Recreation Resource and Land Uses

Introduction
This report is an effects analysis for a proposed project to develop a non-motorized trail connecting the Cascade Lakes Scenic Byway Welcome Station and the City of Bend, a trailhead parking area along the Cascade Lakes Scenic Byway (Cascade Lakes Highway) near Bend, and mountain bike trail connections between the Welcome Station and the Wanoga and Phil’s trail systems. This project has demonstrated community support from local residents and neighborhoods and other organizations and agencies in Bend and Deschutes County.

The project area covers 20,277 acres that parallel the Cascade Lakes Highway (FSR 4600000) from the forest boundary to the Welcome Station, along Forest Service Road 41 (FSR 4100000) between Slough Day Use access road and Highway 46, and within the Phil’s trail system between the Welcome Station and Skyliners Road (FSR 4601). The legal description is township 18 South, Range 11 East, Sections 5, 14, 15, 17, 20, 21, 22, 28, 32, and 33.

Recreation Resources
The recreation resources analysis will describe the anticipated effects on recreation access, social encounters, recreation activities and experience, and economics within the Deer Habitat (MA7), Scenic Views (MA9), Intensive Recreation (MA11) and Wild and Scenic Rivers (MA17) Management Areas.

Land Uses
The land uses analysis will describe the anticipated effects on access, safety and revenue for permitted land uses within the Deer Habitat (MA7), Scenic Views (MA9), Intensive Recreation (MA11) and Wild and Scenic Rivers (MA17) Management Areas.

Purpose and Need
The purpose of this project is to provide non-motorized trail connectivity between the Cascade Lakes Scenic Byway Welcome Station and the City of Bend. The project would provide developed trailhead parking along the Cascade Lakes Highway near Bend and mountain bike trail connections between the Welcome Station and the Wanoga and Phil’s trail systems.

A need for such additions to the National Forest Trail System have been expressed by the Deschutes County Committee on Recreation Assets, Central Oregon Trail Alliance, Deschutes County Bicycle and Pedestrian Advisory Committee, Bend Park and Recreation District, local residents and the neighboring community.

Alternative Description
Alternative 1 - No Action
The interpretation of this no action alternative is that the proposed action would not take place. Under this alternative, a non-motorized paved and trailhead between Bend and the Cascade Lakes Scenic Byway Welcome Station (Welcome Station) would not be constructed along with key mountain bike trails connecting the Welcome Station to the Wanoga and Phil’s trails systems. This alternative serves as a baseline from which the interdisciplinary team can evaluate the proposed action.
Alternative 2 - Proposed Action

Alternative 2 would allow for additional paved non-motorized trails, designated single-track mountain bike trails, and a trailhead facility on National Forest System lands adjacent to and around Cascade Lakes Scenic Byway Welcome Station. This project would establish the Welcome Station as a portal to public lands, provide connections between established biking and hiking trail networks, and create an opportunity for multi-modal access and alternative forms of transportation between the City and public lands. Specifically, this project includes:

**Trailhead Construction:** A new trailhead to accommodate approximately 40 vehicles would be constructed on the south side of Cascade Lakes Highway, approximately 0.5 miles west of Forest boundary with the City of Bend. The parking area would utilize the existing access road to the dispersed parking area that that has become known as ‘Good Dog’! The area’s trees and a natural depression would help screen the trailhead from the Scenic Byway. The trailhead would serve users of the proposed paved path as well as visitors currently accessing the area for dispersed recreation. It would include graved parking areas, kiosks with visitor information, and interpretive signs and information. Development of this trailhead and interpretation of the 1990 Awbrey Burn is identified as the second priority for enhancement and development in the Cascade Lakes Scenic Byway Corridor Management Plan (behind development of the Welcome Station).

**Trail Construction:**

**Trail 1 - Paved Path (3.4 miles):** The path would connect the Bend Park and Recreation District ‘Haul Road Trail’ to the Welcome Station paralleling the Cascade Lakes Highway. The proposed non-motorized paved path would be 10 feet wide with approximately 2 or 2.5 foot shoulders on each side. Vegetation clearing limits for the path would be 20 to 25 feet. The path would be closed to motorized uses.

- **Segment 1a (3.3 miles):** Connects the Haul Road Trail to the Welcome Station. Approximately 2 miles of the path would be located on an existing road that has previously been closed to public motor vehicle access.
  
  A surface crossing of Cascade Lakes Highway would be located west of the intersection with the Meadow day use access road.

- **Segment 1b (0.1 miles):** Connects the paved path north of Cascade Lakes Highway through the Cascade Lakes bicycle and pedestrian underpass (located east of the intersection with FSR 41). Construction of the paved path accessing the underpass would require some excavation. Proposed mountain bike trails (2a and 2b) would provide connections to the Seventh Mountain Resort and the Wanoga mountain bike trail system.

**Trail 2 – Wanoga Trail System Mountain Bike Trail Connections (4.9 miles):** The trail would connect Tyler’s Traverse mountain bike trail to the Cascade Lakes Highway bicycle and pedestrian undercrossing and would provide a connection between the Wanoga mountain bike trail system, Seventh Mountain Resort, COD trail, the Welcome Station, and Phil’s trail system. These segments of single-track mountain bike trail would be of moderate difficulty.

- **Segment 2a (4.8 miles):** Parallels the northwest side of FSR 41 from planned Tyler’s Traverse mountain bike trail (across from the Slough Day Use access road) and connects into the paved path near the bicycle and pedestrian underpass.

  Surface crossing of FSR 41 would be located near the intersection with the Lava Island access road (FSR 4100000).

- **Segment 2b (0.1 miles):** Connects the bicycle and pedestrian underpass to the road currently used by Seventh Mountain Resort customers to access the Forest.
Trail 3 – Phil’s Trail System Mountain Bike Trail Connections (5.5 miles): The trails would connect the Welcome Station, Phil’s trail system, and the Cascade Lakes Highway bicycle and pedestrian undercrossing which would provide a connection to the Wanoga mountain bike trail system and Seventh Mountain Resort. These segments of single-track mountain bike trail would be of easiest difficulty.

Segments 3a, 3b and 3c (5.5 miles): Creates a loop trail from the Welcome Station and connects into the Phil’s trail system. Approximately 0.7 miles of the trail would be located on an existing closed road.

Trail 4 – COD Trail Re-route (2.4 miles): A section of COD mountain bike trail would be re-routed with the newly constructed section taking advantage of natural terrain to maintain the ‘more difficult’ trail rating. A section of the trail that is currently rated as easier difficulty (5c) would be obliterated.

Trail 5 – Trail Obliteration and Rehab (1.6 mile):

Segment 5a (0.1 miles): A short section of trail that currently connects COD trail to a surface crossing of Cascade Lakes Highway near FSR 41 would be closed, obliterated and revegetated. Bike traffic would be directed onto the paved path through the bicycle and pedestrian undercrossing to connect to proposed mountain bike trails (2a and 2b) which would provide connections to the Seventh Mountain Resort and the Wanoga mountain bike trail system.

Segment 5b (0.7 miles): A section of the existing COD trail would be obliterated. This section parallels and is redundant to the existing ODP trail.

Segment 5c (0.2 miles): Re-routes a section of COD mountain bike trail that is currently rated as easier difficulty would be re-routed. A new section of COD trail would be constructed to take advantage of natural terrain in order to maintain a difficult trail rating (trail 4).

Segment 5d (0.2 miles): A section of user created trail leading from the dispersed parking at Good Dog! to the Deschutes River trail.

Trail 6 – Connection from the Trailhead to the Deschutes River Trails (0.3 mile): The trail would connect from the trailhead to the Deschutes River trails. The single track mountain bike trail would be of moderate difficulty and use existing user created trails and closed roads.

Trail Construction: Trail constructions would be 24 to 48 inches wide with vegetation clearance limits of less than 6 feet. The max width for the majority of trails is not predicted to be over 24 inches but depending on sight distances and terrain up to 48 inches may be needed.

Alternative 3

Alternative 3 has all the same components of Alternative 2 except the following:

Trailhead Construction: A new trailhead to accommodate approximately 20 vehicles would be constructed on the south side of Cascade Lakes Highway, approximately 0.5 miles west of Forest boundary with the City of Bend. The parking area would utilize the existing access road to the dispersed parking area that has become known as ‘Good Dog!’. The area’s trees and a natural depression would help screen the trailhead from the Scenic Byway. The trailhead would serve users of the proposed paved path as well as visitors currently accessing the area for dispersed recreation. It would include graveled parking areas, kiosks with visitor information, and interpretive signs and information. Development of this trailhead and interpretation of the 1990 Awbrey Burn is identified as the second priority for enhancement and development in the Cascade Lakes Scenic Byway Corridor Management Plan (behind development of the Welcome Station).

Trail 2a: Trail 2a (4.8 miles), paralleling the northwest side of FSR 41 from planned Tyler’s Traverse mountain bike trail (across from the Slough Day Use access road) and connecting into the paved path near the bicycle and pedestrian underpass would not be constructed.
Regulatory Framework

Federal Regulations
The proposed project area for the Welcome Station Trail Connections project is within the Deschutes National Forest therefore subject to the requirements of the National Environmental Policy Act (NEPA) in compliance with the regulations as adopted by the National Forest Service (FSM 1950). The preparation of this report to be included in the Environmental Assessment is in accordance with the requirements for the environmental analysis of the project area (36 CFR 220.7).

Facilities constructed on federal lands are subjects to standards and guidelines outlined in Architectural Barriers Act (ABA) and are generally captured in the supporting FS Outdoor Recreation Accessibility Guidelines (FSORAG).

Land and Resource Management Plan
The following standards and guidelines related to the recreation experience and permitted activities within the project area inform how proposed management activities would be implemented and how the effects of those activities will be assessed within the project area:

Trail System Management
Goal: Maintain the existing trail system and provide additions or modifications to the system which will meet the increasing and changing demands in dispersed recreation. To the extent possible this system will provide trails of all difficulty levels, trails in visually appealing settings, and trails for those modes of travel appropriate for the Forest in both winter and/or summer.

TR-1: The trail system will be developed to provide a variety of experiences.
TR-2 New, Reconstructed, and relocated trails will be located to take the greatest advantage of environmental features.
TR-3: Trails will be located or relocated whenever possible where they will not be disrupted by development activities such as logging or road building. Where disturbance of a trail cannot be avoided cleanup should be concurrent. Reassurance markers and signing will be maintained to avoid inconveniencing trail users.
TR-4: Trails may be constructed in any management area unless specifically excluded or constrained by the Management Area direction.
TR-7: As a general rule, the Forest will be open to all modes of travel except where specifically closed. TR-10 Trails permitting multiple travel modes will be monitored for conflict among users. When conflicts arise all avenues of resolution will be explored. The intent is to use the minimum regulation necessary to resolve conflicts.
TR-13 Most summer trails will be open to both horses and hikers. Some trails may be closed to horses when the cost of construction/reconstruction or maintenance would be significantly increased because of horse use.

Management Areas
Deer Habitat (MA7)
Goal: To manage vegetation to provide optimum habitat conditions on deer winter and transition ranges while providing some domestic livestock forage, wood products, visual quality and recreation opportunities.

MT-1 (Recreation): The area will provide various dispersed recreation opportunities primarily for the activities of viewing wildlife, hunting, gathering forest products, and roaded camping. Rustic facilities constructed of native materials may be provided for the convenience of the user as well as for safety and resource protection.
M7-2 (Recreation): Provide the recreation setting, activity, and experience opportunities for the Recreation Opportunity Spectrum of category of Roaded Natural.

**Scenic Views (MA9)**

Goal: To provide Forest visitors with high quality scenery that represents the natural character of Central Oregon.

M9-1 (Recreation): New recreational developments and changes to existing developments are permitted as long as they are consistent with the desired visual condition. When viewed from significant viewer locations, recreational facilities will meet the established visual quality standards. For viewer locations within the recreational development being viewed, established visual quality standards may not be met.

M9-2 (Recreation): Parking facilities, structures and other recreational facilities will normally be placed where they are not visible from significant viewer locations. Where it is not possible to screen recreational facilities, they will be designed to blend with the elements found in the natural landscape and will remain subordinate to the overall visual strength of the surrounding landscape.

M9-3 (Recreation): The Recreation Opportunity Spectrum (ROS) standard in the Scenic Views Management Area will normally be Roaded Natural, but may also include Primitive, Semi-primitive Non-motorized, Semi-primitive Motorized and Semi-primitive Motorized Winter Only standards. The ROS classification for Scenic Views management allocations within the project area is Roaded Natural.

**Intensive Recreation (MA11)**

Goal: To provide a wide variety of quality outdoor recreation opportunities within a forest environment where the localized settings may be modified to accommodate large numbers of people.

M11-1 (Recreation): Provide the recreation setting, activity, and experience opportunities for the Recreation Opportunity Spectrum of category of Rural and Roaded Natural. The ROS classification for Intensive Recreation management allocations within the project area is Roaded Natural.

M11-5 (Recreation): Facility complexes will be constructed and maintained to Development Level 3 through 5. Complementary developments at levels 1 and 2 can be provided in minor numbers and in proportion of capacity if essential to best utilize the recreation experience available within the area.

M11-15 (Trails): New trails constructed within this Management Area will emphasize walking, bicycle riding and hiking opportunities. Horse trails will generally not be constructed in heavily used areas.

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**Table 1: Actions by management allocation, trail designed use and alternative.**

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<tr>
<th>LRMP Management Allocations</th>
<th>Miles of Trail within Management Allocations</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
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Figure 1: Alternative 2 with the Deschutes National Forest Land and Resource Management Plan management allocation.
Upper Deschutes Wild and Scenic River Management Plan (UDWSR)

Recreation is identified as an Outstandingly Remarkable Value in the UDWSR Plan for Segment 4 due to the range of activities, the variety of interpretive opportunities, and the attraction of the river for vacationers from outside of the region.

UDWSR Recreation Standard: A variety of recreational values will be provided within a predominantly natural setting without adversely affecting other river values.

The following recreational guidelines are applicable to the project:

R-1: Total use will be managed according to designed annual capacities...which will serve as a basis for site designation and development. The Recreational Opportunity Spectrum Standards and resource protection needs will determine the total number, location and development levels of recreation sites.

The designed annual capacity for Segment 4 as a whole is listed under the Upper Deschutes Wild and Scenic River Record of Decision as 44,000 annual non-commercial use days1 accessed by a total of 116 developed sites2. This accommodates an anticipated increase in use of 11,000 annual visits from the 33,000 use days identified as the existing condition in 1996.

R-10: Bicycles will be permitted on trails unless otherwise designated; no off-road/off-trail use will be allowed on public lands within the river corridor.

R-12: Use of the existing Deschutes River Trail by both hikers and bikers will be allowed until resource conditions or user conflicts are determined to be unacceptable.

Probable Actions: actions which, at the time the Plan was prepared, would most likely be needed to achieve the goals or Standards and Guidelines of the Plan. Probable actions for recreation in the project area include the construction of a surfaced, primary bike trail from the Bend Urban Growth Boundary to Sunriver.

Cascade Lakes Scenic Byway Corridor Management Plan

In 1998, the Cascade Lakes Highway was designated a National Scenic Byway because of its outstanding scenic, natural, and recreational qualities, regional significance to visitors, and enhancement of livability for central Oregon residents accessing public lands through the Byway. The Cascade Lakes Scenic Byway Corridor Management Plan, originally developed in 1996 and updated in 2011, was designed to protect and preserve the Byways intrinsic scenic, natural, and recreational qualities for future generations by enhancing and maintaining its image, identity, and integrity through collaborative partnerships and community connections. Based upon community input, the Plan identifies enhancement and development priorities for the corridor. The Welcome Station was identified as the first priority and development of a trailhead and interpretive site near the Forest boundary with Bend to provide parking for forest users and tell the story of the 1990 Awbrey Hall fire is the second priority. The Plan also identifies one strategy to accomplish the goal of preserving the Byway as a major attraction in the Pacific Northwest is to create hubs for trail connectivity and multi-modal transit opportunities.

Recreation Opportunity Spectrum (ROS)

The Recreation Opportunity Spectrum (ROS) is both a classification system and a prescriptive tool for recreation planning, management, and research. It is used within the Forest Plan to describe the recreational setting by describing a combination of the physical, biological, social, and managerial conditions that give value to a place (Clark and Stankey, 1979). The proposed actions in alternatives 2 and 3 are within a Roaded Natural classification.

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1 Use numbers are based on recreation site and trail capacities. Trail or river users who cross segments boundaries are counted in each segment.

2 Includes individual campsites and individual parking spaces at boat ramps and trailheads.
Raoed Natural: Area is characterized by predominately natural appearing environment with moderate evidence of the sights and sounds of humans. Such evidence usually harmonizes with the natural environment. Resource modification and utilization practices are evident, but harmonize with the natural environment.

Applicable Policy and Guidelines
Forest Service Trails Accessibility Guidelines (FSTAG) apply to trails in the National Forest System that (1) are new or altered; (2) have a designed use of hiker/pedestrian under the Forest Service Trail Planning and Management Fundamentals and Interagency Trail Data Standards (ITDS); and (3) connect directly to a currently accessible trail or to a trailhead. Where provided, associated constructed features (such as tent pads and fire rings) located along National Forest System trails shall comply with the Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG), as provided in Forest Service Manual (FSM) 2330.03, paragraph 4(f).

FS Outdoor Recreation Accessibility Guidelines FSORAG, in part, requires site designs to incorporate Outdoor Recreation Access Routes (ORAR) to constructed facilities when the development scale is 3 or higher.

Built Environment Image Guide (BEIG) outlines how the built environment should reflect the context of its surroundings, including its physical setting, social context, and long-term economic effects. BEIG tiers to the use of the ROS to select the location, type, and scale of facilities and building materials.

Forest Service Manual FSM 2333.03 establishes priorities for the development and management of recreation sites in the following order: 1. Ensure public health and safety; 2. Protect the natural environment of the site; 3. Manage and maintain sites and facilities to enhance users’ interaction with the natural resource; 4. Provide new developments that conform to the National Forest recreation role. FSM also defers to ROS for standards, describes site plan content requirements and directs managers to carefully consider future operation and maintenance costs when designing new facilities.

Forest Service Handbook 2309.18, Chapter 20 outlines trail development standards, class specifications and the following objectives:

a. Provide trails that meet their Trail Management Objectives (TMOs), are consistent with the applicable land management plan, provide opportunities for satisfying recreation experiences, harmonize with and provide opportunities for enjoyment of the national forest or grassland setting, and minimize maintenance costs.

b. Design, construct, and maintain sustainable trails, that is, trails that withstand the wear and tear of normal traffic and reasonable user behavior during the managed season of use and that have minimal negative effects on adjacent resources.

Clues with Forest Service Special Use Permits:

a. The holder has an affirmative duty to protect from damage the land, property, and other interests of the United States. Damage includes but is not limited to fire suppression costs, damage to government-owned improvements covered by this permit.

b. If the environment or any government property covered by this permit becomes damaged during the holder's use or occupancy of the permit area, the holder shall immediately repair the damage or replace the damaged items to the satisfaction of the authorized officer and at no expense to the United States.

c. The holder shall be liable for damage caused by use of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees to all roads and trails of the United States to the same extent as provided under clause IV.F.1, except that liability shall not include reasonable and ordinary wear and tear.
Analysis Methods

Project Design Criteria
Analysis of the effects of the action alternatives is based on assumptions that the following recreational resource project design criteria would be incorporated.

To maintain the natural appearances of the setting and maintain ROS norms:
  a. Restore areas impacted or denuded of vegetation as a result of project activities as soon as practicable after construction.
  b. Retain features in the landscape such as large trees or tree groupings and lava rock outcrops. Maintain as many trees as possible so recreationists travel through a natural-appearing setting.
     i. To the extent possible, allow curvature in the trail layout and alignment vs. straight shots so the rider experience is enhanced and views to the surrounding landscape are captured.

To facilitate public safety:
  a. Utilize AASHTO standards with regard to trail surfacing, grade and turning radius.
  b. Coordinate with Oregon Department of Transportation (ODOT) for surface crossing of Cascade Lakes Highway.

To incorporate accessibility and universal design features as well as reduce conflicts between users:
  a. Construct the paved trail to meet the following Designed Use and Trail Class standards:
     i. Designed Use: Hiker/Pedestrian
        - Trail Class (Appendix B): Trail Class 5, Fully Developed
          • Tread wide, firm, stable, and generally uniform
          • Width generally accommodates two-lane and two-directional travel, or provides frequent passing turnouts
          • Commonly hardened with asphalt or other imported material
     b. Utilize FS Outdoor Recreation Accessibility Guidelines (FSORAG) and Forest Service Trails Accessibility Guidelines (FSTAG).
     c. Ensure accessible parking facilities are designed into developed parking areas and are defined as accessible. Include accessible trail connectivity from developed parking areas to trail access points.
     d. Prohibit recreational use of Class I, II, and II all-terrain vehicles and equestrian use on all paved trail alignments. Allow motorized wheelchairs or mobility devices on the paved path in pursuant to 36 CFR 212.1.

To provide for sustainable recreation opportunities:
  a. Explore partnership agreements for construction and future maintenance of all proposed recreation developments.

Recreation Resources Analysis Methods
The analyses of environmental effects to recreational resources included in this report are assessed based on the following measures:

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3 A wheelchair or mobility device, including one that is battery-powered, is a device that is designed solely for use by a mobility-impaired person for locomotion and that is suitable for use in an indoor pedestrian area (Title V, sec. 507c, of the ADA; 36 CFR 212.1). “Designed solely for use by a mobility-impaired person for locomotion” means that the wheelchair was designed and manufactured solely for use for mobility by a person with a disability. Thus, this term does not include a motorized unit that has been retrofitted to make it usable by a person with a disability. “Suitable for use in an indoor pedestrian area” means usable inside a home, mall, courthouse, or other indoor pedestrian area.
A. The Recreation Opportunity Spectrum (ROS) is used as a framework managing recreation development (Clark and Stankey, 1979). The proposed actions in alternatives 2 and 3 are within a Roaded Natural classification. The recreation opportunity is comprised of the activities, setting and experience a visitor may engage in. The opportunity can be further described with established elements and has been used to structure indirect and direct effects discussions (Appendix A). These elements are:

**Access**: Access includes type and mode of travel. Highly developed access generally reduces the opportunities for solitude, risk, and challenge. However, it can enhance opportunities for socializing, and feelings of safety and comfort. For the Roaded Natural classification, less developed access is compatible while fully developed access is the norm.

**Remoteness**: Remoteness refers to the extent to which individuals perceive themselves removed from the sights and sounds of human activity. A lack of remoteness is important for some setting experiences. In the Roaded Natural classification, remoteness is not a critical component; therefore remoteness is not further addressed in this analysis.

**Naturalness**: This refers to the degree of naturalness of the setting; it affects psychological outcomes associated with enjoying nature. This indicator is portrayed by using a compatible visual quality objective (VQO) for each setting. As shown in the matrix on the next page. The USDA landscape Management Handbook series can provide further guidance. This criterion will be addressed in the visual quality component of this environmental analysis and is not further addressed in the recreation report.

**Facilities & Site Management, Visitor Impacts and Visitor Management & Information**: These measures will address key issue 2 (Chapter 1.8 of the EA), assessing how each alternative provides parking for existing users in the Entrada area and new use of the proposed paved trail (Trail 1).

1. Number of parking spaces at the trailhead
2. Square footage of parking area
3. Number of accessible parking spaces provided

Facilities and site management refers to the level of site development. A lack of facilities and site modifications can enhance feelings of self-reliance and independence, and can provide experiences with a high degree of naturalness. Highly developed facilities can add feelings of comfort and convenience, and increase opportunities for socializing. Within areas classified as Roaded Natural, a range of facilities from undeveloped to rustic using native materials is compatible. Some facilities designed primarily for user comfort with synthetic materials is inconsistent, but acceptable, and facilities designed for user comfort and convenience with synthetic materials commonly used is generally unacceptable.

The visitor impact factor refers to the impacts of visitor use on the environment. The relevant question for managers is not "how can impacts be prevented", but rather, "how much change will be allowed and which actions are appropriate for control". The matrix in Appendix A suggests appropriate actions for controlling impacts on soil and vegetation. Impacts on wildlife habitat and on air, water, and sound quality affect the visitor's experience, and visitor impacts can also alter wildlife habitat or displace wildlife species, including indicator species, which provide an important means of monitoring recreation related impacts on fish and other wildlife. Within areas classified as Roaded Natural, appropriate actions for controlling impacts on soil and vegetation range from no site hardening to subtle site hardening that is in harmony with the surroundings. The effects to wildlife, botany and other resources are evaluated in each respective section of the environmental analysis and are not further addressed in the recreation report.
Visitor management and information includes the degree to which visitors are regulated and controlled as well as the level of information and services provided for visitor enjoyment. In some opportunity settings, controls are expected and appropriate. For instance, people sometimes seek developed settings for security and safety. Elsewhere, on-site controls may detract from desired experiences, such as independence, self-reliance, and risk-taking. The type and level of information, and where it is provided to the visitor, may facilitate or hinder a desired experience. On-site interpretive and directional signing may adversely affect the visitor where experiences such as self-discovery, challenge, and risk are important. In other situations, on-site information may be essential to achieve desired experiences. Within areas classified as Roaded Natural, a range of visitor management and information from low regimentation and no on-site controls or information to obvious and regimented controls and more complex visitor information facilities that harmonize with the area are acceptable. Controls that are less harmonious and sophisticated information exhibits are generally unacceptable in Roaded Natural settings.

**Social Encounters:** This factor refers to the number and type of other recreationists met along travelways, or camped within sight or sound of others. This setting indicator measures the extent to which an area provides experiences such as solitude, or the opportunity for social interaction. Increasing the number of visitors to an area changes the kind of recreation experience offered, attracting new users and causing others to leave. Moderate to low visitor contacts are the norm within Roaded Natural areas with moderate to high visitor contacts on trails inconsistent, but acceptable and contacts with high numbers of people on-site and within areas surrounding the site unacceptable.

**B. Recreation Activities and Experience:** Effects on recreation activities and experience in an affected area as well as the effects on recreation activities and experience in other areas (e.g. displacement).

**C. Economics:** An economics element is included to help completely describe effects to a sustainable recreation program where management strives to balance overlapping environmental, social and economic components of a recreation program. The report assesses the effects on recreation-based revenue including permitted special uses (outfitter/guides and events) and tourism.

The analyses of environmental effects to recreational resources included in this report are based on the following assumptions:

a. Detailed descriptions of the proposed action and alternatives are included in Chapter 2 of the Welcome Station Trail Connections Environmental Assessment and are not repeated in this report. Effects of the alternatives are based on those descriptions.

b. The proposed developments are intended for use during the spring, summer and fall, and therefore, affects to winter recreation resources will not be analyzed.

c. The following analysis characterizes trails based on trail ‘designed use’, this is the use of a trail that requires the most demanding design, construction, and maintenance parameters. Other trail uses are permitted on all trails unless prohibited. For example, trails within the Phil’s trail system have a trail designed use of mountain bike; however, hiking is also permitted and a popular activity on these trails. The ‘managed uses’ of a trail are those uses for which the trail is actively managed and maintained.

d. The Deschutes National Forest is actively working with Central Oregon Trail Alliance to develop mountain bike trail standards that will accurately and consistently define trail types and difficulty levels system wide. While the existing trail system has not been evaluated based on these draft standards, to proposed trails have been designed with the draft standards in mind.
Land Uses Analysis Methods

The analyses of environmental effects to permitted land uses included in this report are assessed based on the following measures:

A. Access: Type and scope of access affected and the timing or season when access may be affected.
B. Safety: Effects to the permittee’s safety including ingress and egress to permitted areas and safety during the use of those areas.

Recreation Resources

Existing Condition

Recreation use in the area is expected to increase as the population of Bend, Sunriver and surrounding communities increase and as the area draws more tourists to enjoy the recreation opportunities provided on the national forest. As the residential development on the west side of Bend grows and the demand for alternative transit opportunities increases, the use of roads and trails providing direct connections between Bend and the national forest is expected to increase as well.

The project area has been divided into three analysis areas: the Entrada, Phil’s trail and Wanoga and Deschutes River Trail areas.

Figure 2: Areas used to summarize the effects analysis.

![Figure 2: Areas used to summarize the effects analysis.](image-url)
**Entrada Area:** Includes the area between Bend, Meadow Road, Cascade Lakes Highway (Century Drive) and the Deschutes River. The ROS classification for the area is Roaded Natural.

**Figure 3:** Entrada analysis area.

Access: The Entrada area (south of Cascade Lakes Highway) is used primarily by Bend residents and visitors to nearby residential areas and resorts for walking, running and biking. The area encompasses both developed and undeveloped recreation opportunities, and includes the area locally known as ‘Good Dog!’ due to its popularity with visitors recreating with dogs. Overall, the confined nature of the area (bordered by private land, the highway and the river), leads to regular patterns of use and opportunities that are more social and defined across the area.

Informal parking areas have developed off of Cascade Lakes Highway along the access to the utility maintenance road (aka Good Dog!) and at the Meadow road turn-off. Based on data collected during the spring and summer of 2013, there are an average of six vehicles parked at the Good Dog! parking area at one time (Table 2). Meadow Day Use is the primary developed recreation parking area for users of the area.

National Forest System trails in the Entrada area include the Deschutes River, River Loop and Entrada Loop trails. The Bend Park and Recreation Haul Road Trail connects to the Deschutes River Trail to the east; future plans call for paving of the Haul Road Trail. A system of roads that have been closed to motorized vehicles continue to be used by runners and walkers. There are few roads in the areas open to public motorized use subject to the Deschutes National Forest travel management rule. Cascade Lakes Highway bounds the area to the north, and is a high speed, moderate use, paved highway. There are no
developed campgrounds and little to no dispersed camping. Rock climbing and bouldering are popular on the rock formation adjacent to the Deschutes River trail along the river.

Facilities & Site Management, Visitor Impacts and Visitor Management & Information: Beyond Meadow Day Use area and the developed trails, there are few signs, information or management controls within these areas. A road running through the area parallel to the Cascade Lakes Highway is closed to the public, but used by land use permittees to maintain utilities in the area. The access road to the maintenance road and the area between two gates on the maintenance road makes up the dispersed parking area known as Good Dog! (figure 4). Visitors park in front of the the gates and along the access road off cascade Lakes Highway. This dispersed parking lot was not designed to safely accommodate the level of use it receives, as parking approaches or exceeds 8 or 10 vehicles, safety is compromised for drivers, pedestrians and dogs. A volunteer group, DogPAC, has adopted the Good Dog! area providing trash cans, dog waste bags, and log fences that act as foot traffic controls.

**Figure 4:** The Good Dog! dispersed parking area.
Table 2: Number of vehicles parking at the Good Dog! dispersed parking area.

<table>
<thead>
<tr>
<th>Month</th>
<th>Number of Observations</th>
<th>Average number cars at one time</th>
<th>Number of Observations: Weekday</th>
<th>Average number cars at one time: Weekday</th>
<th>Number of Observations: Weekend</th>
<th>Average number cars at one time: Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>12</td>
<td>5.8</td>
<td>12</td>
<td>5.8</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>May</td>
<td>28</td>
<td>7.1</td>
<td>24</td>
<td>6.3</td>
<td>4</td>
<td>11.8</td>
</tr>
<tr>
<td>June</td>
<td>39</td>
<td>7.1</td>
<td>30</td>
<td>7.4</td>
<td>9</td>
<td>6.2</td>
</tr>
<tr>
<td>July</td>
<td>15</td>
<td>3.9</td>
<td>11</td>
<td>2.7</td>
<td>4</td>
<td>7.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>94</td>
<td>6.4</td>
<td>77</td>
<td>6.1</td>
<td>17</td>
<td>7.7</td>
</tr>
</tbody>
</table>

| Minimum | 0 |
| Maximum | 19 |
| Median   | 5.0 |
| Mean (Average) | 6.4 |
| Standard Deviation | 3.8 |

Social Encounters: Peak season for the area is early spring through early winter. Contact with other visitors may be common and frequent during the peak season, especially on system and user created trails.

Recreation Activities and Experience: The primary uses in the area include walking, running and biking. The area has become a destination for runners and walkers seeking naturally surfaced trails near town, especially those wanting to recreate with their dogs. The surrounding forest maintains its natural character with evidence of past and current vegetation management and timber harvest.

Phil’s Trail Area: Includes the area north of Cascade Lakes Highway (FSR 4600000) between Bend, the Storm King mountain bike trail and Skyliners road. The area includes the Cascades Lakes Highway Welcome Station (to be constructed northwest of the Cascade Lakes Highway and the 41 road (FSR 4100000) intersection) and the connection to the existing Cascade Lakes Highway hiker and pedestrian undercrossing east of the Cascade Lakes Highway and the 41 road intersection. LRMP management area allocations include Deer Habitat, General Forest and Scenic Views. The ROS classifications for the area is Roaded Natural.

Access: The area includes the popular trail system known as the Phil’s trail system. The trails are popular with mountain bikers, hikers and runners. The extensive and well-defined trail and road systems lead to regular patterns of use and opportunities that are more social and defined across the area.

The area is bounded to the east by residential areas and resorts and is accessed both by vehicle and by visitors walking or biking. Informal parking areas have developed along Skyliners road. Phil’s, Skyliners and Swampy Lakes trailheads are the primary developed recreation parking areas for users of the Phil’s trail system. When constructed, the Welcome Station will include a trailhead with approximately 15 parking spaces accessing the COD trail. An undercrossing was installed under Cascade Lakes Highway east of the 41 road (FSR 4100000) in 2012 with the vision of future trail connections that would serve visitors to the area and guests from the Seventh Mountain Resort. Currently, the undercrossing serves no recreation function. Shuttling is popular with mountain bikers, with bikers being dropped off by Cog Wild (under permit with the Forest) or private transport and riding back into town via the Phil’s trails, COD or the Deschutes River Trail.
There are no developed campgrounds. Use of forest roads in the area is important for access to dispersed recreation sites, hunting, access to rock climbing areas and other activities like wildlife viewing, driving for pleasure, gathering forest products (firewood and mushrooms) and off-highway vehicle (OHV) use.

Facilities & Site Management, Visitor Impacts and Visitor Management & Information: Visitor facilities, information and management controls include concentrated information at developed trailheads and minimal directional information along trails. The Welcome Station will be located along Cascade Lakes Highway (Century Drive) and will be a highly developed information site where visitors can access forest information, attain passes and permits, and enjoy interpretive displays. The area is within a deer winter management area and the area is closed to motorized access in the winter. The Ryan Ranch Key Elk Area covers a portion of the analysis area and LRMP management direction guides all past and future decisions within the key elk area.

Social Encounters: Contact with other visitors on system trails may be common and frequent the during peak season. Locals know that the best conditions are in the spring and fall months when there is more moisture and the trails are not dry and dusty, however, the trails are popular throughout the spring, summer and fall. The new trailhead associated with the Welcome Station will provide direct trail access onto the COD mountain bike trail, which is rated as a more difficult trail. Contact and encounters with other visitors may be high near developed sites, but remains moderate or low in areas outside of developed sites and system trails.

Recreation Activities and Experience: The primary uses in the area include walking, running and biking. Dispersed recreation includes recreation activities that take place outside of sites or areas that are developed or managed to concentrate recreation use. Dispersed camping occurs throughout the area. Due to the lack of water, these sites are generally small and camping serves as a secondary activity (generally trail use is the primary recreation activity). Road bikers and roller-skiers use the shoulders of the Cascade lakes highway. A user-built disc/Frisbee golf course has developed in the area across from Widgi Creek Golf Course. The course currently crosses the COD trail, raising safety concerns, and this development will eventually need to be removed. Rock climbing and bouldering along the rim rock formations in the area is also popular.

Consistent with the LRMP, (TR-1), the Phil’s trail system was developed to provide a variety of experiences including more difficult trails. Currently, sections of the COD trail could be categorized as easy or moderate difficulty.

The surrounding forest maintains its natural character with evidence of past and current vegetation management and timber harvest.

Wanoga and Deschutes River Areas: Includes the area south of Cascade Lakes Highway (FSR 4600000) to the Deschutes River. LRMP management area allocations include Scenic Views, Intensive Recreation and Wild and Scenic River (the area south of the 41 road is within the Upper Deschutes Wild and Scenic River corridor). The ROS classification for the area is Roaded Natural.

Access: The area includes the Wanoga trail system and mountain bike event area to the north of the 41 road and the Deschutes River trails and developed recreation sites to the south. Mountain bike trails in the Wanoga area, approved in a 2008 decision, are nearly complete. As these trails are developed and used, patterns of mountain bike trail use and opportunities within the area are becoming more social and defined.

Informal parking areas have developed along the 41 road and Cascade Lakes Highway to access the Wanoga trail system, with Swamphy Lakes and Wanoga trailheads serving as the primary developed recreation parking areas. Meadow, Lava Island, Big Eddy, Dillon and Slough day use sites serve as trailheads for hikers and bikers, put-in/take-out sites for river access and as picnic sites. The equestrian trails in the area include the Deschutes River horse trails. Dillon Falls horse trail and the trails developed for use by the clients of the Seventh Mountain Resort (under special use permit, but open to the public).
Shuttling is popular with mountain bikers, with bikers being dropped off by Cog Wild (under permit with the Forest) or private transport to begin their ride on the Wanoga trails and riding back to Bend or Sunriver of the Deschutes River or COD trails.

Use of forest roads in the area is important for access to dispersed recreation sites, hunting and other activities like wildlife viewing, driving for pleasure, gathering forest products (firewood and mushrooms) and off-highway vehicle (OHV) use.

Facilities & Site Management, Visitor Impacts and Visitor Management & Information: Visitor facilities, information and management controls include concentrated information at developed trailheads and day use sites and minimal directional information along trails. The Ryan Ranch Key Elk Area covers a portion of the analysis area and LRMP management direction guides all past and future decisions within the key elk area. Within the Upper Deschutes Wild and Scenic River corridor, located south of the 41 road, dispersed camping is limited to designated sites (there are no designated sites within the project area) and mountain biking is restricted to designated trails with no off-trail use permitted.

Social Encounters: Use on trails is relatively high from early spring through early winter. Contact with other visitors may be common and frequent the during peak season. Contact and encounters with other visitors may be high near developed sites, but remains moderate or low in areas outside of developed sites and system trails. The area south of the 41 road is within the Upper Deschutes Wild and Scenic River corridor with an annual carrying capacity of 44,000 annual non-commercial use days accessed.

Recreation Activities and Experience: The Wanoga trails are used primarily by mountain bikers and the area hosts permitted mountain bike events in the spring and fall.

The primary uses in the area include walking, running, biking, equestrian use, non-motorized river uses and picnicking. Dispersed camping is permitted only within designated campsites in the Upper Deschutes Wild and Scenic River corridor, however there are no designated sites within the project area. Camping does occur north of the 41 road. Due to the lack of water, these sites are generally small and camping serves as a secondary activity (generally trail use or hunting are the primary recreation activities). Other uses that are popular in the area include disc/Frisbee golf.

The surrounding forest maintains its natural character with evidence of past and current vegetation management and timber harvest.

Overall Project Area:

Access: Whether shuttling, riding from town or riding from developed or informal parking areas, the large looping system of trails throughout the project area allows mountain bikers to ride throughout the three project areas.

Economics: The close-by outdoor recreation opportunities provided in the project area are an important factor in the ‘livability’ of the community and support the region’s growing outdoor recreation based economy. The project area as a whole is located adjacent to the community of Bend and encompasses some of the most popular outdoor recreation areas for residents, visitors, permitted recreation businesses and regional and national events.

The 2012 Bend Area Summer Visitor Intercept Survey completed by Visit Bend reported that 33 percent of respondents reported their main purpose for visiting Bend was outdoor recreation and 40 percent reported their main purpose as leisure and sightseeing. Fifty-three percent reported participating in hiking/trail running, 15% participated in mountain biking and 18% in road biking (RRC Associates, Inc., November 2012).
**Alternative 1 - No Action**

**Direct and Indirect Effects**

Under this alternative, the non-motorized paved path and trailhead between Bend and the Cascade Lakes Scenic Byway Welcome Station (Welcome Station) and key mountain bike trails connecting the Welcome Station to the Wanoga and Phil’s trail systems would not be constructed. The No Action alternative would not meet the purpose and need to provide non-motorized trail connectivity between the Cascade Lakes Scenic Byway Welcome Station and the City of Bend, a developed trailhead parking along the Cascade Lakes Highway near Bend and mountain bike trail connections between the Welcome Station and the Wanoga and Phil’s trail systems.

**Access**

The No Action alternative would not meet the long term goals for alternative transit options and enhanced access to trail networks between the City of Bend and the Deschutes National Forest. Recreation use and the demand for direct trail connections between Bend and the national forest would continue to increase due to population growth, increased tourism and the increasing desire for options for alternative transportation.

No additional trails would be constructed to connect the Welcome Station to Bend or to the existing trail systems to address this increasing use and demand for alternative transportation. Access between Bend and the national forest and among the trail systems would not be improved and in some places, safety may be compromised.

**Entrada Area**

Instead of connecting into a paved trail leading to the Welcome Station, the planned paved Haul Road Trail (Bend Park and Recreation) would direct visitors onto the existing trails (designed use: single track mountain bike) and closed roads in the Entrada area. Visitors would also continue to access this area by parking in the dispersed parking area locally known as “Good Dog!”.

**Phil’s Area**

The primary way to access the Welcome Station, an important visitor contact facility, would be by vehicle, although some cyclists may access the site by riding the Cascade Lakes Highway or the more difficult COD mountain bike trail. The Welcome Station trailhead would connect visitors onto the COD trail, a trail with a more difficult trail rating. Directing novice users onto the more difficult trail would create safety concerns and compromise the recreation experience for more experienced riders on this more difficult trail. The Cascade Lakes Highway hiker and pedestrian undercrossing east of the 41 road, installed with the vision of future trail connections that serving visitors to the area and guests from the Seventh Mountain Resort, would continue to serve no recreation function.

**Wanoga and Deschutes River Areas**

A mountain bike trail connecting Tyler’s Traverse and Storm King trails up to the Cascade Lakes Highway hiker and pedestrian undercrossing would not be constructed. Bikers would continue to use the Deschutes River Trail to get back to Bend and Sunriver. This section of the Deschutes River Trail is a high use trail, and growing number of mountain bikers using this section adds to trail congestion.

**Facilities & Site Management, Visitor Impacts and Visitor Management & Information**

**Entrada Area**

The parking area known as Good Dog! would not be improved to provide safe public access. When parking exceeds 8 or 10 vehicles, safety would continue to be compromised for drivers, pedestrians and dogs. A visitor information kiosk would not be constructed and land managers would not install a toilet if necessary to address sanitation concerns if they arise. Interpretive signs would not be installed to enhance the visitor experience and provide on-site information about the natural environment and history.
Key Issue 2: Providing parking for existing users in the Entrada area and new use of the proposed paved trail (Trail 1).

Number of parking spaces at the trailhead
The existing undefined parking area is not designed and does not have a defined capacity. This dispersed parking lot was not designed to safely accommodate the level of use it receives, and when parking exceeds 8 or 10 vehicles, safety is compromised for drivers, pedestrians and dogs. Based on data collected during the spring and summer of 2013, there are an average of 6.4 vehicles parked at the Good Dog! parking area at one time and the highest recorded vehicle count at the existing dispersed parking area was 19 vehicles (Table 2).

Square footage of parking area
Visitors currently park along the access road and between the two gates blocking public access from the closed utility maintenance road. The area is estimated to be 11,325 square ft (Table 3).

Number of accessible parking spaces provided
No accessible parking spaces are provided.

Table 3: Comparison of how the alternative respond to Key Issue 2 (Providing parking for existing users in the Entrada area and new use of the proposed paved trail (Trail 1)).

<table>
<thead>
<tr>
<th>Key Indicators for Key Issue 2</th>
<th>No Action Alternative</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of parking spaces at the trailhead</td>
<td>Undefined Maximum = 19*</td>
<td>40†</td>
<td>22†</td>
</tr>
<tr>
<td>Square footage of parking area</td>
<td>11,325**</td>
<td>30,000‡</td>
<td>15,000‡</td>
</tr>
<tr>
<td>Number of accessible parking spaces provided</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

*Based on 2013 vehicle counts (Table 2).
** Based on GIS analysis of the roads and areas that are currently used as a dispersed parking area.
† Based on a conceptual design.

Phil’s Area
The Cascade Lakes Highway Welcome Station incorporates a trailhead, visitor information kiosks, interpretive installations and a point of contact for visitor information and permit and pass sales. New trails connecting the Welcome Station to Bend and to the existing trail systems would not be constructed. A paved path and new mountain bike connections would not draw visitors into this important visitor contact facility from Bend, the Seventh Mountain Resort and the Phil’s and Wanoga trail systems.

Social Encounters

Entrada Area
A new paved trail connection, new trailhead and developed National Forest System trail connection between the trailhead and the Deschutes River trail would not be constructed. Frequent encounters and contact with visitors would continue in this area where both system trails and closed roads are popular for running, walking and biking. A new recreation activity, biking, running or walking on a paved path, would not be provided in the area and the associated increase in visitor use would not lead to increased social encounters.

Phil’s Area
Frequent encounters and contact with visitors would continue on trails in this area where the system trails are popular for running, walking and biking. A new mountain bike trail loop rated to be of easier
difficulty would not be constructed to provide access between the Welcome Station trailhead and the Phil’s trail system. Not only would novice mountain bikers not have this new recreation opportunity adjacent to the Welcome Station, but novice users may use the more difficult trail creating safety concerns and compromising the recreation experience for more experienced riders on this more difficult trail. Contact and encounters with other visitors would continue to be high near developed sites, and remain moderate or low in areas outside of developed sites and system trails.

Wanoga and Deschutes River Areas
Contact with other visitors would continue to be common and frequent on trails, high near developed sites, and moderate or low in areas outside of developed sites and system trails during peak season. Mountain bike trails from Tyler’s Traverse trail up to the Cascade Lakes Highway hiker and pedestrian undercrossing would not be constructed leading to continued and growing encounters on the Deschutes River as bikers continue to use the trail to get back to Bend and Sunriver. This section of the Deschutes River Trail is a high use trail, and growing number of mountain bikers using this sections adds to trail congestion.

Recreation Activities and Experience
The popularity of biking, running and walking across the project area is likely to grow as the population of Bend the nearby housing developments grows.

Entrada Area
Without a developed parking area, the existing undeveloped parking areas would continue to grow unmanaged, compromising both public safety and user experience.

Phil’s Area
Road bikers and roller-skiers would continue to use the shoulders of the Cascade lakes highway and rock climbers would continue to use the rim rock formations in the area. The proposed paved trail and mountain bike trails and reroutes would not be constructed, but the user-built disc/Frisbee golf course that has developed across from Widgi Creek Golf Course would still need to be removed to provide for safety along the System trails. Developed disc golf courses near Bend include Mt. Bachelor Ski Area (for a fee under Special Use Permit), Central Oregon Community College, and Pine Nursery (Bend Park and Recreation).

The COD trail would not be rerouted to an alignment that would maintain the ‘more difficult’ trail difficulty level across the trail. A new trail loop with an ‘easier’ difficulty rating would not be constructed near the Welcome Station. Access through the Cascade Lakes Highway undercrossing would not be improved, the vision of future trail connections that would serve visitors to the area and guests from the Seventh Mountain Resort would not be met and the Cascade Lakes Highway hiker and pedestrian undercrossing would continue to serve no recreation function.

Wanoga and Deschutes River Areas
The mountain bike trail connecting Tyler’s Traverse trail up to the Cascade Lakes Highway hiker and pedestrian undercrossing would not be constructed leading to continued and growing encounters on the Deschutes River as bikers continue to use the trail to get back to Bend and Sunriver. This section of the Deschutes River Trail is a high use trail, and growing number of mountain bikers using this sections adds to trail congestion.

Economics
The close-by outdoor recreation opportunities provided in the project would continue to be an important factor in the ‘livability’ of the community and support the region’s growing outdoor recreation based economy. Area residents, visitors, and businesses would not gain from the addition of a paved path connecting the Haul Road trail though the Forest to the Welcome Station nor from the addition of new mountain bike trails that link the Phil’s and Wanoga trail systems.
Alternative 2

Alternative 2 would allow for a paved non-motorized trail connecting the Haul Road trail to the Welcome Station, designated single-track mountain bike trails that connect the Welcome Station to the existing Phil’s and Wanoga trail systems, and a trailhead facility that would accommodate 40 vehicles. The proposed activities would establish the Welcome Station as a portal to public lands, provide connections between established biking and hiking trail networks, and create an opportunity for multi-modal access and alternative forms of transportation between the City and public lands.

Specifically, this project includes the following modifications to the recreation resource:

Trailhead
- Graveled parking lot with capacity for 40 vehicles.
- Design the parking area to provide safe ingress/egress from Cascade Lakes Highway.
- Provide at least two parking spaces that meet ADA design requirements.
- The parking lot may be constructed in phases based on visitor demand.
- The intended development of the site would not include a toilet. This is due to its proximity to Bend and its purpose to serve the Entrada area (short term day use) or to access the Welcome Station (a fully developed site), the new trailhead would be constructed without a. A potential toilet location has been included in the design and a toilet may be installed in the future if user demands or resource concerns require the additional facility.
- Locate the paved path and mountain bike trail connections to the Deschutes River trail to the south of the parking area to avoid any road crossings.
- Design parking pods to preserve large ponderosa pine > 21” diameter and as much shade and natural vegetation for screening as possible.

Paved Path and Undercrossing
- Paved non-motorized path with 10’ wide paved surface connecting Bend (Haul Road Trail) to the Welcome Station and the Cascade Lakes Highway hiker and pedestrian undercrossing (Sections 1a and 1b; 3.4 miles total).
  - Includes 1.3 miles located on an existing road that is currently closed for public use. The road is the maintenance road for permitted utilities.
  - Includes access to the Cascade Lakes Highway hiker and pedestrian undercrossing.
- Retain features in the landscape such as large trees or tree groupings and lava rock outcrops.
- To the extent possible, allow curvature in the trail layout and alignment vs. straight shots so the rider experience is enhanced and views to the surrounding landscape are captured.
- Maintain as many trees as possible so recreationists travel through a natural-appearing setting.

Mountain bike trails and reroutes
- Proposed trailhead to the Deschutes River Trail (Section 6; 0.3 miles)
- Seventh Mountain Resort to the Cascade Lakes Highway hiker and pedestrian undercrossing (Section 2b; 0.1 miles)
- Cascade Lakes Highway hiker and pedestrian undercrossing to Storm King and Tyler’s Traverse trails (Section 2a; 4.8 miles)
- Welcome Station ‘easier’ difficulty loop trail (Sections 3a, 3b, 3c; 5.5 miles)
- Sections of the existing COD trail that meet the ‘easier’ difficulty category are used to create the easier loop.
- COD reroute to a ‘more difficult’ alignment (Section 4; 2.4 miles)
  - Reroute includes moving the trail onto the existing ODP trail.
Trail Obliterations
- Sections of user created trail near the proposed trailhead and the Cascade Lakes Highway hiker and pedestrian undercrossing areas and sections of the COD trail that are no longer needed would be obliterated (Section 5; 1.6 miles)

Direct Effects and Indirect Effects

Access
Alternative 2 would meet the long term goals for alternative transit options and enhanced access to trail networks between the City of Bend and the Deschutes National Forest. As recreation use and the demand for direct trail connections between Bend and the national forest increases due to population growth, increased tourism and the increasing desire for options for alternative transportation, the additional trails constructed to connect the Welcome Station to Bend and to the existing trail systems would address this increasing use and demand for alternative transportation. Access between Bend and the national forest and among the trail systems would be improved.

This alternative would provide a level of access that offers opportunities for socializing and the feeling of safety and comfort, which is the norm for the Roaded Natural setting.

Temporary closure of short sections of existing trails and the surrounding general forest area may occur during constructions to provide for public safety.

Entrada Area
A paved trail (Section 1a) would connect the Bend Park and Recreation Haul Road Trail to the Welcome Station providing an alternative transportation opportunity. The trail would be of the highest level of development (Trail Class 5), providing visitors of all abilities a new way to access the national forest and the Welcome Station.

Visitors to the Entrada Area would be able to access this area by parking in the newly developed gravel parking area. The parking area would be improved to provide safe public parking for approximately 40 vehicles. The new parking area would create safe ingress/egress form Cascade Lakes Highway.

Phil’s Area
The Welcome Station would be connected to Bend via the paved path (Section 1a), offering visitors an alternative transportation option to access this important visitor contact facility. Mountain bike trails would be constructed to connect the Welcome Station to Bend and to the existing Wanoga and Phil’s trail systems. Road cyclists, wanting to travel at a high speed, would continue to access the Welcome Station by riding the Cascade Lakes Highway.

From the Welcome Station trailhead visitors could connect onto the more difficult COD mountain bike trail (Section 4), the ‘easier’ Welcome Station loop trail (Sections 3a, 3b and 3c), or the paved path. Access through the Cascade Lakes Highway hiker and pedestrian undercrossing (Section 1b) would create a safe travel corridor between the Wanoga and Deschutes River trail systems and the Phil’s trail system north of Cascade Lakes Highway. The proposed trail connections would allow riders to easily and safely ride between Bend, the Welcome Station, the Phil’s trail system, the Wanoga trail system and the Deschutes River trail system. The undercrossing access would also provide access for visitors and customers of the Seventh Mountain Resort (Sections 1b and 2b).

Wanoga and Deschutes River Areas
A mountain bike trail from Tyler’s Traverse trail up to the Storm King trail and the Cascade Lakes Highway hiker and pedestrian undercrossing would complete the connections between these popular trail systems (Section 2a). Bikers would have an alternate route to the Deschutes River Trail to get back to Bend and Sunriver. This would relieve trail congestion between Slough Day Use and Bend, a high use section of trail.
Facilities & Site Management, Visitor Impacts and Visitor Management & Information

The parking area known as Good Dog! would be improved to provide safe public access. To the extent possible, development of the site would use native materials (e.g. gravel surfacing and rock or log barriers). Synthetic materials may be used to provide universal access to the paved path. The path would be constructed using synthetic materials (asphalt), which is inconsistent, but acceptable within the Roaded Natural classification.

Entrada Area

The parking area known as Good Dog! would be improved to provide safe public access. The trailhead would be moderately developed with a gravelled surface and two accessible parking spaces. The parking area would safely accommodate approximately 40 vehicles and would have two accessible parking spaces (Table 3). A parking lot of this size would accommodate existing use which averages 6.4 vehicles (Table 2). Current samples registered a maximum vehicle count of 19 vehicles, indicating that this parking area could also accommodate additional growth in use that is anticipated due to the development of a paved multi-modal path without exceeding capacity on peak use days.

A visitor information kiosk would be constructed to provide visitors information about recreation opportunities, recreation ethics and regulations. If needed in the future to address sanitation concerns or changing public needs, a toilet could be installed. Interpretive signs would be installed to enhance the visitor experience and provide on-site information about the natural environment and history.

The designed use of the paved trail would be hiker/pedestrian and it would be constructed to meet Trail Class 5 (fully developed) standards for universal design and accessibility including a 10 foot wide paved surface and maximum 5% grade (Appendix B). The paved trail would allow for a multi-modal, recreation experience and visitor information and enforcement would be used as necessary to encourage the safe use of the paved facility including maintaining safe speeds, respecting other trail users, and maintaining safe control of dogs.

Key Issue 2: Providing parking for existing users in the Entrada area and new use of the proposed paved trail (Trail 1).

- **Number of parking spaces at the trailhead**
  The proposed parking lot would accommodate approximately 40 vehicles (Table 3).

- **Square footage of parking area**
  The proposed parking lot would cover approximately 30,000 sq. ft. (Table 3).

- **Number of accessible parking spaces provided**
  Two accessible parking spaces would be provided.

Phil’s Area

The Cascade Lakes Highway Welcome Station incorporates a trailhead, visitor information kiosks, interpretive installations and a point of contact for visitor information, permits and pass sales. New trails connecting the Welcome Station to Bend and to the existing trail systems would be constructed. A paved path and new mountain bike connections would draw visitors into this important visitor contact facility from Bend, the Seventh Mountain Resort and the Phil’s and Wanoga trail systems.

Social Encounters

**Entrada Area**

The new paved trail connecting the Haul Road trail through the area, new trailhead and developed National Forest System trail connection between the trailhead and the Deschutes River trail may draw additional visitor to the area. The parking lot would accommodate 40 vehicles, twice as much as the highest recorded vehicle count at the existing dispersed parking area (19 vehicles) (Table 2). Within the parking area, a well designed and engineered parking lot would improve driver and pedestrian safety and the potential for negative encounters within the parking area should be reduced. The ample parking

Comment [AEU5]: When using the term pedestrian does this mean the casual bicycle rider also?

Comment [AEU6]: No Appendix B

Comment [AEU7]: Is this referring to an existing trail?

Comment [AEU8]: The description of trails is confusing. “The paved trail connecting the City of Bend to the proposed trailhead, the Welcome Station, and other popular National Forest System trails may draw additional visitors to the area.”
capacity would accommodate existing use and some growth in use without exceeding capacity. Due to the expanded parking capacity and the development of a new recreation opportunity (the paved path), encounters and contact with visitors would increase.

**Phil’s Area**
A new mountain bike trail loop rated to be of easier difficulty would be constructed to provide access between the Welcome Station trailhead and the Phil’s trail system (Sections 3a, 3b and 3c). Novice mountain bikers would have a new recreation opportunity adjacent to the Welcome Station, and would be discouraged from using the more difficult COD trail, easing safety concerns and improving the recreation experience for more experienced riders on this more difficult trail. Frequent encounters and contact with visitors would continue on trails in this area where the system trails are popular for running, walking and biking. Contact and encounters with other visitors would continue to be high near developed sites, and remain moderate or low in areas outside of developed sites and system trails.

**Wanoga and Deschutes River Areas**
A mountain bike trail from Tyler’s Traverse trail up to the Storm King trail and the Cascade Lakes Highway hiker and pedestrian undercrossing would create an alternate route to get back to Bend and Sunriver. This would relieve trail congestion on the Deschutes River trail between Slough Day Use and Bend, a high use section of trail. Contact with other visitors would continue to be common and frequent on trails, high near developed sites, and moderate or low in areas outside of developed sites and system trails during peak season.

**Recreation Activities and Experience**
The popularity of biking, running and walking across the project area is likely to grow as the population of Bend, Sunriver and the nearby housing developments grows and as visitation to the region to enjoy its recreation resources grows.

**Entrada Area**
A developed parking area would accommodate existing use of the Good Dog! parking area (Table 2) and improve both public safety and user experience. A non-motorized paved path would create a new recreation opportunity in the area for walkers, runners and bikers, and non-motorized users of all abilities. The path would be closed to equestrian use and to all motorized uses, except for wheelchairs or devices designed solely for use by a mobility impaired person for locomotion that is suitable for use in an indoor pedestrian area. The new paved trail connection in combination with Bend Parks and Recreation plans to pave the Haul Road Trail, would complete a vision for connected recreation facilities between Bend and the Deschutes National Forest.

**Phil’s Area**
The intent of the paved trail is for a multi-modal, recreation experience and bicyclists or roller-skiers. Those wanting to travel at a high speed would be encouraged to continue to use the shoulders of the Cascade Lakes Highway.

The COD trail would be rerouted to an alignment that would maintain the ‘more difficult’ trail difficulty level across the trail. The reroute would include using the existing ODP trail route and decommissioning or using sections of the existing COD trail for the ‘easier’ loop trail. To maintain access and protect the recreation experience of rock climbers in the area, the new COD trail would be located above the rimrock that is a popular rock climbing area. A new trail loop with an ‘easier’ difficulty rating would be constructed near the Welcome Station. Access through the Cascade Lakes Highway hiker and pedestrian undercrossing would be improved, and the vision of trail connections that would serve visitors to the area and guests from the Seventh Mountain Resort of all skill levels would be met.

The user-built disc/Frisbee golf course that has developed across from Widgi Creek Golf Course would need to be removed to provide for safety along the System trails. Developed disc golf courses near Bend

Comment [AEU9]: This should be defined, what is considered suitable for an indoor ped. What about the CFR we used for SunLava, would that apply instead?
include Mt. Bachelor Ski Area (for a fee under Special Use Permit), Central Oregon Community College, and Pine Nursery (Bend Park and Recreation).

**Wanoga and Deschutes River Areas**

A mountain bike trail connecting the Tyler’s Traverse and Storm King trails up to the Cascade Lakes Highway hiker and pedestrian undercrossing would be constructed. This new route would allow bikers a good access route to get back to Bend and Sunriver, relieving trail congestion between Slough Day Use and Bend, a high use section of trail.

**Economics**

The proposed improvements to the recreation infrastructure would enhance the outdoor recreation opportunities available near Bend and Sunriver that are an important factor in the ‘livability’ of the community and support the region’s growing outdoor recreation based economy. Area residents, visitors, and businesses would gain from the addition of a paved path connecting the Haul Road trail though the Forest to the Welcome Station and from the addition of new mountain bike trails that link the Phil’s and Wanoga trail systems.

**Alternative 3**

Alternative 3 would allow for a paved non-motorized trail connecting the Haul Road trail to the Welcome Station, designated single-track mountain bike trails that connect the Welcome Station to the existing Phil’s trail system, and a trailhead facility that would accommodate approximately 22 vehicles. The proposed activities would establish the Welcome Station as a portal to public lands, provide connections between established biking and hiking trail networks, and create an opportunity for multimodal access and alternative forms of transportation between the City and public lands.

The proposed modifications to the recreation resource for Alternative 3 are similar to those for Alternative 2 except for:

**Trailhead**

- Graveled parking lot with capacity for approximately 22 vehicles.

**Mountain bike trails and reroutes**

- Cascade Lakes Highway tunnel to Storm King and Tyler’s Traverse trails (Section 2a; 4.8 miles) is not included in Alternative 3.

**Direct Effects and Indirect Effects**

The direct and indirect effects to the recreation resource for Alternative 3 are similar to those for Alternative 2 except for:

**Access**

The mountain bike trail from Tyler’s Traverse trail up to the Storm King trail and the Cascade Lakes Highway tunnel would not be constructed. Trail connections between the Phil’s and the Wanoga and Deschutes River trail systems would not be created and trail congestion on the Deschutes River Trail would not be reduced.

**Entrada Area**

Visitors to the Entrada Area would be able to access this area by parking in the newly developed gravel parking area. The parking area would be improved to provide safe public parking for approximately 22 vehicles. The new parking area would create safe ingress/egress form Cascade Lakes Highway. However, it is likely that use would exceed the designed capacity of the trailhead proposed.

**Phil’s Area**
Without the proposed trail connecting Tyler’s Traverse and Storm King trails up to the undercrossing, enhanced connections between the Wanoga/Deschutes River trail systems and the Phil’s trail system would not be realized.

**Wanoga and Deschutes River Areas**

A mountain bike trail from Tyler’s Traverse trail up to the Storm King trail and the Cascade Lakes Highway tunnel would not be constructed and trail connections between the Phil’s and the Wanoga and Deschutes River trail systems would not be created. Bikers would continue to use Deschutes River Trail to get back to Bend and Sunriver, and trail congestion between Slough Day Use and Bend, a high use section of trail, would not be reduced.

**Facilities & Site Management, Visitor Impacts and Visitor Management & Information**

**Entrada Area**

The parking area known as Good Dog! would be improved to provide safe public access. The trailhead would be moderately developed with graveled surface and two accessible parking spaces. The parking area would safely accommodate approximately 22 vehicles and would have two accessible parking spaces (Table 3). A parking lot of this size would accommodate existing use which averages 6.4 vehicles (Table 2). However, current samples registered a maximum vehicle count of 19 vehicles, indicating that the growth in use that is anticipated due to the development of a paved multi-modal path would lead to parking exceeding capacity on peak use days.

**Key Issue 2:** Providing parking for existing users in the Entrada area and new use of the proposed paved trail (Trail 1).

- **Number of parking spaces at the trailhead**
  The proposed parking lot would accommodate approximately 22 vehicles (Table 3).

- **Square footage of parking area**
  The proposed parking lot would cover approximately 15,000 sq. ft. (Table 3).

- **Number of accessible parking spaces provided**
  Two accessible parking spaces would be provided.

**Phil’s Area**

Trail connections between the Phil’s and the Wanoga and Deschutes River trail systems would not be made.

**Social Encounters**

**Entrada Area**

The new paved trail connecting the Haul Road trail through the area, new trailhead and developed National Forest System trail connection between the trailhead and the Deschutes River trail may draw additional visitor to the area. The parking lot would accommodate approximately 22 vehicles, this is slightly more than the highest recoded vehicle count at the existing dispersed parking area (19 vehicles) (Table 2). Within the parking area, a well designed and engineered parking lot would improve driver and pedestrian safety and the potential for negative encounters within the parking area should be reduced. The parking capacity would accommodate existing use and some growth in use, but parking would likely exceed capacity on peak use days, creating the potential for negative encounters among drivers and pedestrians. Due to the developed parking facility and the development of a new recreation opportunity (the paved path), encounters and contact with visitors would increase.

**Wanoga and Deschutes River Areas**

A mountain bike trail from Tyler’s Traverse trail up to the Storm King trail and the Cascade Lakes Highway tunnel would not create an alternate route to get back to Bend and Sunriver. Trail congestion on the Deschutes River trail between Slough Day Use and Bend, a high use section of trail, would not be eased. Contact with other visitors would continue to be common and frequent on trails, high near
developed sites, and moderate or low in areas outside of developed sites and system trails during peak season.

**Recreation Activities and Experience**

**Entrada Area**
A developed parking area would accommodate existing use of the Good Dog! parking area, however, growth in use at the site may lead to parking exceeding capacity on peak use days (Table 2). The new parking facility would improve both public safety and user experience, but if use exceeds parking capacity, public safety and user experience would diminish.

**Phil’s Area**

**Wanoga and Deschutes River Areas**
A mountain bike trail connecting the Tyler’s Traverse and Storm King trails up to the Cascade Lakes Highway tunnel would not be constructed. Trail congestion on the Deschutes River trail between Slough Day Use and Bend, a high use section of trail, would not be eased. Contact with other visitors would continue to be common and frequent during peak season.

**Economics**
The proposed improvements to the recreation infrastructure would enhance the outdoor recreation opportunities available near Bend and Sunriver that are an important factor in the ‘livability’ of the community and support the region’s growing outdoor recreation based economy. Area residents, visitors, and businesses would gain from the addition of a paved path connecting the Haul Road trail though the Forest to the Welcome Station and from the addition of new mountain bike trails that link the Phil’s trail system to the Welcome Station. The mountain bike connection between Tyler’s Traverse and Storm King trails up to the Cascade Lakes Highway tunnel is an important connection that would not be completed under this alternative.

**All Action Alternatives**

**Cumulative Effects**
A number of projects affecting recreation have, are or may occur in the areas surrounding the project area. Proposed and approved recreation projects would increase and enhance trail-based recreation opportunities in the area including: expansion and improvement of Phil’s trailhead, construction of the Cascade Lakes Scenic Byway Welcome Station including a day use trailhead, construction the Cascade Lakes Highway pedestrian and bicycle undercrossing, and the completion of the Tyler’s Traverse and other trails in the Wanoga trail system. Overall, these recreation enhancements along with those proposed in the Welcome Station Trail Connections Project would improve access, recreation experience and recreation-based revenue. The increase in parking capacity and availability of new recreation opportunities may lead to an increase in use and encounters, however, the connectivity among the trail systems and the mileage of trail available would provide a trail system that is able to accommodate existing use and growth in use. Encounters would be highest the concentrated use areas around the trailheads, the Welcome Station and at key trail intersections.

The paved path proposed in alternatives 2 and 3 along with the multi-modal, non-motorized paved path between Sunriver, Lava Lands Visitor Center and Benham East Day Use area (planned for construction in 2014), would set the stage for the Forest to explore options for a future paved travel-way between Bend and Sunriver.

The on-going, future and planned vegetation management/fuels reduction and recreation projects would affect access to existing developed and dispersed recreation activities in the area. With multiple projects
planned within the area over the next five years, the public, especially residents and frequent visitors, would be affected by the cumulative access disturbances. The effects would include road, trail, site and area closures and the extent of the effect would range from week-long closures to closures that may last two years. The extent of the trail system and area within the project area would allow the public to find substitute recreation opportunities, even if their preferred location is not available. Overall, the long term benefits to forest health and recreation enhancement would be worth the short term effect to access.

Forest Plan Consistency
Both Action alternatives would be consistent with the Forest Plan standard and guidelines (USDA 1990), as amended. The Recreation Specialist Report, located in the Project Record, lists all applicable Forest Plan Standards and Guidelines relevant to the Project.

Both alternatives would meet the key standard and guidelines for trails; to provide a trail system that is developed to provide a variety of experiences (TR-1).

Both action alternatives would maintain a combination of activities, setting and experience that are consistent with the Recreation Opportunity Spectrum classification of Roaded Natural.

Upper Deschutes Wild and Scenic River Plan
Both action alternatives would move the Forest’s recreation resources toward a vision for communities connected to the Forest by multi-modal paved paths by paving 3.4 miles of trail from the Haul Road Trail at the Bend Urban Growth Boundary, to the Welcome station and the Cascade Lakes Highway pedestrian and bicycle undercrossing. This action is consistent with and would position the Forest to further explore the construction of a surfaced, primary bike trail from the Bend Urban Growth Boundary to Sunriver, which is listed as a probable action in the Wild and Scenic River Plan.

Alternative 2 would enhance the Forest’s ability to meet the recreation guidelines in the Plan for maintaining annual use capacities (R-1) and managing user conflict on the Deschutes River Trail (R-12) by constructing a mountain bike trail from Tyler’s Traverse trail up to the Storm King trail and the Cascade Lakes Highway hiker and pedestrian undercrossing would complete the connections between these popular trail systems (Section 2a). Bikers would have an alternate route to the Deschutes River Trail to get back to Bend and Sunriver. This would relieve trail congestion between Slough Day Use and Bend, a high use section of trail.

Land Uses
Existing Condition
Permitted land use authorizations in the area include a buried sewer line, overhead phone line, and overhead and buried utility lines (Figure 5).

The City of Bend has a permitted buried sewer line that crosses the Entrada area from the forest boundary west to the private land. The sewer line serves private and vacation homes and the Widgi Creek and Seventh Mountain resorts. A section of the Midstate line from Bend near the Tetherow area, below Cascade Lakes Highway and connecting into the transmission pole south of the highway, is buried. A maintenance road follows the sewer line (FSR 4600101) is accessed off the Cascade Lakes Highway through the area known as Good Dog! is used by both permittees. The public currently uses the Good Dog! area as a dispersed parking area to access the Deschutes River trails and the general forest. FSR 4600101 runs through the area parallel to the Cascade Lakes Highway. The road is closed to the public, but used by land use permittees to maintain utilities in the area. The access road to the maintenance road and the area between two gates on the maintenance road makes up the dispersed parking area known as Good Dog! (figure 4). Visitors park in front of the the gates and along the access road off cascade Lakes Highway. This dispersed parking lot was not designed to safely accommodate the level of use it receives,
as parking approaches or exceeds 8 or 10 vehicles, safety is compromised for drivers, pedestrians and
dogs. When visitors are parked in front of the gates, permittees cannot access the maintenance road from
this location. The road is used by the City of Bend and Midstate Electric.

Midstate Electric Cooperative utility lines run from the Forest boundary with Bend, across to the Widgi
Creek Golf Course and southwest paralleling the 41 road. A utility maintenance road (FSR 4600106)
accompanies the road and is accessed via a gate off of Meadow road. Century Link phone lines, Pacific
Power and Light utility lines, and Bend Cable (Bend Broadband) utility lines follow along the same
corridor.

A Cascade Natural Gas line is buried north of the Cascade Lakes Highway from the Forest boundary with
Bend to the Meadow road where it crosses under the highway to serve Widgi Creek and the Seventh
Mountain resorts.

Three quarry sites, Seventh Mountain gravel pit, and Miller Butte cinder pits #1 and #2, are located
between the Cascade Lakes Highway and forest road 41. These sites are used by various permittees, the
Forest Service and individuals with minerals permits to obtain material.

With the construction of the Cascade Lakes Welcome Station, planned for 2014, the Midstate utility line
and Bend Cable fiberoptic line will be extended to serve the welcome station.

**Figure 5**: Authorized land uses in the area.
Alternative 1 - No Action

Direct, Indirect and Cumulative Effects

Under this alternative, the non-motorized paved path and trailhead between Bend and the Cascade Lakes Scenic Byway Welcome Station (Welcome Station) and key mountain bike trails connecting the Welcome Station to the Wanoga and Phil’s trail systems would not be constructed. No actions would be taken that would lead to any direct, indirect or cumulative effects to the permitted land uses in the area.

All Action Alternatives

Direct, Indirect and Cumulative Effects
Alternatives 2 and 3 would allow for a paved non-motorized trail connecting the Haul Road trail to the Welcome Station, designated single-track mountain bike trails that connect the Welcome Station to the existing Phil’s trail system, and a trailhead facility that would accommodate 22 (alternative 3) to 40 (alternative 2) vehicles. The proposed activities would establish the Welcome Station as a portal to public lands, provide connections between established biking and hiking trail networks, and create an opportunity for multi-modal access and alternative forms of transportation between the City and public lands.

Access and Safety
The proposed paved path (section 1a) would be located on the utility maintenance road between the Forest boundary with Bend and the intersection with Meadow road. This maintenance road is used by the City of Bend to maintain an underground sewer line. The path would be constructed over the sewer line, but designed to maintain access to the manholes used for routine maintenance. The maintenance road is also used by Midstate Electric to maintain their permitted utilities including their transmission pole, located on national forest land. Midstate’s buried power lines running to the transmission pole would be buried under the path in a single location near the Forest boundary with Bend. These utility lines are constructed in conduit and the paved path should not affect routine maintenance. The path would not preclude authorized land permittees from continuing to use the road to maintain the overhead and buried utilities. The path would have a 10 foot paved surface with 1 to 2.5 foot wide shoulders. The design and construction of the path would accommodate the size and weight of standard maintenance equipment. In accordance with standard special use permit clauses, the authorized land use permittee would be responsible for the repair or replacement of any Forest Service owned facilities that are damaged during their operations. If major maintenance is required, in accordance with standard special use permit clauses, the permit holder would be responsible to protect from damage the land, property, and other interests of the United States. If the environment or any government property covered by the permit becomes damaged during the holder's use or occupancy of the permit area, the holder shall immediately repair the damage or replace the damaged items to the satisfaction of the authorized officer and at no expense to the United States. The public currently parking in the area known as Good Dog! often park in front of the gates that access this maintenance road which can make the access difficult. Moving the parking area off of the access road would also improve the safety of pedestrians, pets and vehicles.

Access to the overhead utilities for Midstate Electric, Century Link, Pacific Power and Light, and Bend Cable is accessed from Meadow road and would not be affected by this project.

NATURAL GAS
The fuTunnel
Under alternative 3, a single track mountain bike trail would be constructed from Tyler’s Traverse trail up to the Storm King trail and the Cascade Lakes Highway tunnel (section 2a). This trail would cross roads used to access the Seventh Mountain gravel pit and Miller Butte cinder pits #1 and #2. Permittees would need to use extra caution when accessing these sites. The quarries themselves and the ability for permittees to use these sites would not be affected.

Forest Plan Consistency
All Alternatives would be consistent with the Forest Plan standard and guidelines (USDA 1990), as amended. The Recreation Specialist Report, located in the Project Record, lists all applicable Forest Plan Standards and Guidelines relevant to the Newberry Geothermal Project.
Literature Cited


