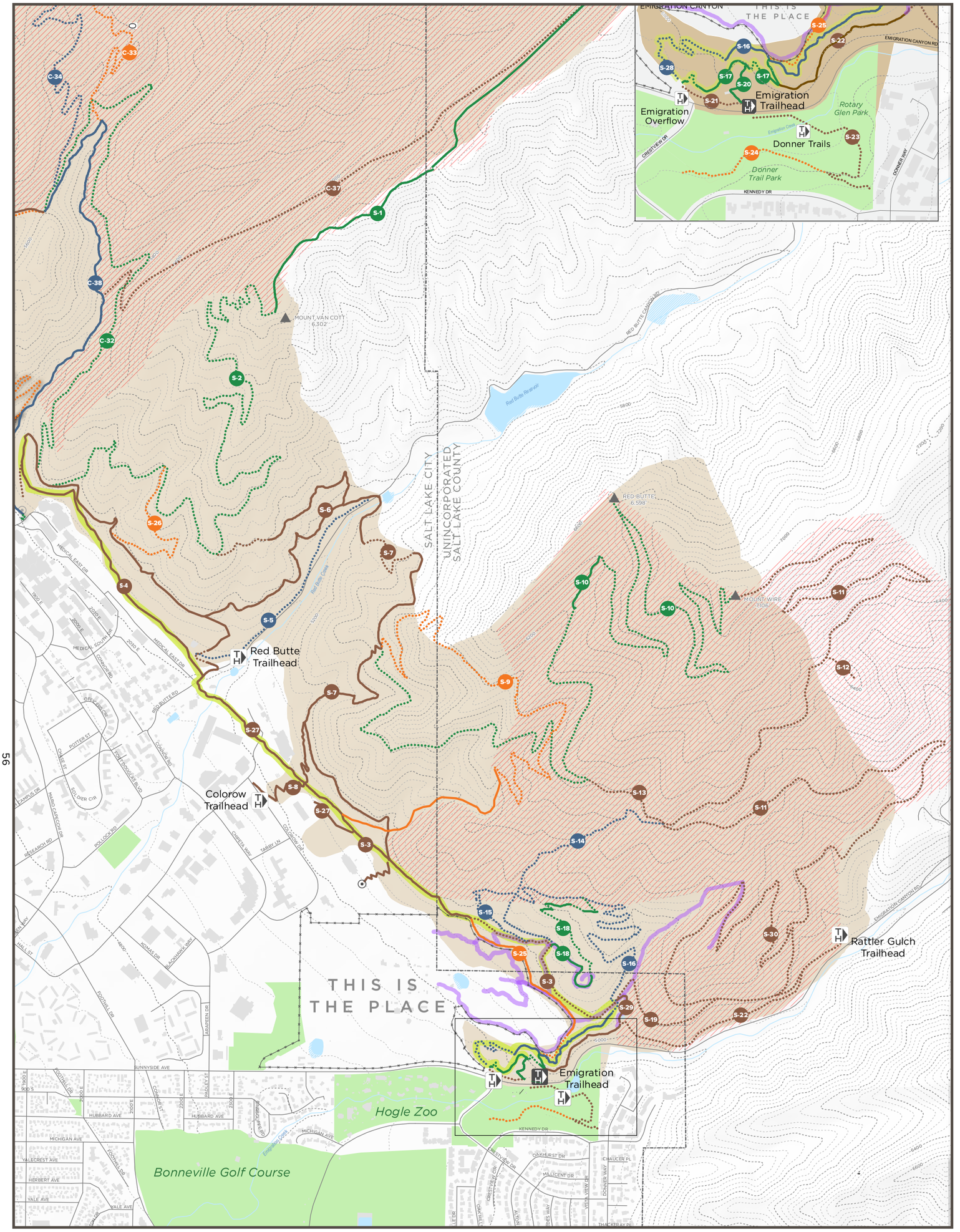
- Multi-directional shared use
- Open to all uphill users/downhill bikes prohibited
- Downhill bikes only
- Foot traffic only

CENTRAL SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
C-41	New BST / Morris Mountain Trail	0	1.4	1.4	Open to All Uphill Users/Downhill bikes prohibited	This moderately-wide, gradual trail alignment provides an alternative access route for trail users climbing to (or descending from) the ridgeline BST alignment above the Avenues. The trail also creates longer loop options from Morris Meadows and the Lower City Creek / Bonneville Boulevard Trailheads, and a desirable, sustainable route to the excellent viewpoint atop Morris Mountain. The alignment will help take pressure off of the heavily-used, steep and eroding “old BST” between the ridgeline above Terrace Hills and the “starfish” junction east of Morris Mountain. It should also help reduce use and creation of unsustainable social trails in the vicinity of Morris Mountain. This trail will accommodate foot traffic in both directions, as well as uphill bicycles en-route to Twin Peaks, Dry Creek, the Bobsled, or return loops via the “old BST” or the Long Way Home trail. Downhill bicycles are prohibited on this trail to reduce conflicts.	40”
C-42	Bobsled Downhill	1.56	0	1.56	Downhill Bikes Only	This exciting, well-established free-ride downhill trail is popular among intermediate- to advanced mountain bikers and is regionally-renowned. Terrain features provide jumps and drop-ins for expert cyclists. Trail adoption and stewardship by knowledgeable riders should be formalized to insure proper maintenance and education. Public right-of-way just below the North Bonneville Fire Road should be resolved with the landowner.	40”
C-43	Bobsled Extension	0.23	0	0.23	Downhill Bikes Only	This extension of the popular Bobsled Trail provides a downhill connection to 11th Ave, with signage at the bottom directing trail users to return to the Popperton or Bonneville Boulevard Trailheads via 11th Ave. bike lanes. Freeride features may be added to improve the trail experience. Downhill bike traffic only for safety reasons. Signage and markings at Chandler Drive to stop trail traffic prior to road crossing is recommended. Gates are needed to prevent unauthorized motor vehicle use.	40”

Planning level alignments and mileages are approximate, and may be modified in the field during final pre-construction surveying.

Multi-directional shared use
Open to all uphill users/downhill bikes prohibited
Downhill bikes only
Foot traffic only



PROPOSED TRAIL SYSTEM

TRAIL NETWORK
SOUTH SUB AREA

The south sub area includes the recommended and existing trails from Dry Creek to Emigration Canyon.

TRAIL NETWORK

EXISTING

- Multi-directional Shared Use
- Open To All Uphill Users/ Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only
- Bonneville Shoreline Trail
- This is the Place Paid Trails

PROPOSED

- Multi-directional Shared Use
- Open To All Uphill Users/ Downhill Bikes Prohibited
- Downhill Bikes Only
- Foot Traffic Only

DESTINATIONS + BOUNDARIES

- Major Trailhead
- Minor Trailhead
- Access Point
- Train Stations
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City
- This is the Place Heritage Park

Parks & Public Lands

Feet
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MILES
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Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018

SOUTH SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
S-1	Van Cott Ridgeline Trail	1.34	0	1.34	Open to All Uphill Users/Downhill bikes prohibited	This existing, narrow and primitive trail roughly follows the ridgeline rising to the north from Mt. Van Cott, and provides connectivity to the South Fork Dry Creek Trail. Limited to foot traffic and uphill (northbound) cyclists only, to prevent user conflicts. Minor trail improvements and realignments on this trail may be warranted for sustainability.	30"
S-2	Mt. Van Cott Trail	0	3.17	3.17	Open to All Uphill Users/Downhill bikes prohibited	This well-graded, approachable trail provides a scenic, enjoyable climb that gradually ascends Mt. Van Cott via long switchbacks that contour in and out of the peaks many interesting gullies. Downhill bicycles are prohibited for safety reasons. Uphill cyclists looking for a good workout and slow but technically-challenging descent can return via the South Fork Dry Creek Trail.	40”
S-3	Bonneville Shoreline Trail	2.3	0.79	3.09	Multi-directional shared use	This trail provides the primary alignment of the Bonneville Shoreline Trail above the University of Utah and This Is The Place Heritage Park. The trail is relatively wide and flat and easily accommodates multiple uses and trail users going in both directions. Good signage is important along this trail segment, as many designated and social trails branch off of the BST and can create confusion for users. Access to this section of the BST is dispersed across many small access points, especially on the University of Utah campus. Controlled access at designated locations should be encouraged with signage, fencing, and formalized trail improvements. Trail users driving cars to access this section of the BST and adjoining trails should be encouraged to utilize the Popperton, Colorow, or Emigration Trailhead parking areas. Other access points (Medical Drive, Red Butte Canyon, Natural History Museum, etc) should support access for those arriving via alternative transportation.	40”
S-4	Med Campus Trail	0.88	0	0.88	Multi-directional shared use	Trail alignment roughly parallels the BST and contours just above the University of Utah’s medical campus. The trail provides loop options for walkers, joggers and cyclists. The trail surface should be improved so that it is highly compatible with adaptive cycles, and connections maintained to the U of U hospital so that rehabilitation patients can utilize the trail to aid in recovery.	40”
S-5	Red Butte Canyon Downhill	0	0.73	0.73	Downhill Bikes Only	Easy mountain bike trail for less-skilled riders. Very mellow grades and wooded environment highlights the joys of riding natural surface trails. Compatible with adaptive cycles.	40”
S-6	Skyline Nature Trail West	1.1	0.17	1.27	Multi-directional shared use	This existing, narrow trail facilitates enjoyable loops along the west side of Red Butte Canyon for hikers, trail runners, and cyclists. Limited trail improvements and widening will allow trail users to more easily pass each other and reduce conflicts. An extension of the upper section of the Skyline Trail to connect with the Van Cott Trail will allow hikers and cyclists an option to connect from Dry Creek to Red Butte Creek via an upper and more interesting trail alignment.	30”
S-7	Skyline Nature Trail East	0.27	1.84	2.11	Multi-directional shared use	This existing, narrow trail facilitates a long loop around lower Red Butte Canyon, as well as connectivity to the Living Room and Mt. Wire Trails. Trail improvements (grade reductions and widening) where the trail climbs out of Red Butte Canyon will allow trail users to more easily pass each other and reduce conflicts and trail erosion. Substantial signage and active restoration of social trails will be required to prevent confusion and keep users on the primary route.	30”
S-8	Museum Trail	0.49	0	0.49	Multi-directional shared use	This multi-use trail provides connectivity between the Colorow Trailhead, the Natural History Museum, the Bonneville Shoreline Trail, and the Skyline Trail.	40”
S-9	Living Room Trail	0.61	1.89	2.5	Foot Traffic Only	Hiking-only loop trail to the Living Room. Expected to have high foot traffic, primarily from Colorow Road Trailhead and Red Butte Canyon. Loop trail will help disperse traffic and reduce short-cutting.	40”
S-10	Mt. Wire Trail	0.17	4.6	4.77	Open to All Uphill Users/Downhill bikes prohibited	A backcountry-style trail with a light footprint that brings users to the top of Mt. Wire. Connects to Skyline Trail East and Living Room Trail. No downhill bicycles to avoid collisions, but uphill MTB users looking for a good challenge can use the trail to reach the top of The Slip Trail, or the Lithograph Fork Trail from the Mt. Wire summit.	30”
S-11	Lithograph Fork Trail	0	4.3	4.3	Multi-directional shared use	This long, gradual, relatively narrow trail climbs to Mt. Wire from Rattlesnake Hollow and the Wagner Peak Trail via several long switchbacks that cross back and forth across Rattlesnake Hollow and Lithograph Fork. This is a backcountry-style trail, and use is expected to be relatively dispersed. Hikers and runners looking for a longer excursion, and mountain bikers looking for a challenging cross-country experience will enjoy this trail.	30”
S-12	Lithograph Point Trail	0	0.1	0.1	Multi-directional shared use	This short spur trail provides access to a scenic overlook between Lithograph Fork and Gold Gulch.	40”
S-13	Lithograph Fork Connector	0	0.26	0.26	Multi-directional shared use	This short trail segment provides connectivity between the west-facing Mt. Wire Trail and the South-east facing Lithograph Fork Trail, and facilitates a wide variety of loop options on the slopes of Mt. Wire. The trail also provides access to the top of The Slip Trail for bicycles climbing from the Skyline Trail in Red Butte Canyon via the lower Mt. Wire Trail.	40”
S-14	The Slip Trail	0	0.8	0.8	Downhill Bikes Only	This downhill trail provides a fast, technical, challenging descent for advanced to expert riders.	40”
S-15	Colossus	0	0.69	0.69	Downhill Bikes Only	Fast, smooth, rolling downhill with an uphill facing intersection at the Slip Trail. Perfect trail for skill-building in beginning riders and fun for intermediates.	40”

Planning level alignments and mileages are approximate, and may be modified in the field during final pre-construction surveying.

- Multi-directional shared use
- Open to all uphill users/downhill bikes prohibited
- Downhill bikes only
- Foot traffic only

SOUTH SUB AREA

Trail ID	Name	Existing Mileage	Proposed Mileage	Total Mileage	Management Controls	Trail Narrative	Tread Width
S-16	Wild Mouse	0.29	1.1	1.39	Downhill Bikes Only	Fast, flowy, semi-technical downhill with lots of small drops and banked turns. Good skill-building for intermediate riders.	40”
S-17	Emigration Ascending Trail	0.2	0.08	0.28	Open to All Uphill Users/Downhill bikes prohibited	This trail provides the primary access between the Emigration Trailhead and the Bonneville Shoreline Trail. Downhill bikes are prohibited and redirected to the Emigration Bike Descent Trail, to reduce congestion and improve safety for trail users.	40”
S-18	Rollercoaster Uphill	0.39	0.4	0.79	Open to All Uphill Users/Downhill bikes prohibited	A fun, challenging, and short MTB route up to the Rollercoaster downhill trails. The trail already exists but the last climb is really steep and loose. A couple switchbacks cut in as an alternate to the last steep climb. Uphill bikes only.	40”
S-19	Wagner Hollow Trail	0	0.44	0.44	Multi-directional shared use	This short, traversing trail connects from the Wagner Peak Trail to Wagner Hollow, and facilitates loop options for hikers and cyclists.	40”
S-20	Emigration TH Return Trail	0.09	0	0.09	Open to All Uphill Users/Downhill bikes prohibited	This route provides the return to the Emigration Trailhead. Uphill bikes with multi-directional hiking traffic is permitted to manage volumes in this congested area.	40”
S-21	Emigration Trailhead Connector Trail	0	0.1	0.1	Multi-directional shared use	This short trail segment provides a connection between the main (upper) Emigration Trailhead Parking Area and the small (lower) parking area. Multi-directional traffic is easily accommodated.	40”
S-22	Wagner Spring Trail	0.27	0.63	0.9	Multi-directional shared use	This trail provides a gradual, pleasant route through shady oak forest past Wagner Springs, and a connection between the Rattlesnake Hollow and Emigration Trailheads.	40”
S-23	Rotary Donner Connector	0	0.38	0.38	Multi-directional shared use	This trail provides a connection between Donner Trail Park and a future undercrossing beneath Emigration Canyon Road, with connectivity to the Emigration Trailhead and on-road sections of the BST along Vista View to the south.	40”
S-24	Secret Garden trail	0	0.26	0.26	Foot Traffic Only	This short trail parallels the hillside below Donner Park and provides a nice hiking-only option connecting to the Rotary Vista View Connector Trail. Trail could serve dog walkers or park users looking for a more natural experience through the trees.	30”
S-25	Sagebrush Flats Trail	0.5	0.11	0.61	Foot Traffic Only	Foot Traffic Only trail that provides a low-stress route for foot traffic between the Emigration Trailhead and the BST above Research Park. Well signed to prevent cross-over with This Is The Place facilities, and with “Yield to Equestrians” signs due to horse back rides from This Is The Place.	40”
S-26	Battle Gulch Trail	0	0.54	0.54	Foot Traffic Only	The Battle Gulch Trail makes possible a short loop for lunch-time or after-work outings for nearby workers and students. This moderately wide trail traverses into the Battle Gulch and provides substantial scenic interest just off the BST. The trail is gradual and relatively smooth, allowing it to be used by University Hospital patients in physical rehabilitation. To that end, the trail is restricted to foot traffic only.	30”
S-27	Peach Grove Access Trail	0.14	0	0.14	Multi-directional shared use	This existing trail provides access to the BST from the back of the Navigen Pharma building in Research Park.	48”
S-28	Emigration Bike Descent Route	0.09	0.26	0.35	Downhill Bikes Only	This trail provides a downhill route for bicycles at a sustainable grade. All other users are prohibited (and directed to nearby trail segments) for safety purposes, and to reduce congestion on the hillside just above this popular trailhead.	40”
S-29	Wagner Spring Connector	0.11	0	0.11	Multi-directional shared use	This short, wide, pre-existing trail provides a connection between the BST, Wagner Spring, and Wagner Hollow Trails, facilitating numerous short and long loop options.	48”
S-30	Wagner Peak Loop Trail	0	2.1	2.1	Multi-directional shared use	This relatively-wide trail will provide a scenic loop up and around the summit of the prominent knoll overlooking the mouth of Emigration Canyon, and connect several other loop options in the vicinity of Wagner Spring. The trail will have a low grade and frequent wide sections to accommodate safe multi-directional traffic by both hikers and cyclists.	40”

Planning level alignments and mileages are approximate, and may be modified in the field during final pre-construction surveying.

- Multi-directional shared use
- Open to all uphill users/downhill bikes prohibited
- Downhill bikes only
- Foot traffic only

PROPOSED TRAIL SYSTEM

DECOMMISSIONING PLAN

TRAIL CLOSURES AND DECOMMISSIONING

In addition to constructing 73 miles of new trails, trail decommissioning and closures are an important component of realizing the vision for the Salt Lake City Foothills Trail System. Most existing trails within the Foothills, with the exception of the BST, are social trails that have not been planned or sustainably constructed. Many of these trails are steep, fall-line trails that directly follow ridgelines and or utility corridors.

In order to protect the environmental resources within the Foothills Natural Area and provide a more intuitive, simple wayfinding experience for trail users, some of these trails have been recommended for closure or decommissioning. The map on page 55 specifies trails that should be either actively or passively decommissioned. All existing trails that are not recommended for active or passive decommissioning will remain as part of the official Foothills Trail System or as an unofficial trail. Unofficial trails will not be supported with signage or maintenance.

Active Decommissioning (4.4 miles)

Active decommissioning has been recommended for trails that are actively eroding,highly susceptible to erosion, or are near sensitive environmental resources such as high quality habitat or watershed lands. Treatments for these locations attempt to deter trail user access and mitigate existing erosion. With management and time these trails may be restored to a more natural state. Trail closure signs should be placed at entrances to the existing trail, and numerous strategies may be used to improve drainage and revegetate the trail. See page 84-86 for design guidance related to active decommissioning treatments.

Passive Decommissioning (20.9 miles)

Passive decommissioning has been recommended for trails that are generally stable and pose limited danger to sensitive natural resources. Treatments for these locations focus on deterring trail use through signage and/or slash piles and allowing the trail to re-naturalize over time.

Decommission Type	Unit Cost	Estimated Project Area Cost
Passive Decommissioning	$200 / trail junction	$14,000 (70 locations)
Active Decommissioning	$1.00 / linear foot	$23,000

PROPOSED TRAIL SYSTEM

DECOMMISSIONING PLAN

Decommissioning of eroding or poorly planned trails will contribute to an environmentally sustainable Foothill Trail System.

TRAIL NETWORK

- Existing Trails
- Proposed Trails
- Bonneville Shoreline Trail

TRAIL DECOMMISSIONING

- Passive Decommissioning
  Recommended for trails that are generally stable and pose limited danger to sensitive natural resources. Treatments for these locations focus on deterring trail use and allowing the trail to re-naturalize over time.
- Active Decommissioning
  Recommended for trails that are actively eroding, highly susceptible to erosion, or are near sensitive environmental resources such as high quality habitat or watershed lands. Treatments for these locations attempt to deter trail user access and stop existing erosion. With management and time these trails should be restored to a more natural area.

DESTINATIONS + BOUNDARIES

- Major Trailhead
- Minor Trailhead
- Access Point
- Train Stations
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

Parks & Public Lands

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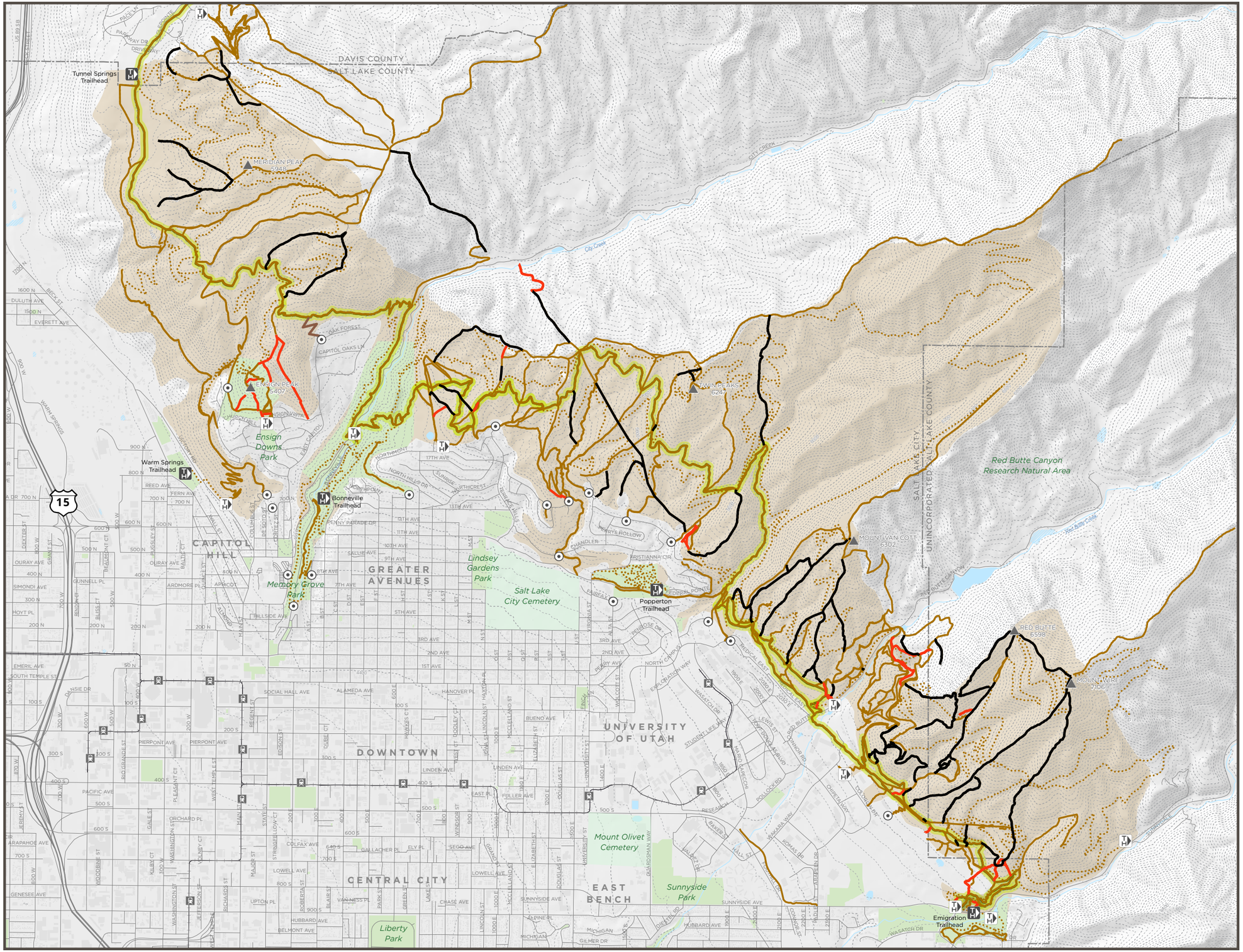
Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018



PROPOSED ACCESS IMPROVEMENTS

Access to the Foothills Trails System has been designed to encourage biking and walking to the Foothills Natural Area. For those who drive to the FNA, regional trailheads have been focused in areas outside of residential neighborhoods to limit conflicts. Bus and light rail connectivity is discussed in Access Point descriptions on Pg. 63-66.

TRAIL NETWORK

EXISTING

- Natural Surface Trails
- Shared Use Paths
- Protected Bike Lane
- Buffered Bike Lane
- Bike Lane
- Shared Roadways

PROPOSED

- Natural Surface Trails
- Shared Use Paths
- Separated Bike Facility
- Bike Lane
- Shared Lane
- Neighborhood Byway

DESTINATIONS + BOUNDARIES

- Major Trailhead
- Minor Trailhead
- Access Point
- Train Stations
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

Parks & Public Lands

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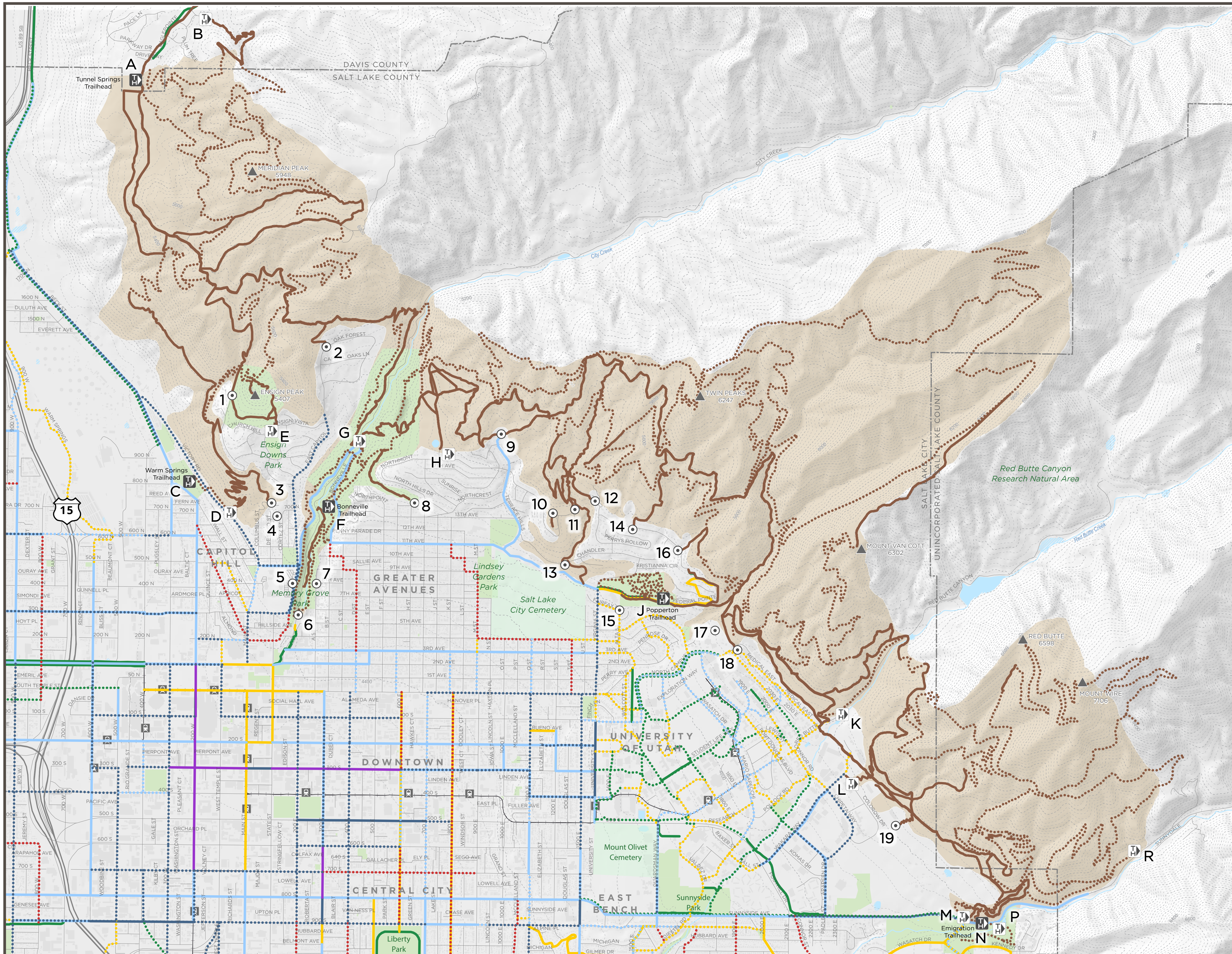

PROPOSED TRAIL SYSTEM

PROPOSED ACCESS IMPROVEMENT

ID	Name	Type	Narrative
North Sub Area			
A	Tunnel Springs Trailhead	Major Trailhead	Primary Trailhead for: Bonneville Shoreline Preserve Bonneville Shoreline Adaptive Trails Meridian Peak Little Bobsled BST North Salt Lake Section (future) Tunnel Springs Trailhead is already ideally located and developed to serve as a major trailhead for access to the North Foothills Natural Area. 1) Work with North Salt Lake to substantially improve TH signage, including wayfinding, regulatory, and interpretive signage at this site.
B	Wild Rose	Minor Trailhead	Primary Trailhead for: Wild Rose Loop Trails Recommended improvements: None Note: This popular North Salt Lake trailhead above the Eagle Ridge subdivision provides 33 parking spaces, restrooms and picnic space, a playground, play field and amphitheater and access to the foothill trail system in Davis County. The trailhead is located on approximately 1 acre of land a short distance off Eaglepointe Drive, and is a good model for trailhead improvements in SLC, particularly the Morris Meadows Trailhead.
C	Warm Springs Trailhead	Major Trailhead	Primary Trailhead for: Hell Canyon Trails Lakeview Trail Ensign Peak Northside Make strategic improvements at Warm Springs Park to encourage use and activation as primary trailhead for North Foothills Natural Area. 1) Utilize under-used existing parking, restrooms & infrastructure at both North Gateway and Warm Springs Park. 2) Contemplate hiring security services to mitigate vehicle theft. 3) Install undercrossing of Victory Road, above RMP substation, to provide maximum proximity to existing uphill trail from Victory Road. 4) Install trail connection from north end of undercrossing to connect with existing uphill trail from Victory Road. 5) Construct a geologic interpretive area with information about the Warm Springs Fault, Wasatch Fault, and nearby hot springs and geology. 6) Install high-quality signage that makes BST trail connections obvious and also encourages users to linger in Warm Springs Park & North Gateway Park. 7) Aggressively control and educate about noxious weeds. 8) UTA bus route information for routes 455, 460, 462, 470, 471, 472, and 472 should be prominently posted to encourage alternative transportation to this trailhead.
D	Victory Road	Minor Trailhead	Primary Trailhead for: Switchbacks Trail Lakeview Trail Ensign Peak summit via Towers Trail Hell Canyon Downhill Lakeview loop via BST or Towers Trail Improve Victory Road Trailhead to accommodate significant parking. Until the completion of an undercrossing with access to Warm Springs Park, this site will serve as the primary access to the North Foothills from the Capitol Hill Neighborhood. 1. Pave a parking area with marked parking spaces, preventing blockage of access to the Victory Road water reservoir and preventing cars from backing onto Victory Road when departing trailhead. 2. Install trailhead kiosk signs. 3. Coordinate with UDOT to facilitate construction of undercrossing with access to Warm Springs Park. 4. UTA bus route information for routes 461 & 463 should be prominently posted to encourage alternative transportation to this trailhead.
E	Ensign Vista	Minor Trailhead	Primary Trailhead for: Ensign Peak Summit Ensign Peak loop This trailhead is located on a narrow residential street and the trailhead is very popular, often accommodating up to 100 parked cars and the occasional school bus or tour bus. Impacts to nearby residents come primarily from after-hours use of the Ensign Peak trail and associated unwanted activities. Recommended Improvements: 1. Create ~ 20 angle parking spaces in the north end of Ensign Vista Park. Parking should be accessed via the northbound-lane of Ensign Vista drive. 2. Substantial decorative fencing and gates should be installed and maintained to eliminate after-hours access to the Ensign Peak Natural Area, and associated vandalism and disruptions. 3. Clear, durable signage should be placed at multiple locations to remind visitors of key regulations.

PROPOSED TRAIL SYSTEM

PROPOSED ACCESS IMPROVEMENTS

ID	Name	Type	Narrative
North Sub Area (continued)			
1	Sandhurst	Access Point	This access point is in a gated subdivision. Foot and bicycle traffic originates from other access points or parking areas.
2	Oak Forest	Access Point	This access point is in a gated subdivision. Foot and bicycle traffic originates from other access points or parking areas.
3	Columbus Court	Access Point	This trailhead is behind a gated subdivision, but an open gate during daytime hours may facilitate very limited on-street parking. A small amount of additional parking is available nearby on public streets. This trailhead provides neighborhood access to the Lakeview Trail, and also facilitates a nice loop option utilizing the Switchbacks Trail, the south end of the Lakeview Trail, and Columbus Street. 1. Improve signage at the access point, and a short distance away at the north end of Columbus Street.
4	DeSoto	Access Point	This access primarily serves residents on DeSoto Street walking or biking to the Lakeview Trail. For trail users connecting from the Lakeview Trail to City Creek via 500N, utilizing the cutoff to this access point slightly reduces the elevation gain required on 500N.
5	East Capitol	Access Point	On-street parking is available all along the east side of East Capitol Blvd. at this location, but is not limited to trail users. During most times, ample parking is available for trail users. Bicyclists can also utilize this parking as overflow if the Lower City Creek and Bonneville Boulevard Trailheads are full, and bicycle to access trails via Bonneville Boulevard. 1. Install kiosk signage with maps and information at this access point. 2. UTA bus route information for route 500 should be prominently posted to encourage alternative transportation to this trailhead.
Centrai Sub Area			
F	Bonneville Trailhead	Major Trailhead	Primary Trailhead for: City Creek Canyon road BST connection to Ensign Peak Morris Meadows / Morris Mountain I-Street Bike Park Bobsled Loop Twin Peaks from west Steiner BST Segment Loop Improve this site to serve as a primary access point to the trails above the Avenues, City Creek, and the open space above Ensign Peak, and reduce pressure on minor access points elsewhere in the Avenues. 1) Establish as many designated parking spaces as possible to maintain safe entry/exit. Contemplate creating additional parallel parking spaces along the east side of Bonneville Boulevard to allow overflow parking. **Regardless of whether overflow parking is added, curb and gutter or concrete barrier should be constructed along Bonneville Boulevard near the trailhead prior to trailhead improvements, to prevent overflow parking from occurring over dry grass.** 2) Use existing water line to support tree plantings, turf area & drinking fountain 3) Install restroom w/ sewer connection. 4) Construct new access trail to BST to create an easy, gradual access. 5) Create a crosswalk or RRFB crossing on Bonneville Blvd, and intervention to slow DH cyclists, for safety. 6) Install high-quality signage. 7) Aggressively control and educate about noxious weeds. 8) Investigate multi-season use of amphitheater (concerts? interpretive exhibits?) and salt storage needs of Street Dept. Existing salt storage November - March is not ideal but workable.
G	Lower City Creek	Minor Trailhead	This parking area just below the City Creek Gate can accommodate about 20 cars, and includes restrooms and a drinking fountain. No substantial additional improvements are recommended.
H	Morris Meadows	Minor Trailhead	Expand & Improve parking and signage infrastructure at Morris Meadows, with the goal of accommodating existing use levels while reducing impact on surrounding residents. Trailhead improvements should be limited, so as to discourage this site from becoming a major trailhead.

ID	Name	Type	Narrative
J	Popperton Trailhead	Major Trailhead	Primary Trailhead for: Popperton Natural Area Adaptive Trails Bobsled Shuttle Block U Mt. Van Cott Twin Peaks from Dry Creek Steiner Segment BST Loop Red Butte Canyon Trails (from north) Improve Popperton TH to encourage use as primary access point for trails above the East Avenues and west U of U campus, Bobsled Trail, and Cemetery paths. 1) Establish 50-100 designated parking spaces (angle parking?) 2) Use existing water line to support tree plantings, turf area & drinking fountain 3) Install restroom w/ sewer connection. 4) Realign access trail through Federal Pointe subdivision to eliminate steep sections. 5) Construct downhill extension of Bobsled from Chandler Drive to connect cyclists to 11th Ave, with decision signage guiding them to Popperton or Bonneville Trailheads. 6) Install high-quality signage. 7) Aggressively control and educate about noxious weeds. 8) Accessible parking connections to accessible trails at Popperton Natural Area. 9) UTA bus route information for route 11 should be prominently posted to encourage alternative transportation to this trailhead.
6	Memory Grove	Access Point	Limited public parking is available on Canyon Road, but this is a popular access point for visitors to Memory Grove, the Freedom Trail, Ottinger Hall and Memorial Hall. 1. Signage directing trail users to the Memory Grove Hiking Trail should be placed near the south entrance to Memory Grove.
7	A Street	Access Point	On-street parking is available along this section of A Street, and a paved path provides access to the Memory Grove Hiking Trail and the Freedom Trail. 1. Minor signage improvements identifying access to the Memory Grove Hiking Trail should be installed.
8	Kay Reese Access	Access Point	Trail access from the back of Kay Reese Park provides a route to and from the BST via the Kay Reese Trail. No designated parking. This access is expected to primarily serve residents within walking distance.
9	Terrace Hills	Access Point	Primary access for Terrace Hills Loop Hike. Very limited parking with high potential for residential impacts as trails grow in popularity. Trail use limitations and new trail alignments encourage parking at Lower City Creek and Bonneville trailheads.
10	Sugarloaf	Access Point	Easement provides access to Sugarloaf summit. No other trail connections. Signage may not be advisable unless City is prepared to mitigate possible partying and undesirable uses.
11	Richland	Access Point	Provides access to Perry's Hollow Trails. City should work with private landowner to modify public trail easement and realign first 200' of access trail to improve physical sustainability.
12	North Bonneville	Access Point	Provides access to Perry's Hollow trails. If additional property is acquired west of here, it may be possible to create a small off-street parking area and reduce parking impacts on residents.
13	Bobsled	Access Point	This "access" point really serves as an exit for the Bobsled Trail. Uphill traffic from this point should be strongly discouraged for safety reasons.
14	Tomahawk West	Access Point	Provides access to BST alignments above the Aves.
15	Shriner's	Access Point	Minor access point to access Popperton Park Trails
16	Tomahawk East	Access Point	Hike-only access to Lime Kiln and BST alignments above Avenues.

PROPOSED TRAIL SYSTEM

PROPOSED ACCESS IMPROVEMENTS

ID	Name	Type	Narrative
South Sub Area			
K	Red Butte	Minor Trailhead	Primary Trailhead for: Red Butte Canyon downhill trail, Skyline Trail, The Slip Trail via Skyline & Mt. Wire Trails, Mt. Van Cott via Skyline Trail. Parking at this trailhead is very limited and constantly "poached" for student parking. Consider regulated access by permit or other measures.
L	Colorow	Minor Trailhead	Primary Trailhead for: Living Room Trail, Red Butte Trail, Mt. Wire Trail, Natural History Museum of Utah BST Section. 1) UTA bus route information for routes 228, 313, 455 and 473 should be prominently posted to encourage alternative transportation to this trailhead. Note that a one-block walk from Chipeta Way is required.
M	Emigration Overflow	Minor Trailhead	Provides additional overflow parking for the Emigration Trailhead.
N	Emigration Trailhead	Major Trailhead	Primary Trailhead for: Pumptrack (future), *BST U of U / This is the Place Section, Wagner Springs Knoll Trail, *Living Room Loop Hike, Red Butte Canyon Trails (from south), BST East Bench Section (future), Emigration Canyon trails (future). Develop this site to serve as the primary access point for foothill trails above This Is The Place and the south U of U campus, future Emigration Canyon trails, the future Emigration Greenway trail, and a future BST extension southward. 1) Establish 50-100 designated parking spaces on the north side of the road. 2) Work with SLCo to design site to insure safety of motorists and cyclists on Emigration Canyon Road. 3) Reopen and improve existing (closed) large restroom at This Is The Place, and drinking fountain. 4) Realign trails above trailhead to improve ease of access and physical trail sustainability. 5) Construct undercrossing under Emigration Canyon Road, connecting to existing TH infrastructure at west end of Rotary Glen Park. 6) Install high-quality signage that clearly designates parking for trail users, not zoo overflow, and provides wayfinding for all linked trail systems. 7) Aggressively control and educate about noxious weeds. 8) Consider expanding interpretive site with information about Pioneer Heritage, Donner Party, etc. 9) Install signage that educates trail users about property ownership and discourages improper use or access in This Is The Place heritage park.
P	Donner Trails	Minor Trailhead	Primary Trailhead for: Donner Loop Trails, Rotary Glen off-leash area
R	Rattler Gulch	Minor Trailhead	Provides additional / overflow parking for Emigration Trailhead, and alternate approach to Wagner Springs Knoll Trail.
17	Power Station	Access Point	Minor access point to the BST and Dry Creek Canyon.
18	Dry Creek Access	Access Point	For those using public transit, provides convenient access to: BST via Dry Creek, Block U, Red Butte Canyon Trails (from north), Encourage substantial use of this access point (despite no parking) using proximity to Transit.1) Highlight connection to Red TRAX stop with painted sidewalk and signage, and TRAX schedule posted at access point. 2) Continue sidewalk across Children's Center frontage. 3) Construct ramp climbing to bench from Medical Center Drive sidewalk 4) UTA bus route information for routes 2, 2X, 6, 11, 213, 354, 313, and 473 should be prominently posted to encourage alternative transportation to this trailhead.
19	BioFire Access	Access Point	Constructed switchbacks access the BST from the large parking area behind the BioFire building. Public parking spots may or may not be accommodated in the future. Expected primary use by BioFire employees.

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PROPOSED TRAIL SYSTEM

PLANNING JUSTIFICATION

The proposed trail system illustrated in Chapter Four is firmly rooted in pursuit of the project's overall goals. The following section describes specific features and characteristics of the proposed Foothills Trail System and how they support the goals of the plan.

ENVIRONMENTALLY SUSTAINABLE

The proposed Foothills Trails system seeks to balance the needs of trail users with the protection of natural resources and wildlife that inhabit the FNA. Frequent coordination with Salt Lake City Public Utilities Watershed Program has sought to promote a trail plan that allows for recreation while protecting the city's critical drinking water. As such, no trails are proposed within the protected watershed areas of City Creek canyon or Red Butte Canyon and careful consideration has been given to any trail alignments that approach watershed boundaries.

In addition, the plan also seeks to protect the wildlife residing with the FNA. After coordinating with the Utah Division of Wildlife Resources, the Planning Team determined that some current undeveloped zones within the FNA would benefit from additional environmental study prior to the implementation of proposed trails. These areas exist chiefly in the Foothills north of City Creek, in upper Dry Creek Canyon, and along the north face of Emigration Canyon. Primary concerns in these areas include winter range for elk and mule deer. Future environmental study of these areas will identify whether the proposed trail alignments identified in this plan are appropriate, require modifications, or require special management strategies such as seasonal closures.

ENJOYABLE

People derive enjoyment from the Foothills trail system through a variety of trail-related activities including dog-walking, hiking, trail running, mountain biking, wildlife watching, or simply socializing with friends. These activities create a tremendous public benefit for Salt Lake City residents and contribute to our community's quality of life. However, in open spaces along the urban fringe like the FNA, this variety of activities and intense user demand occasionally degrade the trail experience. Dog-walkers periodically conflict with mountain bikers, mountain bikes conflict with hikers, and large volumes of trail users can reduce wildlife/nature viewing experiences. Furthermore,

the trail features and characteristics that appeal to various user groups are fundamentally different. To combat these issues, the Foothills Trail System plan takes a two-fold approach: 1) The plan recommends more trail mileage. Additional trails will provide more opportunities for people to experience the FNA and disperse use over a larger system. 2) The plan recommends the development of new trails with special management restrictions. Currently, all trails within the Foothills are "shared use" and are open to all non-motorized users (hikers, bikers, and equestrians). The Foothills Trails System plan recommends the development of 61.5 miles of single-use trails. These include:

- Foot traffic only (hike)
- Downhill bike only
- Open to all uphill users / downhill bikes prohibited

By providing specific trails for particular trails users, the FNA can effectively manage large trail user volumes while providing specialized trail experiences for certain user

groups. Page 73 in the design guidelines gives an overview of the pro's and cons of shared use vs. single-use trail management.

The Foothills Trails System has been developed to accommodate all types of non-motorized trail users, whether it's a University of Utah Medical Center employee on 30-minute lunchtime walk, or a weekend warrior mountain biker seeking a four-hour ride. The plan specifies a variety of loops, difficulties, lengths, and experiences. Appendix A & B illustrate the various hiking and biking loop options available via the proposed trail system.

ACCESSIBLE

One of the major benefits of the FNA is its proximity to Salt Lake City residents. Approximately 21,000 residents live within a 10-minute walk of the FNA, and nearly 177,000 residents live within a 12-minute bike ride. Proposed access improvements have been developed to further promote bicycling, walking, and transit connections to the Foothills, including identifying locations for regional trailheads at lower elevations, and integration with the city's urban trails network and UTA Trax and bus routes.

Additionally, the plan seeks to provide strategic improvements to trailhead and access infrastructure. In general, the efforts have focused on routing regional trailhead traffic to locations outside of residential neighborhoods with fewer neighborhood impacts. Trailhead improvements at the Emigration Canyon Trailhead, Bonneville Drive salt storage property, Popperton Park and Warm Springs Park will seek to take the pressure off of other locations such as Hilltop Road. Page 62 illustrates active transportation connections to the FNA and proposed improvements to trailheads and access points.

SAFE

Single-use trails can alleviate safety concerns related to conflicts between user groups while providing a targeted, higher quality trail experience for a particular user. In addition, single-use trails can be used around congested trail areas (such as trailheads) to limit conflicts between users. Guidelines for the design of intersections where downhill bike only trails cross other trails has been carefully crafted to promote trail user safety (see page 80).

The Foothills Trail System Plan also specifies the development of a logical, consistent, and attractive wayfinding system to support a safe trail user experience. The proposed wayfinding system is illustrated in Chapter Five and includes a comprehensive family of elements. Proposed trail markers will be georeferenced and supplied to the Salt Lake City Fire Department to aid in locating emergency response calls within the FNA.

MAINTENANCE

In order to create a lasting, community asset that can be enjoyed by future generations, the Foothills Trail System has been designed with maintenance in mind. Most of the existing trails in the FNA (with the exception of the BST) are unplanned, social trails that were never formally routed or professionally constructed. These trails often exhibit erosion and trail braiding that degrades the FNA. The Foothills Trail System Plan seeks to repair and revegetate existing "problem" trails as shown in the Decommissioning Plan on page 61.

New trails proposed in the Foothills Trail System Plan will be built to sustainable trail construction standards as illustrated in Chapter Five. These design guidelines provide a comprehensive description of trail routing and construction details to guide the development of the Foothills Trail System Plan. If implementation of the proposed trail segments follow these guidelines, ongoing annual maintenance expenses can be kept to only about 4% of construction costs, even under substantial increases in user traffic.

05

DESIGN GUIDELINES

Existing signage along the Bonneville Shoreline Trail

DESIGN GUIDELINES

OVERVIEW

Trails are the primary way in which people experience the Foothills Natural Area. Natural surface trails that are carefully and sustainably sited within the Foothills will promote an enjoyable user experience and minimize future maintenance requirements. These design guidelines specify how trails and supporting facilities should be designed and constructed within the Foothills Natural Area. The following guidelines compile best practices from numerous natural surface trail design manuals including:

- US Forest Service Standard Trail Plans and Specifications
- IMBA Trail Solutions: IMBA's Guide to Building Sweet Singletrack
- Minnesota DNR Trail Planning, Design, and Development Guidelines

Each trail both creates and is affected by an entire web of relationships between its site, visitors, alignment, soils and materials, water, management, and far more."

-Troy Scott Parker, Natural Surface Trails by Design

DESIGN GUIDELINES

TYPES OF FOOTHILL TRAILS

TYPES OF FOOTHILL TRAILS

Natural surface trails can be designed to accommodate a broad or narrow range of users depending on the experience desired. Trails may also be required to serve other utilitarian access functions depending on the underlying property ownership or access agreement.

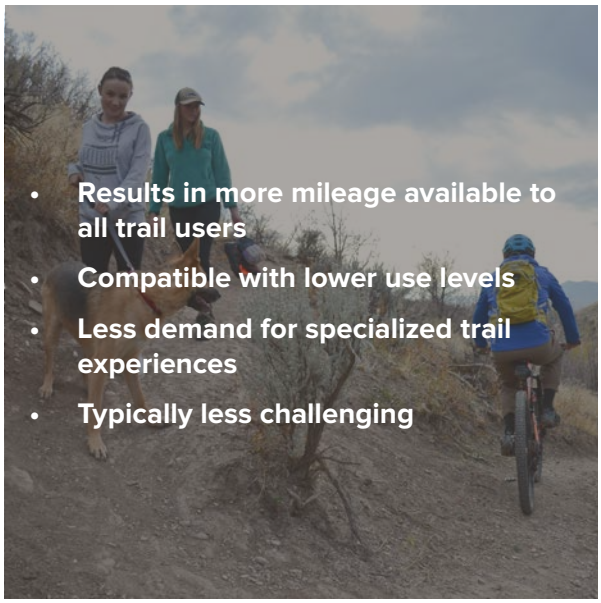
	SHARED USE TRAILS	BIKE OPTIMIZED TRAILS	HIKE OPTIMIZED TRAILS	SERVICE / ACCESS ROADS	ACCESSIBLE TRAILS
Description	Shared-use trails accommodate all types of non-motorized trail users (most commonly hikers, bicyclists, and equestrians)	Bicycle optimized trails are constructed to enhance the experience and efficiency of riding a bicycle	Hiking-optimized trails are constructed to facilitate access to hikers and trail runners.	Service access roads may facilitate trail user circulation however ultimately exist to facilitate access to infrastructure or other destinations	Accessible Trails comply with the ADAAG's regulations for "Accessible Trails"
Tread Width	36"-72"	36"-72"	18"-60"	Varies, typically 60"-120"	36" min.
Running Slope	Overall running slope of 10% or less (up to 15% for short segments)	Overall running slope of 6-8% or less to limit braking (up to 15% for short segments)	Can be routed with steeper running slopes up to 15% (depending on local soil conditions)	Usually predetermined by existing route	Running slope of 1:20 (any distance); 1:12 (max 200'); 1:10 (max 30'); 1:8 (max 10')
Cross Slope	5% max	5% max	8% max	Usually predetermined by existing route	5% max
Appropriate Characteristics	Small berms, rollers, slow-speed technical features, clear sightlines on faster segments of trail	Larger berms and/or high speed features, jumps, drops, elevated structures, and other technical features suited to bicyclists	Narrow tread, steps (where needed), tight switchbacks,	Varies by purpose but typically constructed to accommodate periodic motorized access	Cross slope below 5%, 2" max. height tread obstacles, passing space every 1000' where tread is less than 60"
Inappropriate characteristics	Large berms, jumps, drops, high-speed features	Mandatory advanced features without "ride-arounds"	Large berms, jumps, drops, high-speed features	Any trail features that would interfere with the utilitarian purpose of the service road and prevent access to the associated infrastructure	Any characteristics that compromise the accessible requirements noted above
Management Considerations	Typically managed as shared use	Direction of travel is commonly specified; may also be preferred-use or single use	May be designed as single-use, or preferred-use trails; if bicyclists are permitted, direction of travel may be specified	Typically managed as shared use	Typically managed as shared use

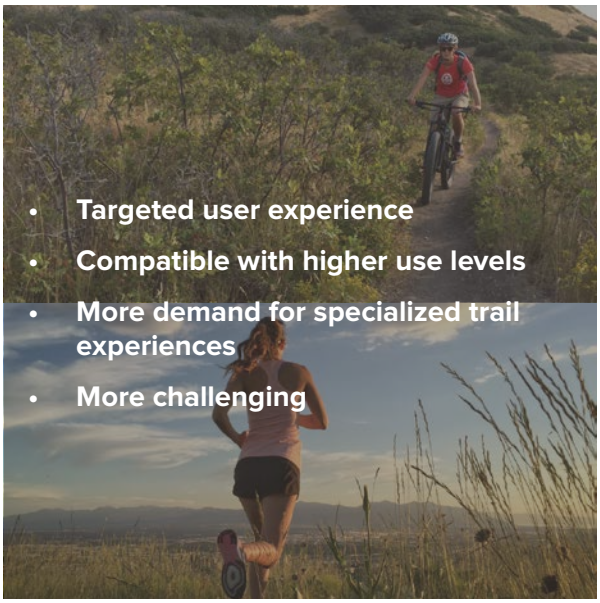
DESIGN GUIDELINES

TRAIL MANAGEMENT CONSIDERATIONS

SHARED-USE TRAILS VS. SINGLE-USE TRAILS

Natural surface trails can be managed and designed as shared use (allowing all types of non-motorized trail users), preferred use, or single use (allowing a single type of trail user).





Shared Use — Preferred Use — Single Use

SHARED USE DESIGNATION CONSIDERATIONS

- Shared use trails accommodate the broadest range of users and provide the most mileage available to all user groups.
- Promotes shared stewardship of the trails.
- Cost- and resource-efficient, taking advantage of available space and trail mileage. This results in fewer miles than would be necessary to accommodate trails for individual user groups.
- Support the most visitors. Trails that lead to specific major destinations, such as historic features and scenic vistas, should be considered for shared use, since most visitors will be drawn to the point of interest regardless of the mode they'll use to get there.

PREFERRED USE DESIGNATION CONSIDERATIONS

- Preferred-use trails allow two or more user types to access a trail but are designed to primarily accommodate the experience of only one of them.

SINGLE-USE DESIGNATION CONSIDERATIONS

- Single use trails can alleviate congestion and conflicts among user groups when used in conjunction with shared use trails.
- Single use trails can be more technical or rugged, or provide higher quality trail experiences catered to a single trail user group.
- Single use trails can accommodate narrower tread widths without compromising the safety or enjoyment of other trail users.
- Single use trails can also help to mitigate site-specific constraints such as poor sightlines, steep terrain (by allowing construction of stairs), or sensitive environmental areas.

DESIGN GUIDELINES

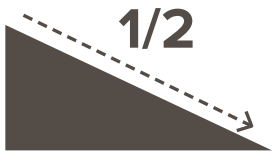
TRAIL ALIGNMENT

* Application of trail alignment principles may not be possible on existing trails but should always be applied on new trails.

TRAIL ALIGNMENT PRINCIPLES*

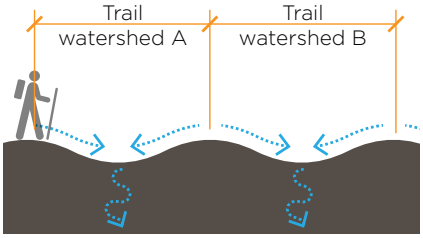
IDENTIFY CONTROL POINTS

Positive control points are places that people want to go. These points might include scenic overlooks, trail access points, interesting landforms, water, or historic sites. Negative control points are places that the trail system should avoid. These could include places like private property, sensitive environmental resources, or safety hazards. By routing trail users to places they instinctively want to go and avoiding potential liabilities, trail planners can mitigate the potential for unauthorized social trails while limiting trail user exposure to unsafe or undesirable places.



ADHERE TO THE HALF RULE

Trails whose running slope generally exceeds more than half the grade of the sideslope it's crossing are considered "fall line" trails. Drainage crossing a fall-line trail will follow the trail rather than crossing it creating a high probability for erosion.

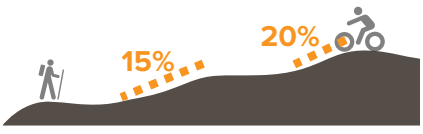


ROLLING CONTOUR TRAILS

Rolling contour trails gently undulate while traversing side slopes to divide trails into distinct trail watersheds. Trail watersheds limit the amount of drainage flowing across a trail by combining an out-sloped trail tread with frequent high and low points (grade reversals) along the trail profile.

10 % MAX. AVERAGE GRADE

An overall trail grade of less than or equal to 10% provides a general framework for a sustainable trail profile. An overall trail grade of 5-7% allows for some undulation and for short sections approaching 10%. Overall trail grades below 10% are also suitable for most soil types and minimizes erosion.



MAXIMUM SUSTAINABLE TRAIL GRADES

Maximum sustainable trail grades relate to short segments (10' or more) that may exceed the recommended overall average grade of 10%. Typically maximum sustainable trail grades vary between 15% and 20% depending on soil type, rock, annual rainfall, direction of travel or many other factors.

CREATE LOOPS

Routing trails as loops where feasible provides a more interesting trail experience. "Out and back", or dead-end trails sometimes promote the development of social trails when trail users are temped to create their own loops.

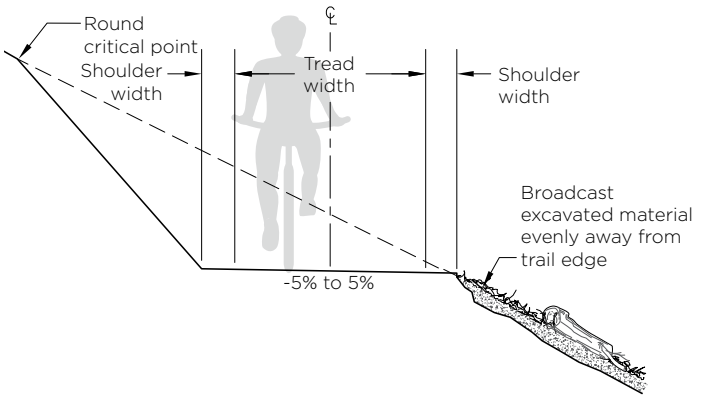
DESIGN GUIDELINES

TRAIL CONSTRUCTION

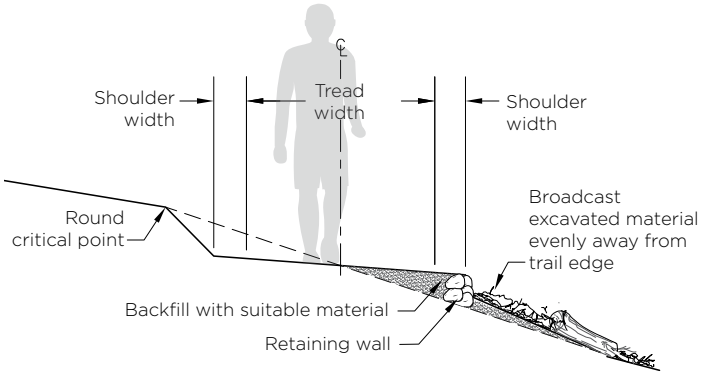
NATURAL SURFACE TRAIL CONSTRUCTION

Natural surface trails meet the recreational demands of hikers, mountain bikers, equestrians, and other non-motorized recreational trail users. Proper trail construction is important to reduce ongoing maintenance costs as well as to ensure that the trail is both usable and enjoyable for intended user groups.

FULL BENCH CONSTRUCTION TRAILS



PARTIAL BENCH CONSTRUCTION TRAILS



DESIGN STANDARDS

- **Tread:** Trail surface should be compacted native material soil.
- **Trail Benching:** Full bench trails provide the most durable trail construction however partial bench trails can provide an adequate trail surface where full bench trails are not possible or “singletrack” is desired without waiting for vegetation to re-naturalize adjacent to the trail. Partial bench trails are only allowed with retaining walls on the downhill side.
- **Trail Texture:** Trail texture should vary based on intended user skill level, with smoother trails for less-skilled users and rugged trails for more-skilled users
- **Tread Width:** Varies by anticipated use levels, skill levels, and types of users (24” - 8’-0”).
- **Horizontal Clearance:** A 1 ft. shoulder maintained with minimum vegetation should be provided free of obstacles.
- **Vertical Clearance:** 8 ft. min., 10’ where equestrian use in anticipated
- **Cross Slope** May vary from -5% to 5%, but always sloped counter to user forces.
- **Running Slope:** Varies by intended trail type, see guidelines on p. 42.
- **Drainage:** Provide regular grade reversals (approximately every 25’) and exits for trail drainage.
- **Erosion Control:** Spread approved native seed mix throughout disturbed soil areas along all new trails.
- **Additional Resources:** US Forest Service Standard Trail Plans and Specifications, IMBA Trail Solutions: IMBA’s Guide to Building Sweet Singletrack (2004)

DESIGN GUIDELINES

CONSTRUCTION METHODS

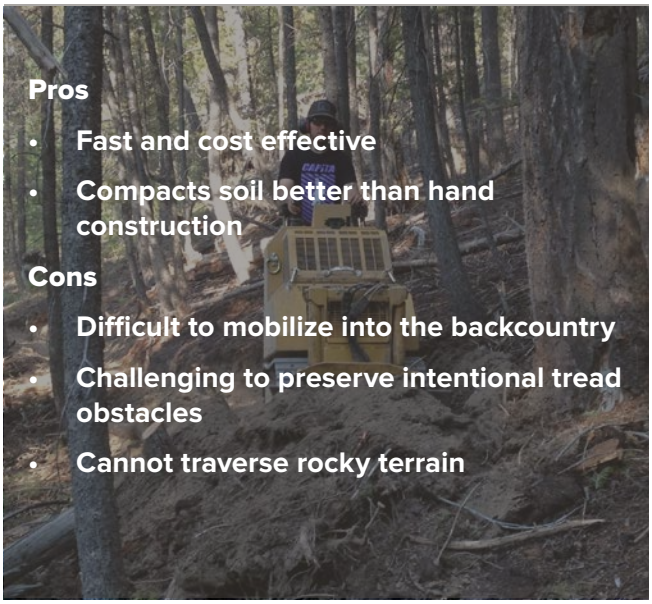
TRAIL CONSTRUCTION METHODS

The manner by which a trail is constructed (mechanized or by hand) influences the finished product. However, the two methods should not be conflated with a desired end result. Rather than rely on an implementation method, a proposed trail should be described using the following performance/design standards:

- Impacts (visual, soil and plant disturbance)
- Tread width
- Tread texture
- Tread shaping (in/out-slope, berms, lips/landings)
- Clearing limits
- Sinuosity/meander
- Drainage features (spacing and amplitude of grade reversals)
- Angle of repose of the back-slope
- Maximum height of tread obstacles

It is then up to the contractor to select the most cost-effective method to build the trail in conformance with the performance standards. For example, a narrow, rugged trail in the backcountry will likely be built by hand whereas a 48”-wide, smooth trail in the front-country will likely be built using mechanized equipment. Even with performance standards it is good practice to mandate maximum equipment size so that unqualified contractors don’t bid on a project expecting to use equipment that is better suited for road building than trail construction.

Other factors besides access and physical characteristics may influence the chosen trail construction method. Schedule and availability of volunteers may also impact trail construction methods.



(Photo Credit: Sagebrush Construction)

(Photo Credit: Bingham Cyclery)

DESIGN GUIDELINES

TRAIL TURNS

CLIMBING TURNS

Climbing turns help trail users to gain elevation at a consistent and sustainable grade. There is no constructed platform or landing, and users will be climbing directly in the fall line for a short segment. Therefore, climbing turns should be free-flowing and gentle, and are not suitable for sideslope grades steeper than 7 %.

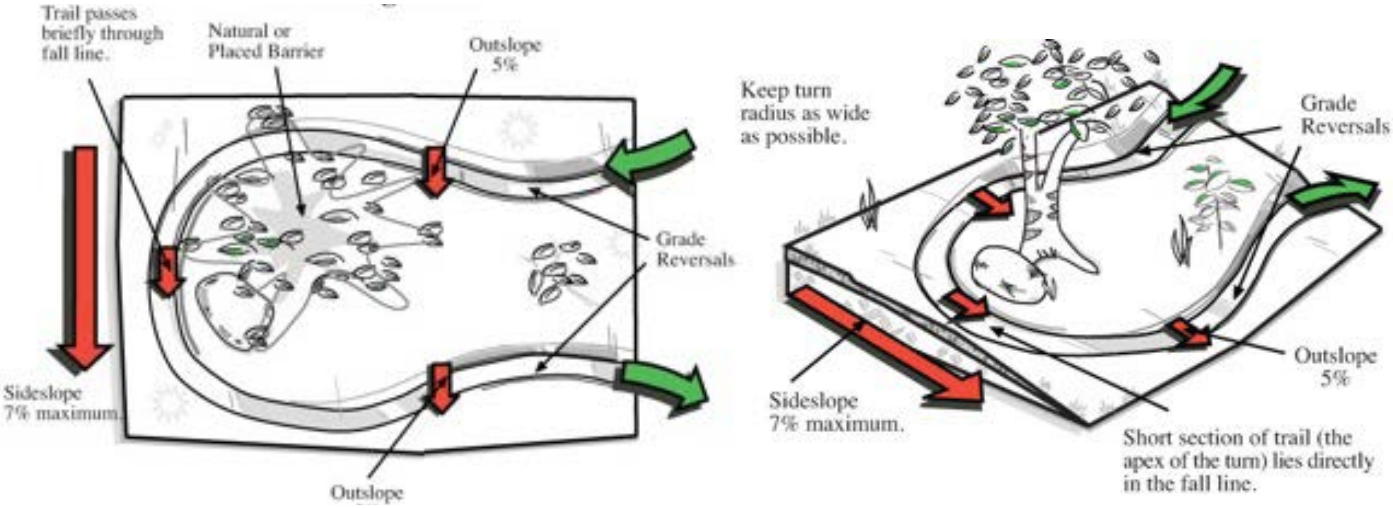


Image Credit: IMBA. Trail Solutions: IMBA's Guide to Building Sweet Singletrack (2004)

RECOMMENDED APPLICATION

Typical Placement

- Climbing turns can located on shallow slopes at or below 7%.

Typical Construction

- Climbing turn radii should be kept as wide as possible, ideally 20' or more.
- Upper and lower legs of the turn are joined by a short section of trail that lies in the fall line. Armoring can be used to reduce maintenance on the fall line section of trail.
- Grade reversals should be located above and below the turn.

DESIGN GUIDELINES

TRAIL TURNS

SWITCHBACKS

Switchbacks allow trails to reverse direction via a small, constructed platform. Switchbacks are more sustainable than climbing turns on steeper slopes.

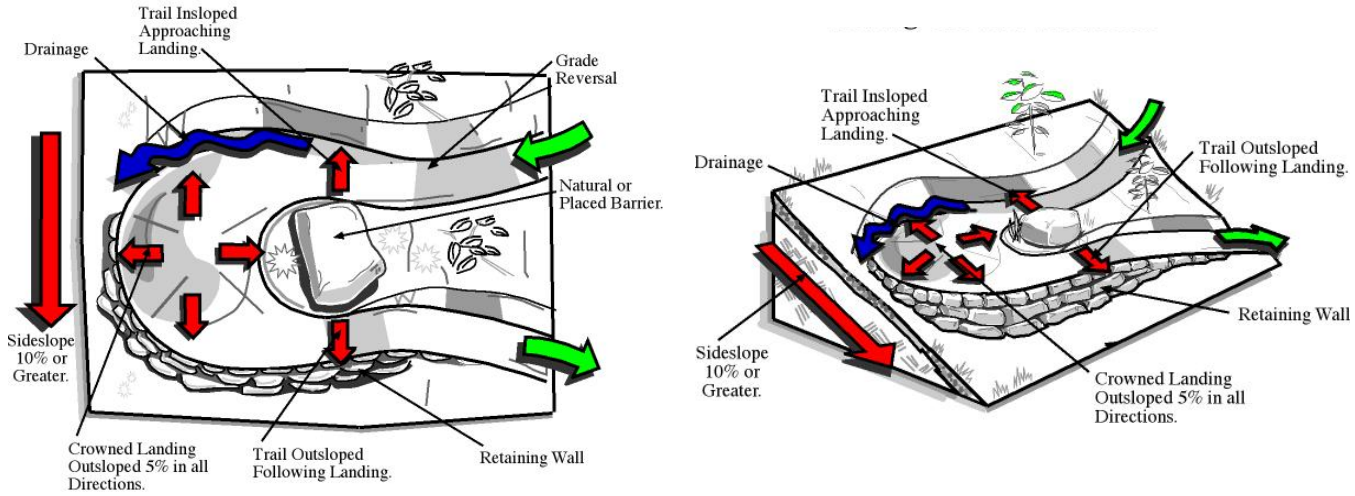


Image Credit: IMBA. Trail Solutions: IMBA's Guide to Building Sweet Singletrack (2004)

RECOMMENDED APPLICATION

Typical Placement

- Switchbacks should be located on the gentlest slope available. Gentle knobs or other natural platforms are good places to locate switchbacks.
- Stagger switchbacks to avoid short cutting.

Typical Construction

- Turn should be placed on a near level platform that is slightly crowned.
- The turning platform should have a minimum 6' radius.
- Approaches should follow the contour and include grade reversals in advance of the turning platform.
- Grade reversals should be located above and below the turn.
- Approaches should be designed to control trail user speeds into the turning platform to reduce braking and maintenance.
- Material excavated from the top leg can be used to build up the bottom leg.
- Excavated material forming the turning platform and lower leg should be held in place with a retaining wall.

DESIGN GUIDELINES

TRAIL TURNS

IN-SLOPED TURNS

In-sloped turns can limit skidding and trail widening for mountain bike trail users at turns in the alignment while providing a fun and sustainable feature.

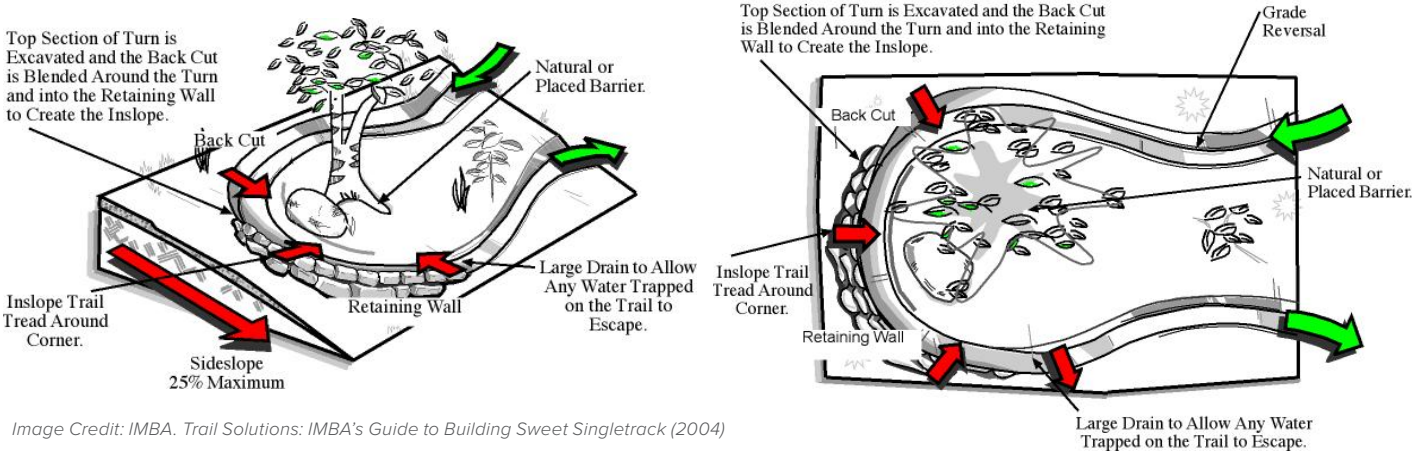


Image Credit: IMBA. Trail Solutions: IMBA's Guide to Building Sweet Singletrack (2004)

RECOMMENDED APPLICATION

Typical Placement

- In-sloped turns should be considered for any location where slowing is likely needed to allow a trail user to negotiate a turn.
- In-sloped turns work best on gentle sideslopes up to 25%.

Typical Construction

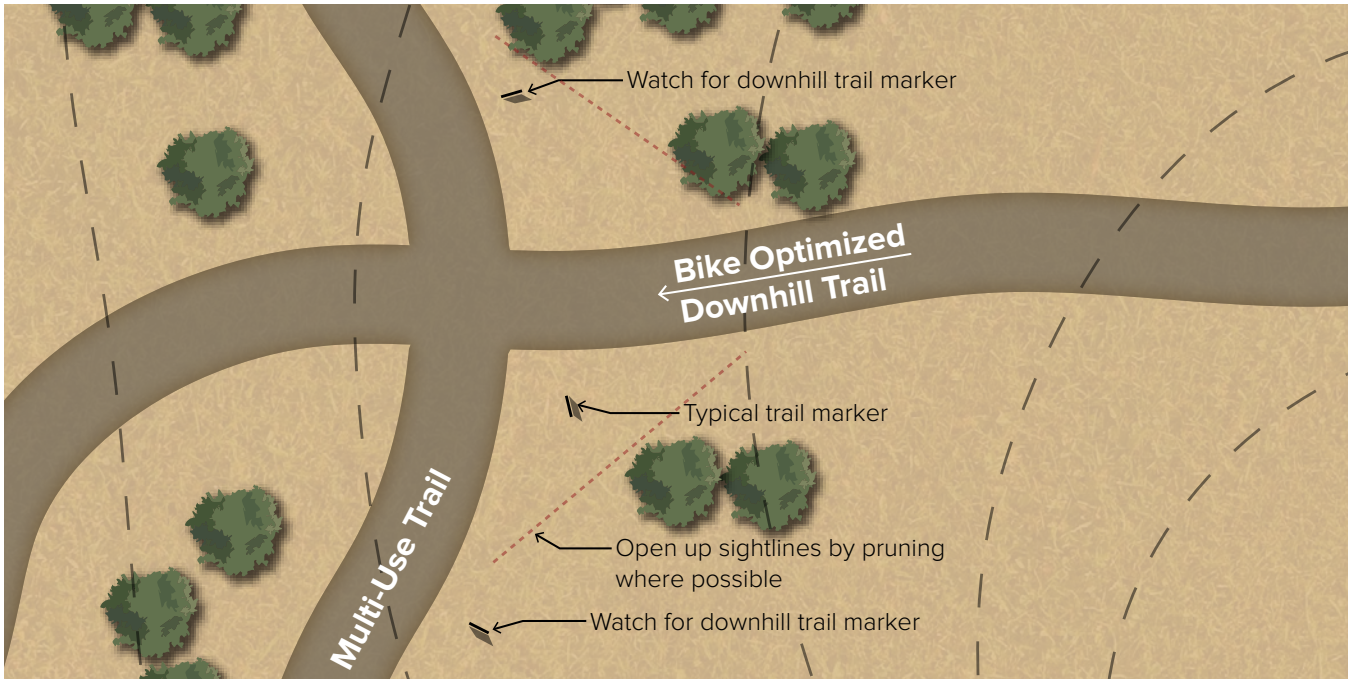
- Approaches should follow the contour and include grade reversals in advance of the turn.
- The approach above the turn should be kept at a relatively gentle grade (5-8%) to keep speeds in check prior to the turn.
- The approach below the turn should be brief but steep (around 15%).
- Keep the radius of the in-slope turn between 10 to 15 feet.
- Position the turn around a natural features such as a boulder or tree to prevent short-cutting of the turn.
- Keep sightlines clear since trail users will be capable of navigating these turns at higher speeds.

DESIGN GUIDELINES

TRAIL INTERSECTIONS

TRAIL INTERSECTIONS WITH BIKE-OPTIMIZED DOWNHILL TRAILS

Directional trail intersections require some subtle design strategies to promote safety for both downhill mountain bike directional trail users and trail users traveling along the intersecting trail



RECOMMENDED APPLICATION

Directional Trail Intersections

- Layout crossing trail to slightly climb to meet the directional trail intersection to promote slower speeds and orient trail users so they are looking up the directional trail for downhill traffic
- Consider placing a technical feature or choke point along the directional trail to slow downhill traffic prior to the trail intersection
- Locate intersection in an area with good sightlines; prune adjacent vegetation as needed
- Place warning signage along the multi-use trail in advance of the intersection warning trail users to watch for downhill traffic

DESIGN GUIDELINES

TRAIL DRAINAGE CROSSINGS

NATURAL SURFACE TRAIL DRAINAGE CROSSINGS

Backcountry trail crossings of drainages can span a variety of treatments depending on the size, flows, and frequency of water flowing through the drainage.

Direct Crossing

Hardened Crossing

Culvert

Bridge

Increasing drainage flows and frequency

Increasing construction complexity & cost

Increasing water quality protection

RECOMMENDATION APPLICATION

Direct Crossing

- Direct crossings can be utilized for drainages where flows are spread out and clearly intermittent and the facility is low-use.

Hardened Crossings

- Hardened crossings are most appropriate for drainages that experience seasonal, slow moving water that would otherwise erode a trail.
- Trail hardening can be accomplished through a variety of materials such road base or large flat stones tightly fitted together.

Culverts

- Culverts are most appropriate for drainages with periodic flows in narrow, defined channels where ramping up to the crossing is not necessary.
- Culverts shall be armored around the inlet.

Bridges / Boardwalks

- Bridges or boardwalks are the preferred crossing strategy for all drainages with flowing or continuously present water.
- Deck width shall match the trail width.

DESIGN GUIDELINES

TRAIL DRAINAGE IMPROVEMENTS

KNICKS

Knicks are effectively out-sloped drains. Knicks can be utilized to re-direct water off of poorly draining sections of trails on gentle slopes.

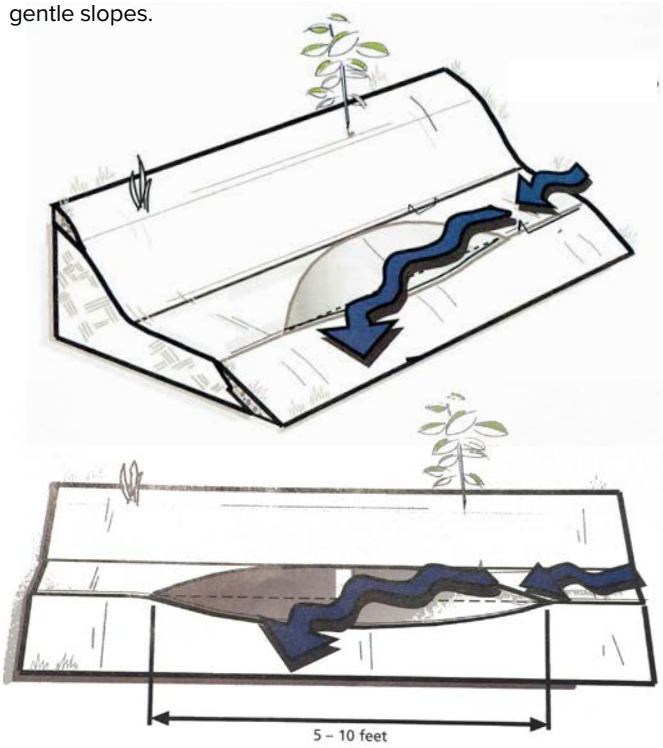


Image / Photo Credit: Trail Solutions: IMBA's Guide to Building Sweet Singletrack (2004)

RECOMMENDED APPLICATION

Typical Placement

- Knicks are normally located on gradual segments of existing trail where puddling occurs.
- Knicks should be located adjacent to ground lower than the trail so that the knick will have a place to drain.

Typical Construction

- Knicks should be constructed as semi-circular depressions, about 10-feet in diameter, that direct water to the outside of the trail.
- Knicks should be constructed with a 15 % max. out-slope.

DESIGN GUIDELINES

TRAIL DRAINAGE IMPROVEMENTS

ROLLING GRADE DIPS

Rolling grade dips are useful in draining water from a trail whose slope is too steep to be drained by a knick alone. Rolling grade dips are preferred over waterbars which require frequent maintenance and compromise the trail user experience. Rolling grade dips may have limited application within the Foothills as they require cohesive soils that are not common throughout most of the project area.

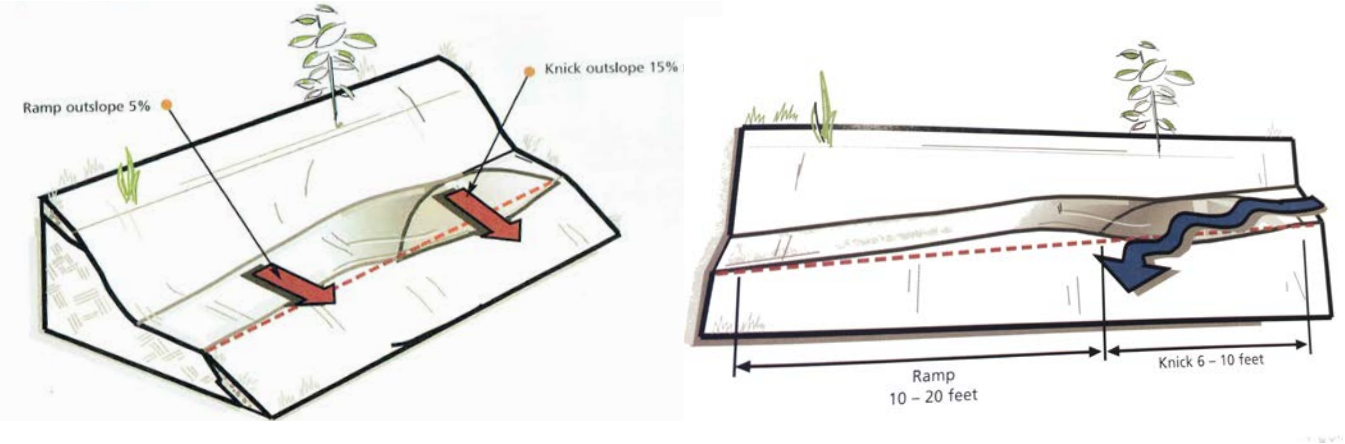


Photo Credit: IMBA. Trail Solutions: IMBA's Guide to Building Sweet Singletrack (2004)

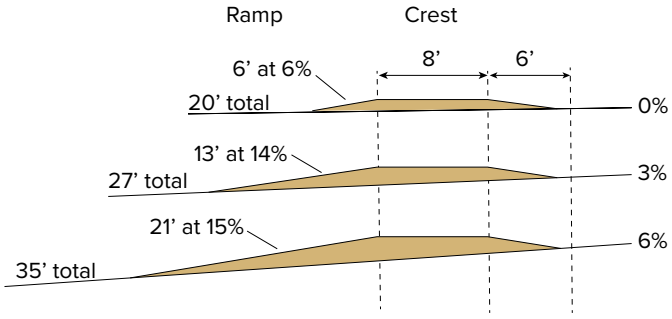
DESIGN STANDARDS

Typical Placement

- Rolling grade dips are typically located at sections of trail where water flows down the trail rather than across it.
- Rolling grade dips can be employed on steeper slopes than knicks.
- Rolling grade dips should only be installed on cohesive soils. Sandy or gravelly soils are not conducive to construction of rolling grade dips.
- Rolling grade dips are best located at a natural roll or change in trail grade that can be enhanced.
- Rolling grade dips are generally most useful when placed near the mid-point of a segment of descending trail.

Typical Construction

- A rolling grade dip features a knick followed by a crest and a long, gentle ramp hindering water from flowing down the trail
- Ramps and crests should be thoroughly compacted and consolidated to resist the velocity of water running down the trail.
- Typically, soil excavated from the knick can be used to construct the crest.



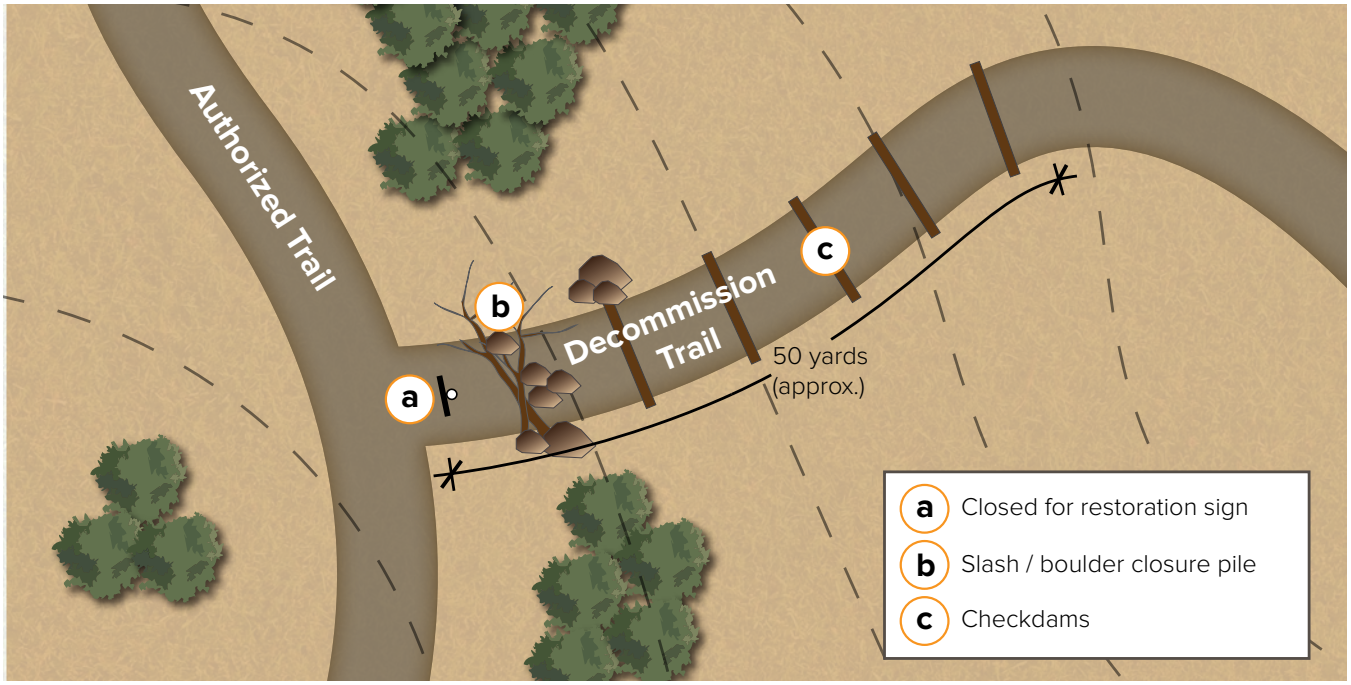
Diagrams adapted from MNDOT Trail Planning, Design and Development Guidelines (2006)

DESIGN GUIDELINES

TRAIL DECOMMISSIONING

ACTIVE TRAIL DECOMMISSIONING

Active trail decommissioning is recommended for trails that are actively eroding, highly susceptible to erosion, or are near sensitive environmental resources such as high quality habitat or watershed lands. Treatments for these locations attempt to deter trail user access and stop existing erosion. With management and time, these trails should be restored to a more natural state.



RECOMMENDED APPLICATION

Trail Entrance

- Place “Closed for Restoration” sign at entrance to trail to be decommissioned.
- Place slash and/or boulders completely across trail and behind signage to reinforce the trail closure.

Erosion Control

- Stabilize all existing erosion issues within the first 50 yards of the trail access. Assess the full length of the trail for other key drainage locations that may require erosion control measures.
- Place timber or boulder check dams at areas that are currently eroding.
- Fill trail ruts with soil and/or slash. Straw wattles or similar sediment catchment may also be used.
- Obliterate any major trail cuts and blend the trail bench back into the surrounding landform.

Revegetation

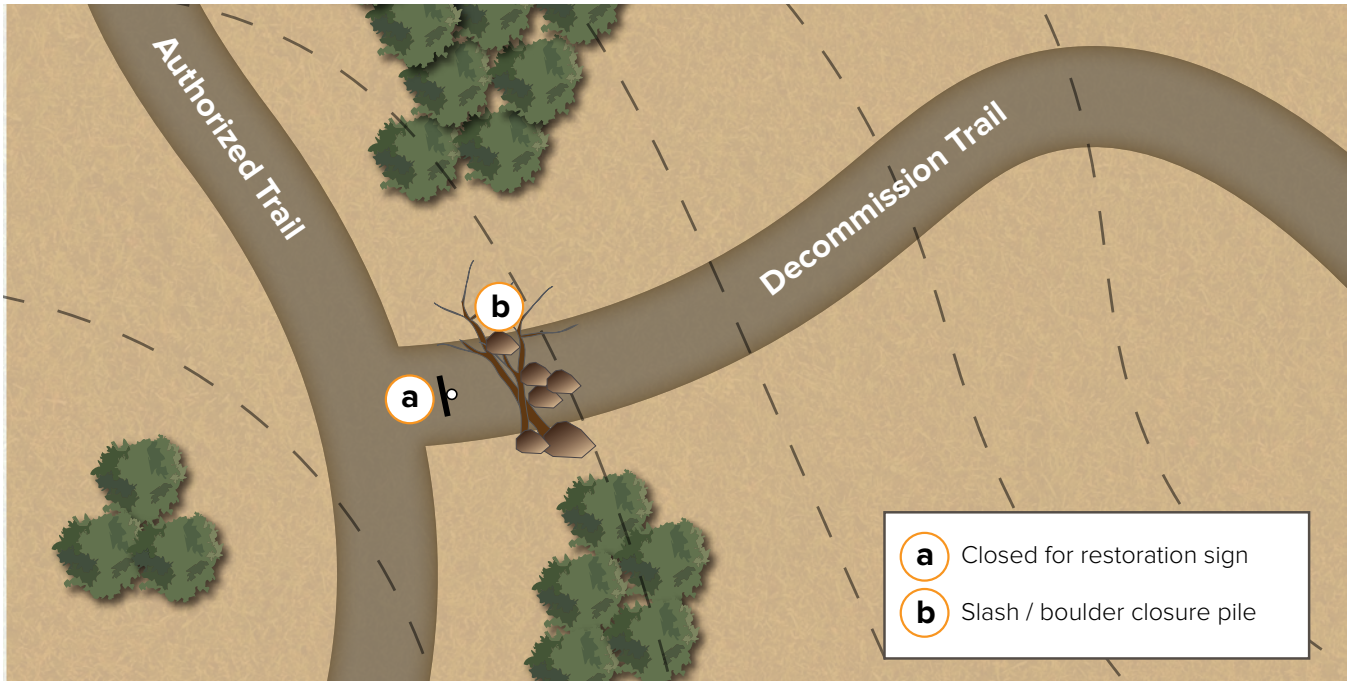
- Scarify soil 2”-6” and revegetate by broadcast or hydroseeding with an approved Foothills native seed mix. Seed only in the spring or fall.
- Erosion control blanketing may be utilized in difficult or critical areas.

DESIGN GUIDELINES

TRAIL DECOMMISSIONING

PASSIVE TRAIL DECOMMISSIONING

Passive trail decommissioning is recommended for trails that are generally stable and pose limited danger to sensitive natural resources. Treatments for these locations focus on deterring trail use and allowing the trail to re-naturalize over time.



RECOMMENDED APPLICATION

Trail Entrance

- Place “Closed for Restoration” sign at entrance to trail to be decommissioned.
- Place slash and/or boulders completely across trail and behind signage to communicate the trail closure. Use on-site slash piles for material or gain approval from land owner to fell adjacent trees.

Erosion Control

- Review the complete extent of the trail for major erosion issues. Mitigate erosion as needed.

DESIGN GUIDELINES

TRAIL DECOMMISSIONING

TRAIL ABANDONMENT

Some trails within the Foothills that are not actively contributing to management or environmental problems but are not viable candidates to become part of the official trail system may simply be abandoned in place. These trails may receive occasional use by specific user groups such as trail runners or downhill mountain bikers, but lack widespread appeal to a majority of trail users. These trails would not be actively closed through either intensive decommissioning or passive decommissioning. They would receive little to no maintenance and would not be addressed through the Foothills Natural Area signage and wayfinding program. SLC Parks and Public Lands may monitor these trails for increases in erosion or management issues that could necessitate intensive or passive decommissioning.

REVEGETATION

Existing trails identified for intensive decommissioning, proposed trail re-routes, and other disturbed areas should be revegetated with native plants and grasses. Areas to be seeded should be scarified with a fire rake or similar tool to a depth of 1/4 - 1/2” and wattles or connectivity modifiers installed to catch and hold seeds. Cultivation should take place no sooner than 2 weeks prior to seeding. Preferred time of seeding is late October - February. Areas that are inaccessible or have existing native vegetation that has been disturbed should not be cultivated.

All areas to be seeded should be prepared with a cleated roller, crawler tractor, or similar equipment that forms longitudinal depressions at least 2 inches deep. This method should be used for stabilization and preparation of the surface to be seeded. The entire area should be uniformly covered with longitudinal depressions formed perpendicular to the natural flow of water on the slope. The soil should be conditioned when possible with sufficient water so the longitudinal depressions remain in the soil surface until completion of the seeding. Areas prepared for seeding should be in a weed free and bare condition. All bags of seed should be brought to the site in sealed bags and should have seed labels attached showing the seed meets the requirements. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be accepted.

Seed shall be dispersed with a hand-crank or wheeled seed-spreader. Straw wattles or erosion control blankets should be used on slopes steeper than 3:1.

Foothills Revegetation Seed Mix		Percent Cover Desired
Pascopyrum smithii	**Western wheatgrass**	**30**
Pseudoroegneria spicata	**Bluebunch wheatgrass**	**25**
Poa secunda	**Sandberg Bluegrass (native genotype)**	**20**
Hedysarum boreale	**Northern sweetvetch**	**5**
Balsamorhiza saggitata	**Arrowleaf balsamroot**	**5**
Achillea millefolium var. occidentalis	**Western yarrow**	**5**
Artemisia tridentata	**Big sage**	**5**
Ericameria nauseosus	**Rabbit brush**	**5**

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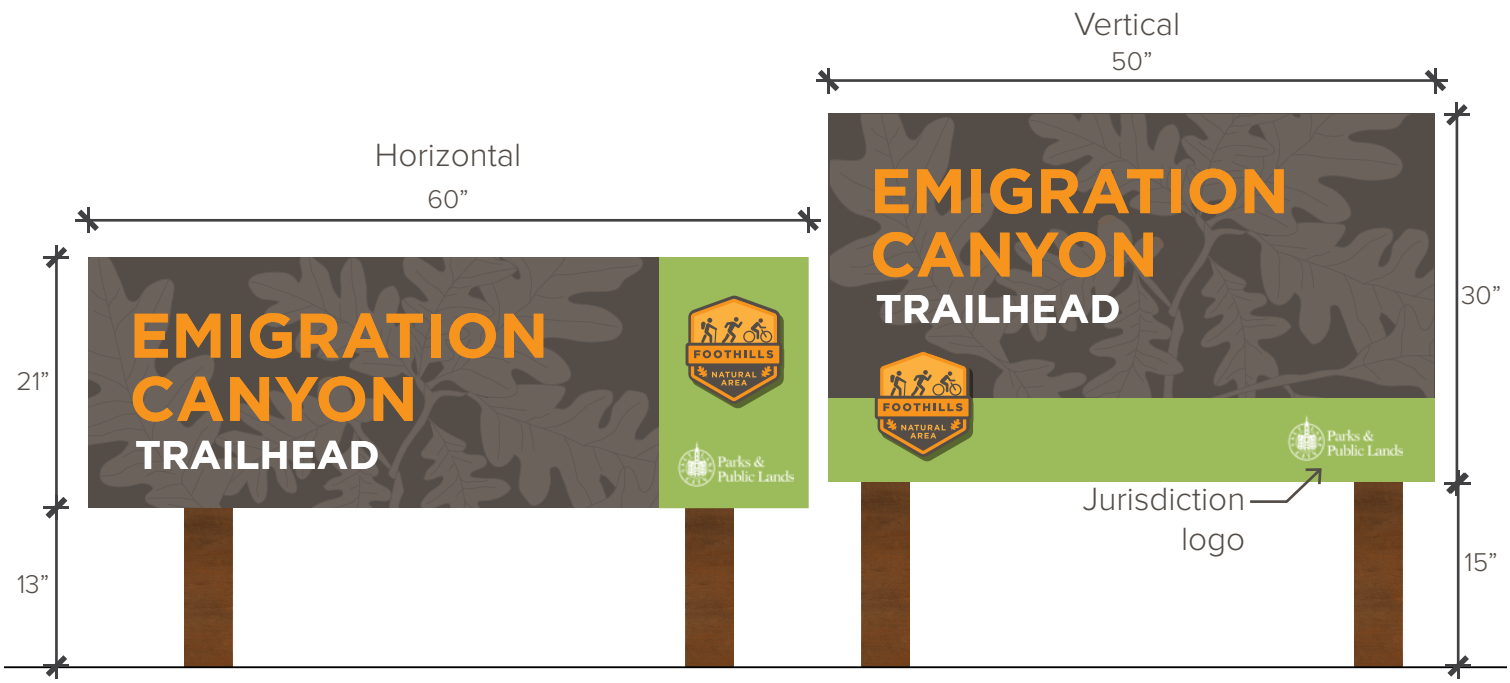
DESIGN GUIDELINES

TRAIL WAYFINDING

TRAILHEAD MONUMENT

Trailhead monuments alert pedestrians, bicyclists, and motorists traveling along a public roadways to the presence of a trailhead for the Foothills Natural Area.



RECOMMENDED APPLICATION

Placement

- Trailhead monuments should be located adjacent to the public ROW near the trailhead parking lot.
- Monument signage should be visible from adjacent streets and comply with the SLC Sign Code.

Construction

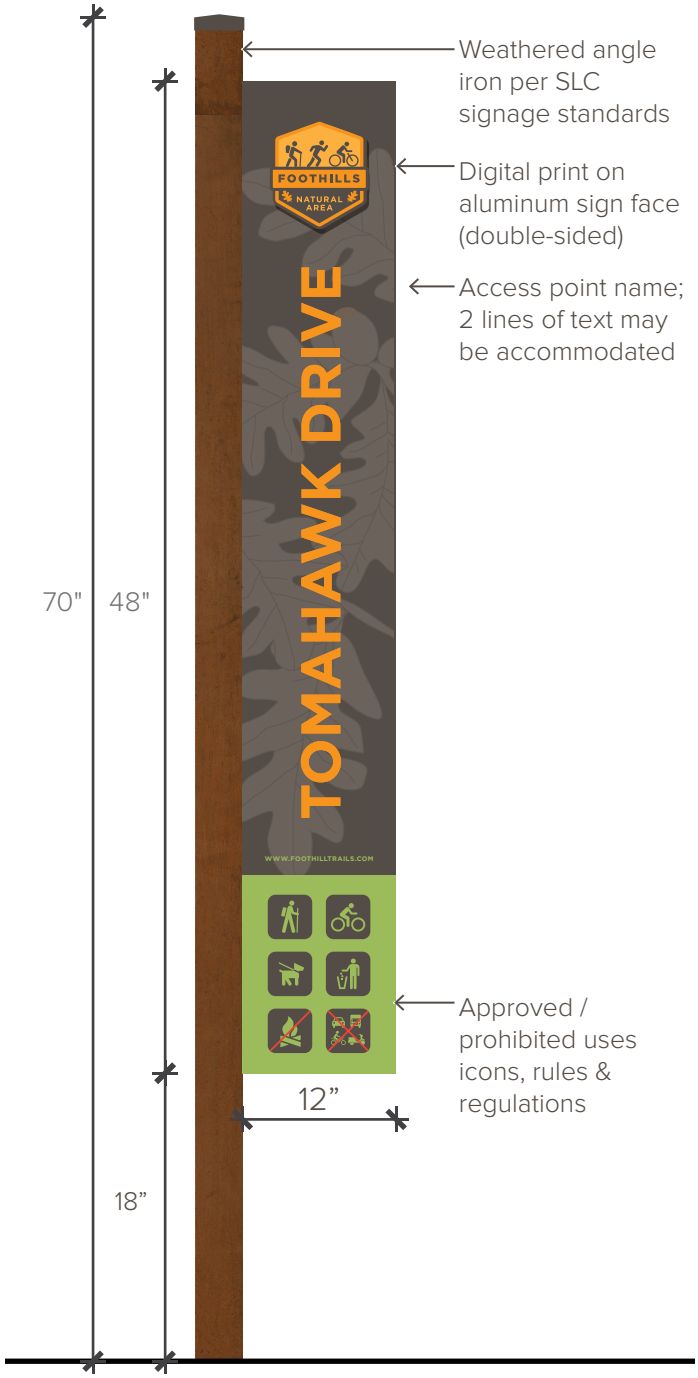
- **Support Posts:** Treated or rot-resistant 6x6 wood posts, tubular weathered steel, or weathered angle-iron.
- **Sign Panel:** Digital print on aluminum (size varies). Place one panel on each side of the monument or use double-sided sign panel where monuments can be viewed from two directions.
- **Permitting**: Secure applicable sign permits.

DESIGN GUIDELINES

TRAIL WAYFINDING

ACCESS POINT SIGNAGE

Secondary access points with limited parking, services, or user traffic may not necessitate the same level of information and signage as formal trailheads with greater use.



RECOMMENDED APPLICATION

Placement

Access point signage should be placed at all access points from the public ROW.

- Access point signage should be situated so that the sign blade is perpendicular to adjacent street or public ROW
- Signage should be placed 2’-0” off of the trail in the most visible location

Construction

- **Sign Post:** 5’-10” height, weathered angle iron
- **Sign Panel:** Double-sided, digital print on aluminum, 12” x 48”
- **Permitting**: Secure applicable sign permits.

DESIGN GUIDELINES

TRAIL WAYFINDING

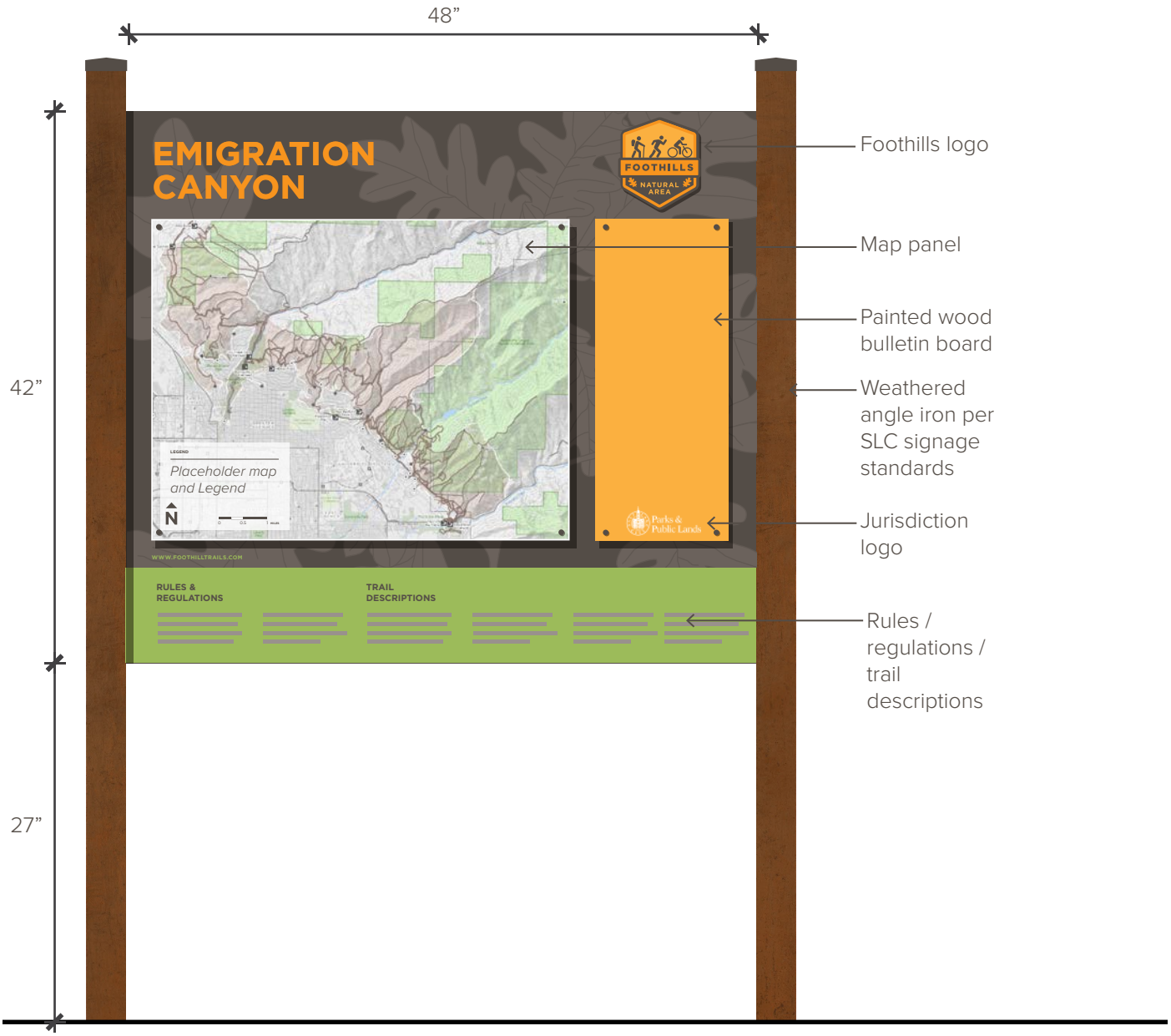
KIOSK MAP

Trailhead kiosk maps should be located at all major and minor trailheads that access the Foothills Natural Area. Kiosks should be located in conspicuous areas along the primary route from parking areas to the trail. Sufficient space should be provided around the kiosk to allow people to observe the information without obstructing adjacent walkways and meet ADA clear zone requirements.

RECOMMENDED APPLICATION

Construction

- **Post:** 6'-0" height, weathered angle iron
- **Sign Panel:** Double-sided, digital print on aluminum, 42" x 48"



DESIGN GUIDELINES

TRAIL WAYFINDING

KIOSK MAP (CONTINUED)

RECOMMENDED APPLICATION

Kiosk maps display helpful navigational information where trail users may be stopping long enough to digest more information. Kiosks should be located in conspicuous areas along the primary route from parking areas to the trail system. Sufficient space should be provided around the kiosk to allow people to observe the information without obstructing adjacent walkways and meet ADA clear zone requirements.

Typical elements to be included on trailhead kiosks are:

- Trail Map
- Regulations, hours, emergency contact information, trail etiquette
- Approved or prohibited uses, and
- Additionally, per the Americans with Disabilities Act (ADA) standards, trailhead facilities built with federal funds shall include the following information:
- Length of the trail or trail segment
- Surface type/firmness/stability
- Typical and minimum tread width
- Typical and maximum running slope
- Typical and maximum cross slope

Map designs may vary widely and still produce effective navigation guidance to trail users. Easily interpreted trail maps can contain a number of standard elements including:

- North arrow
- Scale / distance references
- Legend
- Trail names
- Use of approved icons for ease of use and to accommodate non-English speakers
- Trail alignments, lengths, surface types
- Trail elevation profiles
- Jurisdiction and agency boundaries
- Basic amenities including restrooms, trailheads, parks, and civic institutions
- Specific trail hazards (if present)
- “You are here” indicators

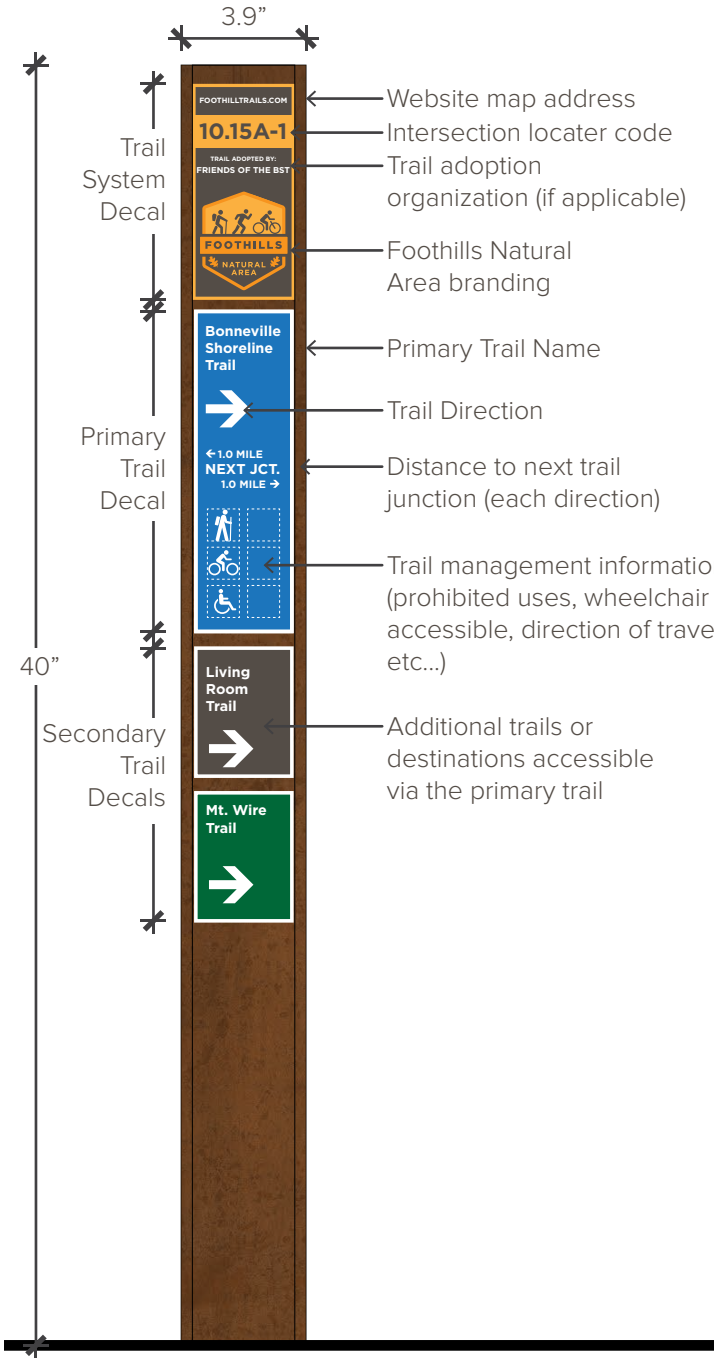
Map Panel Material	Advantages	Disadvantages	Approx. Cost (42” x 48”)
Embedded fiberglass (digital output encapsulated in clear fiberglass)	Resistant to shattering, weather, fading, and graffiti. Excellent colors and resolution. 10 year warranty	May need to occasionally buff with sandpaper. Edges not as attractive as high pressure laminate.	$800 - $950 (1/8”-1/2” thick)
High Pressure Laminate (digital output encapsulated in clear plastic resin)	Resistant to shattering, weather, fading, and graffiti. Excellent colors and resolution. 10-20 year warranty	Can be scratched or damaged with significant effort.	$700 - $1050 (1/8”-1/2” thick)
ImageLOC® (printed and fused to aluminum substrate)	Resistant to shattering, weather, fading, and graffiti. Excellent colors and resolution. 10-20 year warranty	Can be scratched or damaged with significant effort.	$550 - $650

DESIGN GUIDELINES

TRAIL WAYFINDING

TRAIL MARKER

Recreational trail markers provide useful information at key decision points along a natural surface trails. Trail markers are utilized to assure users that they are on the correct trail, define where connecting trails lead, and indicated mileages and level of difficulty.



RECOMMENDED APPLICATION

Construction

- **Post:** 3.9” wide dual-sided carsonite marker or triangular carsonite post depending on configuration of trail intersection.
- **Vinyl Decals:** Custom retroreflective vinyl decals
- **Trail System Decal:** The Trail System Decal includes a number of elements consolidated into a single vinyl decal including the website address for the Foothills Natural Area, intersection locater code (described below), trail adoption organization (if applicable) and Foothills Natural Area branding.
- **Intersection Locater Code:** The intersection locater code will help facilitate emergency response efforts and provide a precise way to communicate spatial information for a variety of purposes. All BST trail intersections would have a simple numerical mileage code taken out to two decimal places as needed when many intersections are clustered together. (Example 1.1, 10.1, 10.11). Numbering should be organized from north to south along the BST and would serve as de facto mileage markers. All other intersections off of the BST will have the following information in addition to the baseline numbering:

  XX.XX-(A or B)-# (1-9)

  XX.XX- Equals the intersections approximate location perpendicular to the BST

  A- Indicates locations above the BST in elevation

  B- Indicates locations below the BST in elevation

  #- Numbered intersections outwards from the BST

- **Primary Trail Decal:** The primary trail decal includes the trail name, level of difficulty (denoted by color: green, blue, or black), directional arrow, mileage to nearest trail junction (in one or both directions), and applicable management information such as approved trail uses, wheelchair accessibility, or directional travel information.
- **Secondary Trail Decals (optional):** Secondary trail decals denote trails or destinations that are accessible from the primary trail. As with the primary trail decal, color can be used to denote the level of difficulty for a specific trail.

DESIGN GUIDELINES

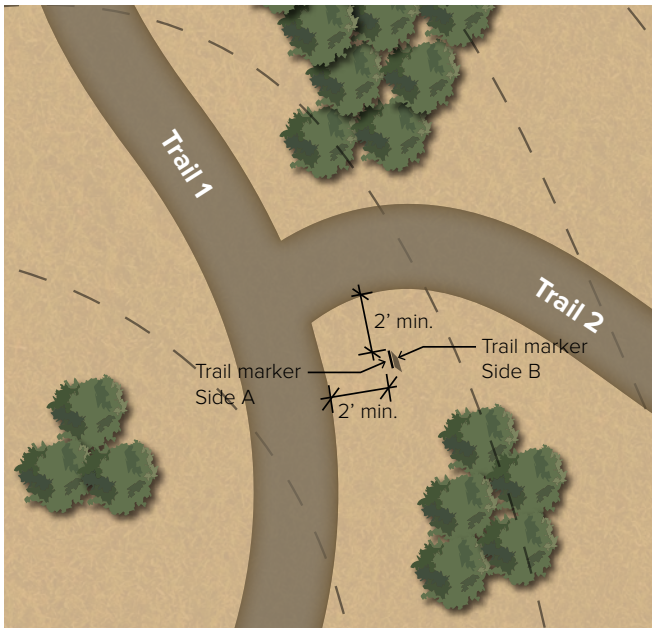
TRAIL WAYFINDING

TYPICAL TRAIL MARKER PLACEMENT

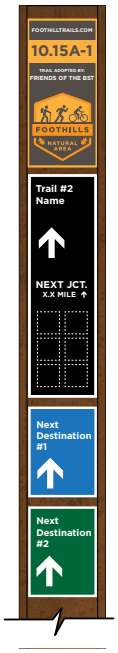
Trail markers should be placed at all official trail intersections within the Foothills Natural Area

- Trail markers should be placed 2'-0" off of the trail in the most conspicuous location. Either two-sided carsonite markers or triangular carsonite posts may be utilized depending on which type provides the most visibility for the particular location.

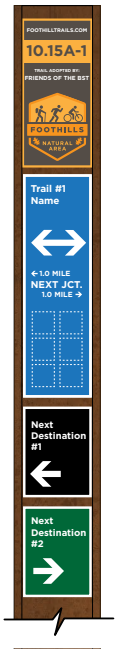
EXAMPLE APPLICATION



Trail Marker Side A



Trail Marker Side B

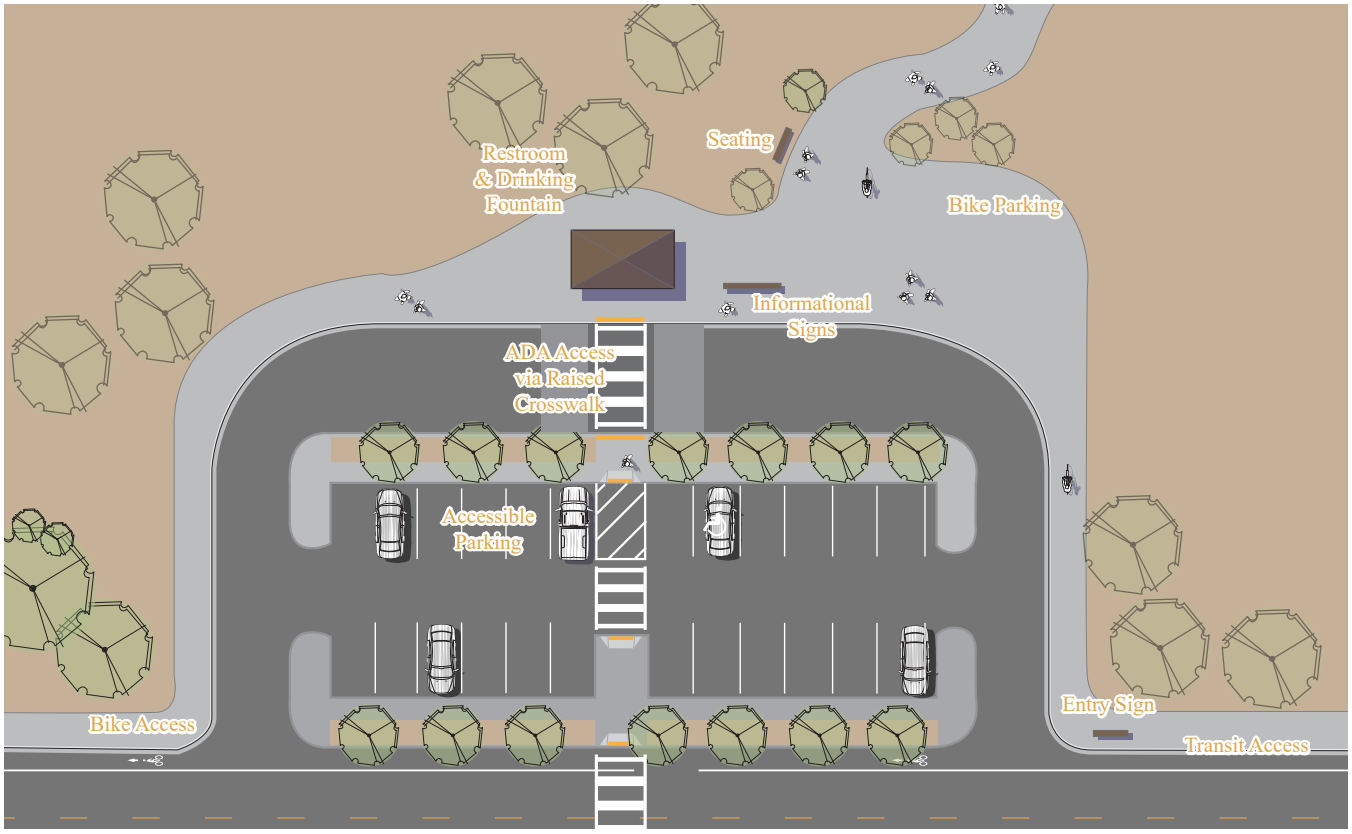


DESIGN GUIDELINES

TRAILHEAD PLANNING & DESIGN (CONT.)

MAJOR TRAILHEADS

Good access to a trail system is a key element for its success. Trailheads serve the local and regional population arriving to the trail system by car, transit, bicycle or other modes. Trailheads provide essential access to the shared use path system and include information and amenities for trail user comfort.



RECOMMENDED APPLICATION

Major trailheads may provide a wide range of user amenities, such as:

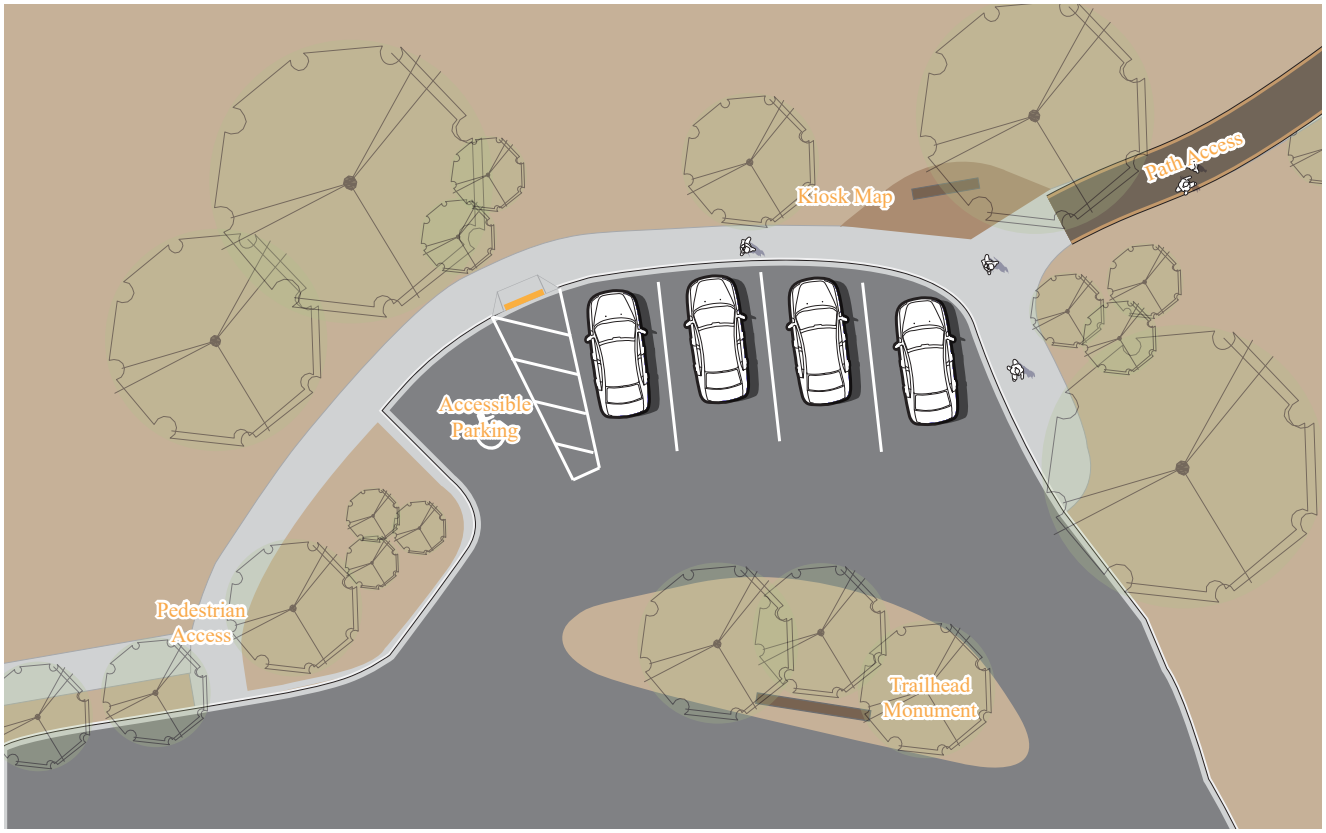
- Convenient access to transit stops (where feasible)
- Motor vehicle parking, including accessible parking spaces
- Short term bicycle parking such as racks or secure parking areas
- Wayfinding kiosks, with orientation and interpretive information
- Accessible trail signs noting trail conditions and degrees of difficulty
- Drinking water fountains (where feasible)
- Restrooms (where feasible)
- Shelters or picnic areas
- Scenic viewpoints or overlooks
- Benches and/or picnic tables
- Staging or gathering spaces
- Interpretive signs
- Trash and recycling containers

DESIGN GUIDELINES

TRAILHEAD PLANNING & DESIGN (CONT.)

MINOR TRAILHEADS

Minor trailheads are access points with some parking but minimal infrastructure. They can occur at locally known spots, such as parks and residential developments. Minor trailheads could include a small parking lot for up to 8 passenger vehicles.



RECOMMENDED APPLICATION

Minor trailheads may provide parking for up to eight vehicles. The parking area may be asphalt or gravel, as long as ADA requirements are met. Minor trailheads should accommodate emergency and maintenance vehicle access. Minor trailheads should provide:

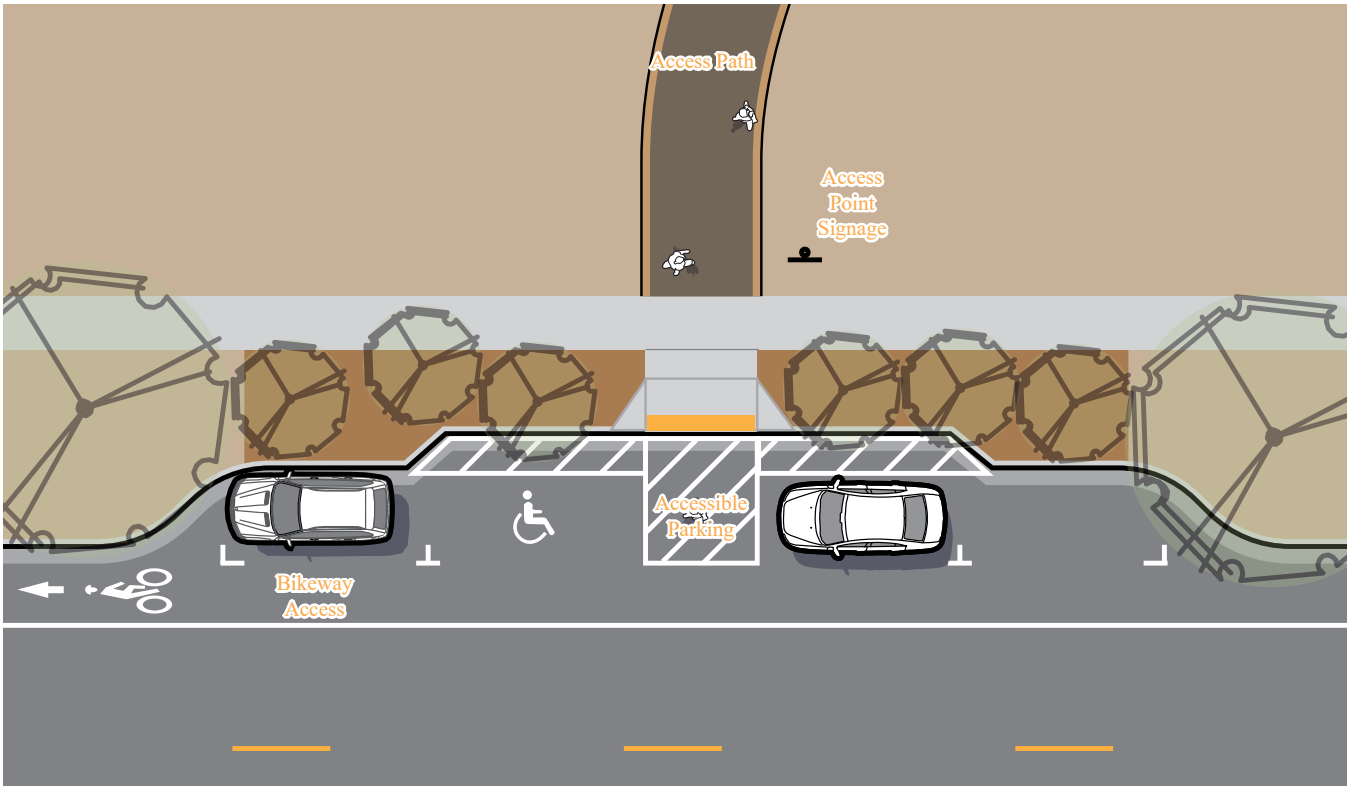
- Convenient access to transit stops (where feasible)
- Motor vehicle parking for up to 8 vehicles, including accessible parking spaces.
- Short term bicycle parking such as racks
- Kiosk map
- Trailhead monument
- Drinking water fountains (if feasible)
- Benches and/or picnic tables
- Trash and recycling containers

DESIGN GUIDELINES

TRAILHEAD PLANNING & DESIGN (CONT.)

TRAIL ACCESS POINTS

Trail access points are formalized small trailhead facilities which may or may not be served by on-street parking along an adjacent roadway and connected via an access path. Access points should be designed with a consistent character to larger trailhead locations, but may feature fewer amenities due to limited space requirements.



RECOMMENDED APPLICATION

Trail access points should be located where property acquisition or existing easements allow. Ideally access points can be utilized to their full potential when they are near existing transit stops or on-street bikeways.

- Access points should provide designated on-street parking where feasible, to reduce parking impacts to neighbors
- Accessible curb ramps should be provided from the parking lane to the access point if they lead to an accessible trail
- Access point signage should always be located at public trail access points, a minimum of 2'-0" off of the trail, and should be oriented towards the street
- Additional amenities such as a map kiosk, benches, or a trash receptacle may be considered if space allows
- Installation of "No Parking" signs should be considered where disruption of residential parking is common

DESIGN GUIDELINES

SPECIAL USE CYCLE TRAILS

SPECIAL USE CYCLE TRAILS

In addition to traditional shared-use natural surface trails, mountain bikers are increasingly seeking specialized experiences to provide technical challenges and expand their skills. Features may be provided in clustered areas or along specific trails designed for mountain bikers. By reducing trail use conflicts, these trails increase safety and trail experience for all users.

Photo Credit: dreamadaptive.org

ADAPTIVE CYCLE TRAILS

Adaptive mountain bike trails are built to accommodate a range of adaptive mountain bikes including hand cycles or recumbent cycles. Typically these trails are slightly wider than normal singletrack trails and have stricter cross-slope tolerances so as to prevent tricycles from tipping over.

Example: Porcuclimb and Down Dog at Round Valley

FREERIDE MTN. BIKE TRAILS

Freeride mountain bike trails and flow trails are built specifically for mountain bikers and often prohibit other types of users, such as hikers or equestrians, to mitigate safety concerns. Trails are typically directional (downhill only) and provide features such as banked turns, rock gardens, drop-offs, jumps, or other man-made technical features. Signage should be used extensively to identify upcoming features and denote the level of difficulty. Providing safe, authorized freeride trails is an important consideration for trail planners because freeride mountain bikers will often seek to create their own freeride trails in the absence of legitimate options.

Example: Bobsled Trail

BIKE PARKS AND PUMP TRACKS

Bike parks are a relatively recent development and the growth of compact facilities specifically for mountain bicycling have allowed more people to recreate outdoors. Bike parks often include numerous elements such as pump tracks, jump lines, or freeride trails for a variety of skill levels. Skills areas may include log skinnies, rock gardens, teeter-totters and other features to provide additional challenge. Bike parks are often co-located within existing parks or near trail systems.

Pump tracks include a series of “rollers” and banked turns that allow bicyclists to navigate through the course without pedaling by “pumping” up and down. Pump tracks are suitable for all ages and allow children and experienced bicyclists a place to grow their skills. Pump tracks should generally be sited on slopes between 3-7%. Public pump tracks typically can be designed with footprints as small as 5000 square feet.

Examples: I-Street Bike Park

06

IMPLEMENTATION

Women's Trail Build Day (Photo Credit: Bingham Cyclery)

IMPLEMENTATION

OVERVIEW

Implementation of the Foothills Trails System Plan will require a phased approach that accounts for both capital construction and ongoing maintenance. Maintenance needs for the future 121-mile system will vary significantly from the existing 20-mile official trail system. However, by constructing trails in a sustainable manner as described in Chapter Five, trail maintenance can be kept at manageable levels for Salt Lake City Parks and Public Lands.

The following chapter specifies proposed phasing for the implementation of the Foothills Trail System that addresses public needs, necessary permitting and pre-construction activities. Although project phasing is recommended, Salt Lake City Parks and Public Lands should remain flexible and opportunistic in regards to implementation. Deviation from the proposed implementation schedule may be warranted if opportunities exist to construct projects more economically, partner with other agencies, respond to specific grant funding, or address a pressing public need.

"Thousands of tired, nerve-shaken, over-civilized people are beginning to find out going to the mountains is going home..." John Muir

-John Muir

IMPLEMENTATION

CAPITAL COSTS

OVERVIEW

Implementation for the recommended trail system for the Foothills Natural Area will vary by site and intended use. In some cases, bridges and structures may be required. The following guidelines may be used to approximate costs prior to the bidding process. For planning purposes, new trail construction has been estimated at $2.50, $5.00, or $8.00 / lineal foot for new trails based on known site constraints including steepness of terrain, underlying geology, and vegetation density. However, actual construction costs will likely vary due to actual site conditions encountered during final trail layout, and timing of implementation. An annual inflation factor of 2% has been applied to trail construction in future phases.

Women's Trail Build Day (Photo Credit: Bingham Cyclery)

Trail Type	Sub-Type	Discussion/Description	Planning-Level Cost
Construction of hike, bike, or shared use singletrack, 30" - 40" wide	Easy	10% - 30% sideslopes; minimal vegetation; minimal rock; climbing turns or small berms; no drainages; no armoring or retaining walls; easy access to work site	$2.50 per LF
	Moderate	31% - 50% sideslopes; moderate vegetation; small, loose rock; switchbacks or switchberms; no steep drainages; minimal armoring or retaining walls; easy access to work site	$5.00 per LF
	Difficult	51%+ sideslopes; dense vegetation; large rock; switchbacks or switchberms with retaining walls; steep drainages; armoring or retaining walls; difficult access to work site	$8.00 per LF
	Bike-Optimized	Bike-optimized trails with advanced dirt and rock features	$8.00+ per LF
Bridges and Structures	Engineered	Bridges and structures must be priced separately. Bridges requiring engineering typically cost $1,000 per LF.	$1,000 per LF

IMPLEMENTATION

MAINTENANCE COSTS

OVERVIEW

In order to protect the City's long-term investment in the Foothills Trail System, adequate on-going maintenance and management are critical to preserving the plan pillars of:

- Environmental sustainability
- User experience
- Accessibility
- Safety
- Physical sustainability

Maintenance and management activities generally fall into three primary categories:

- Annual trail maintenance, and
- Weed control along trail corridors, and
- Management costs (Foothills Natural Area Ranger)

Annual Trail Maintenance

Annual trail maintenance includes repairs, decommissioning of developing social trails, erosion control, and other activities due to weather or user-created damage to trails.

Weed Control

Seasonal treatment of harmful weeds along trail corridors to mitigate recreational impacts on natural vegetation and habitat; includes weed mapping & inventory, physical and chemical treatments, and reseeding of desirable species.

Maintenance / Management Activity	Total Mileage	Planning-Level Annual Maintenance Costs
North Sub Region	30.63 miles	$97,700 / year
Central Sub Region	40.24 miles	$128,350 / year
South Region	34.98 miles	$111,600 / year
Foothills Ranger		$81,500
Total System	105.85 miles	$419,150 / year

Management

With anticipated increases in users and trail mileage within the FNA, dedicated management resources will become necessary to help facilitate enforcement, emergency response, weather-related trail closures, and other "boots on the ground" management activities. A full-time Foothills Ranger position or positions would help address many of these needs.

Maintenance / Management Activity	Sub-Type	Discussion/Description	Planning-Level Cost
Annual Maintenance	Sustainably-Built Trails	Costs increase slightly for backcountry trails because of the time associated with mobilizing personnel, equipment, and materials into remote areas.	4% of construction costs
	Unsustainable Legacy Trails	Difficult to estimate; each trail would have to be evaluated individually.	Require individual evaluation
Weed Control	N/A	Aggressive control and containment of weeds to current extent will keep future costs low; public education at trailheads can help reduce weed dispersal along trails.	$1,500 per trail system mile
Trails Management	N/A	Develop a position for a ranger or rangers to monitor and manage activities within the FNA. Includes salary, benefits, fuel, equipment maintenance, and cell phone.	$81,500 / year (one position)

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TRAIL PRIORITIZATION

OVERVIEW

In order to establish a logical and publicly-supported implementation schedule for the proposed Foothills Trail System, the Planning Team developed a simple prioritization methodology to score, rank and phase proposed trail projects. This methodology considered three basic criteria for each proposed trail:

- Public support, and;
- Underlying land ownership, and;
- Necessity of habitat data collection

Public Support

Public support for each proposed trail was measured using input from public meetings and the online public input map. At the two public meetings where the Foothills Trail System plan was presented, the public was asked to identify their top five projects for implementation. A similar exercise was conducted using the online input map. The results of these two activities were then compiled and tabulated to create a public support score for every project.

Land Ownership

In addition to public support, underlying land ownership for each trail segment was also cataloged. Projects entirely on Salt Lake City and/or University of Utah land pose the least barriers to implementation, while trails over state-owned and USFS lands will take slightly longer to coordinate and construct. Trails proposed over private lands require the most coordination and lead time to plan and construct.

Habitat Data Collection

Additional habitat data collection is proposed in each of three "habitat study areas," where existing recreational trail impacts are small, and new trail development could have detrimental effects on wildlife. Trail construction in these areas should be delayed for several years until sufficient data analysis can be performed.

Phasing

In order to separate the proposed trail projects into phases, projects were categorized based on their public support score. Projects with scores in the upper 50% of all projects were deemed “high priority”. High priority projects on Salt Lake City or University of Utah property were then classified as Phase I projects, except within habitat study areas (such trails were postponed to Phase II). High priority projects on State of Utah and USFS lands were deemed suitable for Phase II. Projects on private lands, as well as all "low-priority" projects were selected for Phase III. In a small number of cases, low-priority projects were moved to Phase I or Phase II in order to facilitate the overall function of a high-priority trail alignment; similarly, a small number of trails initially in Phase I were moved to a later phase because their proper function depended on a Phase II or Phase III trail segment. Each phase was reviewed to ensure that the trail system evolves logically and that the phasing does not contribute to connectivity or management problems. Anticipated scheduling for the various phases is as follows:

- Phase I: 0-3-year build-out
- Phase II: 4-6-year build-out
- Phase III: 7-10-year build-out

Phasing Other Trail System Components

In addition to new trail construction, trailhead improvements, trail system signage, trail decommissions, and upgrades to existing system trails need to be incorporated into the phased development of the Foothills Trail System. Trail decommissioning and signage costs are comparatively small, and these items should be incorporated sequentially as individual trail alignments are constructed (trails should be decommissioned as soon as they are replaced by a functional alternate route). Trailhead improvements and upgrades to existing "system" trails are not as dependent on phase, and detailed designs and costs have not be calculated as part of this plan. However, these improvements, especially trailhead developments, are critical to the functionality of the overall trail system. Design documents and cost estimates should be developed for trailhead improvements, and recommended improvements should be implemented as soon as funding is available.

IMPLEMENTATION BY THE NUMBERS

$620K for Phase I implementation

$2.8 Mil for full system buildout

$419K annual maintenance & management cost (at full buildout)

Note: May not include all soft costs and estimates may increase over time.

	Land Ownership			
	SLC/ U of U	State of Utah	USFS	Private
Top 50% Priority	Phase I	Phase II	Phase II	Phase III
Bottom 50% Priority	Varies	Phase III	Phase III	N/A

Trail Construction Costs

Phase	Proposed Mileage	Planning-Level Cost
Phase I	14.37 miles	$620,564
Phase II	37.31 miles	$1,643,932
Phase III	13.37 miles	$582,886
Grand Total	65.05 miles	$2,847,382

Trail Decommissioning Costs

Decommission Type	Unit Cost	Estimated Project Area Cost
Passive Decommissioning	$600 / trail junction	$42,000 (70 locations)
Active Decommissioning	$8.00 / linear foot	$184,000

Other Trail System Development Costs

Improvement	Unit Cost	Estimated Project Area Cost
Trailhead Development	varies / TBD	>$3,000,000 / TBD pending design
Trail System Signage	$130 - $1,000	$32,000
Trailhead Signage	$5,000	$70,000

**Planning-level costs are approximate and do not include acquisition (if necessary), permitting, or engineering (if necessary). Final costs will vary based upon local conditions. Phase II & III costs include a 2% per annum inflation factor.*

PROPOSED TRAIL SYSTEM

TRAIL PRIORITIZATION PHASE I

Phase I trail improvements consist of highly ranked public priorities that can be built on Salt Lake City and University of Utah owned property.

TRAIL NETWORK

EXISTING

- Existing Trails and Paths

PUBLIC PRIORITY TRAILS

- Phase 1 - Salt Lake City Lands
- Phase 2 - State and University of Utah Lands
- Phase 3 - Federal Lands
- Current Phase Highlight

DESTINATIONS + BOUNDARIES

- Major Trailhead
- Minor Trailhead
- Access Point
- Train Stations
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

Parks & Public Lands

0 0.5 1 MILES

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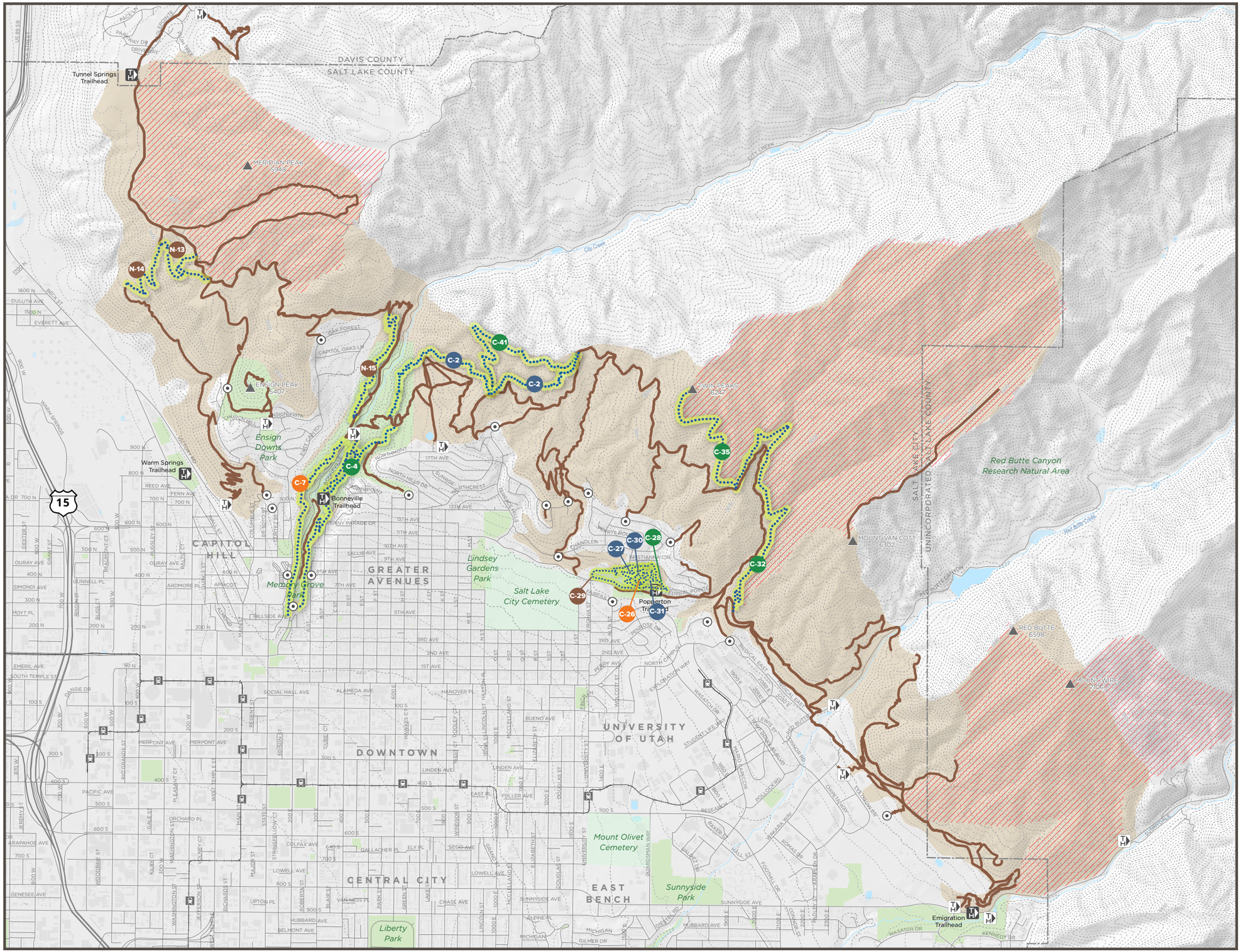
Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018



PHASE 1 TRAILS

Trail Id	Name	Proposed Mileage	Management Controls
N-13	Over The Cliffs	0.58	Shared Use
N-14	Lakeview Trail	0.75	Shared Use
N-15	North City Creek Trail	0.92	Shared Use
C-2	Long Way Home Trail	1.94	Mountain Bike Only
C-4	New Bonneville Shoreline Trail Alignment	0.68	Uphill Mountain Bike/Multi-Directional Hiking
C-7	Memory Grove	2.56	Hiking Only
C-26	Popperton Gulch Nature Trail	0.25	Hiking Only
C-27	Popperton - Beginner Mountain Bike Trail	0.4	Mountain Bike Only
C-28	Popperton Climbing Trail	0.35	Uphill Mountain Bike/Multi-Directional Hiking
C-29	Popperton Loop Trail	0.74	Shared Use
C-30	Popperton - Blue Square Descending	0.24	Mountain Bike Only
C-31	Popperton - Black Diamond Descending	0.3	Mountain Bike Only
C-32	New Bonneville Shoreline Trail (Dry Creek Section)	2.13	Uphill Mountain Bike/Multi-Directional Hiking
C-35	Twin Peaks Trail	1.13	Uphill Mountain Bike/Multi-Directional Hiking
C-41	New BST / Morris Mountain Trail	1.4	Uphill Mountain Bike/Multi-Directional Hiking

PHASE 2 TRAILS

Trail Id	Name	Proposed Mileage	Management Controls
N-5	New BST - North Foothills	2.28	Shared Use
N-6	Prime Meridian Trail	2.35	Mountain Bike Only
N-7	Meridian Peak Trail	3.47	Uphill Mountain Bike/Multi-Directional Hiking
N-11	Towers Trail	3.67	Uphill Mountain Bike/Multi-Directional Hiking
C-14	Avenues Ridgeline Trail	1.18	Shared Use
C-34	Dry Spell	1.92	Mountain Bike Only
C-36	South Fork Dry Creek Trail	1.41	Shared Use
S-2	Mt. Van Cott Trail	3.17	Uphill Mountain Bike/Multi-Directional Hiking
S-5	Red Butte Canyon Downhill	0.73	Mountain Bike Only
S-7	Skyline Nature Trail East	1.84	Shared Use
S-9	Living Room Trail	1.89	Foot Traffic Only
S-10	Mt. Wire Trail	4.6	Uphill Mountain Bike/Multi-Directional Hiking
S-11	Lithograph Fork Trail	4.3	Shared Use
S-12	Lithograph Point Trail	0.1	Shared Use
S-14	The Slip Trail	0.8	Mountain Bike Only
S-16	Wild Mouse	1.1	Mountain Bike Only
S-18*	Rollercoaster Uphill	0.4	Uphill Mountain Bike/Multi-Directional Hiking
S-30	Wagner Peak Loop Trail	2.1	Shared Use

PROPOSED TRAIL SYSTEM

TRAIL PRIORITIZATION

PHASE II - STATE OF UTAH

Phase II trail improvements consist of highly ranked public priorities that occur on lands owned by the State of Utah and the USFS.

TRAIL NETWORK

EXISTING

- Existing Trails and Paths

PUBLIC PRIORITY TRAILS

- Phase 1 - Salt Lake City Lands
- Phase 2 - State and University of Utah Lands
- Phase 3 - Federal Lands
- Current Phase Highlight

DESTINATIONS + BOUNDARIES

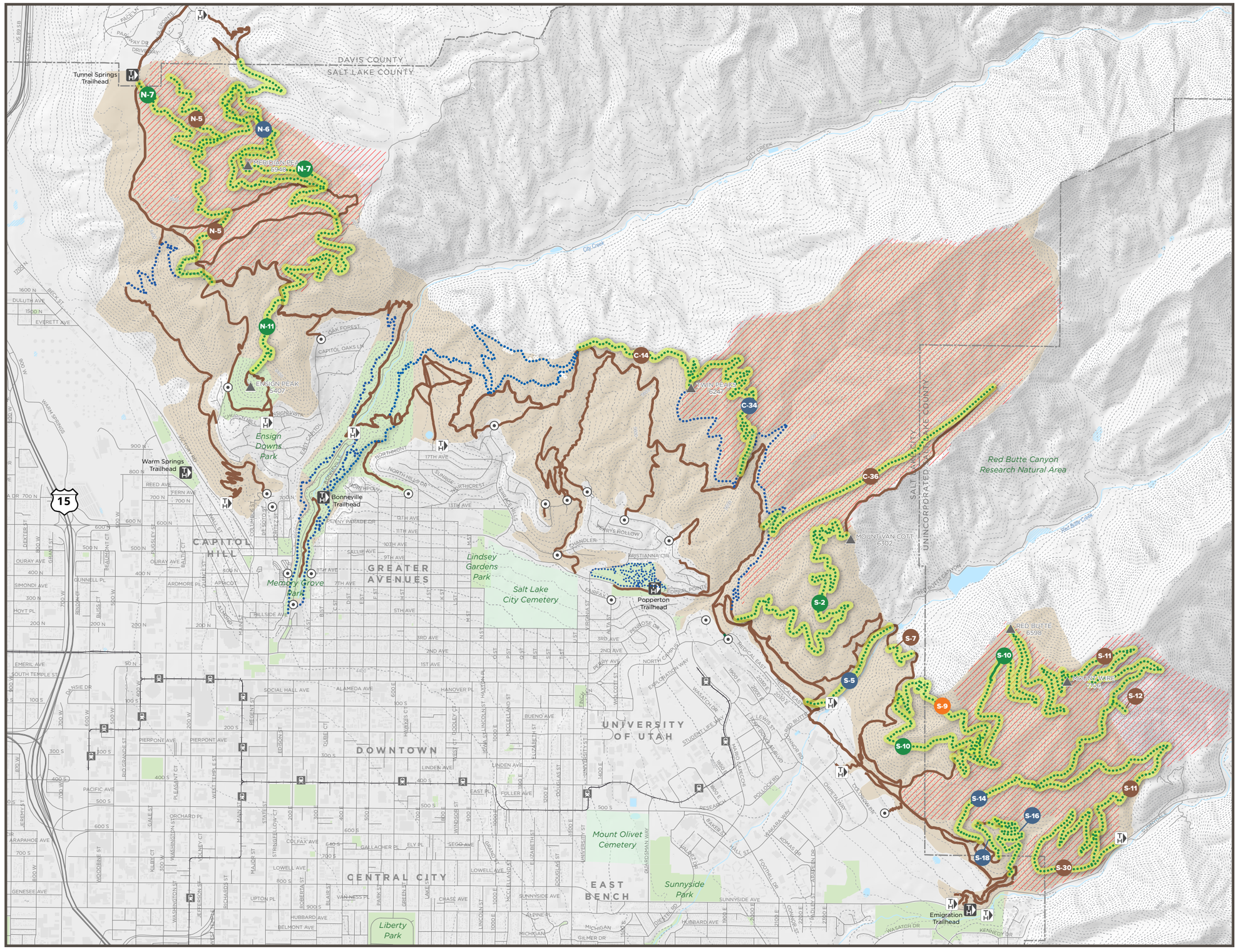
- Major Trailhead
- Minor Trailhead
- Access Point
- Train Stations
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

Parks & Public Lands

0 0.5 1 MILES

N

alta Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018



PROPOSED TRAIL SYSTEM

TRAIL PRIORITIZATION PHASE III

Phase III trail improvements consist of highly ranked public priorities that occur on privately owned lands.

TRAIL NETWORK

EXISTING
- Existing Trails and Paths

PUBLIC PRIORITY TRAILS
- Phase 1 - Salt Lake City Lands
- Phase 2 - State and University of Utah Lands
- Phase 3 - Federal Lands
- Current Phase Highlight

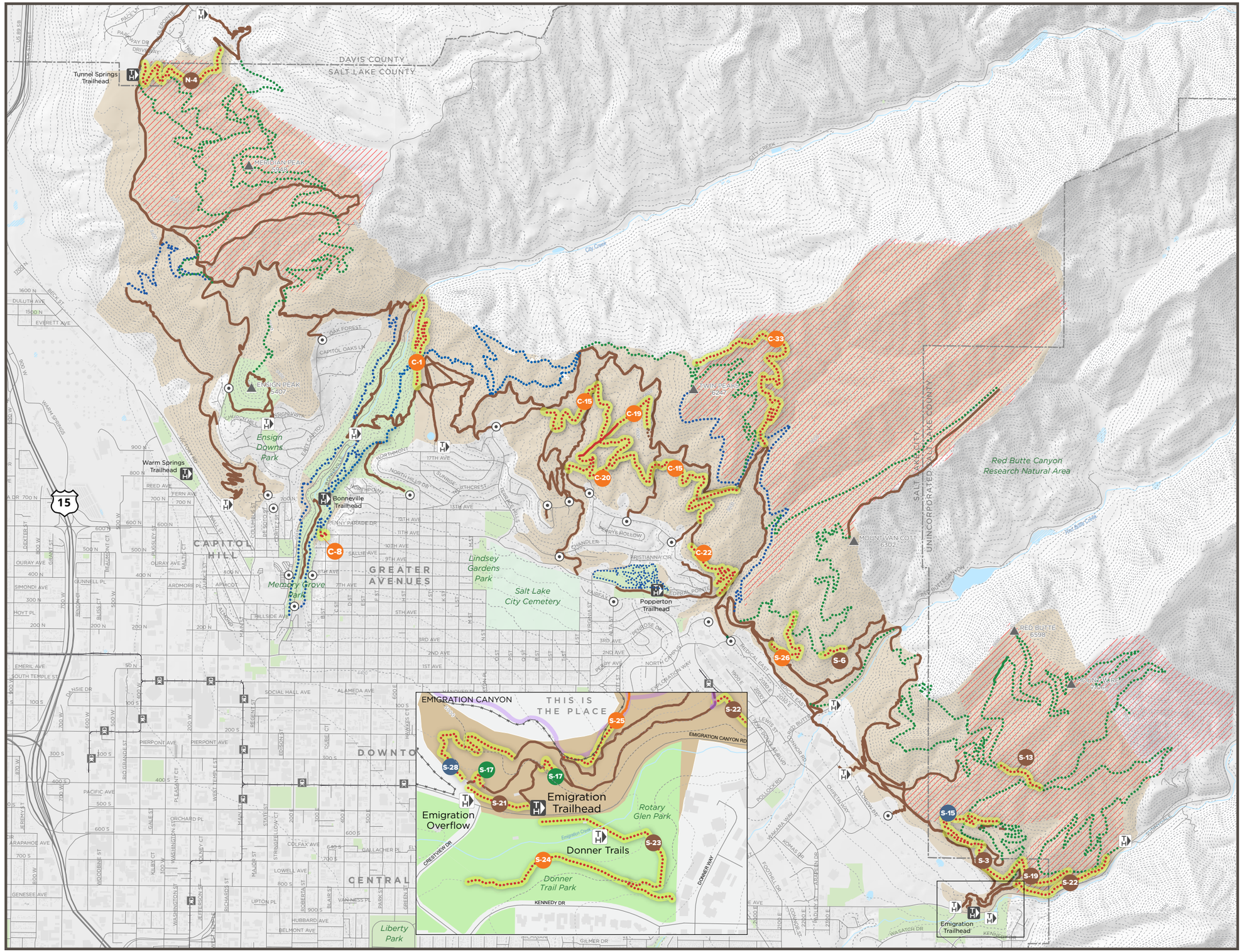
DESTINATIONS + BOUNDARIES
- Major Trailhead
- Minor Trailhead
- Access Point
- Train Stations
- School
- Project Boundary
- Habitat Study Area
- Cemetery
- Parks
- Water Body
- Salt Lake City

Parks & Public Lands

0 0.5 1 MILES

N

alta Data provided by the SLC Parks & Public Lands, AGRC and Trailforks.com
Map produced June 2018



PHASE 3 TRAILS

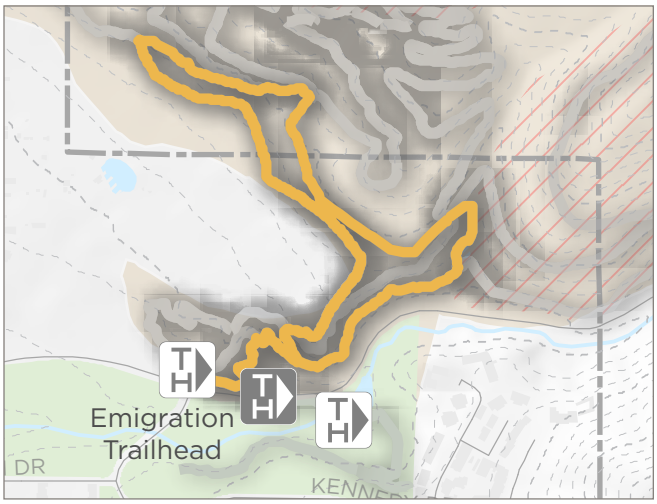
Trail Id	Name	Proposed Mileage	Management Controls
N-4	NSL BST	0.96	Shared Use
C-1	Morris Creek Trail	1.03	Hiking Only
C-8	11th Avenue Connector	0.09	Hiking Only
C-15	Gullies & Hollows Trail	2.79	Foot Traffic Only
C-19	East Fork Perry's Trail	0.5	Hiking Only
C-20	East Fork Parley's Trail (Alternate)	0.47	Hiking Only
C-22	Block U Hiking Trail	1.18	Hiking Only
C-33	North Fork Dry Creek Trail	1.64	Hiking Only
S-3	Bonneville Shoreline Trail	0.79	Shared Use
S-6	Skyline Nature Trail West	0.17	Shared Use
S-13	Lithograph Fork Connector	0.26	Shared Use
S-15	Colossus	0.69	Mountain Bike Only
S-17	Emigration Ascending Trail	0.08	Uphill Mountain Bike/Multi-Directional Hiking
S-19	Wagner Hollow Trail	0.44	Shared Use
S-21	Emigration Trailhead Connector Trail	0.1	Shared Use
S-22	Wagner Spring Trail	0.63	Shared Use
S-23	Rotary Donner Connector	0.38	Shared Use
S-24	Secret Garden Trail	0.26	Hiking Only
S-25	Sagebrush Flats Trail	0.11	Hiking Only
S-26	Battle Gulch Trail	0.54	Hiking Only
S-28	Emigration Bike Descent Route	0.26	Mountain Bike Only

A

HIKING LOOP OPTIONS

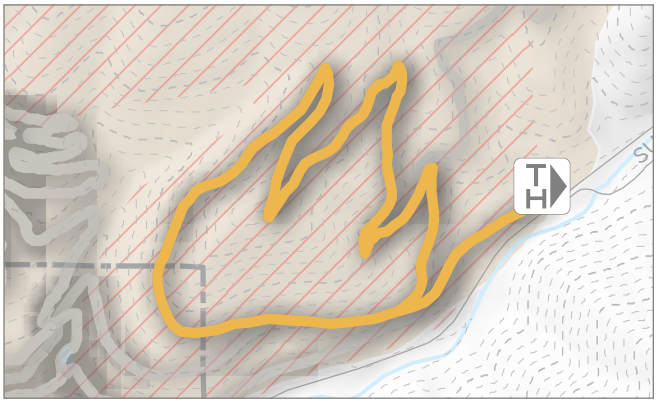
PROPOSED TRAIL SYSTEM

HIKING LOOP OPTIONS



Emigration Loop

A short and easy hike from the trailhead at the mouth of Emigration Canyon, that passes through the shady glen around Wagner Spring, and wraps up above This Is The Place Heritage Park, before descending back to the trailhead. A great first hike for kids or those with limited stamina.



Wagner Peak Loop

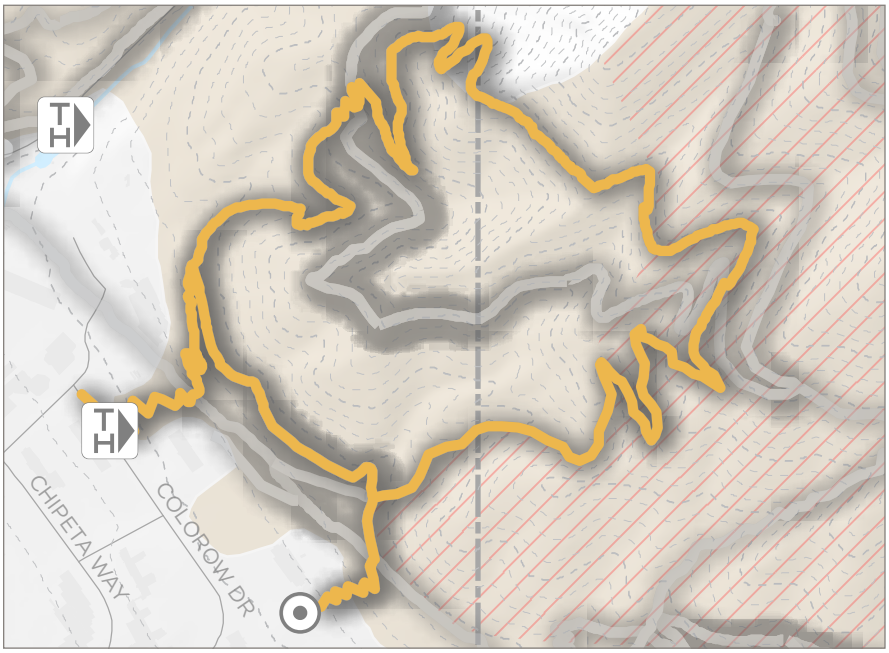
A short but very enjoyable 1-hour loop hike up and around the prominent low summit on the north slope of Emigration Canyon, that rises over This Is The Place Heritage Park. A great hike to enjoy the evening breeze coming down Emigration Canyon.

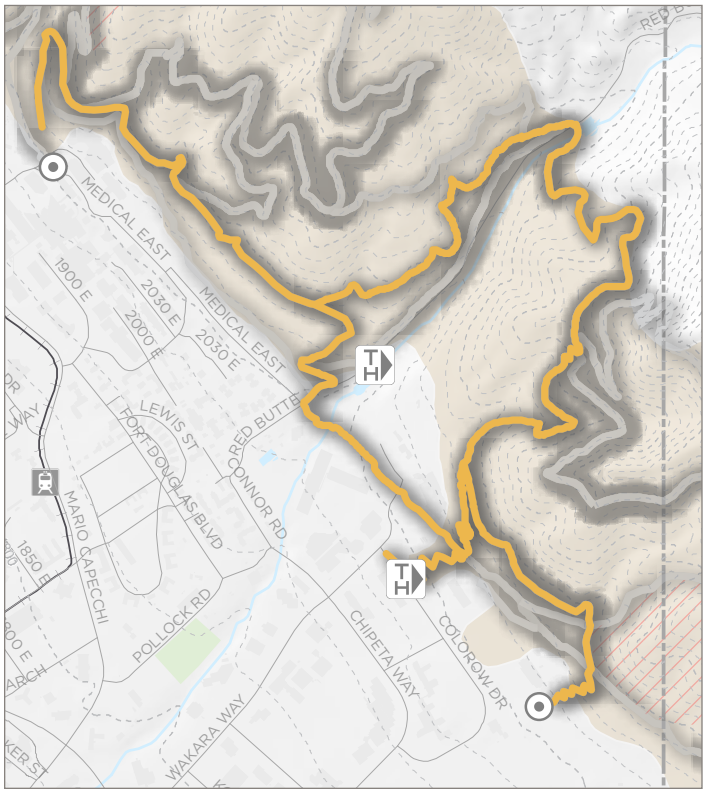
Under the Cliffs Loop

A 1-hour loop with good views and a surprising amount of solitude despite the Eagle Ridge mine below. Recommended for hikers and trail runners looking for quick access to a peaceful, scenic jaunt.

Living Room Loop

A 90-minute loop hike that tops out at the “Living Room” on the ridgeline below Red Butte, and adds additional interest beyond the traditional up-and-back route in George’s Hollow.





Red Butte Canyon Loop

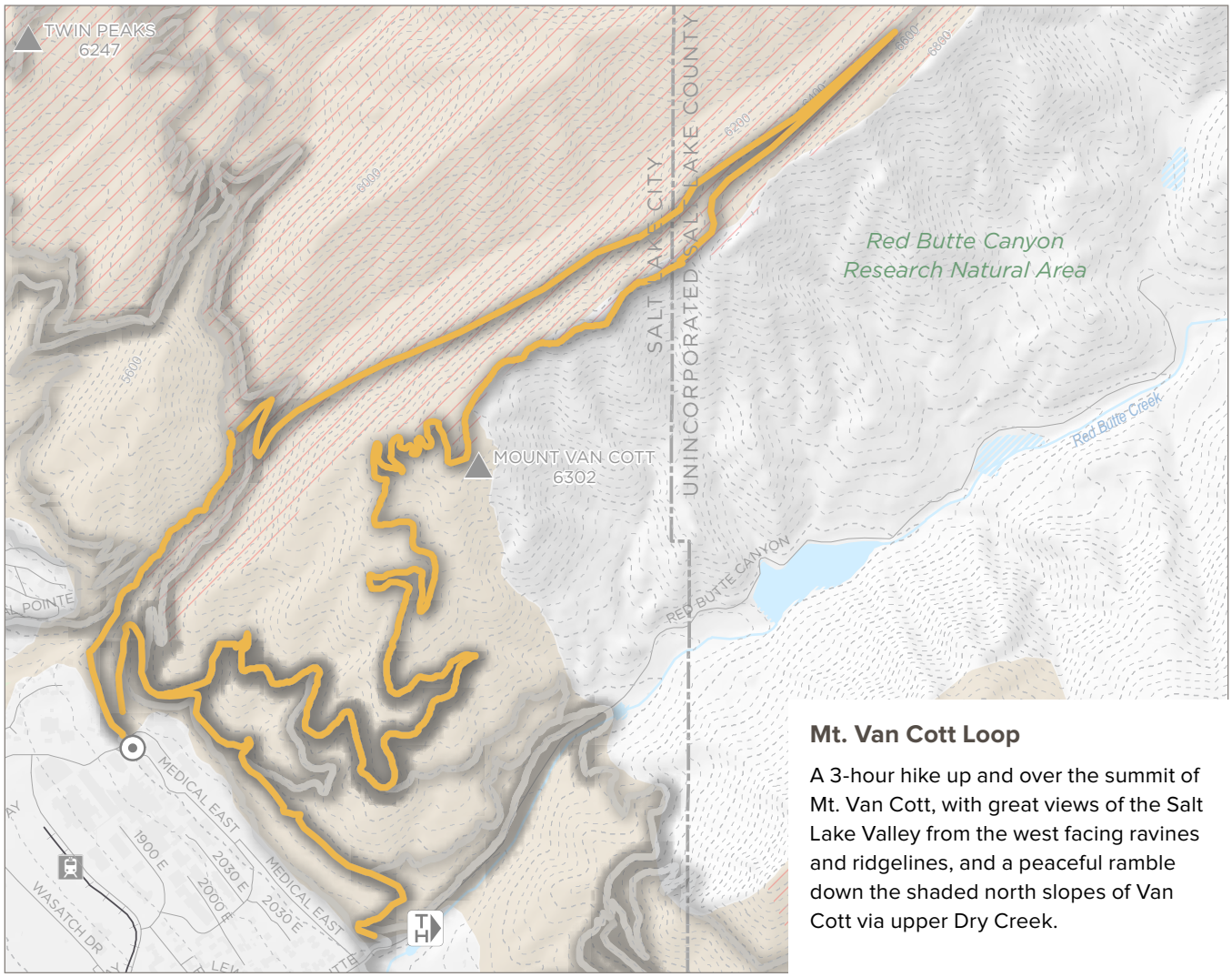
A popular route around the outside of Red Butte Garden and the Natural History Museum of Utah, with good access provided via the Colorow Road trailhead. A great 1-hour workout trail adjacent to the U of U Campus.

PROPOSED TRAIL SYSTEM

HIKING LOOP OPTIONS

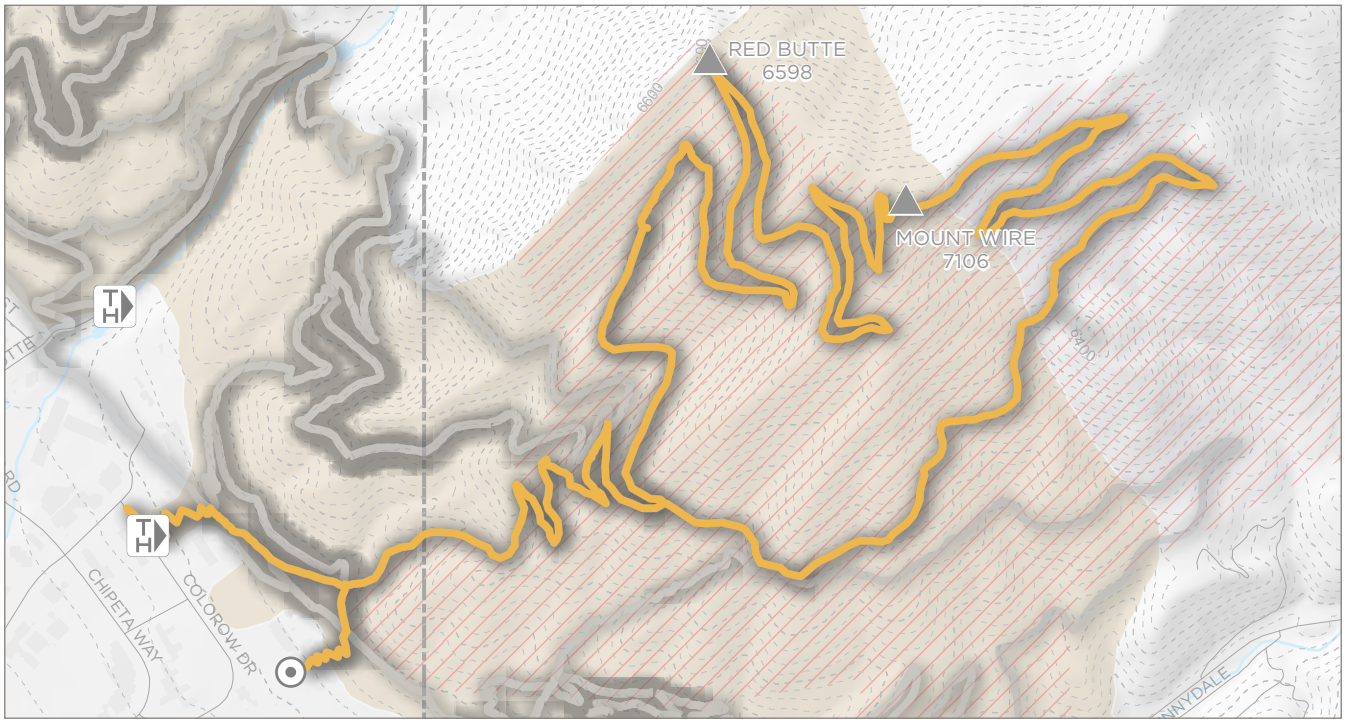
Battle Gulch Loop

A short but sweet 45-minute stroll just above the U of U Medical Campus, with gradual grades, a small amount of elevation gain and loss, and pleasant contours in and out of Battle Gulch and Cephalopod Gulch. A great lunch-time hike for Medical Campus staff and visitors.



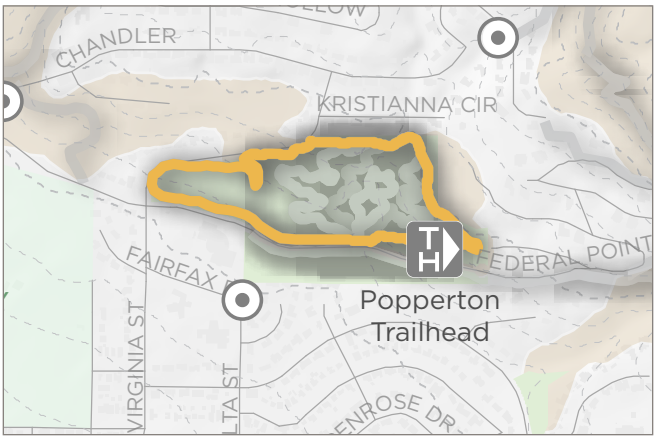
Mt. Van Cott Loop

A 3-hour hike up and over the summit of Mt. Van Cott, with great views of the Salt Lake Valley from the west facing ravines and ridgelines, and a peaceful ramble down the shaded north slopes of Van Cott via upper Dry Creek.



Mt. Wire Loop

A 3 to 4-hour loop hike up Mt. Wire, which starts and ends on the Living Room Trail in George's Hollow, then contours up and around the summit of Mt. Wire on the southeast and southwest faces, providing big views and trailside interest as the trail works through differing geologic formations.

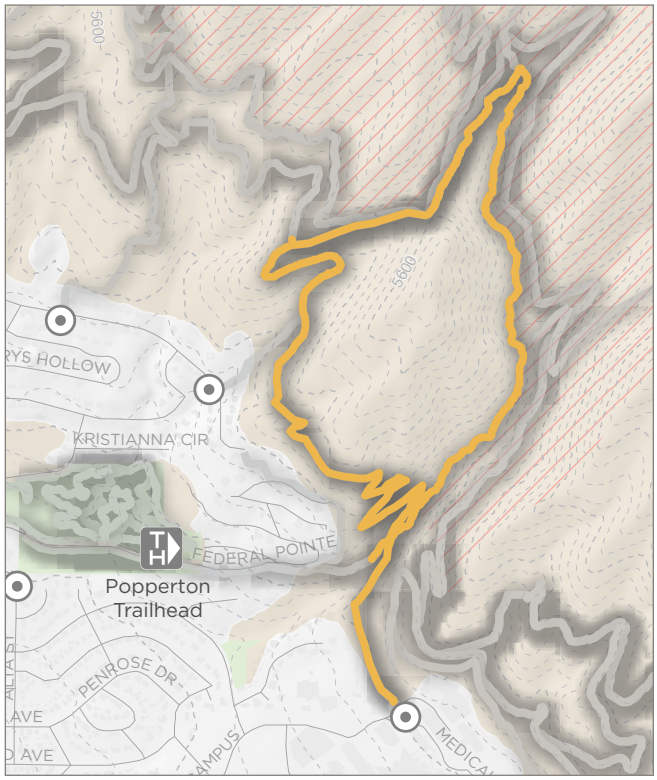


Popperton Loop Trail

Pleasant, peaceful walking path suitable for families and people of all ages. A 30-minute hike completes a loop with views of an interesting ravine, the City Cemetery, and great views out to the Oquirrh Mountains.

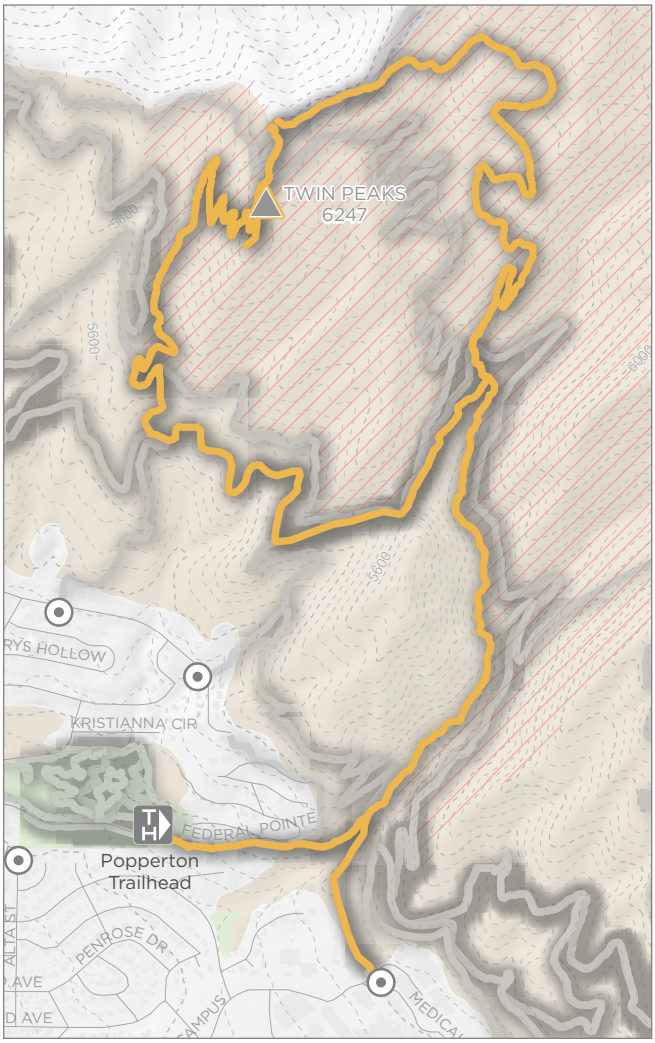
PROPOSED TRAIL SYSTEM

HIKING LOOP OPTIONS



Block U Loop

This moderately-strenuous 90-minute hike also makes a great trail run route, and in a short distance covers a lot of different terrain with varying views over the Avenues, the U of U Campus, and Dry Creek. The Block U and historic limekiln in Limekiln Gulch are interesting stops along the way. Perfect place to take friends and family visiting from out of town, or prospective students.

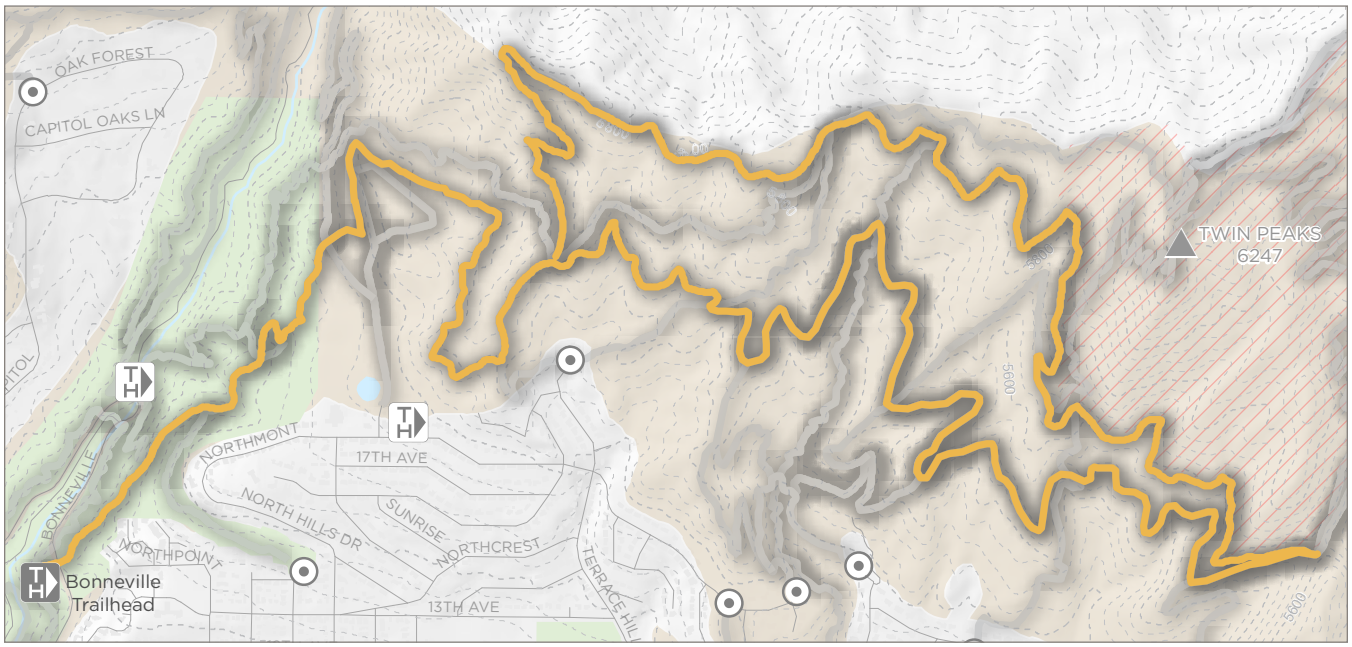


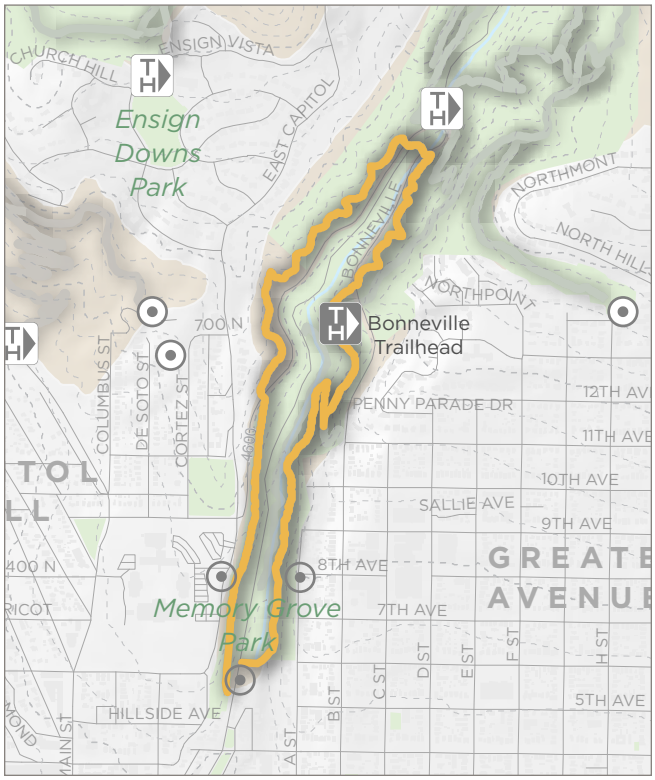
Twin Peaks Loop

This 2.5-hour loop provides some of the best scenery and seclusion in the Avenues section of the Foothills Natural Area, including a scenic section of the Gullies and Hollows Trail, the summit of the Avenues Twins, and the wild north fork of Dry Creek, where wildlife sightings are common and it feels like the City is a world away. Easily accessed from Popperton Park or the U of U Medical Center.

Avenues Grand Tour

Long but wonderful 4-hour hike for those looking for a more adventurous excursion, or an opportunity to spend a full day hiking at a leisurely pace. This loop showcases the foothills above the Avenues from a hundred different angles and perspectives, each one unique and delightful. There are many opportunities along the way for short side-trips to points of interest such as historic lime kilns, Twin Peaks and Morris Mountain, and many interesting drainages.



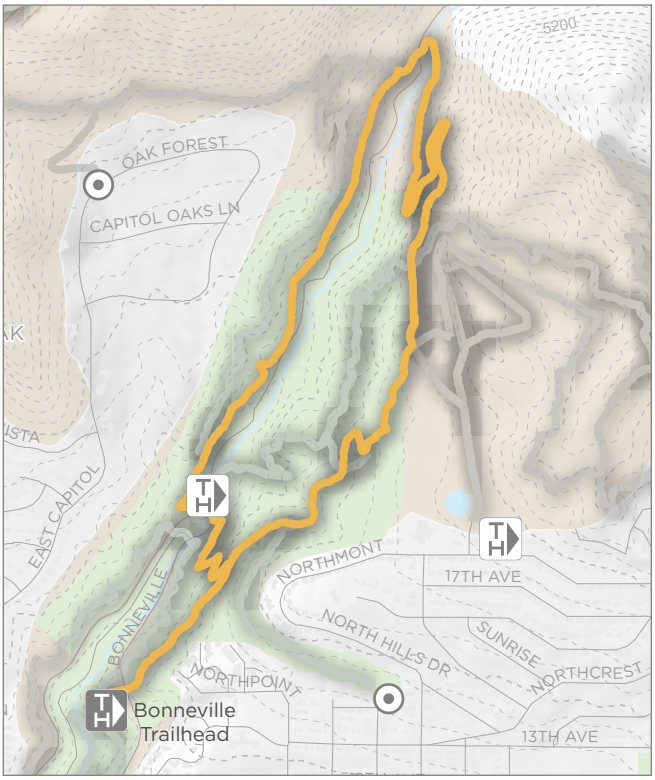


Memory Grove Loop

Loop trail above the popular Memory Grove Park, with minimal elevation gain/loss, and lots of winding in and out of small gullies above and below Bonneville Boulevard. The trail provides great connectivity between the State Capitol and Captiol Hill neighborhood, the Avenues neighborhood, City Creek Canyon, and downtown SLC. A great anytime hike or trail run for locals and visitors alike.

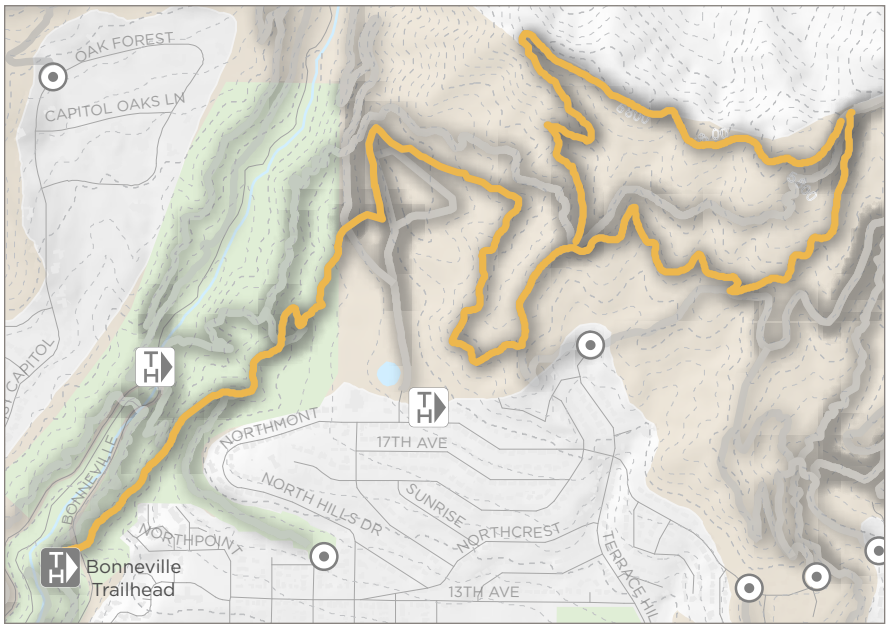
PROPOSED TRAIL SYSTEM

HIKING LOOP OPTIONS



Lower City Creek Loop

Gradual 90-minute to 2-hour walk on either side of City Creek Canyon, with a substantial portion of the route in the shade of large Gambel oak trees and Box Elder maples.

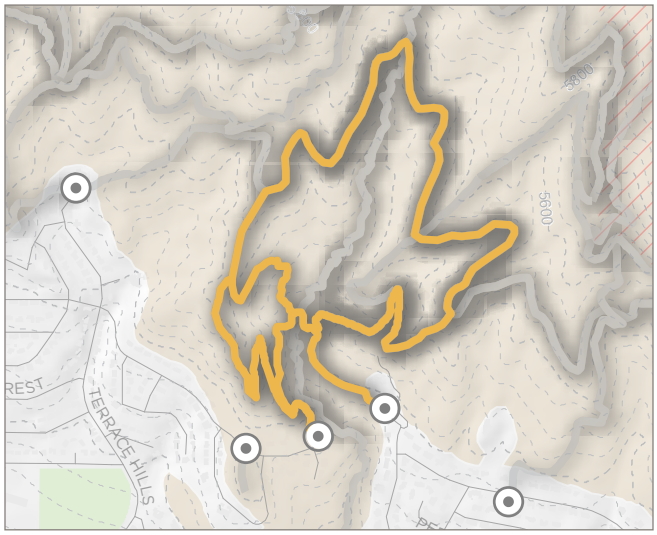


Morris Mountain Loop

Nice, relatively gradual 3-hour hike from City Creek Canyon up to the top of Morris Mountain, with great views of upper City Creek and downtown Salt Lake City. Substantial elevation gain is required.

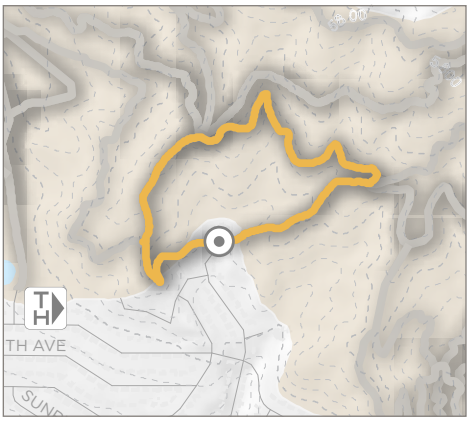
Perry's Hollow Loop

Pleasant 90-minute to 2-hour loop hike around Perry's Hollow above the Avenues. Great introductory hike for families, and pleasant morning or evening jaunt for nearby residents. Good sunset views from ridgelines.



Morris Meadows Loop

A pleasant 30-minute cherry-stem loop in a wide open meadow on the south side of City Creek Canyon. Popular with dog walkers and neighborhood residents. One of the only foothills hikes that requires no climbing.



Terrace Hills Loop

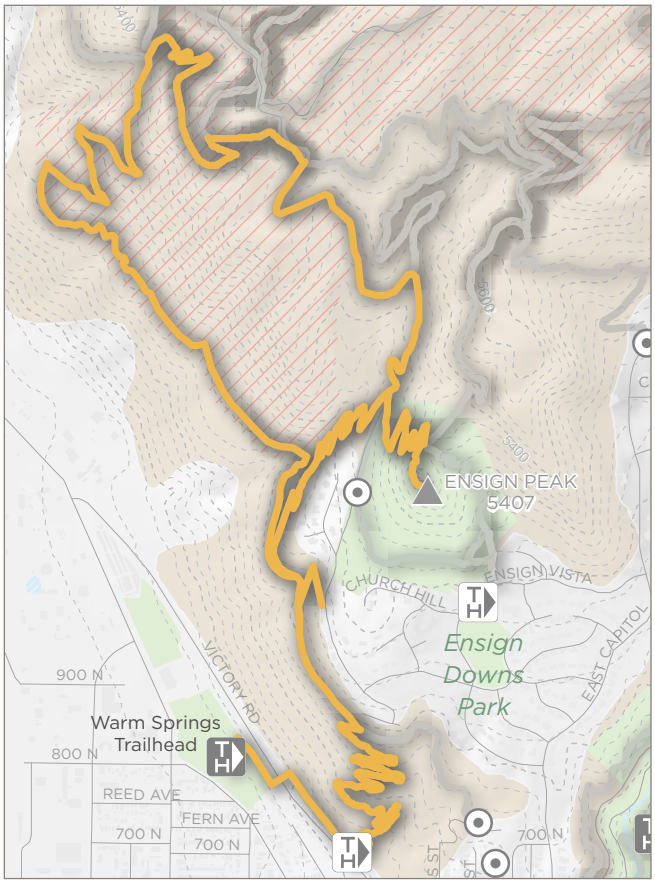
An easy 1-hour loop for people looking for a quick but pleasant hike with relatively little elevation gain. Parking tends to be a problem on weekends and nice evenings.

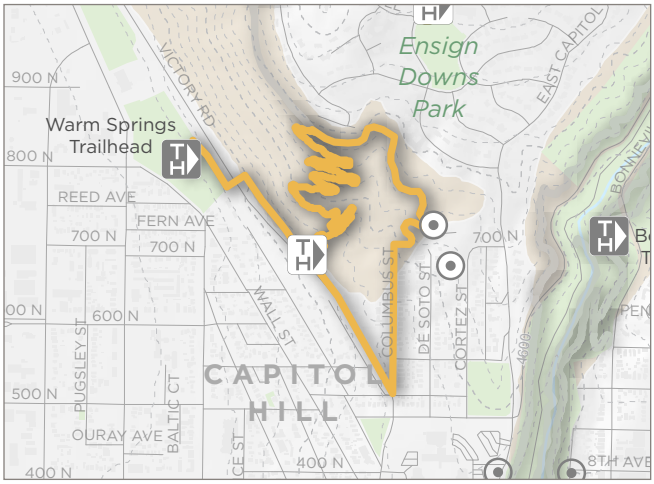
PROPOSED TRAIL SYSTEM

HIKING LOOP OPTIONS

Lakeview Loop

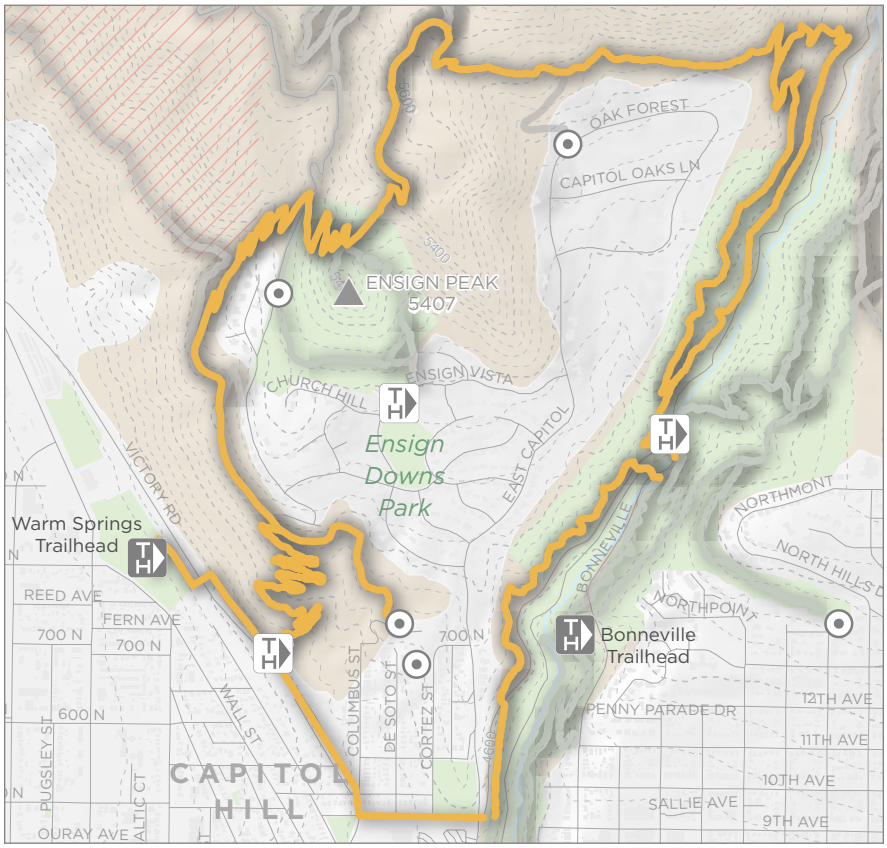
Provides a 2.5-hour loop with a long, flat traverse along the Bonneville Shoreline bench. Surprisingly quiet, with good views of interesting geology. Can easily be extended to incorporate the summit of Ensign Peak.





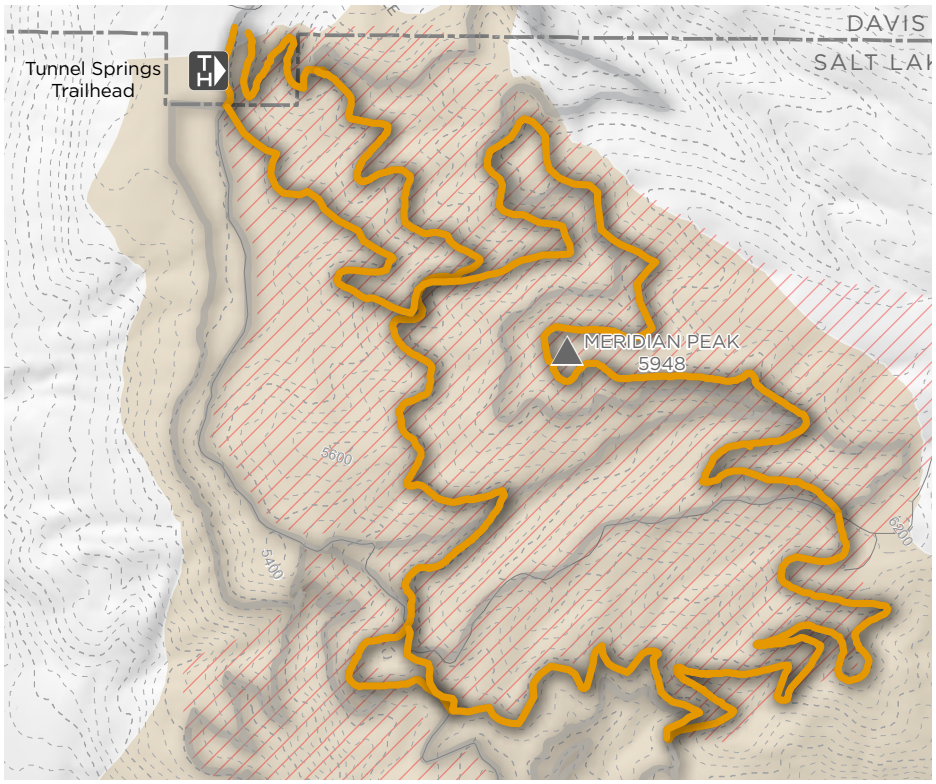
Capitol Hill Loop

Provides a 1-hour loop with excellent views of Capitol Hill and a natural spring in lower Hell Canyon. Perfect for a quick hike or run before work or after dinner.



Hogback Loop

Provides a 2.5-hour loop with diverse views in many directions. Mostly follows trails that are well-traveled and popular. Good trail running option from Memory Grove & the downtown area.



Meridian Peak Loop

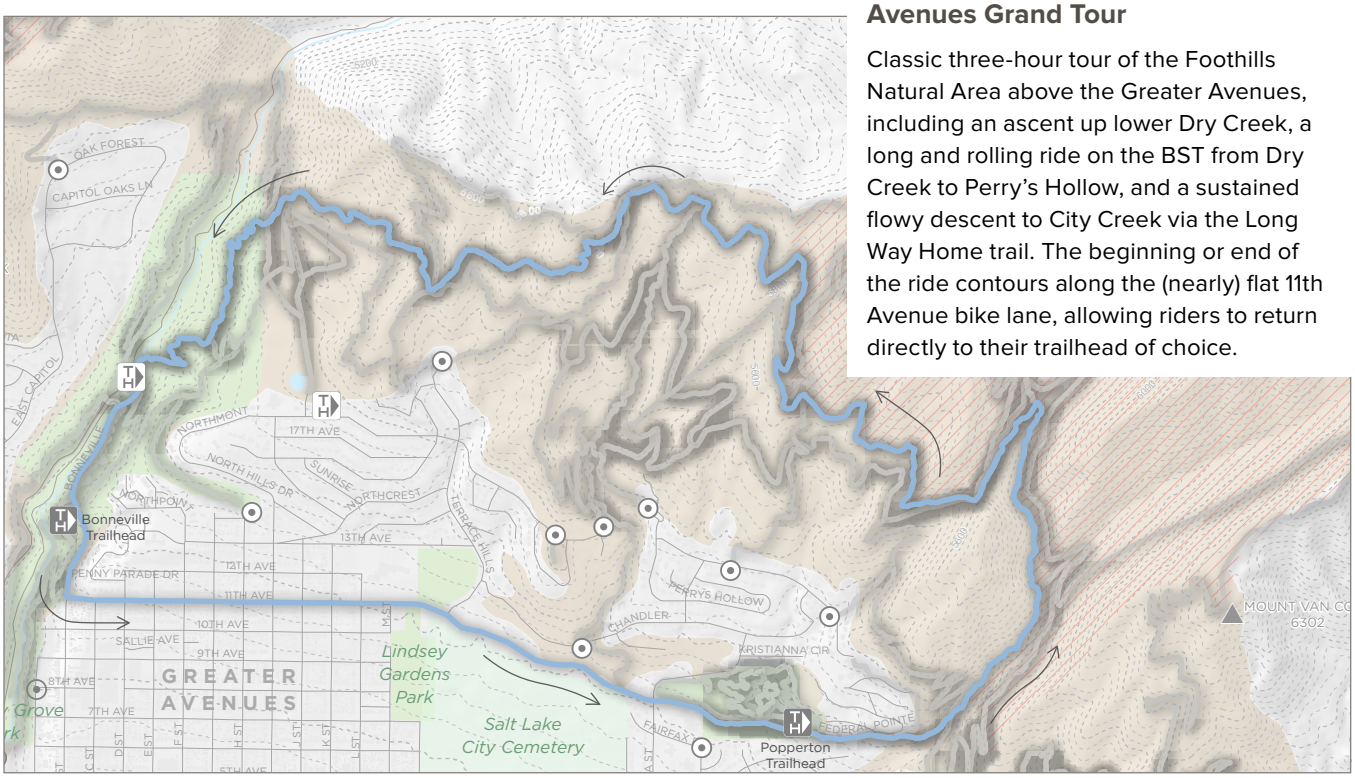
Provides a 3hour loop with excellent views of the lake and interesting jogs into many side canyons. Excellent vistas from the City Creek ridgeline and the summit of Meridian Peak. Recommended for hikers and trail runners looking for substantial solitude, nature, and scenery, and willing to commit to a longer excursion.

B

BIKING LOOP OPTIONS

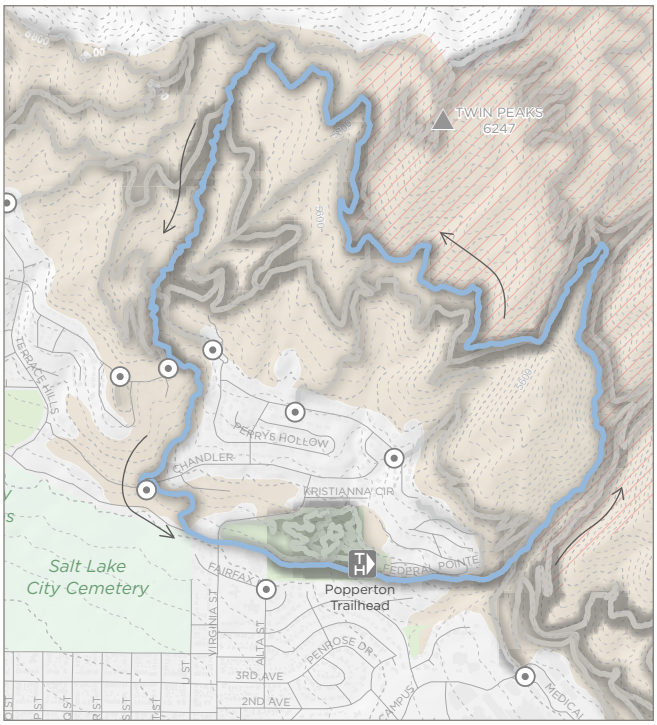
APPENDIX B

BIKING LOOP OPTIONS



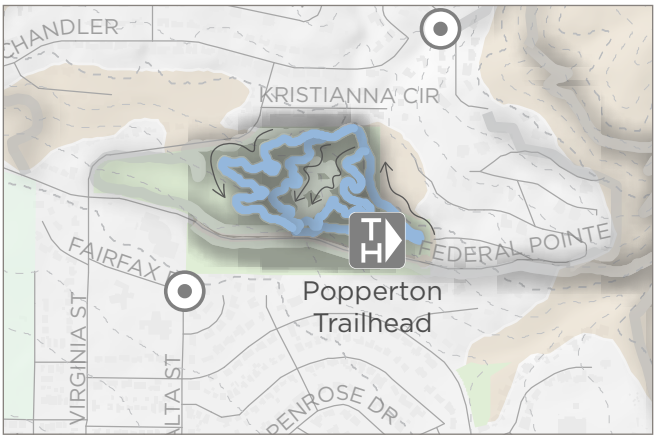
Avenues Grand Tour

Classic three-hour tour of the Foothills Natural Area above the Greater Avenues, including an ascent up lower Dry Creek, a long and rolling ride on the BST from Dry Creek to Perry's Hollow, and a sustained flowy descent to City Creek via the Long Way Home trail. The beginning or end of the ride contours along the (nearly) flat 11th Avenue bike lane, allowing riders to return directly to their trailhead of choice.



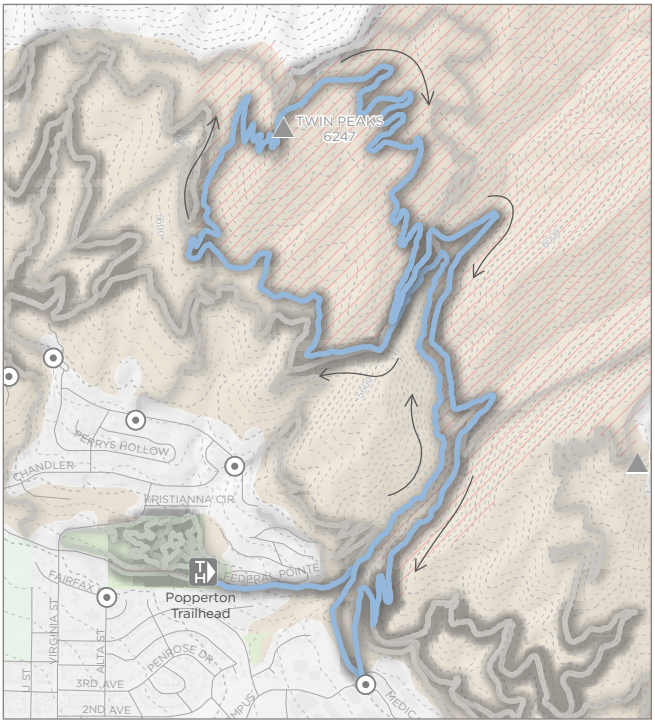
Bobsled Loop

Three Salt Lake City classics packed into one great loop. A shady, sustained climb up lower Dry Creek, followed by the fun, rolling contours of the Avenues Section of the Bonneville Shoreline Trail — arguably the best BST segment in Salt Lake City. Finish it off with a descent of the famous Bobsled Downhill. That's a loop you'll never get tired of.



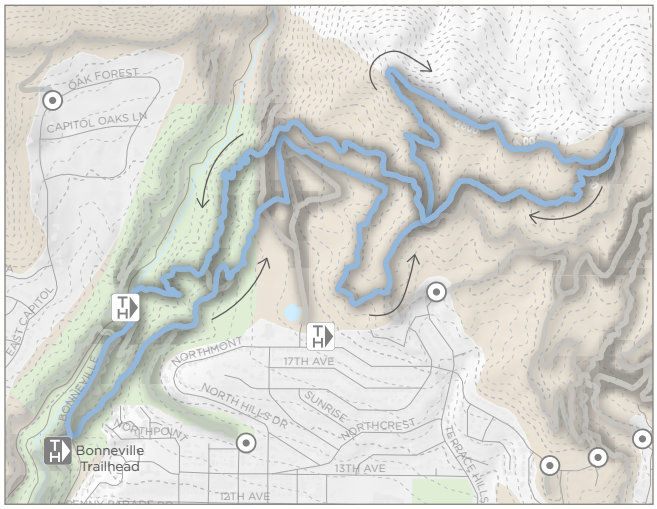
Popperton Practice Loops

A series of short downhill trails at varying difficulty levels, from timid beginner to advanced, helps new and intermediate riders build skills and confidence before heading out to bigger trails. A great place for families with kids to spend time riding and hanging out in the nearby park. Some of the loop trails also accommodate adaptive cycles.



Twin Peaks Bike Loop

Great bike loop with a serious 1,300’ elevation gain and a huge payoff with a sustained downhill trail in Dry Creek. The loop can also be cut in half by heading down where the Dry Creek uphill and downhill trails intersect part way up to the Avenues Twins.

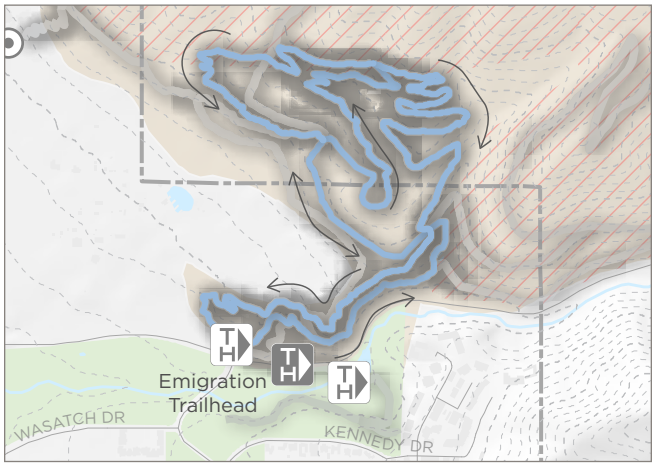


Morris Meadows Loop

Awesome views of City Creek Canyon help you forget that you’re cranking up 1,400’ of elevation gain enroute to the summit of Morris Mountain. A well-graded uphill trail and a flat section across Morris Meadows help, too. Not far below the summit of Morris Mountain, the Long Way Home trail provides a fun, sustained and intermediate-level downhill back to the trailhead.

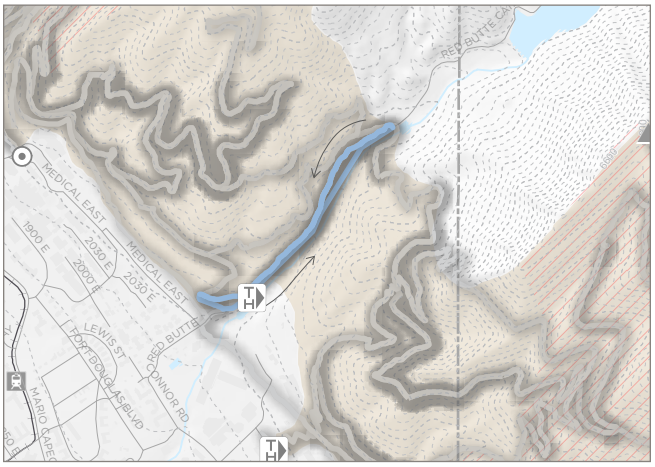
APPENDIX B

BIKING LOOP OPTIONS



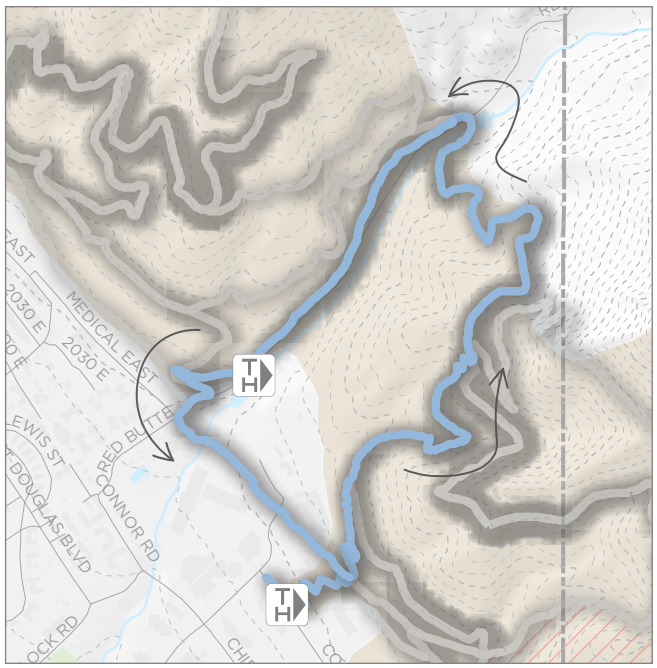
Roller Coaster Loop

A relatively short but sustained climb of about 600 vertical feet brings riders to two short downhill MTB options, one intermediate and one intermediate-advanced, to compliment the informal “pipeline rollercoaster” that starts at the same location. Both downhill trails lead back to Wagner Spring, and then back to the Emigration Canyon Trailhead via a downhill-only route. This is a good place for intermediate riders to build skills, or to put in a couple of laps.



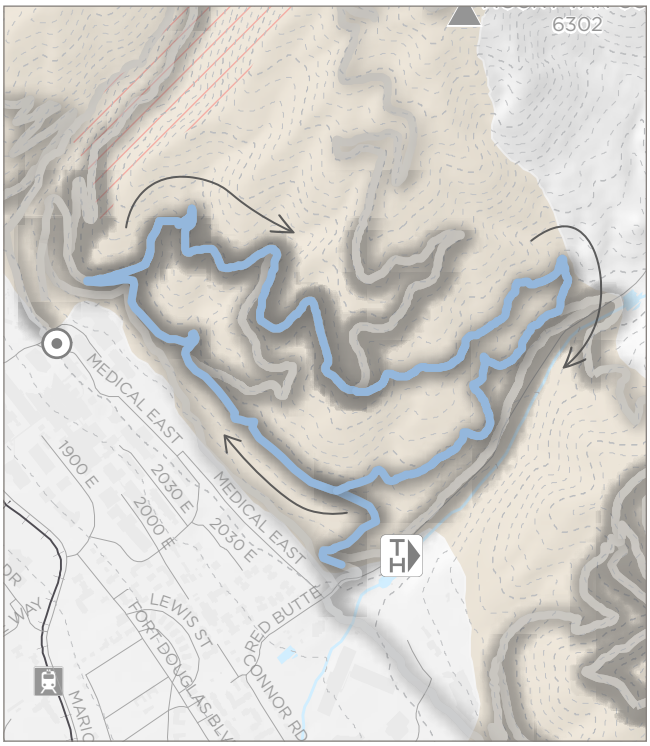
Red Butte Practice Loop

This short loop ascends via the Red Butte Canyon Road to the closed gate, and then descends on the gentle, forested slopes on the west side of the road. Small rollers and banked turns give beginner riders a great introduction to mountain biking in a minimally-committing setting — the road is always a short distance away. This loop is also a great place for people with physical disabilities to get some trail time on adaptive cycles.



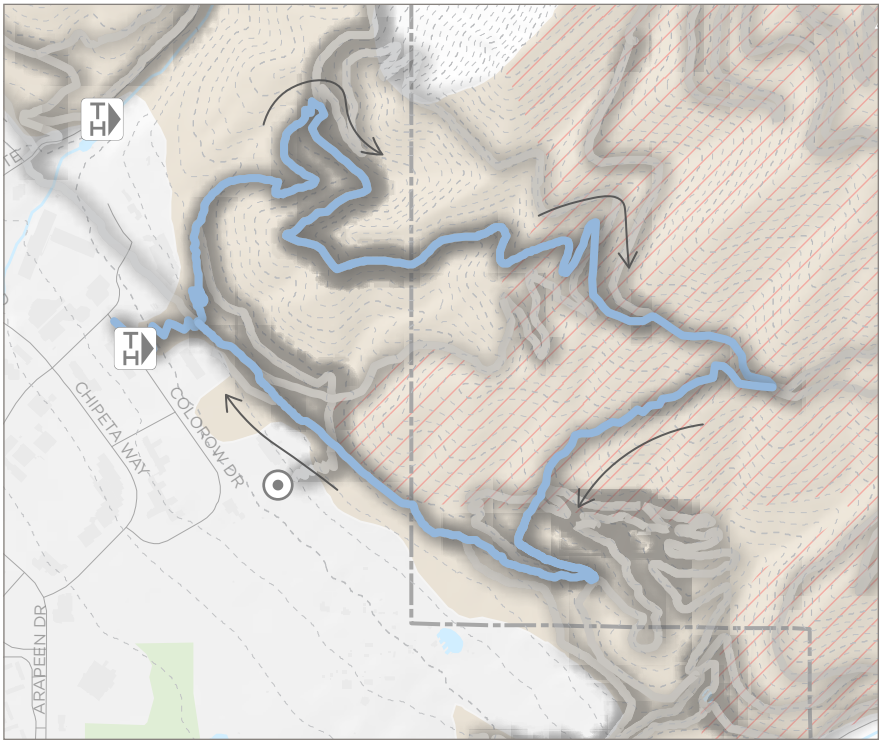
U View Loop

This is a great short (45 minute) workout ride around Red Butte Garden and the Natural History Museum of Utah, with a stiff climb and fun descent. The trail is shared with hikers, so it’s not a good option for those looking to bomb downhill, but makes for a great after-work ride with friends, or lunchtime getaway for those working near the U Campus and Research Park.



Skyline Loop

A fun, short (45-minute to 1-hour) loop ride on the lower slopes of Mt. Van Cott just above the U of U Campus. A small amount of elevation gain gives way to the rolling, traversing Skyline Trail as it contours in and out of small gullies and ravines. Great trail for beginners and casual intermediate riders, as well as social riding.

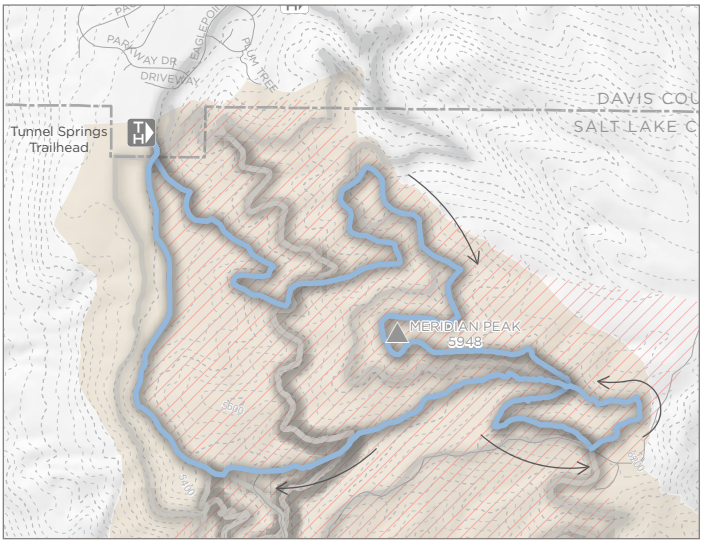


Red Butte Loop

Ouch! This is certainly not the longest MTB loop in the Foothills Natural Area, but it's one of the most difficult. A sustained, chunky climb on a narrow trail up out of Red Butte Canyon eventually tops out with a brief rolling contour section east of the Living Room, and then descends via The Slip Trail, an extremely steep and unforgiving downhill that spits riders out above This Is The Place.

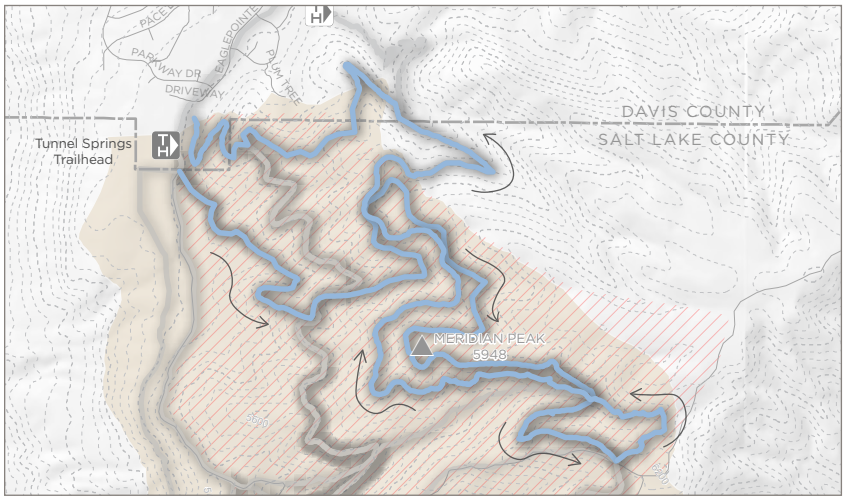
APPENDIX B

BIKING LOOP OPTIONS



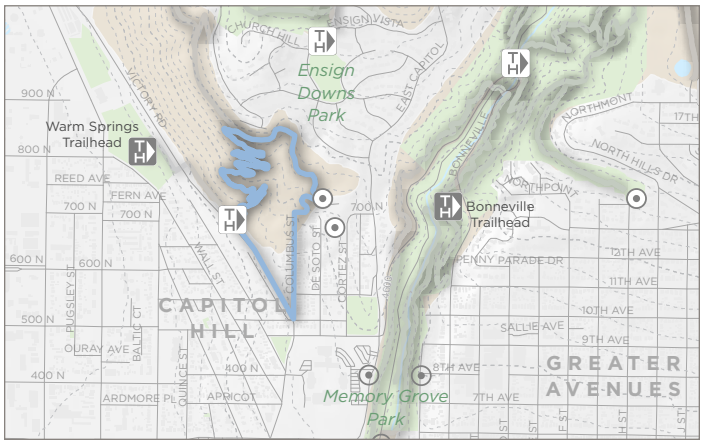
Jones Canyon Loop

Provides a 90-minute loop with a long, scenic climb followed by a fast downhill descent in Jones Canyon. Recommended for strong intermediate to advanced riders looking for a downhill experience similar to the Bobsled Trail but with more effort and more solitude.



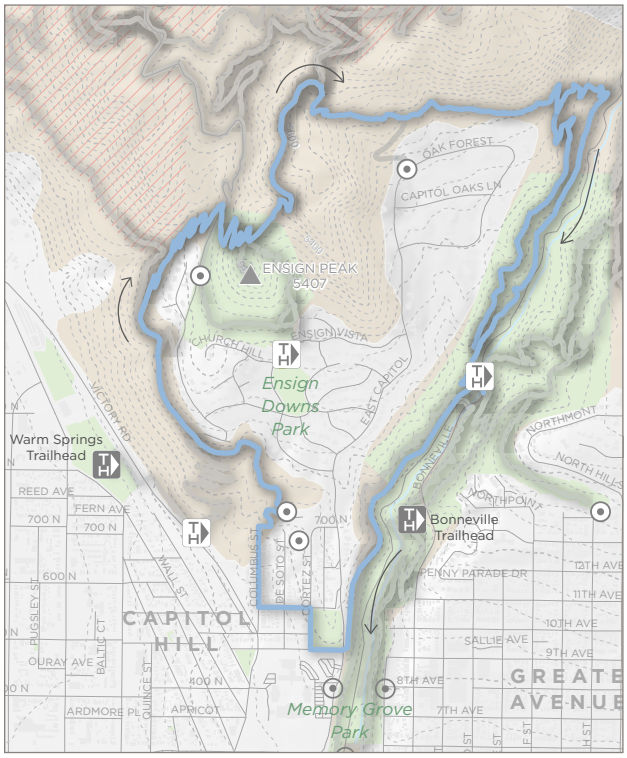
Prime Meridian Loop

Provides a 2+ hour loop with a long, gradual climb and a long singletrack descent that provides substantial solitude and fun. Recommended for intermediate to advanced riders looking for a cross-country experience and a fast, sustained descent. Counter-clockwise direction recommended.



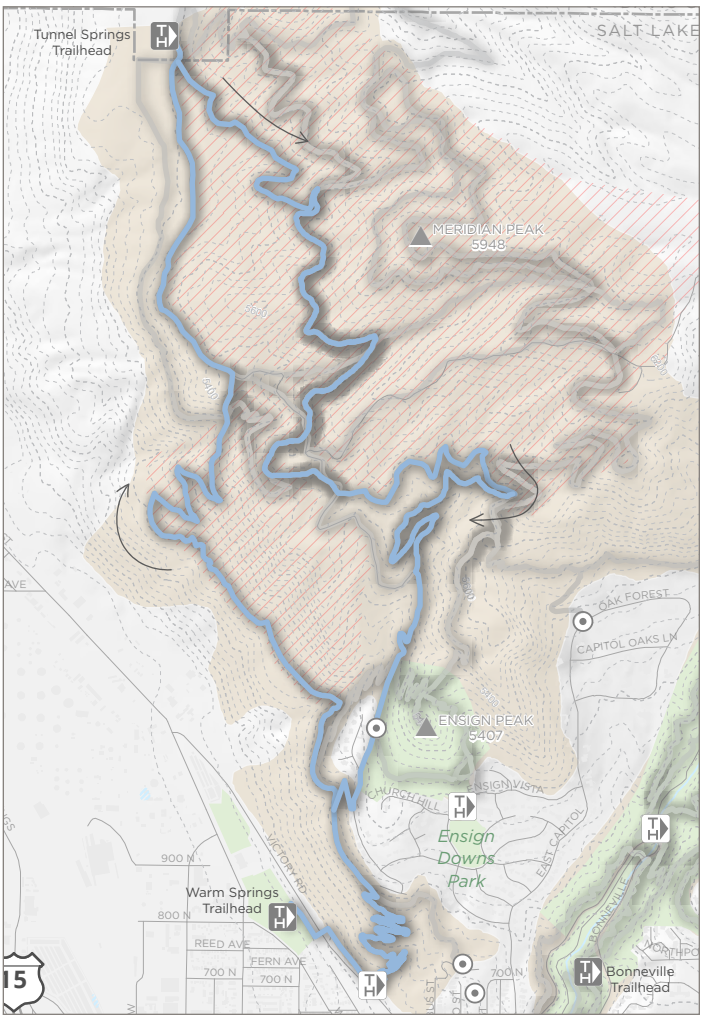
Switchbacks Practice Loop

Provides a 30-minute loop with easy grades and many tight-but-navigable switchback turns, great for early-intermediate riders looking to build their skills or take a short loop. Counter-clockwise direction recommended.



Capitol Steps Loop

Provides a 90-minute loop with a sustained climb on street, double-track, and single-track, followed by a long singletrack descent. Recommended for intermediate to advanced riders looking for a good workout. Clockwise direction recommended.



Peregrine Cliffs Loop

Provides a 3 hour loop with lots of diversity in terrain and trail types. Recommended for strong intermediate to advanced riders looking for a cross-country experience. Clockwise direction recommended.