

**Transportation Observations,
Considerations, and Recommendations for
Deschutes National Forest**

Provided by the Interagency Transportation Assistance Group (TAG)

**Bend, OR
June 29–July 1, 2009**

A field investigation of the current transportation infrastructure and operations at Deschutes National Forest (DNF) by the interagency Transportation Assistance Group (TAG) was conducted June 28 – July 1, 2009, on behalf of the U.S. Forest Service (USFS), in connection with the Transit in the Parks (TRIP) program. This TAG report was prepared subsequent to the site visit and documents the conditions observed, transportation issues and considerations, and recommendations arising from the TAG team’s analysis. The site visit and the preparation of this report were facilitated and funded by USFS.

DNF is interested in accommodating increasing visitation through strategic investments in existing roads, trails, parking, and alternative transportation infrastructure in partnerships with other transportation and recreation providers in the region. The TAG was requested to help DNF conduct a preliminary study of primary corridors to assist DNF in focusing an alternative transportation feasibility study. The deadline for the 2009 TRIP call for projects occurred before the TAG team was able to visit, but TAG members provided assistance in analyzing the application based on findings and recommendations for similar projects. DNF submitted a proposal for \$367,000 for a planning project to include a traffic study, visitor capacity analysis and natural resource condition survey of the transportation corridors and surrounding trail networks, development of a range of alternative transportation scenarios, and a marketing and economic analysis for the scenarios. The TAG visit was held to provide focus to future transportation studies conducted at DNF, whether funded by TRIP or other funding sources.

The TAG team concluded that there are opportunities to use alternative transportation improvements to benefit visitors to DNF while supporting the local communities. Opportunities exist to improve the visitor experience, prevent resource degradation, and partner with surrounding businesses and communities to mitigate the negative impacts of transportation and visitation, and to improve the quality of life for all those who visit or live in the region. The team recommended further planning studies in several areas, as well as exploration of partnership opportunities with local governments and non-governmental organizations, as well as private businesses.

I. BACKGROUND

Overview

The Deschutes National Forest, located in central Oregon, encompasses approximately 1.6 million acres, including the headwaters of two major rivers, 157 lakes and reservoirs, over 1,300 miles of trails, Mount Bachelor, and the largest variety of volcanic formations in the lower 48 states. DNF is one of the most popular recreation forests in the Pacific Northwest, providing opportunities for fishing, camping, hiking, hunting, skiing, biking and other outdoor activities and attracting 2.78 million visits annually; as the National Scenic Byway Program describes:

The Deschutes National Forest is a recreational haven, pure and simple: these 1.8 million acres include five wilderness areas (200,000 acres), six cool rivers, 157 lakes and reservoirs, approximately 1,400 miles of trails, and the unique landscape of Newberry National Volcanic Monument.

The City of Bend sits near the center of the DNF, approximately 175 miles from Portland, 130 miles from Salem, 120 miles from Eugene, and 16 miles from Redmond.

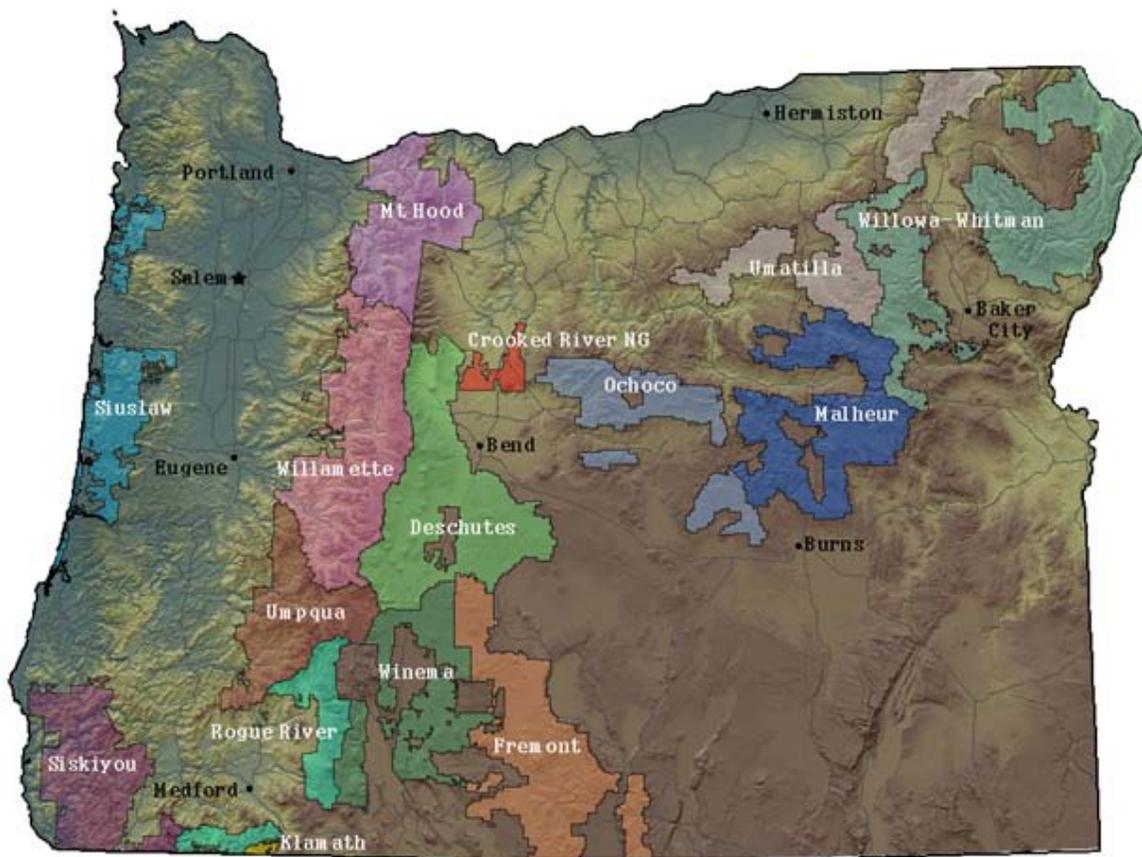


Figure 1 Map of Oregon's National Forests (source: University of Oregon Library website)¹

¹ http://libweb.uoregon.edu/map/map_resources/OR_NF_VF.html

Visitor characteristics

Deschutes National Forest has strong local visitation in addition to being a regional visitor attraction, attracting over 3 million visitors annually.² Winter recreation includes snow-tubing, cross-country skiing, downhill skiing, and snowmobiling. Summer recreation includes biking interests varying from off-road mountain biking, to riding only on paved off-road trails, to touring. In addition to serious bikers, the relatively flat geography, paved bike paths in the communities, and vacation environment encourages visitors who would never bike at home to ride in and near Bend. Fishing, boating, rafting, camping, hiking, riding horses, snowmobiling, and riding off-road vehicles are also popular summer recreation activities.

Local population

Over 75% of the visitors to the DNF are classified as day use. Unusually for a forest surrounded by a relatively small local population, over 50% of visits to DNF are made by residents of the local counties (Deschutes and Crook). Many people choose to live in Bend due to the access to the surrounding natural resources. It is believed that most Bend residents regularly visit DNF and state and local recreation areas; in general, there is a pronounced “outdoor culture,” with levels of outdoor activity far above the American average. Central Oregon is also seen as an attractive place to retire due to the available natural resources.

In addition to the local users of DNF, visitors come from across Oregon and sometimes farther. While there are some opportunities to stay within the forest, many visitors stay within Bend or at nearby resorts. Most visitors who come arrive by car.

Destinations/Attractions

Highlights, or “gems” within DNF include the following:

1. Mount Bachelor Ski Area

Mt. Bachelor ski area is located within DNF along Century Drive. The ski area is privately owned and operated under the terms and provisions of a Special Use Permit (SUP) issued by the DNF. There are seven express quad, three triple chairlifts, a wonder carpet and two tubing lifts to provide access to over 3,500 acres of terrain.

Currently, there is limited winter alternative transportation (e.g. private ski buses that provide transportation under an employee/visitor bus system). Parking at Mt. Bachelor can reach full capacity when skiing conditions are favorable on weekends and holidays. When parking is at capacity, thousands of visitors are forced to turn around, wait for a free spot, or continually drive through parking lots. This can cause traffic delays and negatively impact the visitors’ experience. At full transportation (parking area) capacity there are approximately 14,000 visitors. While the parking areas and lodges are full, Mt. Bachelor believes that the mountain itself could support additional skiers. The ski area will be developing a new plan for use of the mountain in cooperation with USFS.

² National Visitor Use Monitoring Program. “NVUM Round 1 Output Forest-Level Visitation and Confidence Intervals.” Oct. 16, 2006.. http://www.fs.fed.us/recreation/programs/nvum/revised_vis_est.pdf

2. High Desert Museum

The High Desert Museum is located along Route 97, approximately 10 miles south of downtown Bend. The High Desert Museum includes a 50,000 square foot main building and a quarter mile trail that accesses exhibits that show how the ecosystem and people of the High Desert have changed throughout time. The High Desert Museum is visited by approximately 75,000 visitors annually.

3. Metolius Basin

Designated as a Wild and Scenic River in 1988, the Metolius River is fed by many spring-fed streams that contribute to the high water quality that is characteristic of the watershed. From its headwaters north to Bridge 99, the Metolius River is designated for traditional recreational use and camping, fishing and hiking opportunities abound. As it continues north and then bends east around the north end of Green Ridge and into Lake Billy Chinook, the Metolius is designated as scenic and set aside to preserve the natural wilderness experience.

4. Newberry National Volcanic Monument

Newberry National Volcanic National Monument includes 50,000+ acres of lakes, lava flows, and spectacular geologic features in central Oregon. The highest point within the Monument is the summit Paulina Peak (7,985 ft.), showcasing views of the Oregon Cascades and across the High Desert. The summit area of Newberry Volcano holds two alpine lakes.

5. Lava Lands Visitor Center

Lava Butte rises 500 feet above the Lava Lands Visitor Center, which experiences approximately 70,000 annual visitors. Due to limited parking on the Lava Butte summit (10 spaces), 14 vehicles are allowed to drive to the summit during each half-hour interval. Tickets for the various time slots are available on a day-of, in-person basis only. The road is about two miles one way, with a grade of 8%.

6. Lava River Caves

The scarcity and spaciousness of Central Oregon's Lava Lands create an area of striking beauty both above and below ground. Large areas are covered by lava flows. These rivers of rock are basalt, a molten lava that spreads quickly and sometimes flowed up to seventy miles. Great tunnels wind through many of these flows and suggest that awesome forces of nature were once at work. These ancient lava tunnels (called tubes) are one of the area's most interesting secrets. Lava River Cave is one example of these ancient lava tunnels. The cave is part of Newberry National Volcanic Monument, which managed by the U.S. Forest Service.

7. Sno-Parks

The TAG team visited several Sno-Park facilities along DNF corridors. The Meissner Sno-Park is a major winter trailhead for nonmotorized and will be expanded from 120 parking spaces to 180; a volunteer group grooms the trails (and contributed \$20,000 in funding to conduct the Environmental Assessment for the parking expansion). The Swampy Sno-Park is ungroomed and not as heavily used; the Wanoga Sno-Park is the primary snowmobile and mountain-biking access point and is also a major snow-play area. Four high schools have their Nordic ski programs at Meissner and could be interested in transit-service options, including, possibly, evening school groups. A new Sno-Park is planned for Kapka Butte.

There are concerns about conflicts at the Sno-Parks between different uses (e.g., motorized/nonmotorized, users with dogs, groomed/ungroomed trails), as well as a lack of visitor information about conditions at the Sno-Parks. A state scenic byway portal/entrance station is in the first phase of development.

Other destinations include the many High Cascade lakes, Benham Falls and its numerous trailheads, other Sno-Parks along DNF roads allowing for both summer and winter recreational opportunities), and other day use areas along these corridors.

Access

The primary travel corridors and the associated recreational sites that the team focused on are:

1. State Highway 46, Cascade Lakes National Scenic Byway between Bend and the high lakes.

Cascade Lakes Highway hooks from Bend west to Mount Bachelor and then south toward Crescent Lake. The road is designated as a National Scenic Byway. The northern section is plowed by the Oregon Department of Transportation (ODOT) during the winter and provides access to five Sno-Parks and Mount Bachelor Ski Resort. South of Mount Bachelor, Cascade Lakes Highway provides access to a number of campgrounds and fishing lakes. Cascade Lakes Highway has an average daily traffic (ADT) of 2,500 vehicles with a total daily capacity of 32,000 vehicles.

2. US Highway 97 between Bend and La Pine

US 97 runs from Interstate 5 in Northern California through central Oregon and Washington to the Canadian border. Through Oregon, US 97 is approximately 100 miles east of Interstate 5. US 97 runs through downtown Redmond and Bend. Through Bend, US 97 is grade separated; for most of the route, it is a two lane divided highway that has signals and cross traffic. ADT is 11,700 vehicles with a total capacity of 32,000 vehicles.

Route 97 is currently being reconstructed from Lava Butte to South Century Drive in order to increase capacity and improve safety through this key transportation corridor. One element of this corridor capacity improvement is that Lava River Cave access will be changed to use a frontage road which will then connect directly to Lava Lands Visitor Center and Benham Falls via an underpass. No change to bicycle access is planned for the current project.

3. State Highway 20 between Bend and Suttle Lake

Route 20 connects eastern Oregon with the valley of the Santiam River on the west via Santiam Pass, a 4,817-foot (1,468 m) mountain pass in the Cascade Range about 18 miles (29 km) northwest of Sisters. This portion of State Highway 20 has an ADT of 8,800 and a capacity of 32,000. Santiam Pass is cradled between the prominent volcanic horns of Three Fingerted Jack to the north and Mount Washington to the south. Several other smaller volcanoes, including cinder cones and tuyas, are found near the summit of the pass. Hoodoo Ski area sits just west of Santiam Pass and Suttle Lake sits to the east. The Pacific Crest National Scenic Trail crosses Route 20 at the pass. The Santiam Pass may be approached from the west by 3 distinct routes:

- **North:** Oregon Route 22, the North Santiam Highway, which runs from Salem, OR past Detroit Lake to Santiam Junction.

- **West:** US Route 20, the South Santiam Highway, which runs east from Sweet Home, OR, approximately 15 miles east of Interstate 5 past Foster Lake.
- **South:** Oregon Route 126, McKenzie Highway, which follows the McKenzie river, running east from Eugene, OR into Willamette NF and then north past Clear Lake.

4. State Highway 242, McKenzie Pass-Santiam Pass National Scenic Byway

Another route between Eugene, OR and Sisters takes you via McKenzie Pass, a 5,325-foot (1,623 meter) pass south of Mount Washington, where Route 242 is also crossed by the Pacific Crest National Scenic Trail. With only one access road, State Highway 242 carries ADT of 400 cars but has capacity for 32,000.

The loop including 242, Route 126 and Route 20 to Sisters is designated as the McKenzie Pass-Santiam Pass National Scenic Byway. Viewpoints such as Belknap, show 'recent' volcanic activity, the Dee Wright Observatory offers panoramic views of the Cascade Mountain Range and the Windy Point overlook provide points where you can take in portions of the Byway from a unique perspective. Hiking opportunities such as Proxy Falls also show unique features of the area. With no direct outlet, the significant water volume falling into Upper Proxy Falls percolates from the fall's calm basin into the lava subsurface below. Lower Proxy Falls provides a more standard, but still exhilarating waterfall experience.

5. County Road 4601, Skyliner Road

Phil's Trailhead provides access to popular mountain biking and cross country skiing trails. The trailhead is located approximately 3 miles from Bend. At the end of Skyliner Road, Tumalo Falls can be accessed by a 3-mile-long, relatively easy trail from the Skyliner Sno-Park. BAT's Route 3 serves west Bend and Summit High School, but does not serve Skyliner Road. Summit High School is approximately 1.5 miles from Phil's Trailhead. ADT is 662 vehicles with a total capacity of 9,600 vehicles.

6. County Road 4182 / Forest Service Road 21, Paulina Lake Road

South of Bend, Paulina Lake Road connects US 97 to Paulina Lake and East Lake with the Newberry Caldera. While there are road connections, the paved route ends on the north side of East Lake at Cinder Hill Campground. As a primarily recreational road, it has ADT of 469 and a total capacity of 9,600 vehicles. In addition to multiple places to camp and boat around the lakes, they are known for the adjacent hot springs. Crater Rim Trail and the Obsidian Flow provide unique opportunities to understand the area's geologic activity.

-ATPPL Planning Proposal-
 Deschutes National Forest Alternative Transportation Feasibility Study

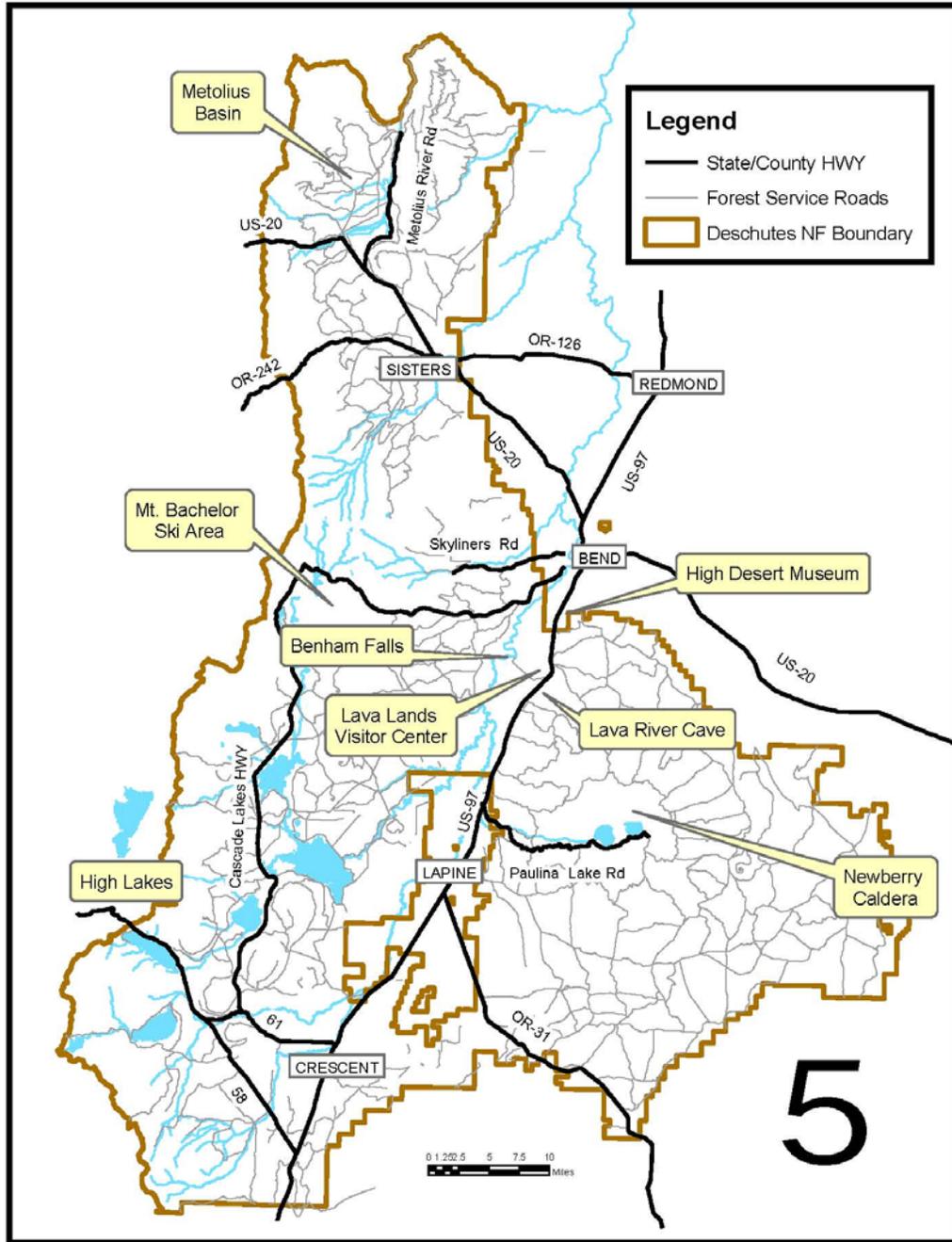


Figure 2 "Gems" of Deschutes NF (source: DNF TRIP Application)

Planning framework

All cities and towns in Oregon must have a comprehensive plan that includes a land use element, a transportation system plan (TSP), and an urban growth boundary (UGB), which delineate an area in which future urban development can occur. TSPs have three primary functions: 1) they establish a system of transportation facilities and services to meet 20-year projected growth; 2) they serve as the transportation element of a local comprehensive plan; and 3) they need to be consistent with the State Transportation System Plan (Oregon Transportation Plan and Modal/Topic Plans) and other federal, state, and local policies.

Deschutes County and the cities of Bend, Redmond, and Sisters all have comprehensive plans that discuss land use, recreation, and transportation systems, among other topics. La Pine is currently drafting its first Comprehensive Plan.

Community Partners & Existing Transit Services

A) Oregon Department of Transportation (ODOT)

ODOT is responsible for maintaining U.S. and Oregon state highway routes within and around DNF, including all of the key corridors identified by DNF other than Skyliner Road, which is a county road. Many of the key corridors are also considered National Scenic Byways, a federal designation for roads with archaeological, cultural, historic, natural, recreational, and scenic qualities. ODOT is responsible for roadway design, ongoing maintenance, and snowplowing of these roads.

B) Central Oregon Intergovernmental Council (COIC)

The Central Oregon Intergovernmental Council (COIC) provides business, employment, alternative education, economic development, and transportation support within Crook, Deschutes, and Jefferson Counties. COIC serves as planner, coordinator, and administrator for a variety of regional transportation planning and coordination initiatives.

i. Cascades East Transit

COIC provides transit services through Cascades East Transit, providing regional fixed route service as well as demand-response service within communities, including human-services transportation.

C) Deschutes County

The majority of Deschutes National Forest lies within Deschutes County in Central Oregon. In addition to DNF and Newberry National Volcanic Monument, the Bureau of Land Management and Federal Energy Regulatory Commission combine to cause 82% of the county's land to be federally owned. Deschutes County manages Skyliner Road, one of the primary corridors identified by DNF. Deschutes County has recently finished updating its Transportation Systems Plan (TSP).

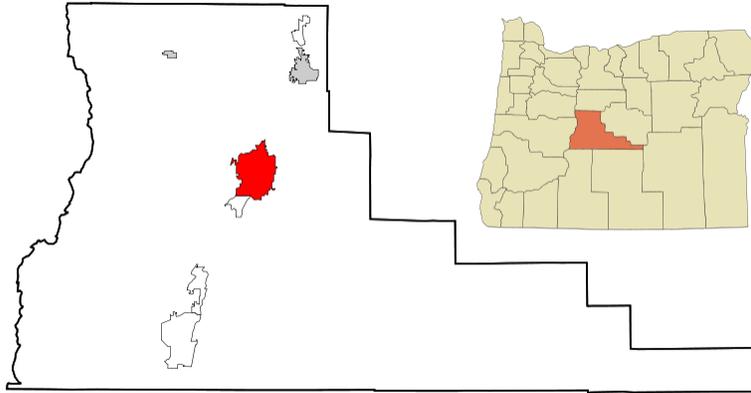


Figure 3 Deschutes County with cities and unincorporated areas

i. Deschutes County Committee on Recreation Assets

U.S. Senator Ron Wyden convened a recreation asset roundtable in October 2007. In November 2007, he appointed the Deschutes County Committee on Recreation Assets, which developed overarching principles and identified projects that would support the principles which focus on economic development, health, wellness, and quality of Life.

D) City of Sisters

Sisters acts as a gateway to Central Oregon from Salem and Eugene. McKenzie Pass (State Highway 242) from Eugene is a scenic drive open only during the summer and has a seasonal average daily traffic flow of 400 vehicles. On holiday weekends or peak ski weekends, US Highway 20 can experience congestion although average daily traffic is 2,500 vehicles. Sisters holds some major events, such as the outdoor quilt show and rodeo, which can create major traffic issues.

For the quilt show, a free parking shuttle from the high school has been developed for visitors who can't find parking downtown. Visitors staying in La Pine, Sunriver, or Bend can make reservations for bus service to Sisters for the event. US Highway 20 in downtown Sisters (Cascade Avenue) is closed during the quilt show and traffic is re-routed via Locust Street and Barclay Drive.

Sisters has grown rapidly this decade, from fewer than 1,000 people in 2000 to almost 1,900 residents in 2008³. Sisters is in the process of updating its TSP.

The Hoodoo ski area is located 20 miles north of Sisters on US Highway 20. There are no transportation services between Hoodoo and Sisters or the resorts in between.

A regional transit service between Sisters and Bend was suspended due to lack of use. The COIC started a new service between Sisters and Redmond on June 1, 2009.

³ 2008 Oregon Population Report, Population Research Center, Portland State University. (http://www.pdx.edu/sites/www.pdx.edu.prc/files/media_assets/PopRpt08c2.pdf)

E) City of La Pine

La Pine is one of Oregon's most recently incorporated areas, gaining city status in 2006. La Pine is located along US 97 about 30 miles south of Bend and 17 miles south of the resort community of Sunriver.

F) City of Redmond

Redmond is at the geographic heart of Central Oregon, approximately 16 miles north of Bend. It is the second largest city in Deschutes County with approximately 25,000 residents⁴. Roberts Field, Redmond's municipal airport, is the closest commercial airport to DNF.

G) City of Bend

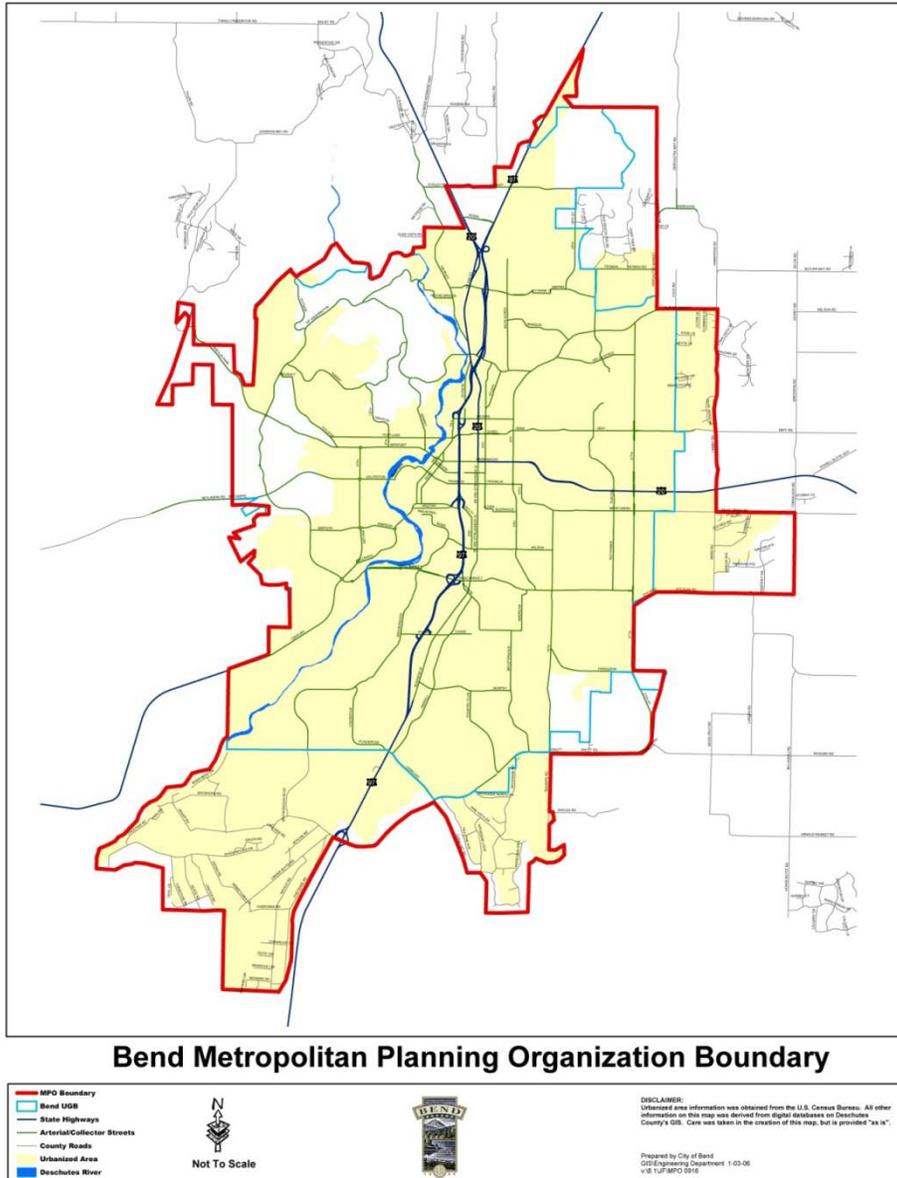
The local population has been growing rapidly. In the last 38 years, Bend has grown by over 400%. The area infrastructure was designed decades ago to meet the needs of a population of 20,000 people but now has to support 160,000 individuals. While the area has been hit hard by the recent economic downturn, Bend is expected to rebound strongly.

As Bend has grown, the development of new subdivisions has been cutting off trail access between town and forest trailheads. As a result, even though downtown is relatively close to some major trailheads and other high-use opportunities, connectivity is not great. In particular, Route 97 and the railroad tracks that run north-south through the center of Bend, and, to a lesser extent, the Deschutes River, create barriers between the east side of Bend and the closest access points to DNF. Still, there is potential for transit to provide a practical solution for connecting to recreational activities.

i. Bend Metropolitan Planning Organization (Bend MPO)

The Bend MPO is the federally designated regional transportation planning organization. Its boundaries run just slightly beyond the City of Bend boundaries as shown in the figure below.

⁴ 2008 Oregon Population Report, Population Research Center, Portland State University.
(http://www.pdx.edu/sites/www.pdx.edu.prc/files/media_assets/PopRpt08c2.pdf)



Bend MPO Boundary (source: Bend MPO)

ii. Bend Area Transit (BAT)

Bend Area Transit (BAT), like many transit services in Oregon, is managed at the municipal level. A ballot measure to create a separate transportation district, which would allow the service area to be expanded beyond the boundaries of the City of Bend, failed in November of 2008. Bend has worked with regional transportation providers to develop Hawthorne Station, a multi-modal transportation center in Bend, where riders can transfer between local buses and regional transportation services. In addition, Bend has an innovative recreational transportation service, *Ride the River*, in which a trailer is attached to a city bus to transport passengers and their rafts upstream after they've floated through the downtown on the river.

H) Bend 2030

Bend 2030 is a public-private partnership developed to identify and implement a long range vision for the City of Bend.

I) The Breeze

The Breeze is a private bus service that runs up to two round trips between Bend and Portland daily. There are six scheduled stops on each trip, and the morning bus connects with the Cascades East Transit service in Redmond. Also, six additional locations are served by reservation only. The base ticket price between Bend and Portland is \$49 one-way and \$88 round-trip, with a small fuel surcharge that is based on the Department of Energy West Coast fuel index. Charter buses are used for the Breeze service.

J) Mount Bachelor Ski Area

Mount Bachelor runs a shuttle service for visitors and employees from the Bend park-and-ride lot located on SW Columbia Street, between Galveston and Simpson Streets, directly to Mount Bachelor. Individual tickets are \$7 each way, although frequent-rider tickets and season passes are available. Sunriver and Seventh Mountain resorts provide their own shuttle services to Mount Bachelor during the winter.

K) Cog Wild Bicycle Tours

In addition to guided mountain biking tours, Cog Wild has initiated a shuttle service to provide one-way transportation for cyclists. For the 2009 season, Cog Wild has shuttles leaving from a variety of downtown locations to the Swampy Sno-Park area, approximately 2000 vertical feet above downtown Bend. Bikes are loaded on the roof of their van and passengers are carried to a trailhead, where they can enjoy the 2.5 to 5+ hour bike ride back down to Bend.

L) High Desert Museum

As described above, the High Desert Museum celebrates the current and historic ecosystem and people of the High Desert. As a private organization, the High Desert Museum does it's own planning. Unfortunately, no one from the Museum was able to participate in the TAG meetings.

M) Three Sisters Scenic Bikeway

This is a proposal to connect Sisters, Redmond, Bend, Sunriver, and La Pine with a bikeway that would in part be located on DNF land.

II. TRANSPORTATION ISSUES, NEEDS, AND OPPORTUNITIES

Growth Trends

Visitation to DNF is expected to grow as Central Oregon grows. Bend MPO projects population increases of 60% in the next 20-25 years.

Bend has a number of organized biking events and was highlighted in Mountain Bike Action magazine; there is an expectation that biking will continue to increase in popularity.

Congestion

While congestion can be a problem on peak ski weekends and when major events are scheduled, most roads have adequate vehicle capacity. US 97 and US 20, the two most highly traveled roads, are both below 40% of carrying capacity. In the winter, heavy use is limited to the northern section of Route 46, Cascade Lakes Highway, including Mount Bachelor and the Sno-Parks lining the corridor. During the summer, visitation is spread throughout the region. The larger transportation problems revolve around parking and overall accessibility.

Parking

There is parking congestion, particularly during the winter at key Sno-Parks during daylight hours and at key mountain biking trailheads. All sites along Cascades Lakes Highway and US 97 are filled to capacity on most weekends and holidays; almost one-third of these sites have 10-20% excess visitors looking for parking or parking illegally. DNF and ODOT have done some expansion of parking areas to try to accommodate additional visitors, but are looking for alternative solutions; further expansion would require additional construction outside the current development footprint, and DNF would prefer not to expand the developed area. There is some opportunity to spread the parking demand over several parking areas with transit providing a method for one way cross country skiing, biking, or hiking.

Car-free

It is challenging to travel to the Bend Region without a car. Once in the region, the existing transit opportunities make navigating the DNF without a car a challenge. Ideally, long-distance visitors would be able to fly to a nearby airport and take a bus to Bend. Transportation options would then be available to travel around Bend and out to key visitor sites.

Forest staff expressed the idea that an ideal alternative transportation system for visitors would allow them to fly into Portland or Redmond, travel to their Bend-area lodging by bus⁵, and then connect to recreational activities via local transit or rented bicycle. Even for those visitors driving to the area, a local multimodal transportation network would allow groups to separate to enjoy different activities during their visit. One challenge of providing visitor transportation

⁵ The Central Oregon Breeze provides two round trips a day with morning departures from Bend to Portland and afternoon return trips.

services is that hotels and resorts are dispersed throughout the Bend area and not located in a centralized location.

Alternative Transportation

There is poor connectivity between downtown Bend and DNF via public (or private) alternative transportation. For the most part, alternative transportation does not extend into DNF.

There are opportunities to enhance the bicycle connections between Sisters, Bend and Sunriver to the DNF. For cyclists, safe non-highway connections between Sisters, Bend, and Sunriver do not exist. Bicyclists focus on the preferred segments of the existing transportation system on Cascade Lakes Highway, Skyliner Road, and Sunriver to Mt. Bachelor road.

Traveler Information

Signage, information, and trip planning tools are minimal.

There is a lack of portal information when arriving in Central Oregon (Sisters, Redmond, La Pine, Bend). Central Oregon Tourism's Bend location is not well placed to intercept visitors.

Emergency Transportation

There are emergency transportation issues, particularly around Sisters.

It is not clear that the road network will be adequate during emergencies (particularly forest fires) to accommodate both emergency vehicles and evacuation needs, in addition to other traffic.

III. ANALYSIS AND RECOMMENDATIONS

Overall, the Transportation Assistance Group believes that there are feasible opportunities to enhance the transportation network at Deschutes National Forest, and that the forest would benefit from the study proposed in the TRIP application. In addition to the six components described in the application, it is recommended that an assessment of planning activities be added to the scope of work.

If DNF receives additional transportation-planning funding from the TRIP program, it would be worthwhile to document the current and expected regional planning activities. Creating an inventory of approved and planned projects would illustrate future conditions and would comprehensively provide the framework for various agencies to better coordinate their efforts. In addition to a comprehensive planning survey, compilation of current facility conditions would also be of assistance.

While six corridors were identified in the TRIP application, the TAG believes the study needs to focus on the entire region, from LaPine through the Sisters and Redmond areas.

There are many factors that would support the development of alternative transportation systems for Deschutes National Forest, including:

- Current parking congestion at certain access points (both summer and winter)
- The ability to provide new recreational experiences (one-way biking, hiking, cross-country skiing)
- New opportunities to provide interpretation of the area
- Provision of access to visitors without cars
- Improved safety by having fewer cars on the road, particularly during the winter when driving conditions can be hazardous
- Reduced transportation impact on the environment
- Taking advantage of the outdoor culture and strong local visitation to promote alternative access

In order to develop a realistic alternative transportation system, a shared vision needs to be developed with a focus on where the priorities are, who has the authority to provide the services, and how they will be funded.

General Opportunities

ODOT, Deschutes County, and Bend, La Pine, Sisters and the other nearby towns all have planners and road crews that work to maintain the road network. Multi-modalism is supported by all of the transportation agencies, particularly consideration of bike and pedestrian networks and transit services in addition to roads.

During the stakeholder working group held on the second day of the TAG meeting, local partners were willing and enthusiastic about working together, including ODOT, Deschutes County, the City of Sisters, the MPO, the City of Bend (several departments, including DPW Street and Transportation Divisions and the Community Development Department), the Bend Park and Recreation District, and COIC. A major challenge will be dealing with jurisdictional boundaries and responsibilities. Some responsibilities that have already been identified are:

- ODOT should focus on traffic and safety issues.
- Coordination is needed with the Parks and Recreation District on regional trail networks.
- Trail work can be incorporated into the existing Forest Service trail program.
- Coordination is needed with MPO, BAT and COIC on service areas.

The Oregon Forest Highway (FH) Program will likely have a call for enhancement projects in 2010. Oregon is one of three states of the 41 nationally with FH programs that has an enhancement set-aside (10%) or approximately \$2 million per year. Enhancements are road related activities such as, but not limited to, interpretative signing, kiosks, restrooms, viewpoints and trailheads, and culvert replacements for environmental mitigation. Scenic Byway corridor improvements are another category of enhancements. FH enhancements are designed to benefit the Forest Highway users. Enhancement projects must be located on, or in close proximity to, a designated Forest Highway Route. This set-aside in the Oregon FH program would be a good opportunity for DNF to apply for shuttle capital funds, bike and pedestrian projects, travel management systems, and fishing-access signage.

Additional funding sources include:

Forest Funding

The primary source of funding for forest service roads is the through Forest Service Discretionary Funds for Capital Improvements and Maintenance and Legacy Roads and Trails Program. Approximately \$230 million is set aside annually for road maintenance. It is recognized that the need for these funds far exceeds their availability.

Legacy Roads Program is a forest-service wide program set up to reduce or eliminate risks to water quality and aquatic habitats from roads and trails. The program is funded for approximately \$50 million dollars annually and appropriate projects include road/trail decommissioning, stream crossing improvements and maintenance projects.

Federal Highways

Federal Highways makes funds available through a number of programs, including Federal Aid, Forest Highways, Coordinated Technology Implementation Program (CTIP), and Scenic Byways.

Oregon DOT has access to a myriad of Federal Aid programs. Roads are eligible for federal-aid if they are classified as rural major or urban collector or are arterials. Rural minor collector roads may be eligible for some federal-aid programs. Projects need to be incorporated into the State Transportation Improvement Plan (STIP). Two programs that may be of particular interest are the Recreational Trails Program⁶ and the Surface Transportation Program Set Aside for Transportation Enhancements⁷.

Approximately 30,000 miles of public roads that are owned by State or local agencies and serve the National Forest system are designated as Forest Highways roads. States and Counties have jurisdiction over 93% of the system. Funding is provided for the planning, design, construction,

⁶ <http://www.fhwa.dot.gov/environment/rectrails/index.htm>

⁷ <http://www.fhwa.dot.gov/environment/te/>

reconstruction, or improvement of designated Forest Highways. Funds can also be used to purchase transit vehicles and design, operate, and maintain public transit facilities on public lands. Maintenance, Hunting and Fishing Access Signs, and Aquatic Organism Passage projects were deemed eligible to compete for Forest Highways funding. No local match is required for this funding.

Federal Highways also has funding for technology-based projects through the Coordinated Technology Implementation Program (CTIP). With an open and rolling call, projects must meet the following criteria:

- Innovative, unique, or underused transportation technology
- Doesn't require research
- Adds Value
- Meets a specific need
- Supports public roads or facilities
- Costs less than \$200,000
- Time frame less than three (3) years

More information can be found at http://www.ctiponline.org/submit_proposal/. Parking management or interpretation may be particularly appropriate for this funding source.

The National Scenic Byways Program has identified 151 roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities, including the McKenzie Pass-Santiam Pass National Scenic Byway, one of the Gems of Deschutes NF. Federal funding from the Scenic Byways Discretionary Grant Program is available to either National or State-designated byways by applying through the State's byway program agency. The program has eight categories of eligible project activities which include "State and Tribal Programs, Corridor Management Plan, Safety Improvements, Byways Facilities, Access to Recreation, Resource Protection, Interpretive Information and Marketing Programs. More information can be found at <http://www.bywaysonline.org/grants/>.

Federal Transit Administration

Three Federal Transit Administration (FTA) programs are potential sources of funding for rural transit services near public lands: Rural and Small Urban Areas (5311); Job Access and Reverse Commute Program (5316) and Paul S. Sarbanes Transit in Parks Program (5320). A brief summary of these programs can be found below. Additional information on these and other FTA grant programs can be found at http://www.fta.dot.gov/funding/grants_financing_263.html.

Rural and Small Urban Area funding is provided to each state based on a formula that considers nonurbanized population (80%) and land area (20%). These funds are distributed to smaller transportation providers throughout the state and are to be used for capital, operating and administrative assistance. While the maximum FTA share for operating assistance is 50% of the net operating costs, a Federal match of 90% may be used for projects that meet the requirements of the Americans with Disabilities Act, the Clean Air Act or bicycle access projects.

Job Access and Reverse Commute Program (JARC) funds transportation projects designed to help low-income individuals access to employment and related activities where existing transit is

either unavailable, inappropriate, or insufficient. The JARC program also funds reverse commute transit services available to the general public, supporting programs that provide transit to residents of urbanized areas to suburban employment opportunities.

Paul S. Sarbanes Transit in Parks Program (TRIP) funds planning and capital projects for alternative transportation systems including shuttle buses and bicycle trails in or connecting to public lands. Projects can be proposed by the public lands agency or local governments or other partners.

Another opportunity for funding would be to look toward private sector sponsorship. Major companies (e.g., REI, Deschutes Brewery), other local businesses, and some of the organizations that sponsor road and mountain bike races in Bend, such as USA Cycling, may be potential sponsors of shuttle services. One potential model for such sponsorship is the Island Explorer bus service at Acadia National Park in Bar Harbor, Maine, which is funded in part by L.L. Bean.

Transportation corridors with potential

A) Skyliner Road

Skyliner Road has narrow shoulders and, with the increased bicycle use, the potential for bicycle – vehicle conflicts exists. There are efforts underway to designate Skyliner Road as a Forest Highway and fund a road reconstruction project in order to:

- Improve road to include bike lanes.
- Improve the surface condition.
- Protect the access provided by this route to the DNF.

With the potential future benefit

- Better integrate with existing transit line
- Possibly reduce some level of vehicle traffic by providing alternative transportation (either one way or two way) through this corridor

B) Cascade Lakes Highway

- Coordinate with Mt. Bachelor Ski Resort & Bend Area Transit to determine if they can work together to provide a service along Cascade Lakes Highway that also stops at the Sno-Parks. Consider extending routes to Sunriver and other resorts.
- Provide more one-way transportation for hiking, biking and skiing. Cog Wild currently provides some service in addition to their tours.
 - Both Mt. Bachelor and Cog Wild own vehicles that are not being used in their respective off-seasons.
- Improve fishing signage along route.
- Improve bicycle conditions.

C) Route 97 Bend – La Pine

Transit and bike options along this corridor should be more thoroughly analyzed.

- Make it possible for visitors to connect between Bend, the High Desert Museum, Lava Lands Visitor Center, Lava Land Caves, and possibly Sunriver and/or La Pine without a car. Consider both bike and transit options.
- Look for alternative paved bike routes for travel between Bend and Sunriver/La Pine. The Deschutes County Bicycle and Pedestrian Advisory Committee has proposed improving and paving Forest Service Route 41 with adequate shoulders for cyclists as an interim step to having a dedicated bike and pedestrian path. There is also the possibility of a dedicated paved bike path within this corridor.

D) Lava Lands Butte

In order to increase access to the butte, shuttle service could be used to supplement or replace private vehicle access. Currently private vehicle access to the butte is limited by passes that are distributed daily. There are only a few parking spots at the top of the butte. A previous service was not successful, but a more structured operation, if it could be sustained, could be a starting point for future transit projects within the project.

E) Newberry Crater

Research should be done to determine if a shuttle service through Newberry Crater would be viable. Potential stops would include East Lake, Paulina Lake, Paulina Peak, Obsidian Flow, Information Station. Projected demand would need to be analyzed and adequate parking would need to be identified.

F) Sisters

- a. Consider tours of Route 242 to reduce congestion and to improve safety, so that visitors can ride safely without trying to drive while observing the scenery.
- b. Consider safety/evacuation plans in/around Sisters.
- c. Bike connections between Sisters and Bend, Redmond, and Mount Bachelor.
- d. Consider alternative transportation between Sisters and Hoodoo.

G) Improved Traveler Information Systems

- a. Work with ODOT, VisitBend and other agencies to create a coordinated traveler information system.
- b. Develop visitor management systems: use web, SMS, or VMS systems to distribute information regarding traffic conditions, road closures, parking availability.
- c. Improve signage program: in particular, focus on access to fishing and camping locations. Ensure that Sno-Parks are well signed.
- d. Develop scripted itineraries: provide information via web or cell phone describing key sites along a corridor.
- e. Work with VisitBend (or other organization) to create a comprehensive portal to recreation transportation to and around Bend. (Bus information is not currently available on the VisitBend web site.)

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SUPPORTING DOCUMENTS AND RESOURCES

1. Deschutes NF 2009 FTA Paul S. Sarbanes Transit in Parks Program (TRIPP) Planning Project Application
2009 TRIP application for Deschutes NF Alternative Transportation Feasibility Study includes basic transportation information about the Forest. Not yet funded.
2. Map of Deschutes National Forest Appendix for TRIPP Application
Map of Deschutes with key study areas highlighted
3. Deschutes County Committee on Recreation Assets Recommendations,
http://www.bendpaddletrailalliance.org/press/pr_output.cfm?PRID=45
Lists priority projects
- 3a. Three Sisters Scenic Bikeway, Deschutes County Committee on Recreation Assets
Proposal for Three Sisters Scenic Bikeway including desired infrastructure improvements.
4. Central Oregon Area Commission on Transportation Needs List Draft 02-23-09
Project funding lists including Planning, Modernization, Operations, Preservation, Bridge, Bike-Ped, Local Road Network, Rail Crossings, Public Transportation
5. Future Transit Routes, Citizens for Bend Area Transit
<http://citizensforbendareatransit.giving.officelive.com/Documents/Future%20Routes%20with%20comments.pdf>
Map of routes proposed by group supporting increased funding for Bend Area Transit.
6. Bend Metropolitan Transportation Plan 2007, City of Bend
http://www.ci.bend.or.us/depts/community_development/bend_metropolitan/mtp.html
Guides regional transportation system planning and development for the metropolitan area. Plan includes existing conditions, goals and objectives, revenue analysis, bike and pedestrian trail system maps, and future public transit system plans.
7. Bend Metropolitan Planning Organization Presentation
Describes MPO role and purpose, plans and projects, recreational travel and key corridors, and communications and other issues.
8. Sisters Urban Area Comprehensive Plan
http://www.ci.sisters.or.us/downloads/commplan_nov_2008.pdf
Includes discussion recreation needs, public facilities and services, transportation and urbanization policies.
9. Deschutes National Forest Recreation Niche
http://www.fs.fed.us/r6/centraloregon/recreation/rsfmp/des_nichemap_v1.jpg
Map showing Alpine/Summit, Recreation Hubs and High Desert environments
10. Deschutes County Bike Guide
<http://www.co.deschutes.or.us/go/objectid/D9531619-BDBD-57C1-92865E7D3C09D97F/>
Twenty-three primarily on-road bike rides in Deschutes County.
11. America's Top Mountain Biking Town, Mountain Bike Action
Description of mountain biking opportunities in Bend.
12. National Visitor Use Monitoring Results, Deschutes National Forest, August 2003
Visitor survey results for DeschutesNF
13. Bend Area Visitor Intercept and Web Surveys, Summer 2008, Visit Bend

http://www.visitbend.com/CEDocuments/Downloads_GetFile.aspx?id=327067&fd=0

Bend area visitor intercept and web surveys conducted Summer 2008

14. Fishing, Hunting, Wildlife Viewing and Shellfishing in Oregon, 2008 State and County Expenditure Estimates, ODFW & Travel Oregon
http://www.dfw.state.or.us/agency/budget/docs/09_11_ways_and_means/Tab%202022%20Economic%20SurveyPresentationHandout.pdf
Expenditure estimates by county and activity, preliminary results from Feb 2009.
15. Geospatial Central Oregon Oct 2006, Terry Slider, USFS
Context comparing Seattle/Portland, Deschutes NF/Ochoco NF looking at Socio-Cultural, Census and Economic Research data
16. Bend Profile, Economic Development for Central Oregon
<http://www.edcoinfo.com/communities/bend-profile/default.aspx>
Regional facts
17. 2008 Central OR Profile, Economic Development for Central Oregon
http://www.edcoinfo.com/CEDocuments/Downloads_GetFile.aspx?id=316068&fd=0
Employment data and information for potential business development
18. Deschutes County Demographics, Economic Development for Central Oregon
http://www.edcoinfo.com/CEDocuments/Downloads_GetFile.aspx?id=326047&fd=0
2008 basic census-based demographic statistics
19. Bend 2030 Profile and Trends
<http://www.bend2030.org/Profile/>
Assessment of current conditions in Bend documenting current conditions and existing social trends; projections based on current trends; and recommendations based on citizen participation.
20. Juniper Ridge Transportation Plan, City of Bend
http://www.ci.bend.or.us/depts/urban_renewal_economic_development/juniper_ridge/master_plan/docs/M_P_Transportation.pdf
Transportation plan for Juniper Ridge, a neighborhood being integrated within the Bend's urban growth boundary.

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NOTICE

This Transportation Assistance Group (TAG) was convened at the request of the U.S. Forest Service. The TAG is an agency-independent effort that is intended to provide technical assistance in support of federal lands transportation and federal lands transportation programs, and does not imply, preference, or guarantee programmatic funding or project support, or further assistance of any kind. This document is disseminated in the interest of information exchange. The recommendations found herein reflect the collective expertise and consensus of the individual TAG members, do not represent regulatory or programmatic requirements, and do not in any way reflect the official opinion of any federal agency. The United States Government assumes no liability for the contents of this document or use thereof.
