

JANUARY 2024



Public Lands

# FOOTHILLS TRAIL SYSTEM EVALUATION

## AND RECOMMENDATIONS



# TABLE OF CONTENTS

## INTRODUCTION 3

Evaluation History	5
How to Use this Document	6
Project Process	7
<i>Engagement and Outreach</i>	7
Methodology & Trail Evaluation Criteria	8
Existing Use	9
Comparable Region Evaluation	13
Case Studies	14

## EVALUATION SUMMARIES 16

THE 2020 Foothills Plan Evaluation	17
<i>Methodology</i>	17
<i>Plan Overview</i>	18
Goals Evaluation	20
Evaluation of Phase I Implementation	22
<i>Lower City Creek Loop</i>	23
<i>Avenues Ridge/19th Ave/BST Valleyview</i>	24
<i>Popperton Trails</i>	25
<i>Twin Peaks &amp; Dry Creek</i>	26
Evaluation Summary	27

## RECOMMENDATIONS 28

Recommendations Summary	29
Restoration and Recreation Planning by Zone	30
<i>Prioritization of FOSZ Planning and Implementation</i>	32
FOSZ Planning and Implementation Process	47
<i>PHASE 1: PLANNING</i>	47
<i>PHASE 2: DESIGN</i>	48
<i>PHASE 3: IMPLEMENTATION</i>	48
Public Communications Strategy	49
Prioritize the Maintenance and Enhancement of Existing Facilities	50
Develop a Unified Wayfinding System	51
Increase the Power of Trail Counts	52
Develop a Management Plan	53
Operations and Maintenance	54
<i>Maintaining the Outdoors: The Blueprint for Trail Care</i>	55
<i>Methods to Accomplish Quarterly Inspections</i>	56
Next Steps	57





# INTRODUCTION

Salt Lake City is among the fastest growing metropolitan areas in the nation. With a thriving population of outdoor enthusiasts, and more new residents looking to take advantage of Salt Lake City's recreational resources daily, the Salt Lake City Foothills are the vanguard of the city's outdoor recreation offerings. With more than 60 miles of natural surface trail and several access points along the nearly 10-mile span of the Bonneville Shoreline trail, the Foothills Trail system offers world-class outdoors access to the City.

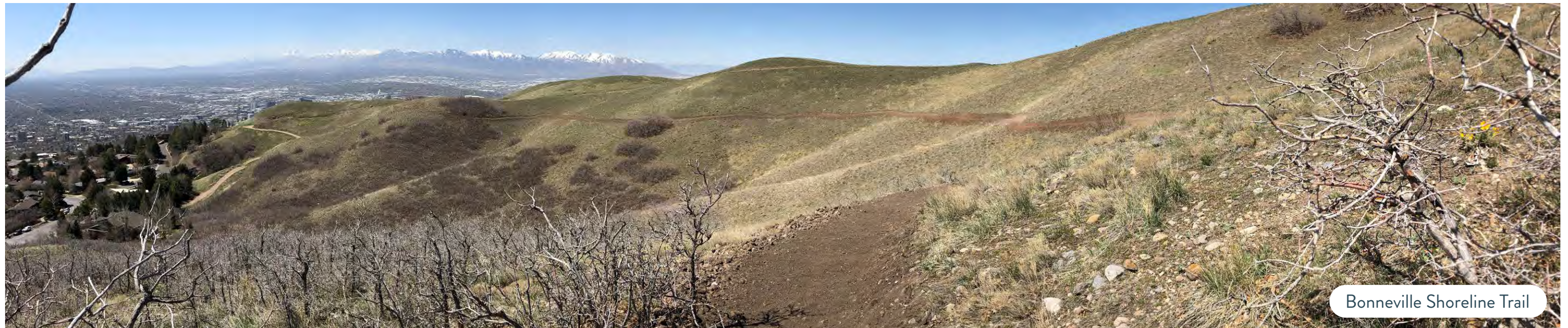
Historically, trail access throughout Salt Lake City's Foothills were largely unmanaged, beyond improvements to the Bonneville Shoreline Trail. This changed when the Salt Lake City Public Lands Department adopted the Foothills Trail System Plan (the Foothills Plan), which provided detailed layout, design, and management recommendations for a non-motorized recreational trail system within the Foothills. The multi-year planning process included extensive public engagement and outreach, a three-phased trail development plan, and design guidelines and implementation steps to guide the Public Lands Department in the development and management of an extensive regional trail system.

From 2020 to 2021, the City implemented Phase I of the Foothills Plan which built and enhanced approximately 15 miles of new trails. Phase I removed some pre-existing trails and altered some use restrictions of the current trail system. Public reaction to Phase I implementation ranged from strong support to significant concern regarding the impact and quality of new trail construction. Some members of the public expressed concern about the City implementing new trail construction without established maintenance or management plans.

Due to this mixed response, the City paused the implementation process to evaluate Phase I work. This evaluation has taken the form of a detailed environmental review (Foothills Environmental and Cultural Resource Assessment) and this document, which identifies appropriate processes and methodologies to follow as the Foothills Trail System Plan is implemented.

This document represents provides guidance and recommendations for:

- **The establishment of Foothills Open Space Zones to guide land and trail management decisions.**
- **The adoption of a more robust planning and implementation process that incorporates additional ecological and community inputs and tiered design process to achieve the vision of the 2020 Foothills Trail System Plan**
- **Improving public communications**
- **Prioritizing maintenance of existing facilities**
- **Developing a unified wayfinding system to improve overall sustainability and safety**
- **Expanding data resources to inform decision making**
- **Establishing a management plan for Foothills Natural Area**



# EVALUATION HISTORY

The Salt Lake City Department of Public Lands launched the 2020 Foothills Trail System Plan (the Foothills Plan) after extensive planning and public engagement with landowners, stakeholder groups, and invested residents and trail users. The Foothills Plan was an important first step to begin management of a previously unmanaged urban-adjacent open space resource. The Foothills Plan developed five goals for the trails, considering the City's growing, diverse population and the high desert climate and ecosystems of the Foothills: the trail system should be Environmentally Sustainable, Enjoyable, Safe, Accessible, and Low Maintenance.

Phase I implementation of the Foothills Plan in 2020-2021 was both celebrated and criticized by the community. The 15+ miles of newly built and signed trails saw significant use but also raised questions and concerns about planning and construction methods. The City paused trail construction in the summer of 2021 to conduct a thorough evaluation of the Foothills Plan working to fulfill the promise of a "world-class trail system" that employs best practices for its design, construction, and maintenance.

The City hired three consultants to independently evaluate the Foothills Plan from their various areas of expertise. SWCA Environmental Consultants were hired to complete a baseline pre-NEPA ecological and cultural report that will inform future areas for trail development and for conservation. SWCA's evaluation was completed in May 2023 and was shared in community meetings and online.

Natural area recreation planning specialists SE Group and their subcontractors, trail industry experts Kay-Linn Enterprises and Applied Trails Research, were hired to complete a thorough evaluation of Phase I construction and plan implementation, which has culminated in this plan document. This team was also tasked with creating an additional appendix and recommendations for inclusion in the Foothills Plan.

The SE team met extensively with SWCA's team for more than 6 months to ensure a complete analysis was conducted. Lastly, DEA Inc civil planning communications consultants were brought on board to assist with community engagement and bolster communications efforts to more effectively deliver messaging to the City's constituents.

This report documents the findings and recommendations of the evaluation performed by SE Group and its team of recreation and natural resource experts. Specifically, the scope of SE Group's work included:

## **Evaluation of and Recommendations for:**

- The 2020 Foothills Trail System Plan, led by Alta Planning & Design
- Phase I implementation for the Foothills Plan
- Future trail planning and implementation

## **Providing recommended procedures for:**

- Developing a wayfinding and signage system
- Developing a maintenance plan
- Evaluating current and future trail use
- Integrating the 2020 Plan into a future Foothills Management Plan



# HOW TO USE THIS DOCUMENT

To Learn the History of Salt Lake City’s Planning for improvements to the Foothills Trail System, refer to the introduction portion of this plan.

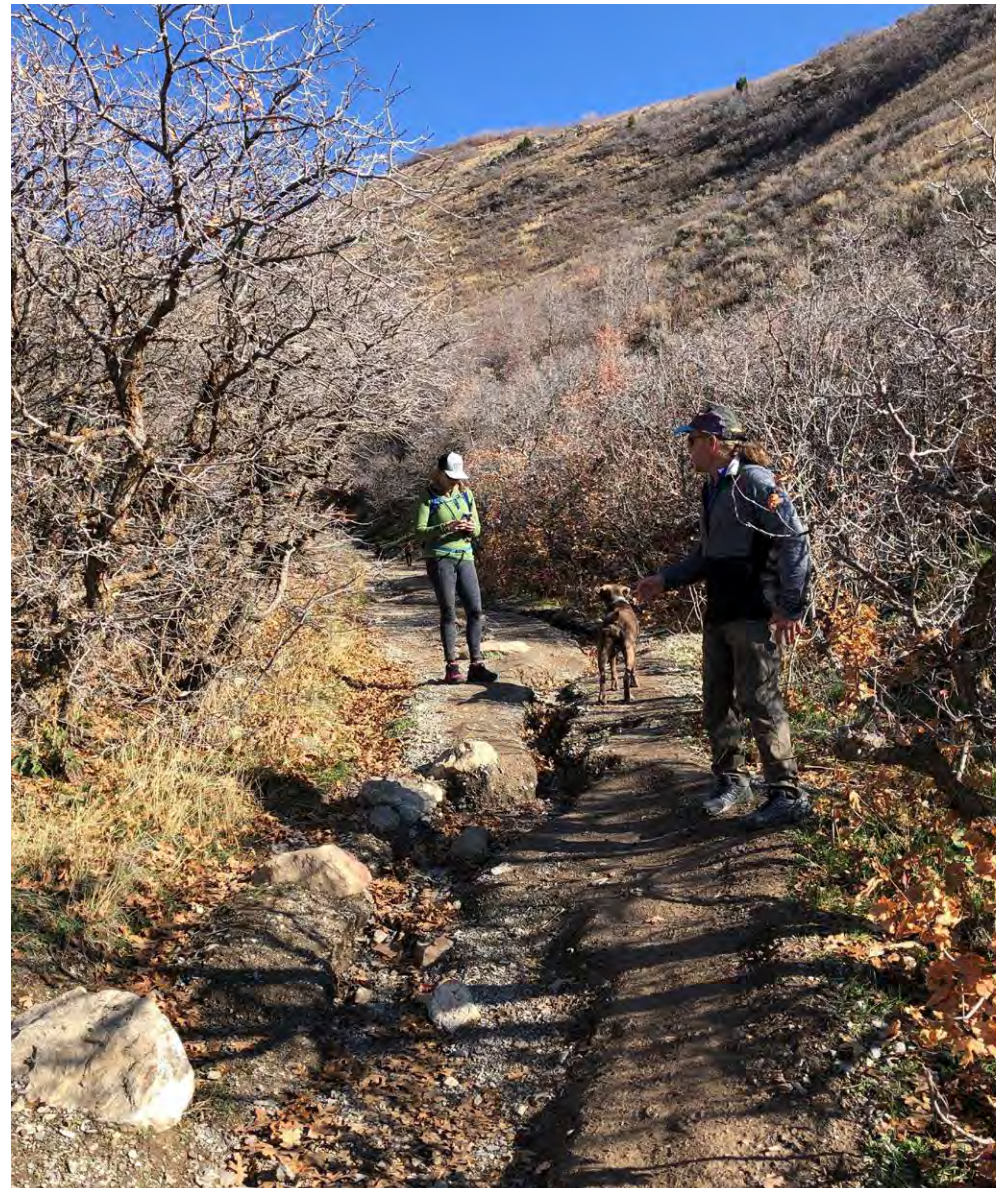
To Understand the strengths and drawbacks of the original 2020 Foothills Plan and the phase 1 trail construction that came after, refer to the evaluation portion of this plan.

To Review the Recommended changes to the trail design and development process that will guide future changes in the Foothills, refer to the recommendations portion of this plan.

## Introduction



## Evaluation



## Recommendations



# PROJECT PROCESS

This Foothills Trail System Evaluation has been conducted in concert with two other projects:

- The Foothills Environmental and Cultural Resource Assessment
- A Foothills Trails Public Communications effort

These efforts have been sponsored by the Salt Lake City to implement the Foothills Plan vision methodically and transparently while following environmentally sound practices.

The Foothills Environmental and Cultural Resource Assessment is a preliminary, landscape-level environmental evaluation. The assessment does not provide a level of detail suitable for trail construction. This more granular level of detail is intended to occur at later dates as precise trail alignments are determined.

Historically, a NEPA-level environmental review has only been required for projects on United States Forest Service (USFS) and other federal lands. The City Department of Public Lands has determined that NEPA-level evaluation should be performed on all future alignment proposals regardless of land ownership. Findings from the environmental and cultural resource assessment have directly informed this document's consideration of potential environmental, cultural, and geotechnical resources throughout the foothills.

Additionally, the Department of Public Lands enlisted the services of a communications consultant to enhance transparency within this Foothills Plan evaluation process, and convey expectations for future planning and development within the Foothills. The consultant has been tasked to support public communication on Foothills projects, guiding engagement and messaging to residents, stakeholders, and trail users.

## Engagement and Outreach

This report summarizes professional assessments of the Foothills Plan and Phase I implementation, along with Salt Lake City residents, City staff, and stakeholder assessment. Stakeholders consulted during this process include:

- SLC Engineering
- SLC Communications
- SLC Sustainability
- SLC Fire
- SLC Planning
- SLC Emergency Services
- SLC Public Utilities
- SLC Public Lands
- SLC Transportation
- SLC Mayors Office
- SLC Community Council Representatives
- Diversity advocates, US Forest Service, and Indigenous community members
- Accessibility Advocates
- University of Utah
- Salt Lake City and regional trail and conservation advocates

The project team conducted an extensive listening tour of these City Departments, stakeholder and leadership groups from October 2022 through March 2023. Additional follow-up sessions were conducted to fully address concerns and identify an appropriate process for Trail System Plan Implementation.

Ten internal stakeholder interviews, four external stakeholder meetings, two public workshops and two public presentations were coordinated to gather broad public feedback regarding the perceived benefits and drawbacks of the first phase of implementing the Foothills Plan.

Key themes from this engagement process included:

- A need for improved wayfinding and signage throughout the Foothills
- A need for improved communications to the public and within city departments for plans and activities within the Foothills.
- A need to promote responsible trail etiquette among users
- A need for clear evaluation of environmental impacts of any proposed changes to the Foothills landscape
- A need to balance recreation, accessibility, and environmental stewardship throughout the Foothills

These themes and additional feedback are integrated into this document's recommendations and summary.

# METHODOLOGY & TRAIL EVALUATION CRITERIA

Before reviewing the 2020 Foothills Trail System Plan (the Foothills Plan), the project team developed both sustainable trail objectives and trail system guiding principles to provide foundational guidance to the Foothills Trails Evaluation.

## Sustainable Trail Objectives

Sustainable trail objectives provide a common language between the City's Public Lands Department, elected officials, and the community. These sustainable trail objectives identify best-practice outcomes for trail systems which provide long-lasting and low-impact resources. These objectives include:

- **Maintenance & Stewardship:** Trail systems should require minimal maintenance and be supported by appropriate resources for ongoing enhancements and maintenance.
- **Ecological Sustainability:** Trail design should minimize use-related ecological impacts on surrounding habitats and ecosystems.
- **Physical Sustainability:** Trails should be built to retain physical form over time while meeting the diverse needs of different user types. Sustainable trails which maintain physical resilience should actively minimize user conflict through strategic design, such as maintaining line of sight and appropriate widths where possible.
- **Social Sustainability:** Trails should prioritize social sustainability to ensure easily navigable spaces for all users regardless of age, level or ability. Trails should allow users to reach desired destinations, such as viewpoints, with clearly defined and purposeful construction. Cultural and ecological interpretative signage as well as wayfinding and regulatory signage is a crucial part of telling the "story" of the Foothills and educating users regarding appropriate use.

## Trail System Guiding Principles

Guiding principles serve as broad criteria for evaluating Salt Lake City Foothills management decisions. Rather than strict guidelines, these principles act as focal points during the decision-making process. Decisions can be made outside these principles, but such deviations should be intentional, accompanied by clear justification, and a rationale demonstrating how the decision aligns with the goals established in the Foothills Plan or other guiding documents. These principles are:

- Support current and future use with minimal impact to the area's natural systems and wildlife
- Develop trails in areas already influenced by human activity
- Provide buffers to avoid/protect sensitive ecological and hydrological systems
- Produce negligible soil loss or movement while allowing native vegetation to inhabit the area
- Provide ongoing stewardship of the trails and adjoining natural systems
- Ensure continued management and maintenance for the system
- Accommodate existing sustainable use while allowing only appropriate future use
- Recognize cultural needs in and around trail systems
- Work to provide a diverse system with inclusive opportunities for all users

**When applied to the Foothills Plan, these objectives and principles reveal gaps and inconsistencies related to best practice techniques, design guidelines, key construction and maintenance principles, management strategies, and proposed trail locations.**





# EXISTING USE

To understand current trends and conditions regarding trail use in the Foothills system, the project team consulted available trail data. This informed the analysis of the 2020 Foothills Plan and subsequent recommendations.

The Salt Lake City Foothills Natural Area represents a valuable open space asset adjacent to a large metropolitan population. This asset should be open and accessible to visitors of all ages, abilities, and backgrounds.

For years, many Salt Lake City hikers and bikers have enjoyed access to the Foothills trails. Yet significant barriers remain for large portions of the City's population. Informal access points, limited wayfinding and information, and steep and challenging terrain create barriers for entry for many residents and visitors. Experienced trail users may not recognize these hurdles and these users only represent a fraction of the potential user base.

The City has compiled trail use data from crowdsourced apps and trail counters at key access points along the Foothills. These data provide important insights into trail use. However, they do not tell the full story of access to the Foothills trails. Beyond this data, the City is learning more about the real and perceived barriers to entry for many community members including those who face barriers to trail access or do not feel comfortable using the trails.

The City acknowledges these barriers and will work to meet unmet demand and make the Foothills Trail System an inclusive community resource.



University Medical Campus Utility Road

## Salt Lake City's Trail Count Data

Since 2017, Salt Lake City has operated multiple infrared trail counters throughout its trail network. 16 unique sites have been measured, 9 of them within the Foothills. The inset map illustrates current Salt Lake City trail counter locations (in pink). Many locations have been gathering data for five years or more, providing excellent opportunity for analysis and use of data to guide decision making. This technology identifies users crossing an infrared beam, but can not distinguish between user types (hiker, biker, etc)

This data can be consulted when building each year's maintenance and restoration priorities. Use in a given area can be measured by Average Daily Traffic (ADT) - a simple average of users measured passing through a trailhead on an hourly, daily, seasonal, or annual basis.

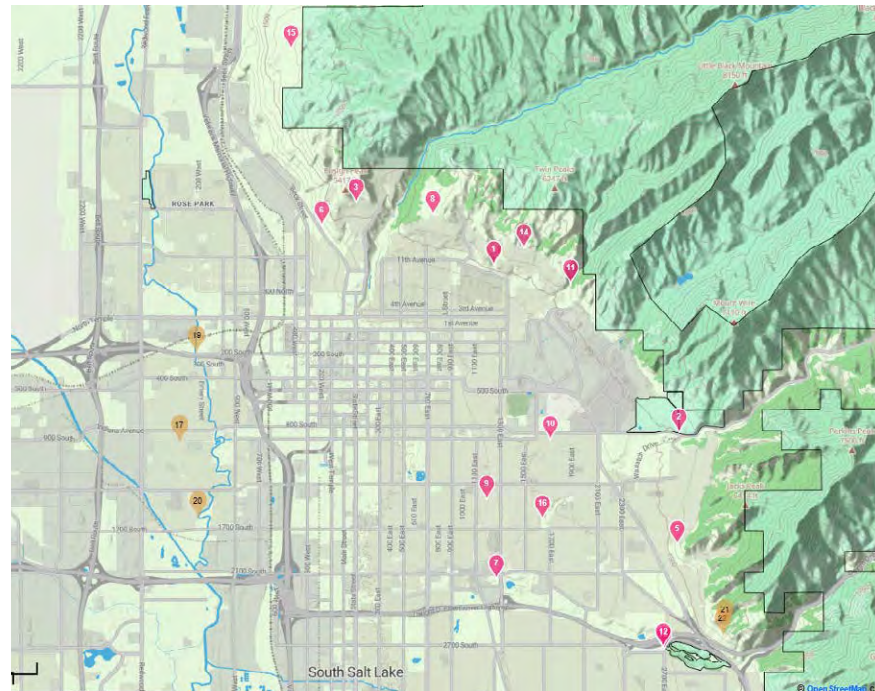
These data systems are not foolproof and data must be reviewed by staff familiar with the dynamics of Foothills use to scrub data for outliers or errors. Once cleaned of data outliers and errors, each of these locations has a large amount of 24/7 data that can illustrate use patterns across time and compare use between sites.

Data from these counters were used to generate information on this and the following page, providing a brief overview of trail user data in the Foothills.

## Ensign Trail Data

The popular Ensign Peak Trail has approximately 4 full years of data available between 2019 and 2023. Illustrated to the right, this trail sees significant use throughout the year. Spring peak use volumes are notable, cresting at figures that relate to approximately 36 users each daylight hour in May.

Seasonal fluctuations are mirrored across this and other counter datasets - with peak use happening in April / May / June, and lowest use levels occurring in the coldest months of December / January / February.



Trail Counter Locations as of winter 2023

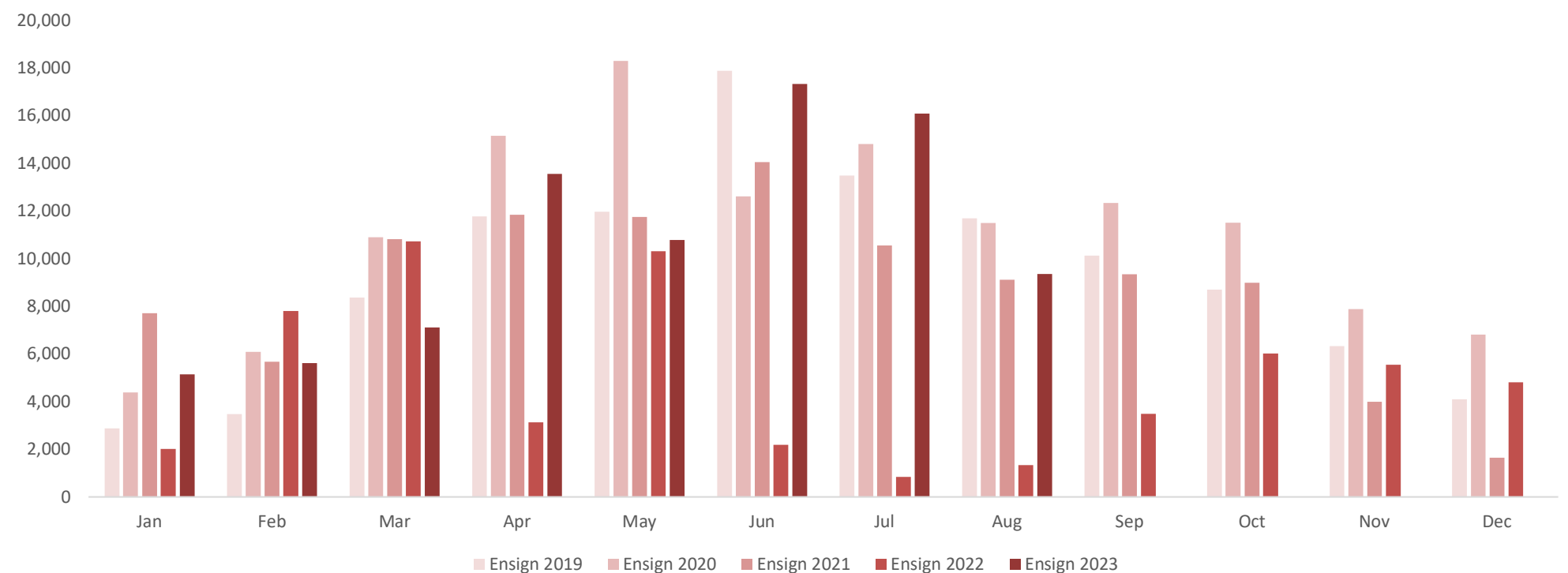
source: traf.com

Foothills Sites	Number of data years	Est 2022* ADT
Emigration Canyon Trailhead	7	521
18th Avenue TH	7	469
Ensign Peak TH	7	350
Tunnel Springs Trailhead	6	231
Mouth of Dry Creek	8	113
H-Rock/Devonshire	6	102
Bottom of Bobsled	6	58
Victory Road TH	6	42
Tomahawk Drive TH	6	28

Other Public Lands Sites	Number of data years	Est 2022* ADT
PHNP Main Road	2	937*
PHNP Upper Gate West Side	7	726
PHNP Upper Gate East Side	7	668
Hidden Hollow	6	461
Miller Park	6	101
Wasatch Hollow	6	35
McClelland Trail	6	91

\*Indicates Average Daily Traffic (ADT) from years prior to 2022 due to data avail.

## Ensign Trail Use



### Trailhead Data

Three trailhead entrances have associated counts: Emigration Canyon, 18th Avenue, and Tunnel Springs Trailhead. Emigration Canyon and 18th Ave Trailhead have the most complete datasets (most full years of counts available), and after review and removal of outlier counts, the chart on this page was produced to provide an overview of their historic use patterns.

The takeaway from Foothills trailhead data is the significant volumes of use at all times of the year. Averages of 15,000 to 20,000 users is not unusual during spring months and reflects a baseline for use in the future. Even in the winter, low counts show 5,000-6,000 users at a trailhead every month (or a minimum of 166 users a day).

These data illustrate differences between individual trailheads, such as differences in seasonal use rates. An example of this would be that between November and February, Emigration Canyon Trailhead averages higher use rates than I Street Trailhead.

### Trailhead Data Collection

In addition to this count data, Public Lands is developing a novel method to measure relative levels of use throughout the system - signage with a special QR 'check-in' code. Users will be encouraged to scan a QR code (unique to each specific public trailhead) that inquires about the user's zip code, and type of use (i.e. hike vs. bike; dogs). In turn, this will provide the City with data to review the time, location, and volume of check-ins across the network.

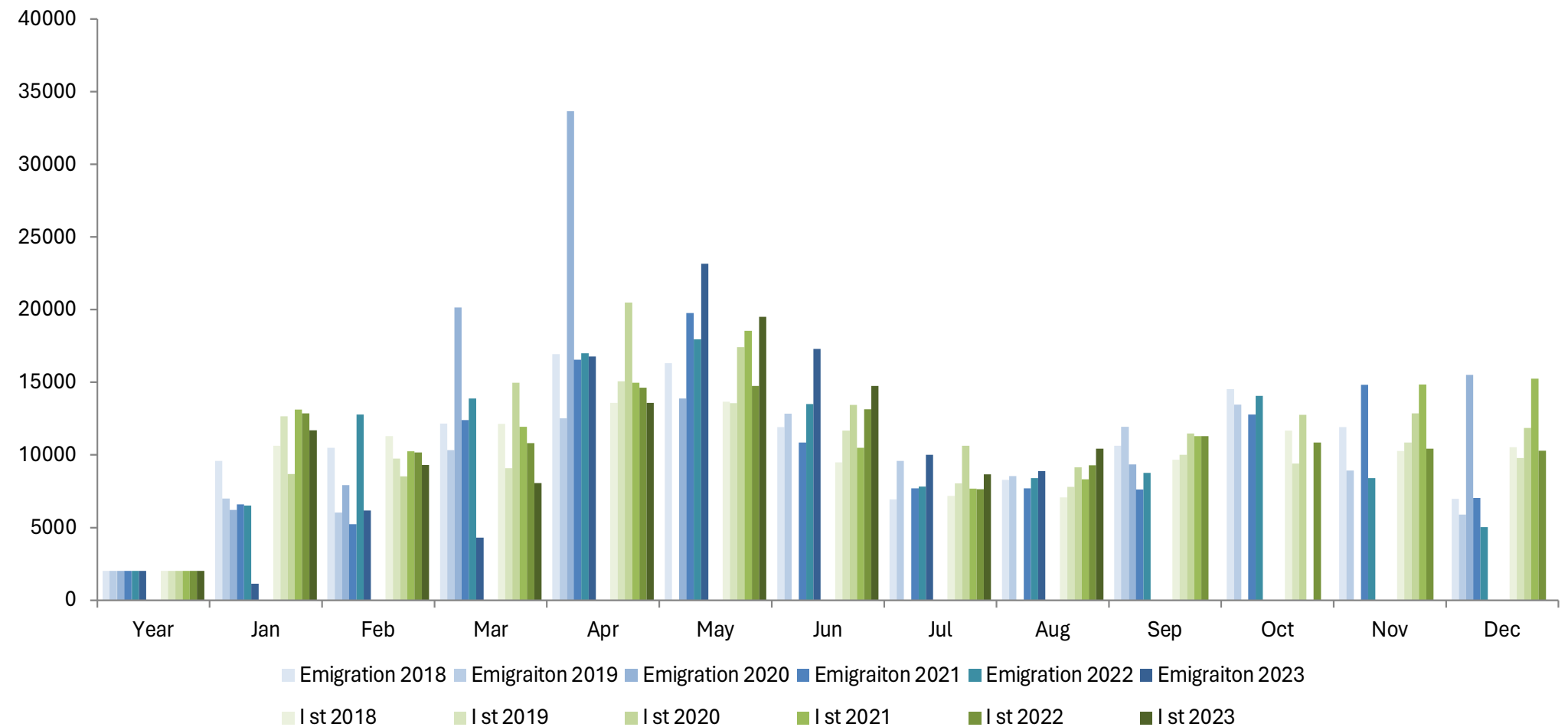
This system will by no means count every trail user, but can represent a portion of total user access. This portion will likely be consistent across the network. By correlating QR use with known trailhead counts, Public Lands will be able to gauge a relative level of use at each trailhead. The data will inform maintenance and management of trailheads and can also be used to apply for grant funding.

A low cost way to further leverage this data could be to partner with a university to conduct manual user counts at trailheads with QR codes, and specifically note what percent of trailhead visitors engage with the QR codes. Manual intercept user surveys can also help identify the distribution of user types - something not possible with traditional trail counters. Survey and manual count approaches are described in greater detail in the recommendations section of this document.

In addition to surveys and manual counts, "Big Data" on human mobility information from vendors like Placer.AI and Strava Metro can help illuminate usage patterns, particularly when paired with a robust trail counter dataset.

**TRAILHEAD  
USE AVERAGES  
BETWEEN  
160 AND 600  
USERS DAILY.**

**Public Trailhead Use Comparison**



### Broader Growth Trends

More people on the Wasatch Front means more demands on the Foothills. Plan for Growth.

Salt Lake City is a rapidly growing metropolitan area in a fast growing state. This translates directly into surging demand for and use of public trail and open space resources. As any state demographer would point out - Utah must plan and prepare for more demands on resources, be they housing, transportation, or the Salt Lake City Foothills.

By 2023, the population of the Salt Lake City Metropolitan Area, (SLC and Tooele Counties per the US Census) reached approximately 1,203,000, indicating a 0.92% increase compared to the previous year. In recent years, both the metro area and Salt Lake County have consistently demonstrated significant population growth rates, with the metro area growing at a rate of approximately one percent annually and Salt Lake County experiencing growth of about 1.25% annually.

Projections from the University of Utah suggest that Salt Lake County will continue this robust growth trend, with the population projected to reach around 1.67 million by 2060. The demand for recreational activities is expected to follow this same growth pattern.

In recent years, participation in outdoor recreation in the United States has witnessed a notable increase, as indicated by a record-breaking 54% of Americans aged 6 and above engaging in outdoor activities at least once in 2021, according to the Outdoor Foundation's 2021 Report. This upward trend has been consistent over the past few years and was further fueled by the COVID-19 pandemic. The State of Utah mirrors this pattern, particularly in terms of its economic impact. The Utah Division of Outdoor Recreation reveals that the

outdoor recreation sector contributes a significant \$6.1 billion to the state's economy, employing over 66,000 individuals and representing 2.7% of the state's gross domestic product. Outdoor recreation is a primary driver of Utah's thriving tourism industry.

The outdoor recreation sector has experienced substantial growth, with a 27.3% increase from 2020 to 2021. In the Salt Lake City Metro Area, the surge in outdoor recreation is evident in the rising counts of trail use, corroborated by data and anecdote alike.

### OUTDOOR RECREATION PARTICIPANT COUNT AND PARTICIPATION RATE 2007 TO 2022



Source: Outdoor Foundation's 2023 Outdoor Participation Trends Report.

# COMPARABLE REGION EVALUATION

## How will case studies help this plan?

Case studies are instrumental in providing valuable insights, facilitating informed decision-making, and optimizing the effectiveness of this evaluation. To offer a comprehensive perspective, three peer agencies from comparable communities across the western United States have been selected. These agencies were chosen for their parallel approaches to trail development, community engagement, and sustainable land management, making them relevant benchmarks for Salt Lake City's Foothills Trail System.

Jefferson County Open Space (Jeffco) has coped with growth similar to Salt Lake City's. Jeffco has dealt with growth and demand by renewing focus on partnerships with local organizations and municipalities through a grant program and overarching open space management guidance.

Boulder Open Space and Mountain Parks offers an example of how a public agency can commit to maintaining steep and informal trails. This agency is also known for proactively planning for future growth and managing staff sustainability and equitably.

In Boise, a trails-focused Ridges To Rivers partnership manages trails on a variety of BLM, USFS, City and State lands with highly skilled staff with strong volunteer support. They are an excellent example of a capitol city-adjacent open space district working well among numerous state and federal land managers.

As SLC Public Lands strives for growth and innovation, case studies offer opportunities for learning from peers. SLC Public Lands should look to these organization for model strategies and approaches that can be adopted and tailored to Salt Lake City's foothills.

Summary of Comparable Region Case Studies						
Comparison Location	Population	Staff	Management Strategy	Maturity of Management Plan	Trails/Acres Managed	Partnership Entities
Jefferson County, CO	579,581	120,300 active volunteers	Managed By County Department and Friends Of group, Strategic Plan updated every 5-Years;	Established in 1972	265 miles of trail; 56,000 acres of preserved land	Neighboring jurisdictions, USFS, Colo. Parks and Wildlife, CO Dept of Agriculture, Nonprofits
Boulder, CO	105,485	133	Managed By City Department with management/ acquisition recommendations by Open Space Board of Trustees	Established in 1967	155 miles of trail; 100,000 acres of open space and managed land	USFS, Colo. Parks and Wildlife, Nonprofits
Boise, ID	511,931	10 Paid Staff; 15 Volunteer Rangers	MOU Partnership	Established in 1992	210 miles of trail crossing and connecting 85,000 acres of land	City of Boise, Ada County, BLM Four Rivers Office, Boise National Forest, Idaho Dept of Fish and Game
Salt Lake City, UT	City - 199,153 County - 1,068,295	3 Paid Staff; 2 Paid Rangers	Managed by City department with MOU partnerships with USFS, Utah State Parks, and University of Utah.	Foothills Plan established in 2020.	City - 6,000 acres; 60 miles of trail	USFS, U of U, Utah State Parks, SLC Public Utilities

# CASE STUDIES

## Jefferson County Open Space (Colorado)

Jeffco Open Space was founded as a land conservation organization in 1972 by PLAN Jeffco and The League of Women Voters of Jefferson County. These organizations proposed a unique concept to the Board of County Commissioners to preserve the scenic vistas and open lands within the county using the collection of one-half of one percent tax on sales in Jefferson County to fund the program. The voters agreed, ensuring perpetual land conservation, stewardship of open space and parklands, and access for public enjoyment.

Jeffco Open Space contributes to city and park district projects, has preserved more than 56,000 acres, and manages 27 open space parks and 265+ miles of trails in Jefferson County, Colorado.

Planning is completed on a variety of levels in a recurring fashion. Designated mostly as parks, site-specific, detailed individual park master plans are developed to concur with an overarching, short range Jeffco Trails Plan and a similar broad, strategic 5-year recurring Jefferson County Open Space, Conservation Greenprint, both of which provide Jeffco Open Space vision, goals, and metrics.

Jeffco Open Space has historically operated successful volunteer trail stewardship programs, engaging individuals and groups in trail assessments and volunteer work events. As the municipalities within the County have rapidly grown, Jeffco Open Space has developed the more formal Trails Partnership Program to more efficiently target organized groups and municipalities in assisting Open Space with mutually beneficial projects. Key to this engagement is a grant program that provides supplemental funding to assist partners in implementing their priority projects (i.e. trail construction, maintenance, amenities, stream restoration, tree planting, etc.) within Jefferson County. Grants are awarded on an annual basis. One grant application per year may be submitted by each partner. Jeffco Open Space will consider funding up to 25% for local projects and 50% for regional projects. Local projects are defined as projects occurring within a single jurisdiction while regional projects occur across multiple jurisdictions.



### City of Boulder Open Space & Mountain Parks (Colorado)

Originally Boulder Mountain Parks, the conservation of the foothills backdrop to the City of Boulder was originally driven by not just a desire for conserving important lands for habitat and recreation, but also to protect a visual backdrop of undeveloped land to the west of the City. Formal trail and natural resource planning was minimal for decades until steep, informally developed routes, primarily to access numerous rock climbing areas, were significantly degrading natural resource conditions and spawning parallel routes, trampling vegetation, and increasing erosion.

Trail by trail reconstruction of these routes began in the late 1980's at great expense to staff time and labor. The amount



Boulder County, CO Open Space

of resource damage so overwhelmed staff that, with the advent of mountain biking, staff and City Council formally banned mountain biking on Open Space trails in 1994 for fear of more trail damage. That use ban was lifted in 2005 and recent research by the Open Space staff indicates no greater deterioration on trails shared by mountain bikes and pedestrians, as well as the highest percentage of individuals remaining on trail by use type (mountain bikers, hikers, trail runners, dog walkers, and equestrians). Additionally, the trails shared by mountain bikers are collaboratively maintained by local volunteers and Open Space staff.

Trail reconstruction of the steeper hiking/climbing trails that began in the 1980's continues today, often at great expense and far beyond the capabilities of staff or volunteers. Millions of dollars have been allocated to specialized trail contractors over the last decade on less than 20 miles of trails as the demand for accessing these locations remains incredibly high. With more than 46,000 acres of open space to manage, Boulder Open Space and Mountain Parks initiated a strategy for developing trail plans for smaller, contiguous geographic areas around 2010.

That strategy helped balance specific resource management needs with public access and recreation rather than depending on one overarching approach to its entire open space system. As subsequent areas went through formal trail planning, adopted area plans were being implemented by staff and partners.

### City of Boise, Ridge to Rivers (Idaho)

The vision of preserving the foothills of Boise dates back to the 1940s when community leaders were discussing the future of the hills that had been part of the Boise Army Barracks military training area. In 1992 a variety of local, state and federal agencies combined their efforts to turn this dream into reality - the Ridge to Rivers partnership was formed. The Ridge to Rivers partnership consists of the City of Boise, Ada County, the Bureau of Land Management Four Rivers Field Office, the Boise National Forest and the Idaho Department of Fish and Game. The Partnership exists under a multi-agency Memorandum of Understanding, with the City of Boise serving as the lead agency. The success of the Ridge to Rivers partnership is based on the concept of sharing funding and expertise. By pooling limited funds and specialized knowledge, this partnership effort can accomplish community goals while using tax dollars efficiently. With a small staff of ten, but including a full-time dedicated trail crew, the organization has had great success in developing and maintaining a 210-mile trail system.

Many landowners and citizens have given time and energy to achieve the goal of an interconnected system of trails and open space. With so many of the existing trails crossing private lands, the landowners have been an important partner in creating what has become a critical element of Boise's quality of life. Volunteers are also an important part of the maintenance of the trails. Over 2,000 volunteer hours are applied each year in caring for the foothills.

The organization operates in accordance with a 10-Year Trails Plan, last updated in 2016, with guidance based on experience zones (social to solitude) shaped roughly by proximity to the City and elevation and/or distance from access points.

# EVALUATION SUMMARIES





# THE 2020 FOOTHILLS PLAN EVALUATION

## Methodology

The scope of this Foothills evaluation has three components: an evaluation of the Foothills Plan and its goals; an evaluation of the Phase I implementation management and the specific trails; and an evaluation of the design and implementation process for the future trail system in the Foothills.

The evaluation was led by a national recreation planning firm, SE Group, which has a local office in Salt Lake City. In addition, SE Group subcontracted two open space recreation and restoration planning experts to lead field evaluation efforts.

Kay-Linn Enterprises has consulted on hundreds of trail projects around the country to aid land managers in protecting natural resources and enhancing community sustainability. Their principal Scott Linnenburger holds a master's degree from Duke University in Environmental Management with a focus on restoration and habitat planning and was a keynote speaker at the International Trails Summit in April 2023.

Applied Trails Research is led by Jeremy Wimpey, PhD., one of the country's leading recreation ecology practitioners. His applied field investigations help public lands managers understand the phenomena and mechanisms associated with visitor-use-related impacts to wildlife, water, vegetation, and soils, and impacts to other users (degradation or enhancement of users' experiences) in outdoor settings. Jeremy and Scott have partnered on dozens of projects around the country, including many in the arid climate of the American West, to address challenging and complex and recreation management concerns.

This evaluation was conducted through geospatial and in-person field review. The evaluation also integrated findings from the 2022 pre-NEPA environmental and cultural resource assessment to better understand cultural, ecological and soil interaction with existing and proposed Foothills facilities.

In addition to this technical foundation, project team members met with numerous SLC departments, committees, outside agencies, and other stakeholders to gain an improved knowledge and perspective on the implementation and management of the Foothills Plan.

The project team conducted a thorough 14-day site review and Foothills tour to gain a detailed understanding of current conditions, Phase I implementation, and areas recommended by the Foothills Plan for future development. During these on-site reviews, the project team evaluated the condition

of existing and recently implemented trail sections, the prevalence of invasive species along the trail corridors, erosion and restoration needs, topography, soils and geology, and future sustainable trail feasibility.

A comprehensive inventory of existing trail assets and trailheads was developed using geospatial material from the City, Utah's State Geographic Information Database (SGID), geospatial data produced through the pre-NEPA environmental review, and data provided by local stakeholders and agencies. This data was used to further support the assessments presented in this evaluation.



# THE 2020 FOOTHILLS PLAN EVALUATION

## Plan Overview

Overall, the 2020 Foothills Plan lays out an excellent framework for the desired ‘world-class’ trail system. The goals are appropriate and realistic for Salt Lake City’s high desert, urban open space given the diversity of its residents and visitors and the physical geography of the Foothills. Given the dynamic nature of open space conservation and recreation planning, the Foothills Plan has strengths and weaknesses.

### What the Foothills Plan does well:

- Includes a significant amount of input from stakeholders and the public.
- Identifies the desire and need for an expanded, managed trail system to increase accessibility, safety, and enjoyment for users and protection of the environment
- Identifies the diversity of potential users in the Foothills and their needs.

### What the Foothills Plan could improve upon:

- Clarify and elaborate on the environmental damage caused by many unplanned trails.
- Include more specific implementation procedures.
- Propose more extensive trail alignment planning to match desired user experiences.
- Suggest more specific implementation strategies for managing natural and cultural resources.

**The Foothills Plan provides high-level initial direction for the vision and goals of an expanded and improved Foothills Trail System.**

**The Foothills Plan successfully identifies conceptual trail corridors to increase accessibility and minimize conflicts between trail user types.** By proposing alignments that create more gradual trails, the proposed corridors should be able to service more trail users. By separating uses in some areas to specific trail corridors, such as separating downhill bikes from other users, the Foothills Plan outlines the vision for a safer and more enjoyable urban-adjacent trail network.

**The Foothills Plan’s goal of providing enjoyable recreation opportunities to the largest demographic of residents and visitors is valuable.** Extensive public engagement during the initial planning process and during implementation identified the desire and need for an expanded trail system that meets the broader needs of the large and growing urban area of Salt Lake City and the greater Wasatch Front. This goal should continue to drive the implementation of projects across the Foothills.

**The Foothills Plan does not accurately discuss how the existing and unmanaged 60+ mile system of unplanned trails were damaging the Foothills and detracting from a sustainable trail system.** The Foothills Plan inadequately accounted for the true extent of impacts resulting from decades of unmanaged trail use, off-highway vehicles and utilities creating scars to the landscape, invasive species spread, and other activities encouraged by a historical legacy of little to no formal management.

While the Foothills Plan recommends that some overly steep routes be passively closed, it did not clearly communicate how passive decommissioning is unrealistic in the arid Foothills environment. Addressing the detrimental natural resource impacts of widening and eroding ridgeline and riparian gully trails, where species diversity and wildlife presence and movement is generally higher, often requires permanent closure through active restoration, barriers, signage and community education.

**The Foothills Plan lacks specificity in its implementation strategies.** It fails to equip the Public Lands Department, a new trail system manager, with a thorough analysis of suitable areas for trail development, as well as guidance on construction and maintenance techniques. Furthermore, the Foothills Plan recommends a simplified, contractor-driven design-build approach, rather than offering detailed advice on the comprehensive analysis of potential trail locations and the provision of construction and maintenance guidelines.

# THE 2020 FOOTHILLS PLAN EVALUATION

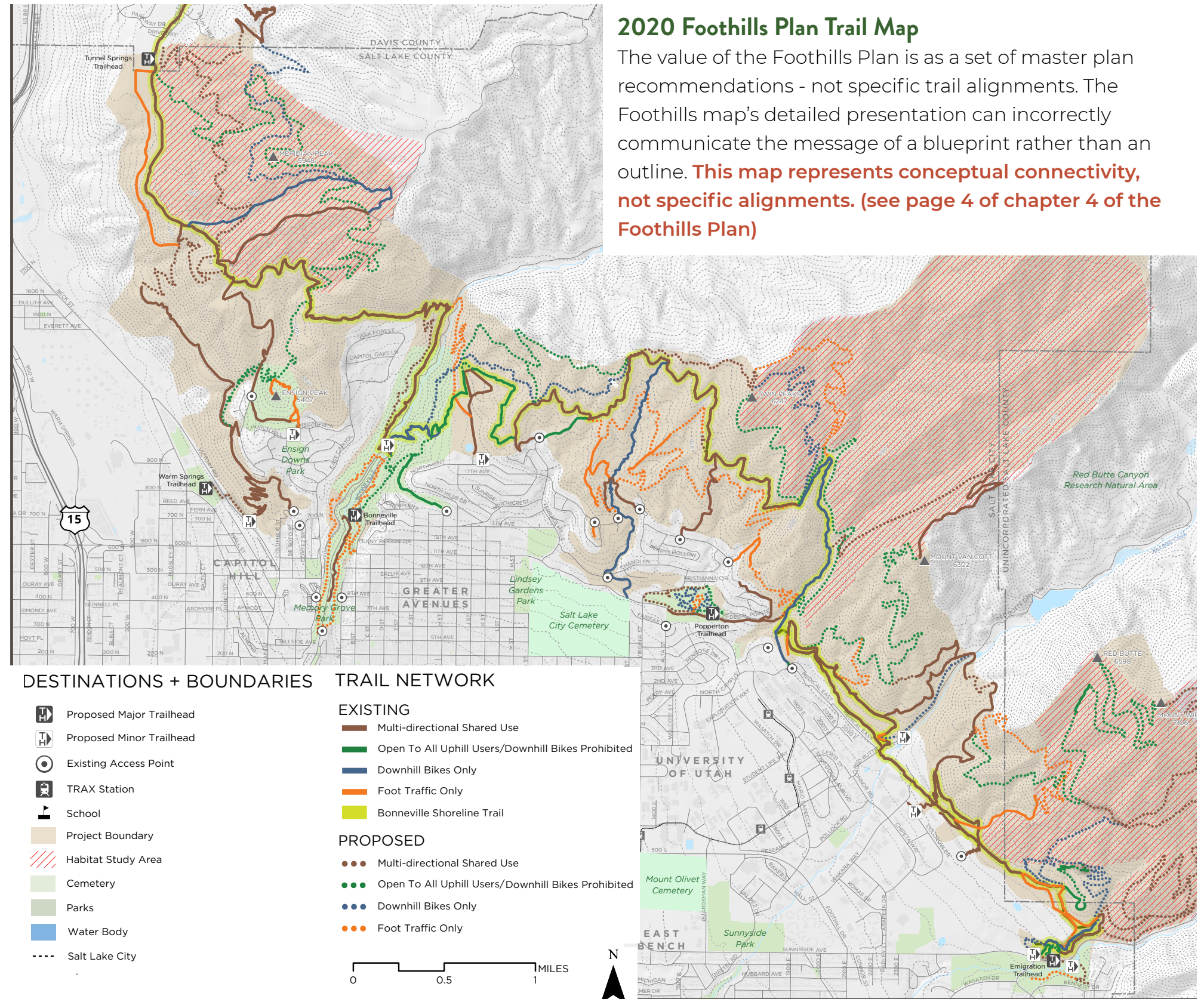
**The Foothills Plan depicts recommended alignments on a map for future trail development without documenting segment purpose and experience.** The Foothills Plan lacks detailed specifications beyond regulated trail use to clearly define the desired trail experiences, identify the beneficiaries of each trail, and ensure that the Foothills Plan’s overarching goals are achieved as alignments evolve through subsequent site analyses, design phases, and construction processes. It is essential to note that the trail alignments presented in the Foothills Plan are purely conceptual and have not undergone extensive ground-truthing for feasibility.

The Foothills Plan does not explicitly acknowledge the preliminary nature of conceptual alignments nor emphasize the importance of conducting further field reviews and design assessments before moving forward with contracting and construction activities. This phrasing may lead to confusion among stakeholders, staff, and the community from believing what is shown on the map will be constructed.

**The Foothills Plan provides only a high level reference to existing natural and cultural resources within the City’s Foothills.** The Foothills Plan delineates future habitat study areas, many on United States Forest Service (USFS) land, but does not provide specific guidance or a review process to direct how to address the interaction between trail alignments and identified natural and cultural resources. Importantly, the USFS requires a more holistic approach that outlines the time and evaluation process needed prior to trail design and construction. This need is well articulated in the USFS Land & Resource Management Plan. It is recommended that Public Lands implement a more complete natural and cultural resource analysis for all lands within the Foothills Trails System.

## 2020 Foothills Plan Trail Map

The value of the Foothills Plan is as a set of master plan recommendations - not specific trail alignments. The Foothills map’s detailed presentation can incorrectly communicate the message of a blueprint rather than an outline. **This map represents conceptual connectivity, not specific alignments. (see page 4 of chapter 4 of the Foothills Plan)**






# GOALS EVALUATION

The Foothills Plan provides a set of five goals to capture the vision for the Foothills Trail System. The goals aim for a Foothills Trail network that is: Environmentally Sustainable,

## Enjoyable, Accessible, Safe, and Low Maintenance.

The Foothills Plan's achievement of each of its stated goals varies, and is discussed further below.

### Foothills Trail System Evaluation Scoring

-  Green - Meets goals
-  Yellow - Partially meets goals
-  Red - Does not meet goals

### Goal 1: 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 Foothills landscape is protected. Fragile natural or cultural features are avoided and trails direct users away from closed or protected watershed areas.*

### Evaluation of Environmental Goal

The Foothills Plan identifies some sensitive ecological areas, referenced as "Natural Habitat Areas." Yet these areas did not have formal recognition by the City or supporting evidence for such a designation. The Foothills Plan could better provide specific recommended actions to reduce erosion and disturbance during construction and management of the trail network. Despite well intentioned efforts, without a clearly outlined Management Plan for environmental and erosion issues, Salt Lake City staff are limited in their ability to implement planned trail development and manage environmental impacts.

Additionally, the Foothills Plan states that "the most suitable slopes for trail construction are 8-20% in grade and require less an unfortunate typo, as trails with tread gradients of 3-20% are a generally recognized goal for sustainability.

Gradual slopes are problematic because it is difficult to manage water off of trails built in these locations and social trails can proliferate on these easily traversed slopes. This is evidenced where sections of the Bonneville Shoreline Trail are located on very gentle slopes and have developed muddiness, trail widening and braiding, and other issues that make for greater maintenance needs over time. A more refined recommendation for sideslopes to accommodate sustainable trails is 20-60%. These slopes are better at confining use to the trail tread and can more readily accommodate trail designs that are less prone to erosion.

### Goal 2: Enjoyable

*Trails cater to a variety of recreation types, and 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(s) of any individual trail segment, and trails are routed to take users to desirable areas and points of interest.*

### Evaluation of Enjoyable Goal

The Foothills Plan correctly identifies the need to build "a variety of experiences for users with different abilities and interests." Designing and building directional trails and separate hiking, biking, or other user group specific trails is a key facet of modern, high-use trail systems design. This approach accommodates user desires while minimizing conflicts between uses. This use-specific design and management should be retained in future trail development.

A potential use consideration not covered by the Foothills Plan is the desire of some pedestrian users (hikers and trail runners) for a very steep, difficult experience that attains high quality

destinations in as short a distance possible. While these types of "peak bagging" trails are very prevalent throughout the Foothills, they have considerable erosion, braiding, widening, and natural resource-degrading issues. However, these types of trails can be durably, if expensively, constructed and maintained. If the Foothills Plan better recognized existing use patterns associated with some of these steep, high-use trails, Public Lands could take advantage of opportunities to enhance existing informally developed facilities and focus on connections rather than entirely new trail system development - a potential cost and labor savings for the city's teams as well.

### Goal 3: Accessible

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

### Evaluation of Accessible Goal

This goal seeks to expand access to recreation for users of all ages and abilities. Yet the Foothills Plan conceptual trail alignments cater heavily to experiences that would be desirable for experienced and fit trail users such as longer distances with higher elevation destinations and long loops. Future trail planning should expand access to a broader suite of abilities and address how new and less experienced trail users might access, interact, and interpret the opportunities presented. Shorter loops, out-and-back routes to easily accessible scenic vistas, opportunities for passive enjoyment, formalized barrier-free ADA experiences, mellow cross slopes and appropriate trail widths for adaptive mountain bikes, etc. should be considered, especially at major trailheads or transit-accessed trails.

#### Goal 4: 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 respond when needed. Trails are routed to discourage trespassing on private property. CPTED principles are incorporated in trailhead design to mitigate theft and vandalism to parked cars.*

#### Evaluation of Safety Goal

These are excellent goals for modern, urban open space trail system management. This goal is closely related to Goal 2 and the Enjoyability Assessment. Keys to avoiding potential conflicts are the maintenance of adequate sight lines and managing closing speeds between different users. Reducing conflicts related to goal interference between users (i.e. passive enjoyment of natural surroundings vs. fast paced fitness training) is accomplished through messaging at trail access points and ongoing on-trail outreach by rangers and volunteer stewards.

Salt Lake City Public Lands can significantly improve Emergency Management Services (EMS) efficacy in the Foothills by enhancing wayfinding signage, establishing emergency routes, and understanding road conditions. There is a need for clear signage that integrates utility roads, streamlining EMS access, reducing response times, and optimizing efficiency. A comprehensive understanding of road and trail networks together ensures emergency responders and trail users can navigate with confidence, ultimately enhancing safety throughout the Salt Lake City Foothills Trail system.

#### Goal 5: 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 incidences of vandalism, graffiti, and illicit activity.

#### Evaluation of Maintenance Goal

While thoughtful trail layout does reduce the creation and use of informal trails, the Foothills Plan could have benefited from greater clarity on the maintenance and/or restoration needs for these existing routes and the “trade off” between new trail construction and maintaining routes in-place. With a long history of limited or no management of informally created routes across the Foothills, there are long-established use patterns that are difficult to change. These often much steeper routes can be maintained in-place at a higher-than-typical cost/labor burden. The Foothills Plan indicates that 41 miles of existing routes would be incorporated into the formal trail system, but does not hint at the different maintenance needs for these trails above trails designed with improved water management, lower trail gradients, and contour alignment. Further, the Foothills Plan states 20.9 miles of trails will be passively decommissioned. In a landscape of predominantly arid grassland, passive trail closure is a near impossibility as a limited number of use passes will keep these routes and their destinations visible and eroding. Active closure and restoration will be necessary to restore natural habitat and watershed hydrology on these routes.

**The Foothills Plan lacks a clear reference to the maintenance needs and natural resource impacts of the existing informal trail network. Addressing this issue going forward should be a key focus of future Foothills land management.**

The lack of clear direction regarding the closure and repair of the existing trail network has created confusion and consternation for some trail users regarding the existing impacts of the informal routes and the direction of long-term management.



Seasonal Trail Closure

# EVALUATION OF PHASE I IMPLEMENTATION

Following the adoption of the 2020 Foothills Plan by Salt Lake City, Phase I Implementation began. This phase immediately went to work developing recommended trail alignments primarily in the area of the foothills behind the Avenues neighborhood.

## Key Projects included construction of:

- Lower City Creek Loop
- Avenues Ridge / 19th Ave / BST Valleyview
- Popperton Trails
- Twin Peaks / Dry Creek

The Phase I implementation of the Foothills Plan was both celebrated and criticized by the community. This is to be expected given the strengths and omissions of the Foothills Plan as noted earlier.

## What Phase I did well:

- New trail corridors enhanced user access to desired Foothills destinations.
- Trail design and construction created user-specific trails (separate alignments for downhill bikes and hiking) meeting the Foothills Plan's goals for increased safety and enjoyment.
- Closed eroding trail segments and replaced them with sustainably constructed alignments.

## What Phase I could improve upon:

- Trail development occurred in some areas constrained by both overly steep terrain and challenging soils.
- Construction quality of some segments was poor due to Inefficient planning and insufficient oversight.
- Some trail segments were developed without a well defined purpose.
- Insufficient community outreach around changes to the trail network resulted in negative community reactions to many changes, both good and bad.
- The existing unmanaged trail network and related restoration needs/historic impacts was not fully accounted for in Phase I implementation.

The following pages provide specific descriptions and photos of the Phase I trail projects to evaluate the work and to educate staff, stakeholders, and the community on best practices for future Foothills Trail System development.



Round Circle teaching on the BST

# EVALUATION OF PHASE I IMPLEMENTATION

## Lower City Creek Loop

### Pros:

- Good conceptual planning connecting the Capitol and downtown and Memory Grove to natural lands with natural surface trails; a much needed, access point to support a diversity of new users.
- Thoughtful anchor points – places of interest such as views of the Capitol and City Creek Canyon.

### Cons:

- Slumping, unconsolidated soils are present in spots where overly steep terrain and challenging soils are combined.
- Complex water management issues exist due to the presence of the impervious road surfaces above much of the trail.
- Improved specifications for the alignment and construction practices would have mitigated the temporary large visual impacts and left a more sustainable trail. Specifically, utilizing a narrower trail excavator would have lessened the height of the back slope cut, as well as installing enhanced grade reversals and spot hardening of the trail in key locations to better channel stormwater discharge from Bonneville Boulevard.



BST East City Creek creates an important connection to Upper Avenues trails with reasonable grades and enjoyable vistas.



Inadequate slope analysis and design prior to construction resulted in excessive impacts.



Insufficient specifications for trail design and equipment created unnecessary sloughing and visual impacts.



Lower City Creek Loop provides easy access trail experience close to the Capitol.

# EVALUATION OF PHASE I IMPLEMENTATION

## Avenues Ridge/19th Ave/BST Valleyview

### Pros:

- The design of user-specific trails (separate alignments for downhill bikes and hiking) follows best practices in modern trail planning and meets the Foothills Plan's goals for increased safety and enjoyment.
- The re-routing and closing of the BST Valleyview segment on the fall-aligned ridge to a trail that follows a natural contour is more sustainable long term and will require less maintenance.

### Cons:

- The 19th Ave trail was not executed to be a "beginner to intermediate" trail for less experienced users as desired. Redesign of many of the turns can address most of the difficulty issues present.
- Changing the purpose of the Avenues Ridge Trail (eliminating uphill biking) after construction began meant that the alignment was not designed to be a hiking-only trail which changes average grade and the design of turns.

- The closure of the BST ridge trail above Terrace Hills with trenches was ineffective and not appropriate application for the Foothills, which can be improved with more experienced trail system management.
- The Upper Avenues area would have benefited from a more thorough recreation and restoration planning by zone (See p. 28 in Recommendations section) process. This process would have given the Public Lands team and trail users a specific vision and plan to accurately communicate and implement.



19th Ave, Meadow, Avenues Ridge trail use: Densely designed user-specific trails increasing safety and enjoyment for users minimize impacted ecological areas



Upper Aves mid saddle: New user-specific trails converge at strategic junctions but ineffective restoration and decommissioning efforts result in eroding and widening trails. Comprehensive wayfinding efforts will be important to address these issues.



19th Ave advanced option: 19th Ave trail built with over-challenging features (left) redesigned to be more accessible (right)



# EVALUATION OF PHASE I IMPLEMENTATION

## Popperton Trails

### Pros:

- Excellent conceptual planning with three distinct zones (West, East, South) having well-defined goals. The Foothills Plan's goals of enjoyment and accessibility and safety are all met by offering beginner skill and shorter distance experiences. Given that Popperton is a lower Foothills neighborhood open space and is adjacent to a City park and community garden, its trails planning and design align with the neighborhood's character.
- The trail alignment's designs and construction were of good quality.

### Cons:

- Pre-existing routes in need of restoration were not repaired or actively decommissioned.
- The absence of a well-established trailhead and insufficient wayfinding signage disrupts the user experience and Popperton's connection to the broader trail system.



South Popperton erosion: South Popperton Walking Trail is textbook “fall line” trail that should be realigned to shed water and prevent erosion.



Popperton Ecological Site Visit: Public Lands Ecologists and Natural Resource Specialists advised on alignments to avoid sensitive ecology.



South Pop Bike Loop offers a safe and fun quarter-mile bike circuit for beginner riders and children.



Popperton Kiosk: Minimal trailhead information is currently available.

# EVALUATION OF PHASE I IMPLEMENTATION

## Twin Peaks & Dry Creek

### Pros:

- The Twin Peaks Trail represents a solid example of what an intermediate to advanced trail to a peak can look like elsewhere in the system. It has texture and grade reversals, provides a longer outing at higher elevations, and integrates steeper sections where rock, soils, and hydrology allow. The new alignment would replace an overly steep ridge trail that is only for the highest skill and fitness users.
- A sound decision was made by Public Lands to not move forward with a Dry Creek trail alternate until a purpose is defined and an appropriate alignment can be determined on the ground. Given that the Dry Creek BST lies in a seasonal creek bed, determining a new alignment could be a priority.

### Cons:

- The Twin Peaks Trail, while constructed well, did not have a clearly defined purpose and its use-restriction was changed after construction began. Planning the trail to allow uphill bikes without having a descent for bikes was an oversight by Public Lands staff.



Bonneville Shoreline Trail is built along contours in many segments but needs tread repair to combat rutting water erosion.



Dry Creek Trail: Trails in gully bottoms are prone to significant water erosion and disturb critical wildlife habitat

# EVALUATION SUMMARY

The Foothills Trail System Plan suggests that its alignments are conceptual and should be interpreted at a master plan level, and will need further refinement:

*“Proposed trail alignments shown in this chapter are a ‘planning-level’ representation of intended routes, which provide connections between destination points, and desirable trail experiences for a variety of users. In the final implementation of proposed trail alignments, ‘construction-level’ adjustments and modifications to the alignments shown in this chapter are expected. “*

## **Alignments alone do not communicate intended trail use and purpose.**

Developing a narrative for each identified zone within the Foothills will help guide the development of trail segments and connections which are well planned, designed, and implemented. Effective communication will be supported through a proposed system of sub-zones identified for the Foothills ([see recommendations chapter](#)). These zones will help develop context-sensitive trail opportunities and goals. This will enable the City to provide a diversity of facilities for different user types and build towards a trail network that provides opportunities for all ages and abilities.

## **Environmental and cultural review of the Foothills Natural Area has identified a wide variety of constraints.**

A comprehensive environmental and cultural review generally consistent with NEPA (National Environmental Policy Act) standards is recommended for future proposed trail corridors. This review should align with high-level environmental standards and undergo a NEPA-level process to determine specific alignment location and suitability prior to implementation. This can be accomplished through approaching the Foothills as a series of individual zones, rather than a single entity. This can create a more manageable workflow and efficient results and ultimately reduce the number of lengthy review processes. Preliminary cultural assessments of the area reveal that some sites are eligible for the National Register of Historic Places. These spaces can accommodate visitation within their vicinity by strategically designing and developing trails that protect or showcase cultural sites and interpret them from a distance.

## **Additional segment-by-segment evaluation is recommended through implementation.**

Establishing a flexible development strategy in which Public Lands project managers work directly with trail design and resource specialists on a segment-by-segment basis is recommended to identify preferred alignments within a designated corridor following an in-depth environmental review. This strategy affords the City the flexibility needed to make informed decisions during implementation, while staying within the parameters of a thorough review process.

## **Some alignments identified within the Foothills Plan should not be pursued for future trail development.**

This specifically applies to trails routed along ridge tops and within the bottom of gullies, areas which may be significantly impacted by erosion and ecological damage. These alignments should instead follow hillside contours with an appropriate slope, crossing ridges and drainages as needed to provide meaningful routes, connectivity, and access.

This report’s recommendations chapter provides additional detail on areas where alignments may be inappropriate and where additional environmental study and review is recommended.



# FOOTHILLS TRAILS SYSTEM RECOMMENDATIONS

# RECOMMENDATIONS SUMMARY

These recommendations are intended to support the 2020 Salt Lake City Foothills Trail System Plan vision and goals. By addressing specific maintenance and management issues, this report seeks to strengthen and expand on the framework developed in the Foothills Plan.

Directing visitor use onto properly developed and well-maintained trails should be the primary management strategy for the overall vitality of the City's Foothills Natural Area. Focusing visitor use (rather than allowing it to disperse) mitigates the impact of user created trails and establishes sustainable long-term use patterns and habits among trail users. With use patterns focused on sustainable trail alignments, active environmental restoration of the user-created and/or unsustainable routes is an additional, vital component to responsible natural resource management.

These recommendations serve as a starting point for the development and assessment of management approaches for the Foothills. It is crucial to note that these recommendations do not constitute a comprehensive management plan. Instead, they lay the groundwork for future considerations.

Moving forward, it is anticipated that a more thorough Foothills Trail System management plan will be established. This future plan can delve into specific areas of concern, such as steep hillsides and critical habitats, with the aim of crafting appropriate land designations and implementing protective measures.

It is important to recognize that these initial recommendations provide essential insights for future planning, and their implementation, even without a comprehensive management plan in place, is vital to preventing potential harm to the Foothills.

These recommendations include updated strategies to responsibly design, approve, and implement the 2020 Foothills Plan, with the objective to provide high-quality recreation opportunities while preserving open space functions and values with minimal impact to important environmental and cultural resources.

Recommendations to implement the Foothills Plan through a more balanced and environmentally sensitive planning process include:

- **Conduct Restoration and Recreation Planning by Zone**
- **Adopt a Segment by Segment Planning and Implementation Process**
- **Develop and implement a Consistent Public Communication Strategy**
- **Prioritize the Maintenance and Enhancement of Existing Facilities**
- **Integrate Clear Wayfinding, Signage, and Information**
- **Increase Data Use to inform Decision Making**
- **Develop a Management Plan for the Foothills Natural Area**

The Foothills Trails System Evaluation is part of an ongoing review process for the Foothills Trail System. It recognizes the importance of on the ground evaluation and thorough environmental review prior to implementation. This is intended to address alignment concerns early in a process and allow for flexibility for alignment changes based upon environmental and technical findings.

# CONDUCT RESTORATION AND RECREATION PLANNING BY ZONE

The Salt Lake City Foothills are not a uniform landmass. The terrain, ecology, land use and social context varies greatly across the area considered Salt Lake City's Foothills. Approached as a single unit, difficulties arise. What's good for the land behind the University may not be good for the land behind the Avenues, or vice versa.

The use of a zoned system is recommended to improve the implementation process of the Foothills Plan. Seven Zones are outlined in this recommendation. Each zone boundary is roughly based on sub-watersheds rather than property lines to better reflect landscape character. The seven Foothills Open Space Zones (FOSZ) are listed below from north to south, and assessed in greater detail on following pages.

- **Meridian Peak & Shoreline Preserve**
- **North Capitol**
- **East City Creek & Upper Avenues**
- **Perry's Hollow, Twin Peaks & Dry Creek**
- **Mt. Van Cott & The University**
- **Mt Wire & Red Butte**
- **East Bench**

These zones are the framework by which the Foothills Plan should be implemented moving forward. The table at right illustrates a broad overview of each zone, and the pages that follow outline each zones' unique set of recommendations to be considered for improvement.

*\*\* DISCLAIMER: Included maps and data are for conceptual purposes only and do not account for land ownership complexities within the depicted Foothills Open Space Zones (FHOZ). The FHOZ boundaries are generated conceptually and may not accurately reflect legal or property ownership considerations. Detailed land ownership considerations will be addressed during the segment by segment planning and implementation process. Users should not rely on this map for legal decisions, and thorough analysis is recommended during subsequent planning processes. \*\**



Kiosk at the "City Creek Saddle" junction

FOSZ NAME	Area (Acres)	Number of Trailheads	Trail Access Points
Meridian Peak & Shoreline Preserve	766	1	0
North Capitol, West City Creek, Ensign Creek	968	4	6
East City Creek & Upper Avenues	438	1	2
Perry's Hollow, Twin Peaks & Dry Creek	2,399	1	5
Mt. Van Cott & University of Utah	476	0	1
Mt. Wire & Red Butte	1,418	1	4
East Bench	2,082	1	6

## 1. Recommendations for using the FOSZ

Develop a more robust, comprehensive management plan that encompasses all seven zones. This overarching plan will address various aspects, including trail development, restoration, wayfinding enhancements, amenities, and management strategies to cater to the diverse user types and skill levels across the entire area. The development of these plans should build upon the foundation provided by the Foothills Plan and the information presented in this document.

Each Zone's plan should include at least:

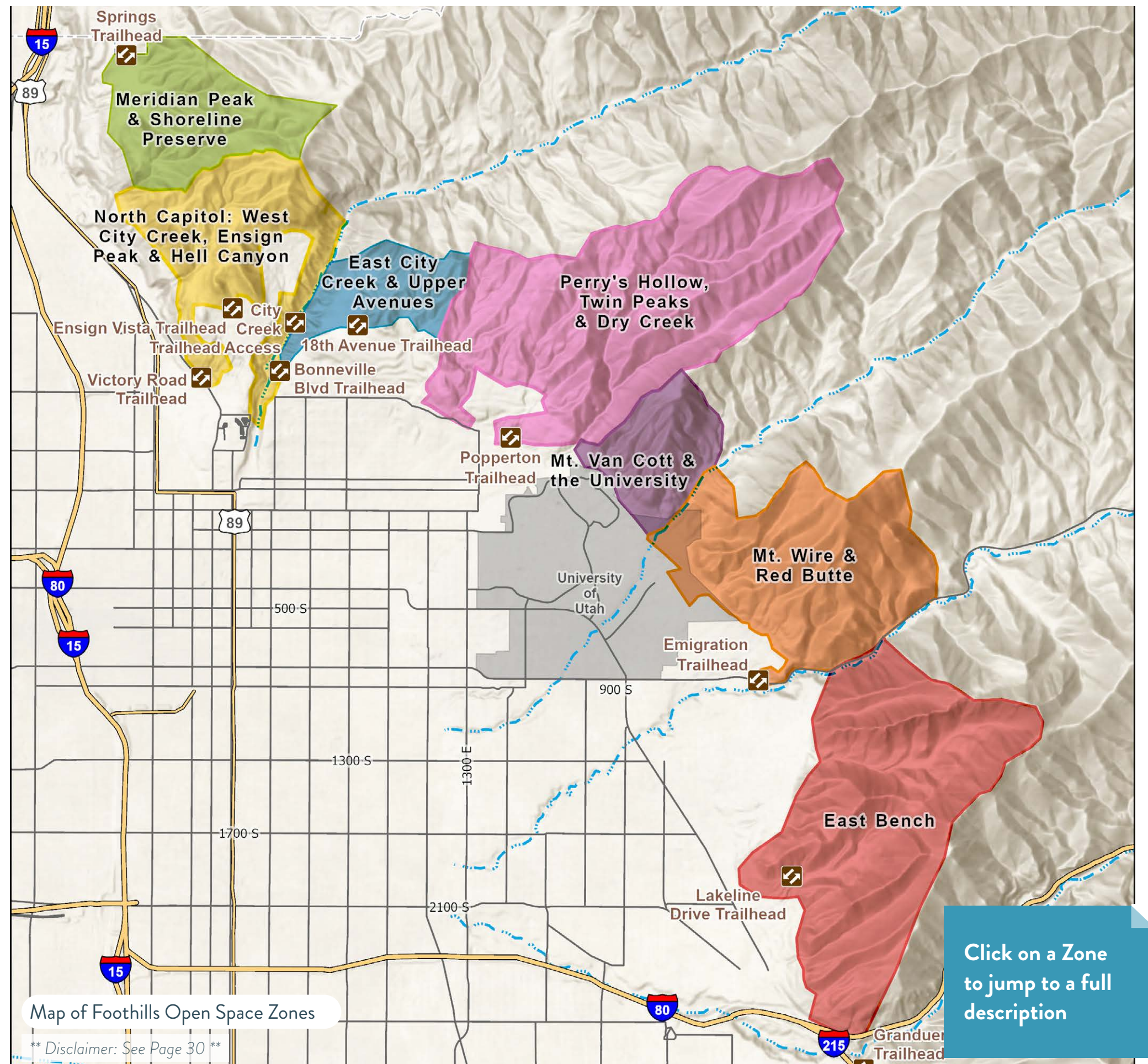
- an assessment of ecology and geography
- proposed trail alignments
- recommended land restoration and unsustainable trail closures
- wayfinding and informational signage plan
- proposed amenities (seating, shelters, tables, etc)
- communications and public engagement process
- maintenance plan and budget

## 2. Evaluation of Individual Trail Alignments

Once a zone plan is complete, the proposed trail alignments within that zone should be evaluated on a segment-by-segment basis to identify alignments compliant with the guiding principles of sustainable trail development. Proposed trail alignments include existing trail realignment, restoration, or closure. New trail maintenance or construction projects are anticipated, particularly in cases of environmental deterioration.

Following a thorough evaluation of the proposed alignment, the City should proceed with the implementation of a zone plan's recommended restoration, ecological, and trail system projects.

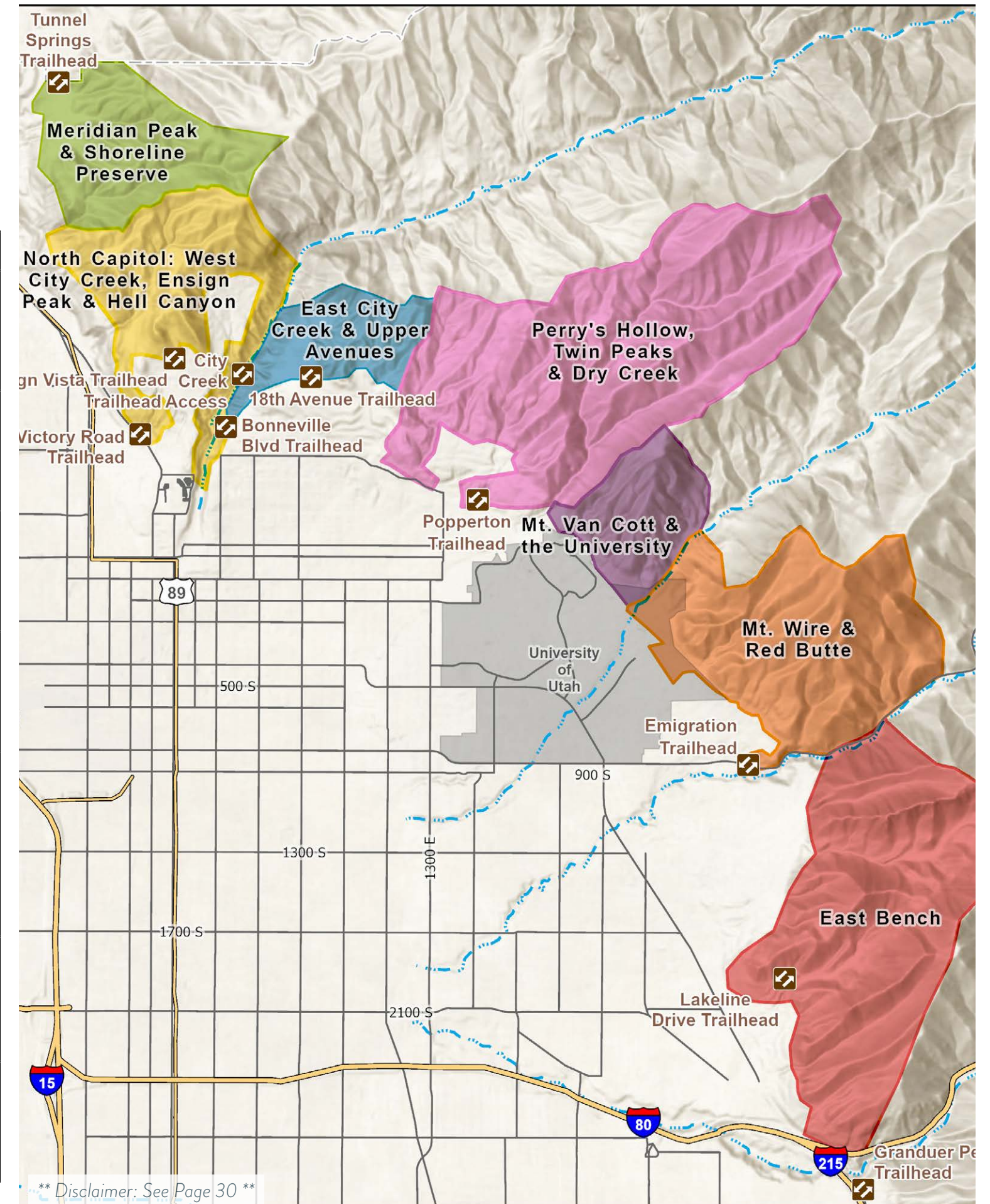
The following pages guide the development of zone-specific plans, trail alignments, and environmental restoration projects. Click on a zone to the right to be directed to that zone's specific recommendations page.



# Prioritization of FOSZ Planning and Implementation

The table below is designed to facilitate Salt Lake City's approach to segment by segment planning and implementation of the Foothills Plan. This guide is not prescriptive, but instead provides a relative level of complexity for each zone that can identify a logical process to approach less complex land areas first, and more complex land areas later.

FOSZ Name	Complexity Level	Rationale
Meridian Peak & Shoreline Preserve	Low	Supportive terrain for trail expansion. Robust Trailhead established. Minimal adjacent land-use practices and ownership.
North Capitol: West City Creek, Ensign Peak & Hell Canyon	Low	Clear and high demand for improvements to existing trails. Few adjacent land-use concerns due to capitol complex.
East City Creek & Upper Avenues	Medium	Trails implemented during phase 1 implementation should be revisited through future planning efforts.
Perry's Hollow, Twin Peaks & Dry Creek	High	Existing trail use conflicts and extensive user trail network and habitat increase complexity of trail improvements here.
Mt Van Cott & the University	Medium	Supportive partnership with University conducting its own land use evaluation creates opportunities for collaboration and efficiencies. User trail prevalence and need for restoration is high; along with trailhead access and infrastructure.
Mt. Wire & Red Butte	Medium/High	Trailhead access improvements needed alongside any trail improvement / expansion projects. Steep slopes of lands increase complexity of implementation.
East Bench	High	No prior planning document to guide FOSZ process. Residential property adjacencies increase complexity.





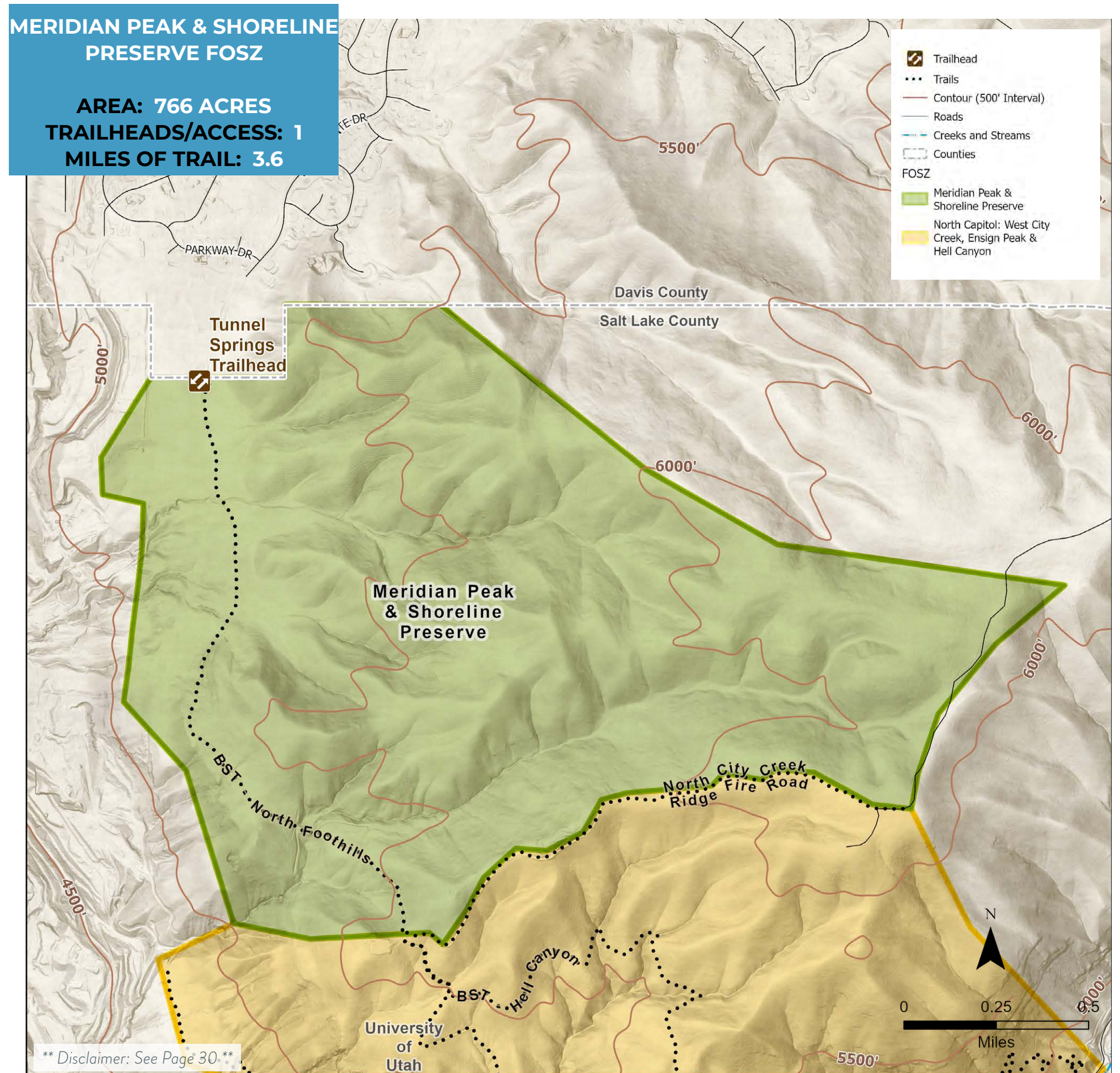
# Foothills Open Space Zone: Meridian Peak & Shoreline Preserve

**Description:** This is the northernmost extent of the area known as the Salt Lake City Foothills. Bounded by the Davis / Salt Lake City line to the north, the southern boundary is the ridge line running between Jones and Hell Canyon, topping out at the western ridge of City Creek Canyon. This zone consists of more gradual terrain along the slopes of Meridian Peak, which is ideal for providing various trail types and trail network connections. This zone is one of the more approachable for trail development.

**Land Management:** USFS manages a significant portion of this Foothills property and has indicated a willingness to partner with the City in trails and land management processes. The zone abuts Davis County and USFS lands to the north. Utah Open Lands holds a conservation easement on 57 acres of open space along the BST bench just south of Tunnel Springs Trailhead.

**Adjacent Land Use:** Davis County is currently working on establishing a trail system near this zone, which may prove to be a good partnership in trail development.

**Environmental / Cultural Sensitivities:** The Meridian Peak zone consists of around 400 acres of grassland and other dispersed brushwood. Salt Lake City Public Lands commissioned a baseline environmental evaluation for the Foothills Natural Area. This work, completed by SWCA Environmental Consultants, considered vegetation, wildlife, aquatic, soil, geologic, and cultural resources. That work should be considered and supplemented if needed when planning within this FOSZ. The NEPA process has already been completed for the majority of USFS lands in this area as part of Davis County's BST project. Initial trail development proposed through that project has been approved.



**Restoration Needs:**

Med

The trails in this zone exhibit medium environmental impact and have moderate restoration needs. Restoration strategies may include seeding of native grasses to stabilize the soil, rerouting parts of the trail to more sustainable paths, and employing simple erosion control measures like check dams and grade reversals to address soil erosion and habitat disruption.

**Trail System Conditions:** The Meridian zone presents a good opportunity for trail development as there is little formalized trail development already in place. Social trails are a concern throughout. Throughout Meridian Peak and Shoreline Preserve, less steep hillside slopes than in other Foothills Open Space Zones support future sustainable shared use trail alignments.

**Public Access:** This zone enjoys excellent public access from North Salt Lake's Tunnel Springs Park and Trailhead with amenities such as restrooms and parking for 75+ vehicles, making it ideal for youth bike teams as well as hikers with lower skill or fitness. Users looking for longer excursions can also access this FOSZ via Ensign Peak and Victory Road trailheads.

**2020 Foothills Plan Recommendations:** A network of single and multi use trails are recommended across Meridian Peak, increasing trail opportunities and density in this area. The Foothills Plan also recognizes the need for habitat study through the entirety of the area above the proposed Bonneville Shoreline Trail Corridor. Much of this study has occurred as part of Davis County BST NEPA process and will be reviewed again with any proposed trail alignments.

**Implementation Guidance:** Meridian Peak should be considered a first opportunity to expand the trail network following this evaluation's recommended processes.



## Foothills Open Space Zone: North Capitol: West City Creek, Ensign Peak & Hell Canyon

**Description:** Ensign Peak's iconic vistas are part of Salt Lake City's identity. Yet steep side slopes and decades of significant use create challenging access conditions to support a constant level of use. This area receives extremely high use due to the popularity of Ensign peak as a destination for Salt Lake City residents, Utah school outings, and visitors from across the globe.

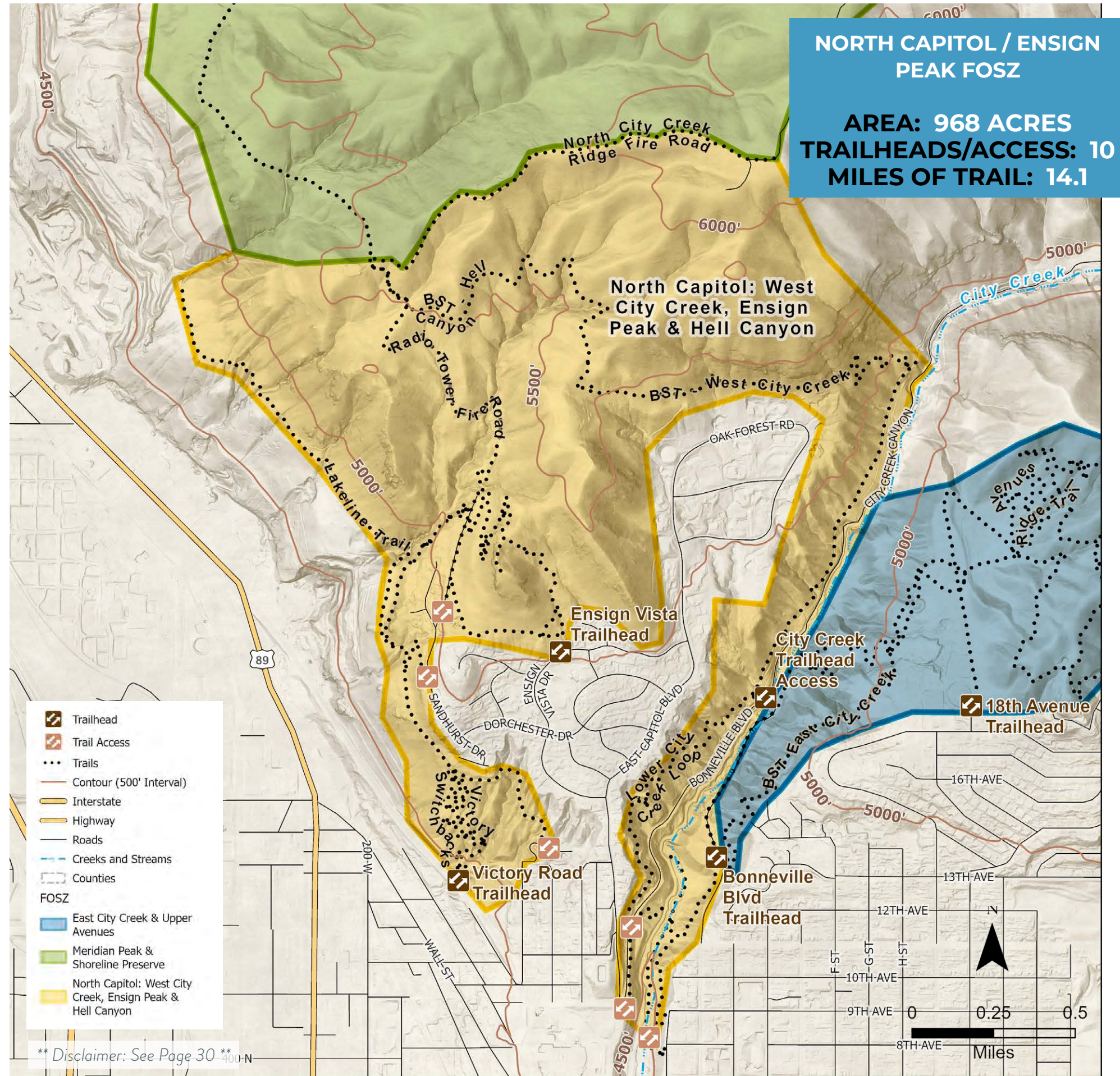
**Land Management:** Salt Lake City Public Utilities and Public Lands manages the majority of lands in this zone, with smaller parcels controlled by private interests.

**Adjacent Land Use:** The primary adjacent land use to this zone is the Utah State Capitol complex. A historic residential neighborhood lies adjacent to this zone as well, and care should be taken that future improvements to the trail system take into account this neighborhood's access and concerns.

**Environmental / Cultural Sensitivities:** Salt Lake City Public Lands commissioned a baseline environmental evaluation for the Foothills Natural Area. This work, completed by SWCA Environmental Consultants, considered vegetation, wildlife, aquatic, soil, geologic, and cultural resources. That work should be considered and supplemented if needed when planning within this FOSZ.

**Restoration Needs:**       **High**

This area has been heavily utilized over time. Non-system trails are prevalent and many are actively eroding and/or widening. A concerted effort is necessary to restore this area.



**Trail System Conditions:** The Bonneville Shoreline Trail, Ensign Peak Trails, and utility roads are the major trails in this area. The Ensign Peak area is severely degraded due to extensive use, steep slopes, social trail networks and limited management resources. The Victory Road / Hell Canyon Trail, built by Public Lands before the Foothills Plan offers an important access point to the City's west side.

**Public Access:** This FOSZ contains numerous public access points. Multiple major trailheads and minor trail access points are available throughout Lower City Creek and through Dorchester Pointe and Columbus Court HOAs. Additional overflow parking is available at the state capitol building.

**2020 Foothills Plan Recommendations:** A renewed focus on the Ensign Peak Trail is needed to improve the sustainability and user experience of this very highly used trail. Redevelopment of the steep switchbacks on the BST which climb out of City Creek would help support an improved shared-use experience. It could also provide additional connectivity from the proposed North City Creek Trail to the Towers Trail. adding looping options, supporting more dispersed use and increasing the utility of the City Creek TH. Public Lands should consider removal of the Over the Cliff and a proposed portion of the Lakeview Trail from the Foothills Plan if a sustainable route is not possible through the steep rocks. Alternatively, managing these routes for pedestrian use only might be appropriate if only a narrow route can be established.

**Implementation Guidance:** As recommended in the Foothills Plan, Ensign Peak Trail redevelopment should be a primary focus. It will be a costly process, as much of the work will need to be completed in or near the existing trail corridor and will involve significant materials, equipment, and adjacent drainage improvements. Yet the trail could become the jewel of the North Foothills.



Hell Canyon Trail

# Foothills Open Space Zone: East City Creek & Upper Avenues

**Description:** Similar to Meridian Peak, there are less steep sideslopes and more amenable terrain in this FOSZ than elsewhere in the system. This site was the first portion of the 2020 Foothills Plan to be built, and though the improvements were seen as positive by many, the adjacent neighborhood impacts and response to additional use in this area have created conflicts.

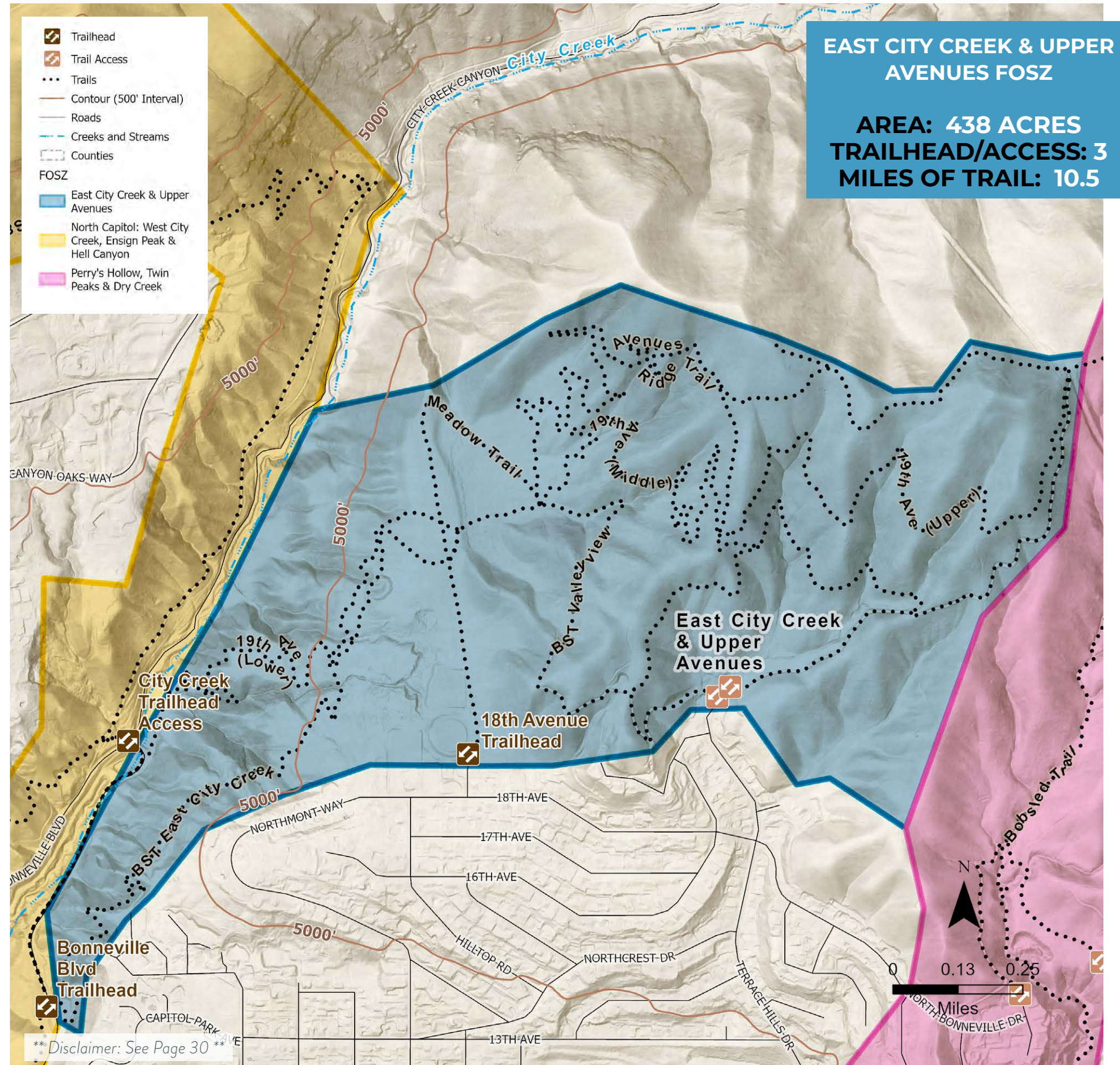
**Land Management:** These lands are primarily managed by Salt Lake City Public Land and Public Utilities with small portions of private land ownership along the residential boundaries.

**Adjacent Land Use:** Salt Lake City's Avenues neighborhood is located adjacent to this FOSZ. Access to the Foothills in this zone should always consider residential impacts. Directly north is the City Creek Canyon watershed which has unique needs and regulations (such as no dogs allowed). Community education about the watershed boundary is critical.

**Environmental / Cultural Sensitivities:** Salt Lake City Public Lands commissioned a baseline environmental evaluation for the Foothills Natural Area. This work, completed by SWCA Environmental Consultants, considered vegetation, wildlife, aquatic, soil, geologic, and cultural resources. That work should be considered and supplemented if needed when planning within this FOSZ.

**Restoration Needs:**       **High**

The legacy routes and social trails in this FOSZ create moderate to high restoration need in this FOSZ. Most of these are direct-ascent (fall-aligned) trails along ridges and gullies and will need full restoration following improvement/additions to the formal trail system. Many are old motorized routes, which will not recover on their own due to large footprints and incision; these will continue to carry water even if use can be shifted elsewhere.



**Trail System Conditions:** This zone's trails have largely been built out as a result of the Phase 1 implementation of the Foothills Plan. Although trail development in this area has not been without conflict due to neighborhood impacts and environmental concerns, the expansion of trail access in this FOSZ has been perceived as largely beneficial by the recreational community.

**Public Access:** This FOSZ has two major trailheads (Bonneville Boulevard and 18th Avenue) that have improvements scheduled for 2024 to increase parking and add trailhead amenities. Terrace Hills Drive has two trail access points at its northern terminus that should receive improved wayfinding signage in 2024. The residential proximity of the popular 18th Avenue and Terrace Hills trailheads creates a need for the City to continue to educate trail users on the respectful and low impact trailhead access and use.

**2020 Foothills Plan Recommendations:** More direct pedestrian access from the 18th Avenue/Morris Meadow TH to the BST to provide a short, scenic loop opportunity would be a great addition when the trailhead is redeveloped in the near future. The incorporation of the existing utility road network in maps and signage would improve navigation and wayfinding

**Implementation Guidance:** While the majority of new trails in this zone were built in Phase I, additional elements should be planned and implemented in future FOSZ planning processes. When the trailhead is redeveloped and a short trail constructed to connect up the south aspect to the BST, a few interpretive pull-offs could be created to provide vistas into the city. Narrowing the Morris Meadows utility road with fencing, rectifying drainage issues on the road, and providing etiquette, restoration, stay on trail, and dog management information at this highly utilized trailhead may help to educate visitors on proper use of the area.



Photos from East City Creek & Upper Avenues

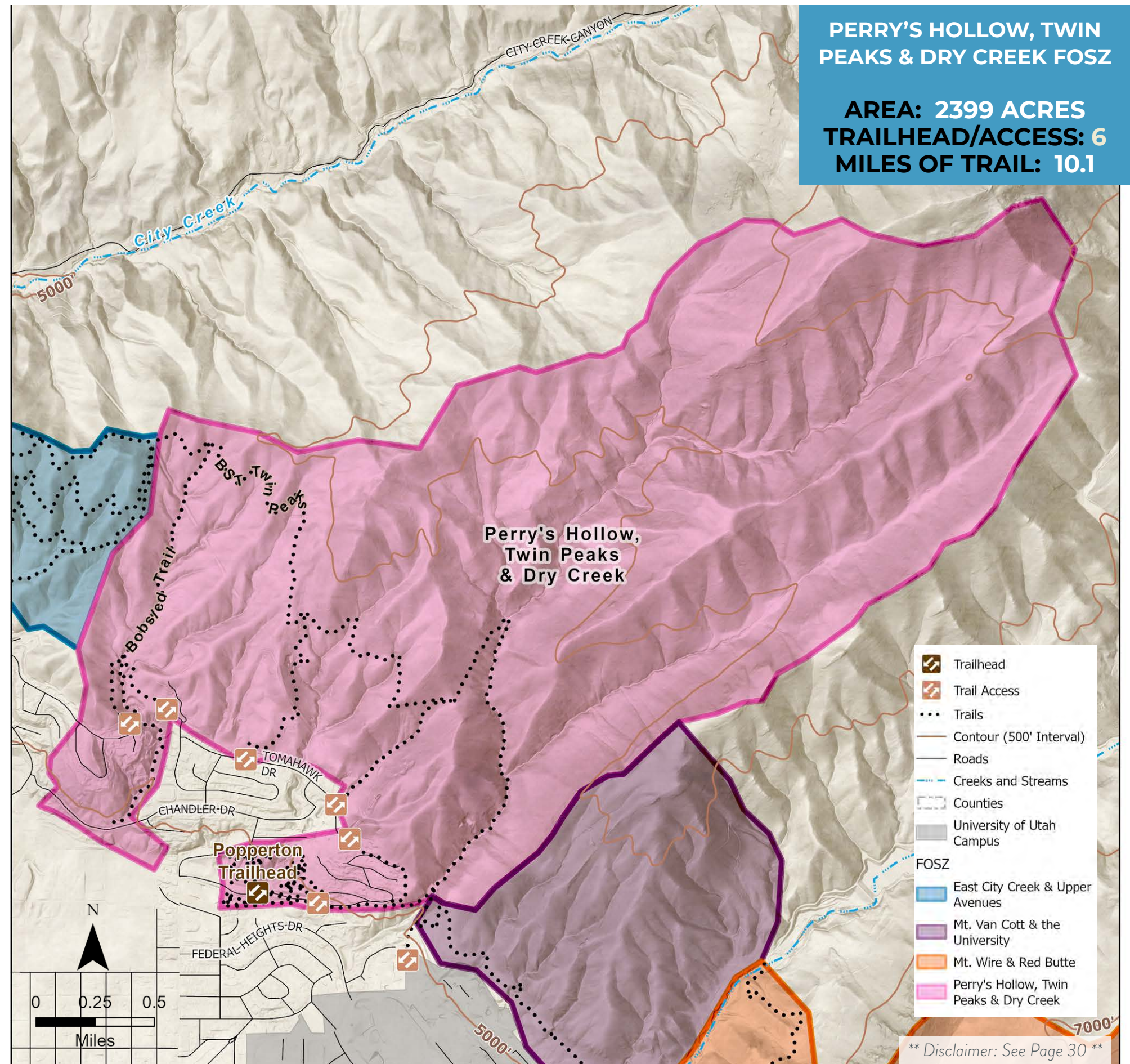
## Foothills Open Space Zone: Perry's Hollow, Twin Peaks & Dry Creek

**Description:** This is the largest designated FOSZ in the Foothills encompassing over 2,000 acres. Perry's Hollow to the west is similar to the Upper Avenues FOSZ in that abuts many residential homes. It is bisected by the infamous "Bobsled Trail". Twin Peaks anchors the center of the FOSZ and has been a popular destination for hikers and bikers via ridge line social trails. The Dry Creek watershed cuts deep into Foothills with its north and south forks and separates City Creek Canyon Watershed from the Red Butte Canyon Research Natural Area.

**Land Management:** The land management of this zone is the most complex in the Foothills. The USFS has a large parcel on the western slope of Twin Peaks. Much of Perry's Hollow and the open space above Tomahawk Drive is privately owned, and the University of Utah has shared holdings with the City in much of lower Dry Creek Canyon and the eastern slopes of Twin Peaks.

**Adjacent Land use:** Popperton Park and the surrounding residential neighborhoods are nestled within this zone. The upper north and south forks of Dry Creek Canyon are sandwiched between the City's watershed area (City Creek Canyon) and the Red Butte Canyon, the University of Utah's research area.

**Environmental / Cultural Sensitivities:** Salt Lake City Public Lands commissioned a baseline environmental evaluation for the Foothills Natural Area. This work, completed by SWCA Environmental Consultants, considered vegetation, wildlife, aquatic, soil, geologic, and cultural resources. This included an in-depth cultural investigation of indigenous heritage connected to the Twin Peaks Area. The Lime Kiln, managed by the University of Utah, is a historic site that should be preserved and acknowledged.



**Restoration Needs:** High

The trails in this zone exhibit significant environmental impact and would benefit from comprehensive restoration measures. Techniques for these areas may involve extensive re-vegetation projects, complete trail realignment to minimize environmental impact, and the construction of more advanced erosion control structures, such as retaining walls or boardwalks to mitigate ongoing degradation. Intensified education and enforcement are also vital to reduce further impacts on these trails.

**Trail System Conditions:** The BST runs through the heart of this FOSZ. Access trails from residential trailheads connect to the BST in multiple locations. An extensive user-created social trail system exists, particularly in lower Perry's Hollow and the south and west slopes of Twin Peaks. Fewer significant trails run up the forks of Dry Creek Canyon but signs of social trails are increasing. In Phase I, the Twin Peaks Trail was 80% built but paused for this evaluation. Popperton Park's open space received new use-specific hiking and biking trails which have been applauded by the community.

**Public Access:** Popperton Park and a neighborhood access point on Tomahawk Drive are the two official access points. Popperton Trailhead is the one major trailhead in this FOSZ and has significant improvements scheduled for 2024. Popperton's parking capacity will increase by 40-50 spaces and a restroom will be installed which will make this one of the most important access points to the City's Foothills. The four residential trail access points off of Tomahawk Drive should receive improved wayfinding signage in 2024 as well.

**2020 Foothills Plan Recommendations:** The proposed BST uphill/Dry Creek would be an exceedingly challenging trail to build due to steep slopes. An alternative management and trail development strategy would involve restricting mountain bike traffic to uphill only on the existing Dry Creek Trail and developing a new downhill mountain bike alternative from the existing Twin Peaks Trail junction down to the Dry Creek TH.

**Implementation Guidance:** To address user conflicts on the Twin Peaks trail and promote sustainability, specific measures are proposed in Popperton Park. Clear signage and maps should guide visitors directly to the Foothills trail networks. Additional trail development in the area north and east of Twin Peaks (North Fork Dry Creek Trail, and Dry Spell) is dependent on further study of wildlife habitat and potential impacts to that habitat. This review and decision process will take time to complete. The completion of the shared-use Twin Peaks Trail, Avenues Ridge Trail and the pedestrian-only Gullies & Hollows, Perry's Hollow West Loop, East Fork Perry's, East Fork Parleys, and Block can likely proceed on a shorter timeline. The new trail construction should be combined with active restoration of informal trails and improvements to the drainage on existing routes.



Photos from Perry's Hollow, Twin Peaks, and Dry Creek



## Foothills Open Space Zone: Mt. Van Cott & The University

**Description:** Due to years of uncontrolled use directly adjacent to the University of Utah and the significant foot traffic an institution of that nature will generate, there is a significant web of social trails established throughout this zone. At the farthest eastern reaches of this zone lies a research area and restricted access reservoir.

**Land Management:** This land is managed by either USFS or owned by the University of Utah.

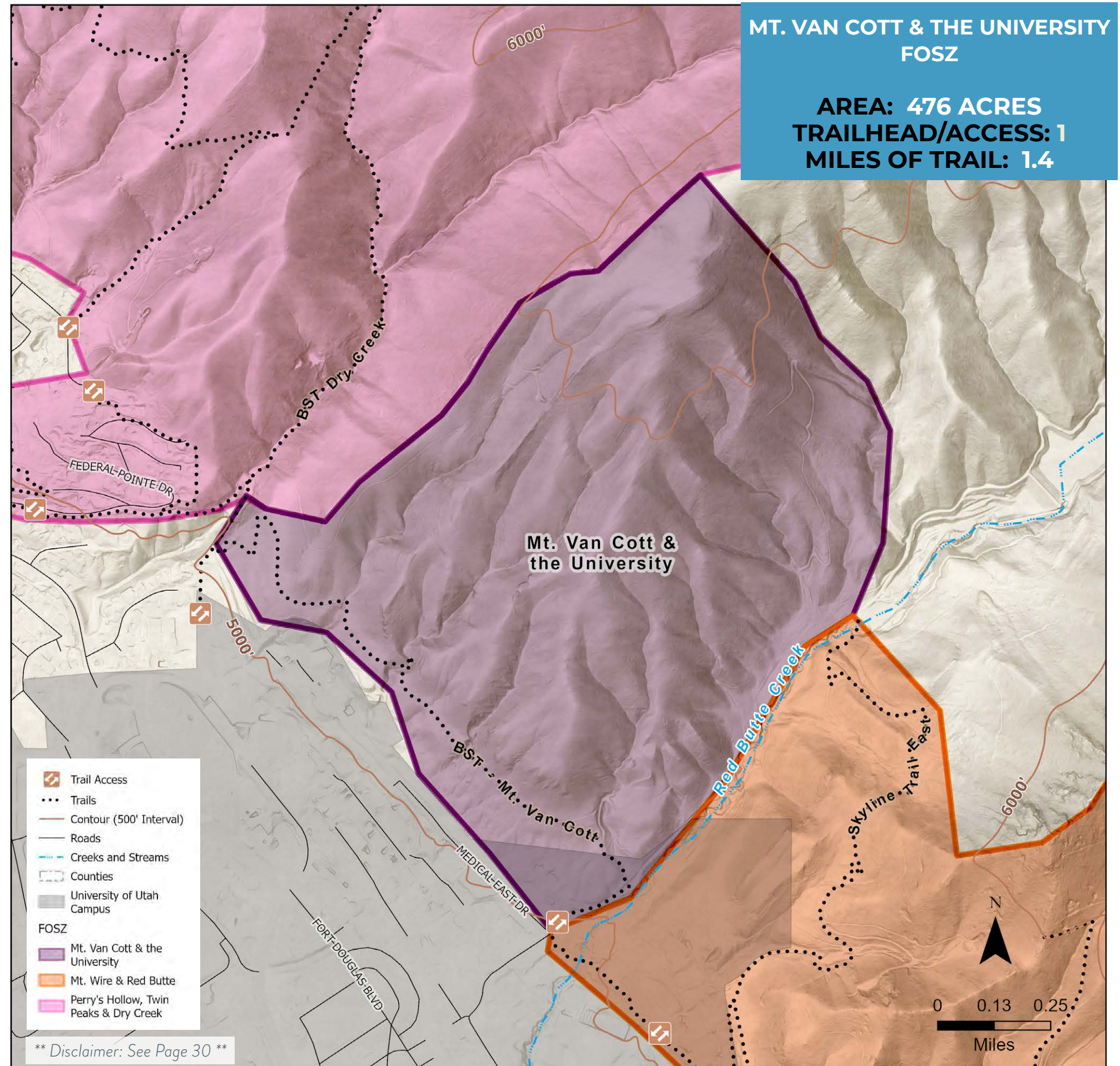
**Adjacent Land Use:** This is the University of Utah's back door. Land is primarily owned and managed by the University of Utah, who is a supportive partner in an effort to manage and improve access to the Foothills trail network outside of its classrooms, fields, and research labs.

**Environmental / Cultural Sensitivities:** Salt Lake City Public Lands commissioned a baseline environmental evaluation for the Foothills Natural Area. This work, completed by SWCA Environmental Consultants, considered vegetation, wildlife, aquatic, soil, geologic, and cultural resources. That work should be considered and supplemented if needed when planning within this FOSZ.

**Restoration Needs:**



The trails in this zone exhibit moderate environmental impact and have some restoration needs. Rocky Mountain Power has a utility easement along the BST and recently conducted a power pole replacement project that left significant impacts for restoration and repair. Strategies may include seeding native grasses to stabilize the soil, rerouting parts of the trail with more sustainable design, employing simple erosion control measures like drain fans and grade reversals, and directing trail users with clear signage and fencing off closed areas.



**Trail System Conditions:** Intensive social trail proliferation characterizes this zone, primarily stemming from uncontrolled use adjacent to the University of Utah. The University's significant foot traffic and ownership make closure challenging. Restoration needs are moderate, requiring efforts like native vegetation planting and trail rerouting. The challenge lies in balancing environmental preservation with ongoing University-related use.

**Public Access:** Despite the increased growth of the University of Utah, there are no formal trailheads or available un-permitted parking areas in this FOSZ. The base of Red Butte Canyon Road and the trail access from Medical Campus Drive are two key sites under consideration for future trailhead development.

**2020 Foothills Plan Recommendations:** Reducing trail user numbers and potential use conflicts in Dry Creek should be a focal aim and the development of the proposed relocation of the BST and the addition of the Dry Creek South Fork would only attract more use to the area. Altering the proposed shared-use Mt. Van Cott Trail to form a complete loop with connections to the Skyline Nature Trail West and a direct, armored pedestrian-only spur to the Mt. Van Cott summit and active restoration of the Van Cott Ridgeline Trail would reduce trail user traffic in Dry Creek canyon. This work should be completed in concert with drainage improvements of Skyline Nature Trail West and active informal trail closure and restoration of the numerous summit routes and fall-aligned routes down to the university. With a more accessible summit access, care will need to be taken to preserve the north-facing meadow.

Dry Creek canyon and Red Butte Gardens corridor could be redeveloped with the BST routed onto the higher Skyline Nature Trail West out of the Red Butte Trailhead and the existing BST/Med Campus Trail corridor more formally developed as park space to provide a number of shorter, more

accessible trail experiences from the Medical Campus and Red Butte Trailhead and better preserve a sense of a park/conservation corridor.

**Implementation Guidance:** Guided by the recognition of extensive social trail proliferation the implementation strategy for this zone focuses on trailhead enhancement and restoration initiatives. Improving existing informal trailheads and prioritizing restoration efforts on medium-impacted trails should be a priority. Collaboration with the University of Utah is emphasized, acknowledging their ownership and supportive partnership for effective land management and improved trail access. With the majority of this area owned by the University of Utah and active construction at the Medical Campus, the planning for a Medical Campus Park will need time to fully develop and set the stage for trail construction and trail restoration.



## Foothills Open Space Zone: Mt. Wire & Red Butte

**Description:** Mt. Wire and Red Butte stand above the rest of the Foothills with Wire's summit (also known as "Big Beacon") peaking at 7146 feet. Mt. Wire's expansive slopes run down the Lithograph Fork into Emigration Canyon and down into George's Hollow to the west. Various routes to the popular "Living Room" run up the steep slopes below Red Butte.

**Land Management:** Primarily USFS managed parcels, there are some University of Utah holdings interspersed in this zone. Utah State Parks owns approximately 200 acres of open space east of This Is The Place Heritage Park.

**Adjacent Land Use:** Primary neighbors are institutional in this zone and include The University of Utah's Research Park, Red Butte Gardens, Natural History Museum, and This is the Place Heritage Park. Emigration Township to the east has been discussing trail planning and connectivity to the Foothills.

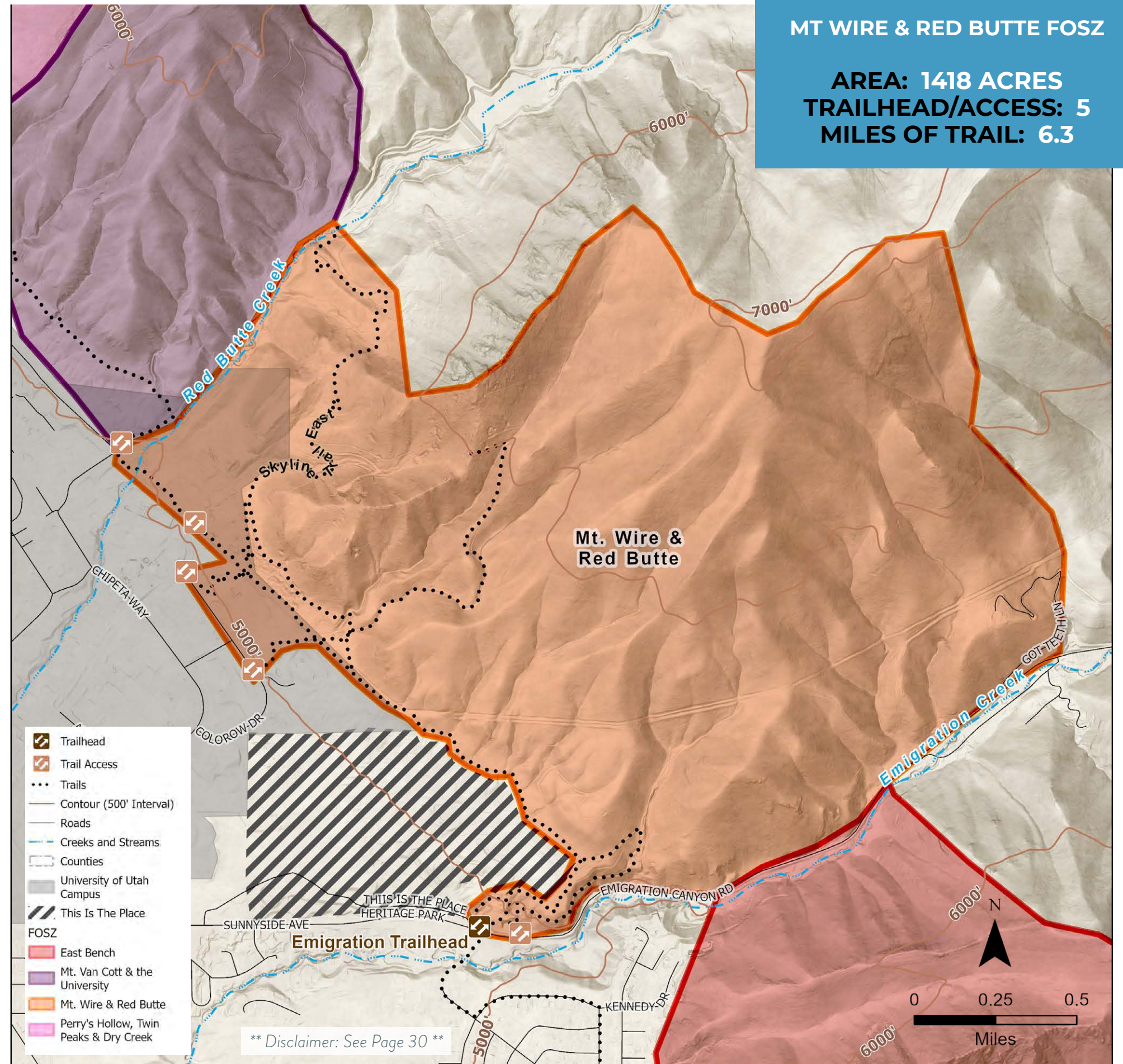
**Environmental / Cultural Sensitivities:** Salt Lake City Public Lands commissioned a baseline environmental evaluation for the Foothills Natural Area. This work, completed by SWCA Environmental Consultants, considered vegetation, wildlife, aquatic, soil, geologic, and cultural resources. That work should be considered and supplemented if needed when planning within this FOSZ.

**Restoration Needs:**     High

The trails in this zone, particularly around George's Hollow, the Living Room access routes, and the braided and widening BST, exhibit significant environmental impacts and should be addressed with comprehensive restoration measures. Techniques for these areas may involve extensive re-vegetation projects, complete trail realignment to minimize environmental impact, and the construction of more advanced erosion control structures to mitigate ongoing degradation. Intensified education and enforcement are also vital to reduce further impacts on these trails.

MT WIRE & RED BUTTE FOSZ

**AREA: 1418 ACRES**  
**TRAILHEAD/ACCESS: 5**  
**MILES OF TRAIL: 6.3**



**Trail System Conditions:** The popular Living Room trail is a good example of conditions in this zone where numerous individual pathways lead down from the iconic view at this location. The BST and Skyline Trail would both benefit from thorough tread repair and maintenance and spot realignments. Multiple social ridge trails ascend the steep grades up to Red Butte and Mt. Wire.

**Public Access:** The Emigration Trailhead, behind This Is The Place, is the one major trailhead in this zone. Partnership and planning with Utah State Parks could develop into future facilities to support the Foothills Trail System and This is The Place. Additional Foothills trail access points are in Research Park on Colorow Road and Wakara Way.

**2020 Foothills Plan Recommendations:** The proposed portion of the Living Room Trail connecting to Skyline Nature Trail East will be very difficult to accept as the preferred route back to the Colorow Road area. A more direct route from the Living Room along the western-running ridgeline and incorporating a number of the existing switchbacks will more effectively channel use. Given the nature of this steep terrain and the challenge of establishing a wider shared-use trail, it is recommended that new trail segments be managed for pedestrian use only.

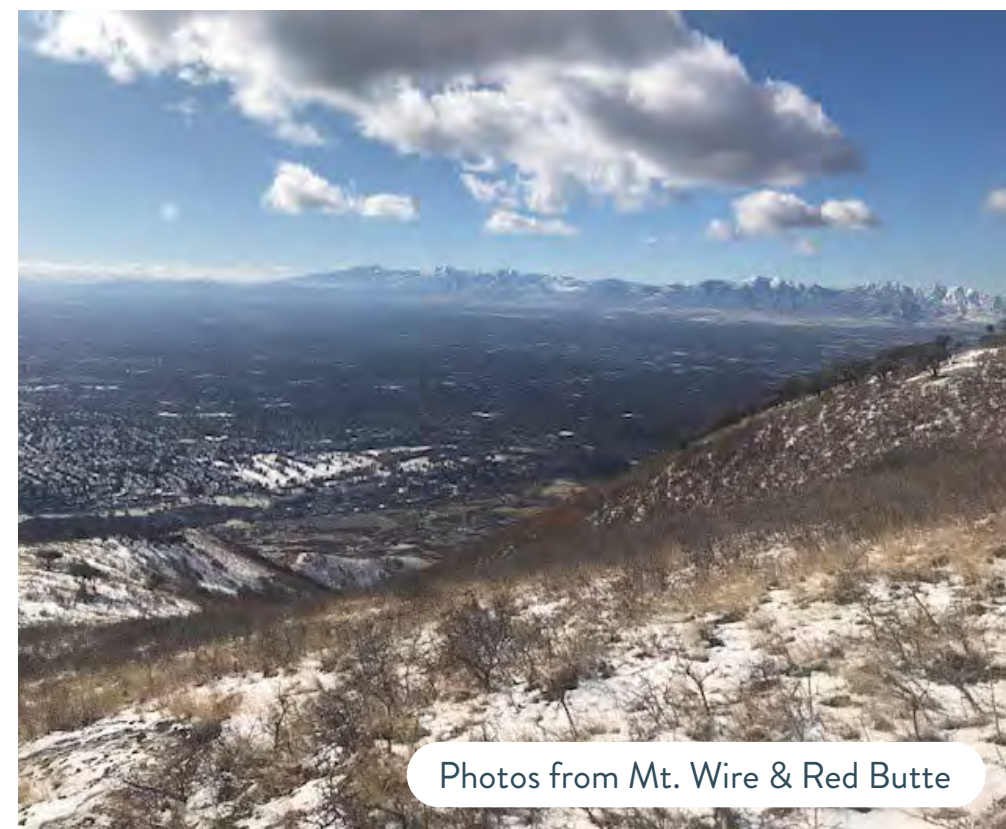
The somewhat less valley-dissected terrain in the Mount Wire area is well-suited for a more diverse, shared-use system than the Living Room area. The number of switchbacks necessary to control trail grades and access Red Butte, Mount Wire, and Lithograph Point would lead to difficulty in controlling short cutting, informal route development or closure. Instead, upper elevations of existing routes could be improved and managed as pedestrian-only experiences. In addition to the contouring shared-use trail, a steeper pedestrian-only route from the “jug handle” on the wagon route/Wagner Peak Loop Trail to the proposed junction of the Lithograph Fork and Connector trails would allow those users to more expeditiously access the higher terrain.

A more dense than proposed mountain bike trail park focused on the lower bench slopes would provide easily accessible terrain and elevation. The proposed mountain bike trail development, contour-oriented routes toward the higher terrain, and accessibility on Emigration Canyon Road will likely lead to a large increase in car traffic to these trails, outstripping the proposed trailhead capacity.

The abandoned road benches and flatter terrain on the east side of the state park would be ideal for a large modern trailhead. This area is only between 75 and 150 vertical feet above the existing trailhead on Emigration Canyon Road. The lack of a steep climb into the trail system from this location would instantly make this area more accessible to a broader swath of recreationists.

**Implementation Guidance:** Significant trailhead improvements should be considered here, but should be approached in stages due to the complexity of the vision. State park ownership, traffic analysis and design considerations must all be considered to develop a large capacity trailhead. The first priority would be permission and engineering of the trailhead access road and parking. If successful, improvements to the BST and lower elevation mountain bike trails would come next, followed by new trail construction and significant restoration of the myriad informal trails.

Careful FOSZ planning with partner agencies - including significant restoration, wayfinding, and thoughtful community engagement and education should help meet the goals of the Foothills Plan.



Photos from Mt. Wire & Red Butte

# Foothills Open Space Zone: East Bench

**Description:** East Bench FOSZ was not included in the 2020 Foothills Plan as Emigration Canyon was defined as the southern extent of the Foothills Plan. As such, it was not physically reviewed as part of this Evaluation. However, it is included in this report as it constitutes the southern extent of the Foothills managed by Salt Lake City Public Lands.

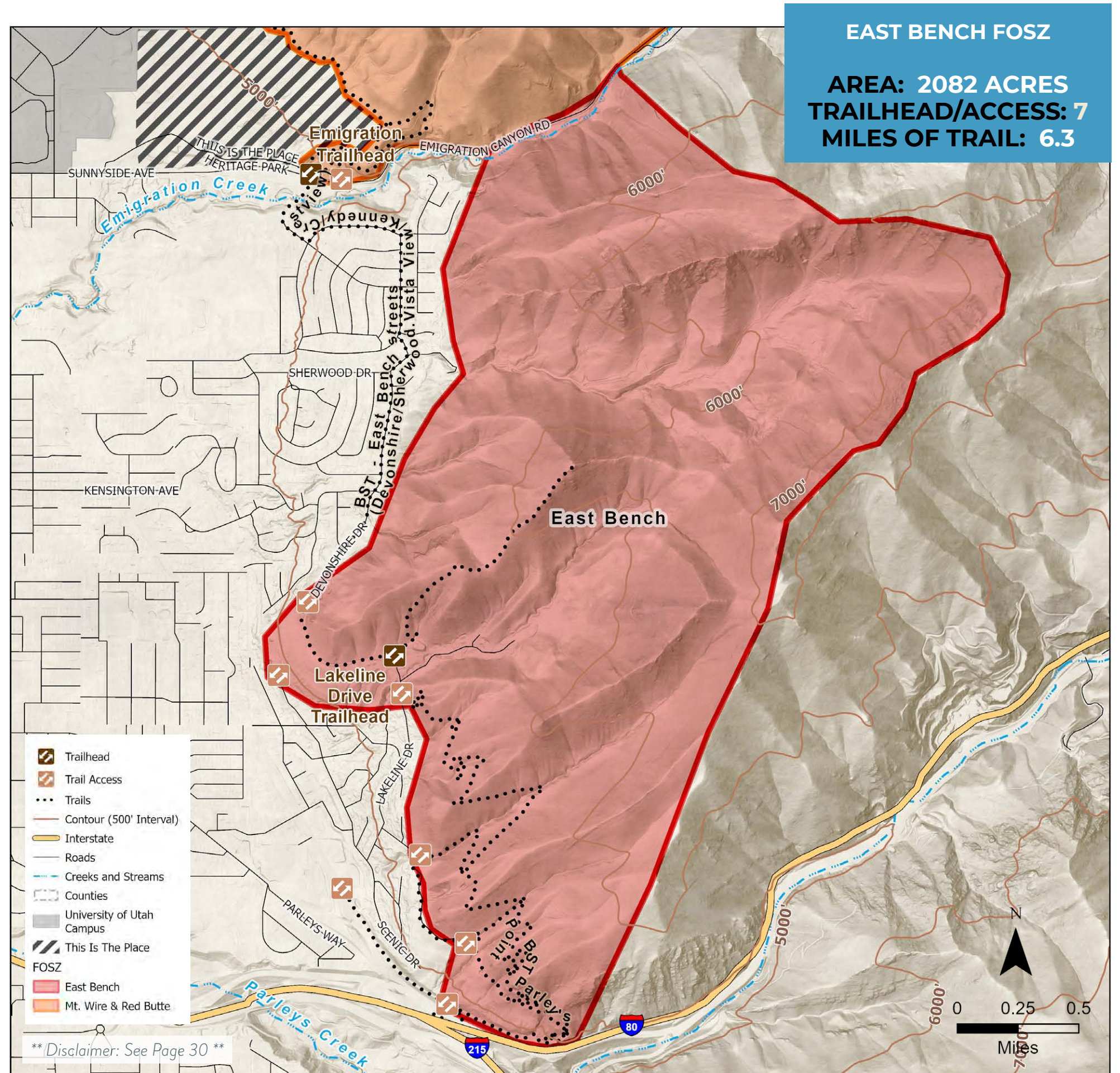
**Land Management:** The majority of open space in the East Bench is privately owned except for parcels within the H-Rock/ East Bench Preserve and the 270 acres acquired by the City in 2021 that includes the new BST Parleys Point segment.

**Environmental / Cultural Sensitivities:** Salt Lake City Public Lands commissioned a baseline environmental evaluation for the Foothills Natural Area. This work, completed by SWCA Environmental Consultants, offers insights into the type of cultural and environmental resources that may be found in the East Bench FOSZ. No East Bench specific studies have been completed at this time and will need to be further evaluated as part of a FOSZ planning process.

**Restoration Needs:** Low

The trails in this zone exhibit minimal environmental impact and have relatively low restoration needs. These paths may benefit from small-scale techniques such as periodic litter cleanup, minor trail maintenance, and strategic placement of erosion-control structures like gravel or mulch in high-traffic areas to prevent further soil disturbance.

**Adjacent Land Use:** This zone is bordered by single family residences to the west and high elevation US Forest Service Lands to the east.



**Trail System Conditions:** This zone was not formally assessed through this project. The main trail resource is the Bonneville Shoreline Trail (BST) and connection spurs to surrounding neighborhoods. The BST connects to points southerly thanks to the adjacent I80 overpass.

**Public Access:** Although there are numerous trail access points along public roads in this zone, the only designated trailhead is at the northern end of Lakeline Drive. The City is currently looking to acquire space at this location to develop an off-street trailhead.

**Key Zone Recommendations:** The planning of the East Bench FOSZ should take place after other zones within the Foothills have made significant progress towards the Foothills Plan goals. This area is included in this report to recognize its need to be included in the broad planning efforts moving forward, but is not the top priority for implementation due to it not being included in prior master planning efforts.



# FOSZ PLANNING AND IMPLEMENTATION PROCESS

The City should adopt a NEPA-like process to finalize all changes to trail networks within the Foothills Open Space system by creating area-specific Project Implementation Plans (PIPs). The primary goal for each PIP is to establish a more formal process through which Public Lands can thoughtfully implement trail rehabilitation, development, and access projects. It is expected that Public Lands, upon determining the need for specific projects, will initiate the PIP in partnership with other entities or land managers (such as the USFS) as appropriate. Each PIP will document the materials gathered and considered in establishing a specific project(s) within a single Foothills Open Space Zone (FOSZ).

**Project Implementation Planning** is comprised of three phases – Planning, Design and Implementation, each with multiple steps. Each phase is described here.



## PHASE 1: PLANNING

### Planning Process

#### Initiating the Project

- Define purpose, need & scope
- Review existing trails plan
- Review the pre-NEPA level environmental and cultural review document
- Initiate dialogue with key stakeholders

#### Baseline Area Review

- Begin dialogue with the land manager and/or owner regarding purpose, need and potential changes
- Team site visit to define trail use and type, restoration and/or closure needs, new alignments if necessary, and improvements to parking, trailhead access, signage or other amenities

### STEP 1: PROJECT INITIATION

During this step, it is essential to clearly define the primary objectives, requirements, purpose, and need for projects within a specific FOSZ. Public Lands will consider the recommendations from the 2020 Foothills Plan, including desired system connections, access points, trail and user characteristics, restoration goals, and land management priorities. Additionally, Public Lands will consider the recommendations for each FOSZ in this document and may seek additional relevant information such as natural resource data, wayfinding plans, surveys, and trail count data. This information will inform core project objectives and requirements. If necessary, Public Lands may seek outside expertise on trail planning, land surveying, engineering, costing, environmental resource identification, or other relevant information. The information considered in this step will be captured in a document that describes the project, establishes its core objectives, and outlines any specific requirements that must be met through the implementation process.

### STEP 2: BASELINE AREA REVIEW AND DOCUMENTATION

Public Lands will review the existing pre-NEPA level environmental and cultural review document to identify limitations or areas to avoid. Depending on the level of effort required in Step 1 to define the core objectives and requirements of the project, Public Lands might require more information to establish and document the existing conditions within the planned project area. This could involve a more detailed assessment of crucial ecological, land use, access, or cultural/archaeological concerns in the FOSZ. This could also require additional field data collection, surveying, or legal review. Public Lands may also engage external experts to conduct these reviews. Public Lands will compile the information gathered during this step.

## PHASE 2: DESIGN

### Design Process

#### Site Design

- Design of alternative concepts alignments, restoration or closure areas
- NEPA level, site-specific environmental and cultural review of the area identified in the design
- Coordination with the land manager and/or owner for approval of design
- Information sharing with Key Stakeholders and the Public
- Finalize Design and FOSZ-specific Maintenance and Operations Plan

#### STEP 3: ALTERNATIVES DEVELOPMENT

Public Lands will consider proposed alignments, restoration, and closure alternatives based on the project objectives, baseline assessment, and requirements for partner land management agencies. If alternatives are prepared, conceptual plans depicting alignments, access points, general specifications, etc. will be developed. Public Lands will inform Key Stakeholders to gain input on the potential alternatives and inform Public Land's selection of a preferred alternative.

#### STEP 4: PREFERRED ALTERNATIVE

Based on its review of the project(s), input from the public and Key Stakeholders, and other considerations, Public Lands will select and document its preferred alternative.

#### STEP 5A: PRELIMINARY DESIGN

Public Lands will review the preferred alternative at a site visit along with other relevant partners. Public Lands may elect to retain the services of an outside trail expert, engineer, natural resource specialist, or other party to participate in this site review of the preferred concept before initiating preliminary design

work. Public Lands may elect to issue a Request for Proposal (RFP) associated with the development of preliminary design plans. Public Lands will monitor and review the development of preliminary engineering designs associated with the project(s). Preliminary design plans will be suitable for project costing.

#### STEP 5B: LANDOWNER AND LEGAL REVIEW

Public Lands will be responsible for overseeing necessary land ownership or property legal review related to the project(s). If required, Public Lands may choose to engage external legal counsel or surveying services to support the development of the preliminary design plans.

#### STEP 5C: ENVIRONMENTAL REVIEW AND PERMITTING

When planning projects on lands managed by the USFS, Public Lands will consult with the USFS and complete any necessary environmental reviews under the National Environmental Policy Act (NEPA).

#### STEP 5D: NEPA PUBLIC ENGAGEMENT

Public Lands will engage in and respond to USFS public engagement requirements as part of NEPA environmental reviews.

#### STEP 5E: FINAL DESIGN

Upon final approval of Public Lands and following the issuance of any required permits, Public Lands will oversee the development of a final engineering design package encompassing all approved project(s). Public Lands may elect to issue a Request for Proposal (RFP) associated with the development of final design plans.

#### STEP 6: FINALIZE AREA-SPECIFIC MAINTENANCE AND OPERATIONS PLAN

Public Lands will establish a detailed approach to routine inspections, repairs, enhancements, and the protection of sensitive ecosystems in the FOSZ.

## PHASE 3: IMPLEMENTATION

### Implementation Process

#### Implementation

- Finalize construction budget and specifications
- Advertise to contractors
- Inform site users and adjacent residents
- Permitting, construction and inspection

#### STEP 7: BIDDING AND CONTRACT

Public Lands will prepare and oversee the bidding and contract process for the construction of all project components. The bid process will conform to appropriate Salt Lake City procurement requirements. Following the completion of the bid process, Public Lands will provide its final approval and authorization to proceed.

#### STEP 8: CONSTRUCTION PROCESS

Public Lands will inform the public about construction using its existing communication channels and field signage. It will monitor and oversee the construction process with the chosen contractor. Following the completion of the project, Public Lands will review the work and discuss any feedback or guidance that might inform future decision-making.



# IMPLEMENT A CONSISTENT PUBLIC COMMUNICATION STRATEGY

The Foothills Plan is informed by significant public input showing the desire for a world class trails system in Salt Lake City. One complaint with the Phase 1 implementation was that the changes being made were not communicated clearly to the public. Public Lands recognizes that maintaining a high-level of communication with the public is important and has implemented the following mechanisms by which the public can be informed.

- **Rangers:** two Foothills-dedicated Rangers are patrolling to assist and educate trail users, report areas of concern, and support the health of the Foothills natural area. You can meet them at trailheads.
- **Improved trailhead, wayfinding and field signage:** A good wayfinding system not only guides people along sustainable routes to their destinations but can enhance a user's understanding and experience of the Foothills. Improved wayfinding can also help accommodate a growing number of users and preserve delicate ecosystems by routing visitors to designated trails and away from unsanctioned routes. Public Lands has developed a unified wayfinding system and will begin installing improved signage in 2024. Public Lands will begin implementing consistent field signage to identify areas undergoing ecological restoration, closure, or other needs. Signage can both educate trail users about the value of these projects and restrict access.

- **Foothill Communication Channels:** Public Lands has expanded its Communications staff and is providing regular updates via the following communication channels
  - **SLCTrails.com website**
  - **Foothills e-newsletter**
  - **@SLCPublicLands social media**
- **PNUT Board and Community Council coordination:** Public Lands will continue to provide updates on Foothills related projects, processes, or issues via regularly scheduled Parks, Natural Lands, Urban Forestry & Trails (PNUT) Advisory Board and Community Council meetings.

Public Lands will also establish a **Key Stakeholder Group** to help inform FOSZ PIP planning. This group would include key stakeholders with knowledge of environmental, trails, and other management issues and will also represent the variety of distinct user groups and interests in the Foothills.



# PRIORITIZE THE MAINTENANCE AND ENHANCEMENT OF EXISTING FACILITIES

The Foothills Plan does not provide an evaluation of the existing formal trails within the Salt Lake City Foothills. This is an important consideration for the future capacity to manage the overall system and provide high quality recreation experiences.

Historically, the formal trails in the Foothills have received minimal maintenance. Contrary to the rolling contour, hillside construction that is the modern standard for sustainable, low-impact trail development, many of the existing trails slated for incorporation into the larger system (i.e. Dry Creek, Living Room, Bobsled, Jones Canyon) are located almost solely at the bottom of a stream valley/riparian corridors. While these are not perennial streams, these valleys do experience water flow at times and the trails have suffered erosion or braiding. These impacts increase the footprint of the recreational trail corridor and can exacerbate negative wildlife impacts as the trails are located in some of the few riparian corridors of the foothills.

To evaluate existing trails, the following factors should be weighed:

- the value of existing trails to the overall system outweighs the potentially negative natural resource impacts,
- whether portions or all of these recreational corridors could be relocated outside the riparian corridor, and/or
- if they are to remain in place, how to better manage the impacts of intermittent stormwater/snowmelt on the trail tread.

Other existing trails to be incorporated into the system are located on relic roadbeds (i.e. portions of the Bonneville Shoreline Trail, North City Creek Ridgeline, Morris Meadows, Terrace Hills). These trails require a different level of maintenance need, dependent upon sometimes significant landscape manipulation to provide proper drainage. Widening and braiding are also common on these routes and narrowing of use corridors through fencing and/or vegetative restoration may need to be considered.

As the spine of the trail system, the Bonneville Shoreline Trail (BST) should receive considerable maintenance attention. In addition to the aforementioned issues, the route that was initially utilized through the area was one of convenience rather than ideal recreational trail design. As such, the Foothills BST lacks a consistent character and the quality of the user experience is sometimes low. Ideally, the trail should retain a common specification throughout the North Foothills that would make this segment emblematic of the vision and goals for this long-distance recreational and interpretive facility.

Recent maintenance of the BST in upper City Creek has been successful for better managing water and trail users with little impact outside the trail corridor, and can be a model for future maintenance needed in Hell Canyon, as well as other existing trails to be incorporated into the system that are more contour-oriented (i.e. Skyline, Tomahawk, Lakeview, and Under The Cliffs).



Popperton Seasonal Grass Trimming

# DEVELOP A UNIFIED WAYFINDING SYSTEM

Improved wayfinding can help accommodate a growing number of users and preserve delicate ecosystems by routing visitors to designated trails and away from unsanctioned routes.

A good wayfinding system not only guides people along sustainable routes to their destinations but can enhance a user's understanding and experience of the Foothills. Ultimately, wayfinding's contribution to more feet and wheels on sustainable trails and improved user appreciation for these public lands can make significant contributions to the preservation of the Salt Lake City Foothills ecosystem and trail network.

## Unified Wayfinding System:

The cornerstone of a good wayfinding system is uniformity. All trail markers, signposts, maps, and trailhead kiosks should be developed with a uniform design. This extends to shapes, materials, fonts, colors, and layout of each. Creating a uniform approach will also support integration of future trail networks, reroutes, or closures into the official Foothills trails system. The design should be as unique as Salt Lake City and its foothills, communicating a sense of place that is instantly recognizable to any visitor.

## Educational Signage:

Incorporating interpretive and educational signage along with wayfinding is important. Educational signs should be strategically located to identify sensitive species, unique habitat, historic and cultural landscape narratives and other elements. For the Foothills specifically, educational signage regarding the damage caused by social trails would be useful.

## Promotion of Responsible Usage:

Trailhead and wayfinding signs should communicate in simple terms and encourage responsible trail use. The incorporation of Leave No Trace principles and local regulations is key, underscoring the importance of adhering to designated trails.

## Safety and Emergency Preparedness:

Ensuring the safety of trail users is paramount. Signage should provide concise information about emergency contacts, park hours, and safety guidelines, particularly in remote or challenging terrain. Mile markers or other indicators of placement along a trail can further help emergency responders locate the site of an accident. This ensures user security and preparedness during outdoor activities.

## Restoration Zones Identification:

Official signage should identify areas undergoing ecological restoration. Signage can both educate trail users about the value of these projects and restrict access. This initiative supports successful ecosystem rehabilitation and prevents further degradation.

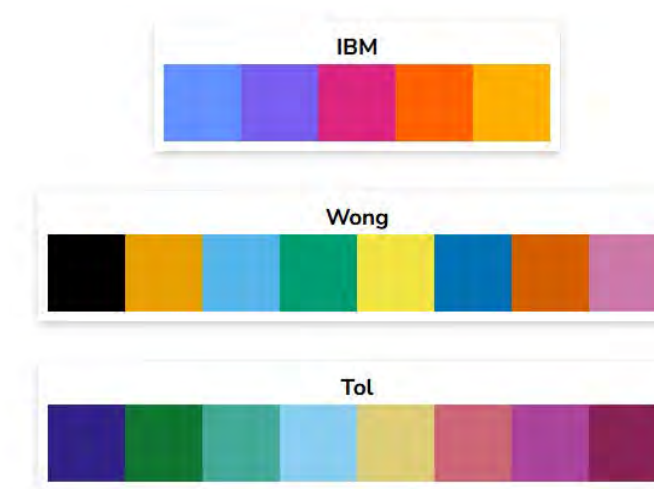
## Community Engagement:

Installation of signage across the Foothills is a time-consuming task. Consider engaging volunteers to support staff efforts when installing wayfinding signage. Active involvement of the local community in the placement of signage fosters a sense of ownership and responsibility. Collaborative efforts bring community insights and ensure a stronger connection to the trail system.

## Accessibility and Inclusivity:

Signage should highlight wheelchair-accessible routes and accessible facilities, promoting equal access to all users. These accessible routes are popular with many users, including the young and old, cyclists of all types, and those with mobility impairments. Inclusivity and universal access are paramount in ensuring a broad spectrum of users can enjoy the trail system.

Another key consideration for accessibility is ensuring that final colors are 'colorblind safe.' Many maps and signs utilize green red pairing, which are commonly lost when viewed by the 8% of men and .5% of women with limited color vision. Below are three common color blind safe color sets. Click on the image to review a comprehensive discussion (and digital color codes) of these palettes.



Color Blind Safe Color Palettes

# INCREASE THE POWER OF TRAIL COUNTS

As discussed in the evaluating existing demand section of this document, Salt Lake City has been maintaining trail count data throughout its networks since 2016. This document recommends continuing to use the systems in place, but leveraging and utilizing that data through new partnerships, big data resources, and community surveys.

## Permanent vs. Mobile Counters:

With approximately 16 counters in place, the City should ensure that several counters stay fixed to locations where counts have proven to be reliable and use is known to be 'typical' for the Foothills. Over time, these permanent counters will provide important baseline information regarding system use patterns, growth, and relative demands through the system. Historically, the consistent counter locations have been the Mouth of Dry Creek, Emigration Canyon TH, Ensign, and I Street TH.

Once permanent counter locations are determined, a series of additional counters should be deployed on a rotating basis to analyze use levels throughout the system. Temporary counters can help understand the efficacy of various land closures, impacts of a trail reroute, or gather data where none was available prior.

## Increase Depth with Manual Counts and Community Surveys:

The data available from a perfect trail counter system will never tell us why some people don't feel comfortable or welcome using the Foothills. It will be important for Public Lands to conduct trailhead demographic surveys to understand who uses the trail networks, and which demographics or geographies in Salt Lake City are under-represented at the trailhead. Similarly, targeted community surveys to groups who are not well represented in current trail user demographics can help the City understand barriers to access to the Foothills.

Trail Count System Comparison				
Technology	Relative Cost	Pros	Cons	Examples
Manual Counts	\$-\$\$	Can determine precise use types, demographics, or specific details like QR code usage.	Cost-prohibitive if not using volunteers. Labor-intensive to coordinate and report out.	<a href="https://counterpointapp.org/">counterpointapp.org/</a>
Infrared Counters	\$\$	Relatively inexpensive 24/7 costs. Proven technology and relatively simple to operate	Can not distinguish between use types, often require monthly 'data pulls', limited to one location per unit.	<a href="https://www.TrafX.com">www.TrafX.com</a>
Video Detecting Systems	\$\$\$\$	Can offer 24/7 counts and distinguish between bikes and pedestrians	Can require additional expertise to operate, often requires subscription to service for processing.	<a href="https://miovision.com/scout">https://miovision.com/scout</a>
Big Data	\$-\$\$\$\$	Can offer a 'global' view of use	Not representative of all users, can be very costly.	<a href="https://metro.strava.com/">https://metro.strava.com/</a> <a href="https://www.placer.ai/">https://www.placer.ai/</a>

Key: lower cost = \$ higher cost = \$\$\$\$

## Increase Breadth with Big Data:

Additional insights can be gained by correlating physical trail count data with the broad coverage offered by big data sources. From the free (to municipalities) resource of Strava Metro, to more expensive but broad reaching datasets like Placer AI, Many platforms available can offer a chance to see beyond the individual counts. It is worth noting that big datasets will not capture ALL trail users, but they represent a specific percentage across the entirety of the Foothills network.

## Increase Power with Universities:

It is time consuming enough to procure trail counters, deploy them, pull data from them, and aggregate the data - to say nothing of the time needed to analyze one or more datasets and assemble useful insights.

Partnerships with regional universities may offer a solution to this workload challenge, as there are many degrees at local institutions that could benefit from a partnership with the City. Analyzing big datasets, developing trail count dashboards, or delivering and analyzing community intercept surveys are just a few of the ideas that could become a classroom or thesis project.

# DEVELOP A MANAGEMENT PLAN

The Foothills Natural area has never been actively managed, and the Foothills Plan and this evaluation processes have highlighted maintenance and management needs that must be addressed to preserve the Salt Lake City Foothills as a place for nature and recreation.

A management plan should be developed which addresses the unique qualities and considerations identified for each FOSZ and includes the following components.

- Public Land's Role
- Conservation and Preservation Goals
- Trail Use Types
- Trail Use Areas
- Trail Design Practices
- Environmental Strategies

It is anticipated that management plans will be developed alongside each FOSZ plan, and will reflect each zone's unique character, land-use context, recreation resources and environmental sensitivities. An overarching management plan for the Foothills Natural Areas should not be uniform in approach, but instead represent the same zonal approach recommended in this document. However, all management plans should be developed in concert with and a goal of consistency with relevant USFS Land Management plans and policies.

Examples of management plans for case study communities include [Boulder, Colorado's Open Space Master Plan](#), and [Boise Idaho's Reserves Management Plan](#).



# OPERATIONS AND MAINTENANCE

Operations and maintenance (O&M) upholds the functionality, safety, and sustainability of a community trail system. O&M extends beyond mere task lists; it symbolizes the unwavering commitment to delivering an exceptional outdoor recreational experience for users and foundation for future development.

This section outlines some methodical and conscientious O&M approaches that can maintain Salt Lake City trails within the Foothills region. It provides an approach to routine inspections, repairs, enhancements, the protection of sensitive ecosystems, and community engagement. All these actions are intended to preserve the trails' integrity and ensure they remain a source of inspiration, adventure, and solace for residents and visitors.

Trail maintenance principles form the cornerstone of robust O&M, ensuring that trail systems remain sustainable, safe, and accessible for all users. Trail maintenance is guided by several fundamental principles:

- **Visitor Safety:** Ensuring the safety of trail users is paramount. Maintenance aims to prevent accidents and injuries by addressing potential hazards and structural issues promptly.
- **Resource Protection:** Protecting the natural and cultural resources that the trail traverses is central to maintenance. Preventing resource damage and ensuring minimal environmental impact is a core objective.
- **Public Investment Preservation:** Trail maintenance safeguards the public's investment in the trail system, ensuring that the trails remain a valuable asset and a source of recreation and enjoyment for years to come.
- **User Convenience:** Maintenance should prioritize the convenience of trail users by addressing issues that could hinder their experience, such as fallen trees, debris, and damaged structures.

## Trails Maintenance Categories:

Many trail programs manage substandard trail systems that require more than just maintenance to stay open and safe. Inadequate funding, lack of management prioritization, and poor initial designs contribute to a backlog of rehabilitation, reconstruction, or rerouting projects, often funded through deferred maintenance budgets. To address these issues efficiently, a well-defined process for identifying and prioritizing maintenance projects is necessary (typically through a Management Plan). When it comes to maintenance, there are two categories to consider.

### Ongoing Maintenance:

This category pertains to routine activities that must be conducted on a recurring basis, typically on a seasonal basis, or within a two to five year cycle. Ongoing maintenance preserves the intended functionality of a trail and continued user experience. It encompasses routine upkeep, along with regular inspections and evaluations of recurring maintenance tasks. Additionally, it addresses ad-hoc incident-related repairs, which are unpredictable issues that may arise, as well as the phased replacement of trail structures that have reached the conclusion of their useful lifespan. The specific frequency of these maintenance tasks can be adjusted to accommodate local factors, such as regional weather patterns and local soil and vegetation types.

### Deferred Maintenance:

Deferred maintenance comes into play when the trail's maintenance needs exceed the program's capabilities, often due to poor design, inadequate funding, or natural disasters. These are typically large-scale projects involving the replacement or reconstruction of multiple trail structures or rerouting of the trail.



Fall line trail that has been closed

# Maintaining the Outdoors: The Blueprint for Trail Care

To build a successful Operations and Maintenance (O&M) approach for a trail system, it's valuable to understand the 'why' behind sections that would typically be included in such a plan. These components are the strategic pillars that ensure the sustainability, safety, and overall quality of a trail network. The following paragraphs outline these critical sections, illustrate how they work in concert, and how they are embedded within the overarching implementation of operations and maintenance.

## Quarterly Routine Maintenance:

Quarterly routine maintenance serves as the backbone of any successful trails system. This section should identify vital tasks required to ensure the trail system's ongoing functionality and safety. Regular trail inspections should be conducted to identify and address issues promptly, guaranteeing user safety and preventing further degradation. Clearing vegetation should maintain a safe and aesthetically pleasing path, enhancing the overall user experience. Drainage maintenance is essential to prevent erosion and protect the trail's integrity and nearby ecosystems. Finally, trash removal maintains the trail's cleanliness, benefiting both aesthetics and the environment. These routine maintenance activities are the proactive measures that help address challenges before they become major problems, providing a solid foundation for a well-maintained and user-friendly trail system.

## Repairs and Rehabilitation:

Repairs and rehabilitation are crucial components of operations and maintenance, ensuring the longevity and continued usability of the trail network. Trail repairs are necessary for addressing issues identified during inspections and user feedback, preventing further deterioration and ensuring safety. The maintenance of signage and wayfinding

elements plays a significant role in not only guiding users safely but also preventing the development of social trails, which can harm the environment. Infrastructure maintenance ensures the safety and accessibility of the trail network, protecting users while preserving its functionality.

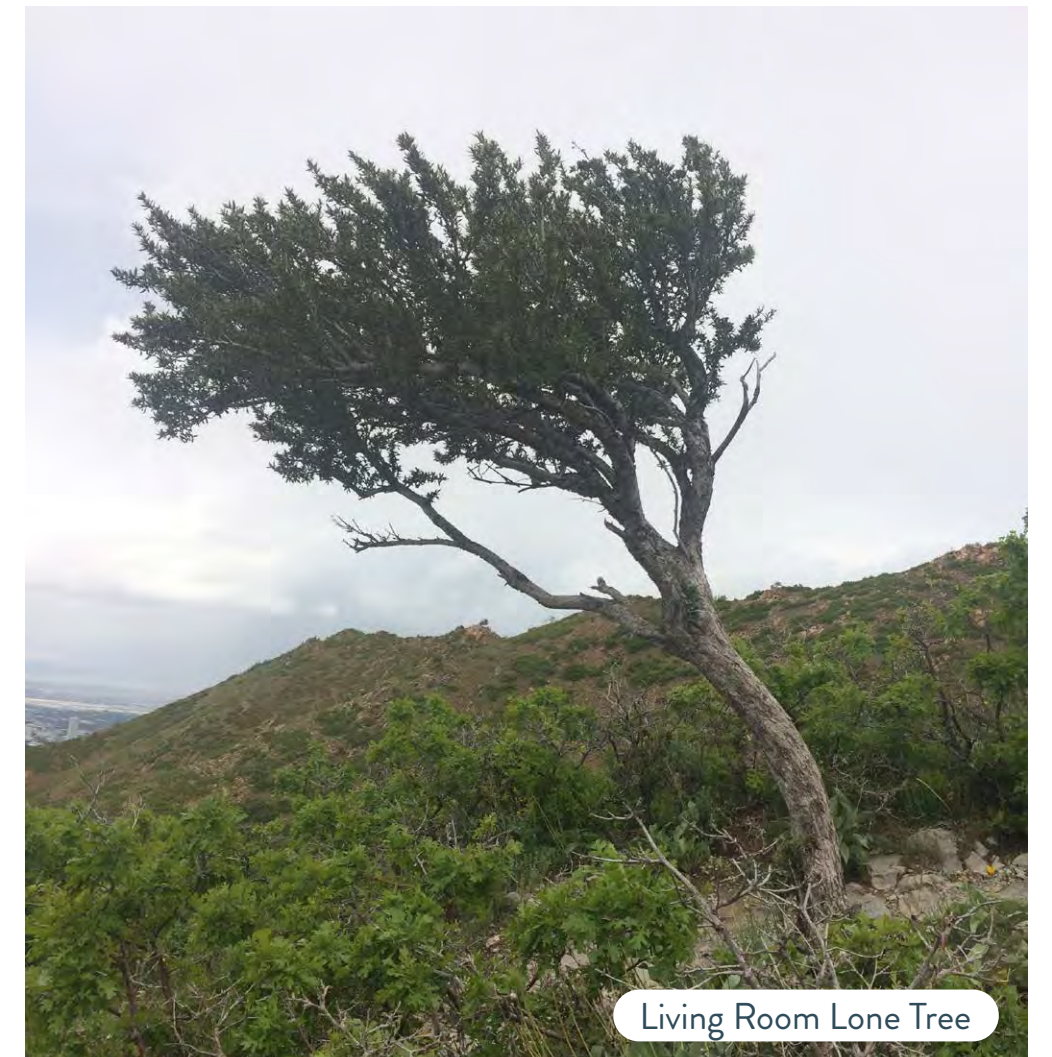
## Environmental Stewardship:

Operation and maintenance should focus on environmental stewardship to highlight responsible and sustainable management of our trail system. Protection of wildlife and sensitive habitats during maintenance activities is vital, as it safeguards the natural ecosystem and ensures that the trail network coexists harmoniously with the environment. The control of invasive species is essential to protect the local ecosystem from harmful encroachment. Erosion control measures are in place to prevent soil degradation and preserve the integrity of the trail and its surroundings. Additionally, seasonal closures are employed to protect ecosystems and wildlife during critical periods. These environmental stewardship efforts not only promote responsible trail management but also contribute to the long-term health and sustainability of the trail network.

## Reporting and Communications:

Reporting and communication mechanisms within a management plan should be included to engage the community, enhance transparency, and maintain an efficient operation and maintenance process. Incident reporting provides a direct channel for users to report issues, damage, and feedback. This user involvement ensures that problems are promptly addressed, fostering a sense of ownership and accountability within the community. The use of a dynamic story map with interactive mapping components for trail updates is a modern, user-friendly method to keep the

community informed about maintenance activities, closures, and important updates. This approach not only enhances user experience but also creates a collaborative relationship between the city and its trail users. Effective reporting and communication methods are the glue that binds together the various elements of a trails plan, providing a mechanism for community involvement and transparent trail management.



Living Room Lone Tree

# Methods to Accomplish Quarterly Inspections

## On-Site Visual Inspection:

Assign trained personnel or volunteers to physically walk or bike the trail, observing and documenting any issues or concerns they encounter.

## Checklists:

Develop and provide inspection checklists that cover all relevant aspects to guide inspectors in their assessments. This can help ensure thorough and consistent inspections.

## Photographic Documentation:

Use cameras or smartphones to take photos of areas that need attention. This visual documentation can be invaluable for assessment and reporting.

## GPS and Mapping Tools:

Utilize GPS devices or smartphone apps with mapping capabilities to accurately mark the location of identified issues for future reference and repair.

## Communication and Reporting:

Establish a clear process for inspectors to report their findings, including any safety hazards or required maintenance. Create a central reporting system for easy access.

## Swift Response:

Once issues are identified, ensure there is a well-defined process for addressing and resolving them in a timely manner. Prioritize and schedule necessary maintenance or repairs.

Additional support would be provided through developing a detailed maintenance plan. A maintenance plan would inform the City's role as primary maintenance support and manager for the Foothills, and provides the knowledge and skills sets to aid the city to self-manage and maintain trail system assets. In addition to extensive in-person training conducted during this process, this plan includes written guidance on trail development techniques, construction quality management, opportunities for enhanced maintenance on existing trails, monitoring, and management guidance, methods of record keeping and planning/budgeting tools to achieve departmental goals.

That stated, complete management of the existing or redeveloped trail system will likely continue to pose a significant challenge to the growing but still small Public Lands Department. An effective and robust stewardship program will also need to be developed to positively engage Salt Lake City residents in the collaborative maintenance and management of their public trail system, as well as continue a partnership with stakeholders to share resources and collaborate on future projects and initiatives.



Youth Riding Group in Salt Lake City Foothills



# NEXT STEPS

This evaluation identifies goals in the 2020 Foothills Plan that should continue to guide Salt Lake City's Public Lands Department as they work to provide a more sustainable approach to evaluating and managing the Foothills Natural Areas. This evaluation outlines specific procedures to ensure that the Public Lands team has the knowledge and skills to effectively plan for and maintain the Foothills Trail System and its surrounding natural areas.

A new approach to planning, as outlined in this report, develops plans for interconnected Foothills Open Space Zones (FOSZ), so that new trail development will be accompanied by necessary restoration of eroding trails and that appropriate visitor use signage and amenities will be included for a diversity of user types and skill levels. These FOSZ plans will include assessments of ecology and geography; proposed trail alignments; recommended land restoration; on-trail and trailhead signage and amenities; communications and engagement planning; maintenance plans and budgets.

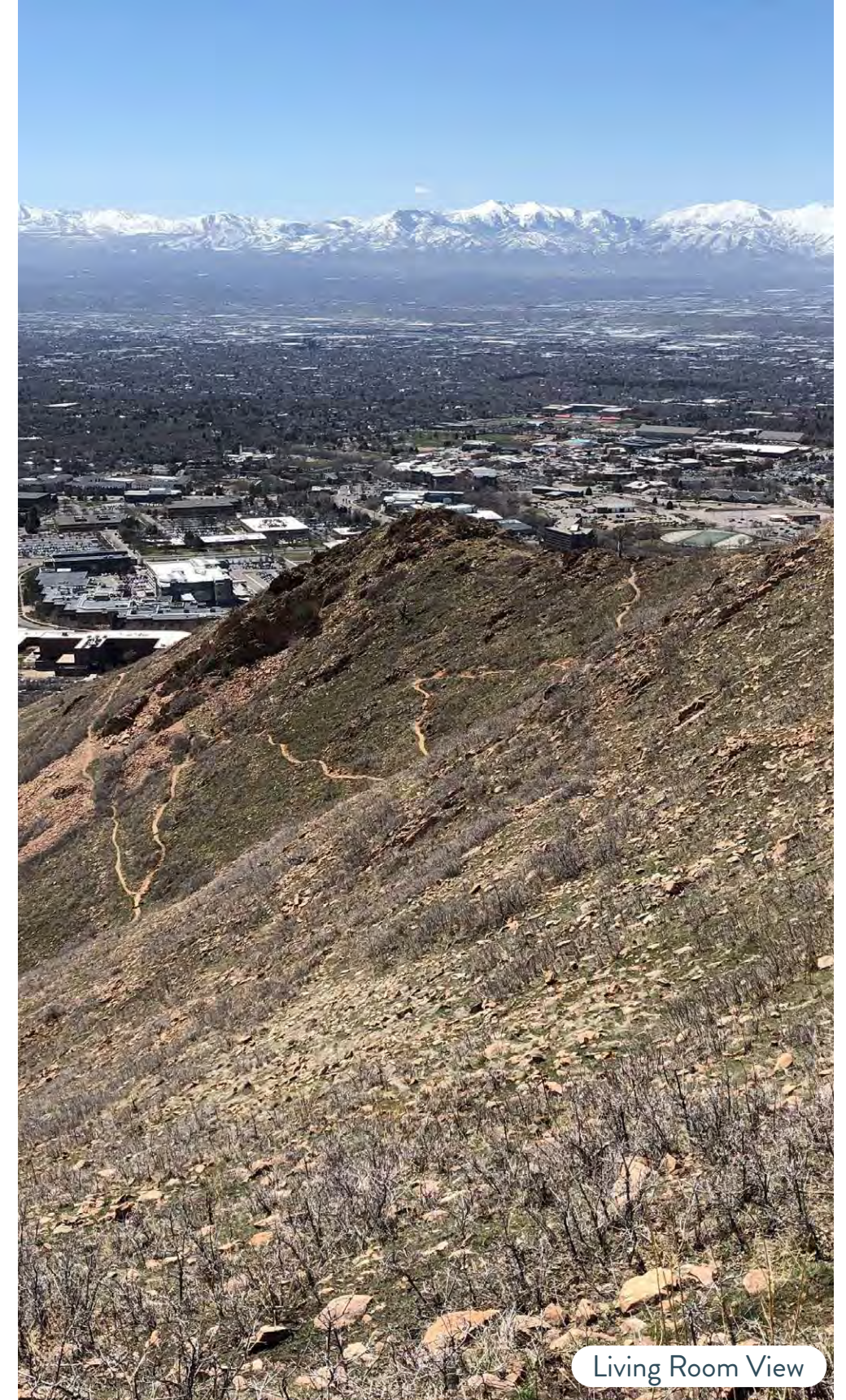
This planning approach will help Public Lands reduce environmental degradation caused by existing trails and the extent of human impacts from decades of unmanaged use and will detail the ways in which deteriorating trails should be sustainably restored or closed while also defining how new trails should be constructed and monitored sustainably.

## Each FOSZ plan will integrate the recommendations made here to:

- Prioritize the Maintenance and Enhancement of Existing Facilities
- Integrate Clear Wayfinding, Signage, and Information System
- Use Data to inform Decision Making

If this evaluation and its recommendations are approved by the Salt Lake City Council, FOSZ planning should begin immediately. Once the FOSZ plans are in process, Public Lands should begin work to develop a Management Plan for the Foothills Natural Area. The Public Lands Department should continue other ongoing management efforts which are critical to support the recommendations made here.

- To prioritize maintenance and enhancement of existing facilities, as well as improve public communication, the City has committed to on-the-ground Foothills-specific staff including two Park Rangers and a trails and ecological maintenance team. The Public Lands "SLC Be WILD" community education campaign will welcome and inform new and returning Foothills users and help build a trail culture together. And
- Critically important for a trail system along an urban interface, the City has already begun the process to implement extensive improvements at major and minor trailheads across the SLC Foothills. Off-street parking, trailhead amenities, restrooms (when possible), waste receptacles, and wayfinding signage to support the user experience and protect the natural areas are all anticipated in 2024.



Living Room View

This document suggests new trail development within the Meridian Peak FOSZ as a starting point for future trail system development. The development of specific projects within Meridian Peak FOSZ should follow the multi-step Project Implementation Process (PIP). There are numerous benefits to beginning the Project Implementation Process with Meridian Peak:

- The development of new trails and access improvements in Meridian Peak FOSZ would provide new opportunities for recreational access to City residents and would support a diversity of trail types to appeal to a wide cross-section of users.
- Project(s) in the Meridian Peak FOSZ will require permitting with the USFS through the NEPA process. The rigorous nature of this process will help establish the level of natural and cultural resource review needed as a model for future implementation projects in all FOSZs.

- Meridian Peak can act as a test of the PIP protocols and provide valuable feedback to Public Lands to inform future project development.

While Meridian Peak is proposed as a 'next step' for trail development, Public Lands will continue on numerous parallel efforts in the foothills.

Public Lands will maintain and conduct restoration projects throughout the Foothills Open Space on an ongoing basis. New wayfinding systems will be installed within 2 years, providing tangible benefits to user access, education, and trail sustainability. Trailhead improvements are being developed to better integrate those access points with their surrounding communities and improve user experience.

The future of trail system development in the Salt Lake City Foothills is one of balance, patience, and holistic and methodological processes. By planning and proceeding through the recommended FOSZ planning process, and using each project as an opportunity to improve environmental review, public communication, land management, and construction efforts, we can ensure the long-term sustainability of the Foothills for generations to come.

