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*Final Report*

**Alternative Transit Opportunities and  
Transportation Demand Management  
within the Mt. Hood National Forest  
Pilot Program**

Prepared for

**Mt. Hood National Forest**

September 2012

**CH2MHILL®**

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*Photo credit: George Fekaris*

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# Acronyms and Abbreviations

CAT	Columbia Area Transit
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
ITS	Intelligent Transportation System
NHS	National Highway System
ODOT	Oregon Department of Transportation
OSP	Oregon State Police
PAOT	Persons at One Time
PMT	Project Management Team
PSAP	Public Service Answering Points
TDM	Transportation Demand Management
TMA	Transportation Management Association
TMOC	Traffic Management Operations Center
TNT/TMA	Truckee North Tahoe Transportation Management Association
TSM	Transportation System Management
URA	Urban Renewal Area
UTA	Utah Transit Authority
WFLHD	Western Federal Lands Highway Division



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# Executive Summary

The Mt. Hood National Forest is one of Oregon’s most scenic treasures. Located 66 miles east of the downtown Portland, Oregon, Mt. Hood National Forest extends south from the Columbia River Gorge across miles of forested mountains, lakes, and streams encompassing over a million acres.

Visitors enjoy fishing, camping, boating, hiking, hunting, mountain biking, and skiing and other snow sports in the winter. Popular destinations include Timberline Lodge, offering stunning views and built in 1937 high on Mt. Hood, Lost Lake, Trillium Lake, Rock Creek Reservoir, and portions of the Old Oregon Trail. Preserving the pristine nature of Mt. Hood is important to Oregon’s environment, identity, and the legacy we leave for future Oregonians.



*Mt Hood*  
*Photo credit: George Fekaris*

With the metropolitan area of Portland only a one-to-two hour drive away, demand for recreational opportunities, especially at ski areas, has grown over the years. Two main accesses exist to recreational opportunities on Mt. Hood, US 26 and OR 35. US 26 is also a major connection and freight route between Portland Metro and Central Oregon. The combination of traveler needs has led to the inability of US 26 and OR 35 to meet the demand, which results in congestion and increased safety hazards and crashes, especially during peak use times on weekends and holidays during inclement weather.

The congestion and safety issues on US 26 and OR 35 have been studied for over forty years, and a number of improvements have been implemented during that time. Past planning documents have focused on major infrastructure projects such as widening US 26 and constructing an aerial tram to transport visitors from Government Camp to the ski areas. These projects have languished due to the lack of funds for major infrastructure improvements, environmental concerns, and the technical difficulties of constructing large projects in the National Forest.

Recognizing that larger infrastructure projects are less likely to be funded and built, the National Forest, coordinating with ODOT and Western Federal Lands Highway Division sought to develop a Pilot Program that focused on alternate transportation options and transportation demand management in the Mt. Hood highway corridor,

which includes the Parkdale and Zig Zag Ranger Districts, to optimize the capacity of existing infrastructure and increase travel options. The goal was to design a Pilot Program that could make short term improvements to the existing conditions on Mt. Hood to be implemented in the next one to five years. In September of 2011, the National Forest Service received a grant from the Federal Transit Authority (FTA) through the Paul S. Sarbanes Transit in the Parks Program to develop a Pilot Program for Transportation Demand Management and Alternate Transportation Options in the Mt. Hood National Forest.

## 1.1 Pilot Program Objectives

The objectives for the Pilot Program include:

1. Reduced congestion on US 26 and OR 35
2. Improve highway safety for visitors to the public lands and all travelers
3. Increased ability for the ski areas to operate to their permitted capacity
4. Reduced environmental impact of vehicle use, and
5. Increased economic opportunities for recreation-related commercial enterprises for local communities within the US 26 and OR 35 corridors.

The development of the Pilot Program began in November of 2011 and ends with this Final Pilot Program report in September of 2012.

This Pilot Program summarizes the recommended strategies, including priorities (high, medium, and low) and potential funding sources. This Pilot Program is based on background information, case studies, and technical work to support the development of this process.

## 1.2 Pilot Program Study Area

The Mt. Hood National Forest (MHNF) is approximately 66 miles east of Portland, Oregon. The forest is bounded to the south and southeast by the Willamette National Forest and the Warm Springs Indian Reservation and to the west by the Willamette Valley. The Columbia River Gorge National Scenic Area (managed by a separate USFS unit) and Hood River and Wasco counties border the northern edge of the MHNF. Most visitors access the Forest from Portland via US 26 eastbound, with an alternate route via I-84 eastbound to Hood River, and then OR 35 south to US 26. US 26 is the most direct route from the Portland Metro area to central Oregon, serving both visitors to the Forest as well as through-traffic and freight between the Bend area, Portland metro, and Hood River in the Columbia River Gorge. Both US 26 and OR 35 are designated as Statewide Highways in the *Oregon Highway Plan*, and Freight Routes on both the state and National Highway Systems (NHS). Additionally, US 26 in the Mt. Hood area is designated a safety corridor, in recognition that it is a high-crash location. Figure 1 shows the study area.



Battle Ground

Orchards

Portland

Oregon City

Canby

CAMP BONNEVILLE  
MILITARY RESERVATION  
(CLOSED)

Camas

Washougal

Candy

Estacada

Stevenson

Cascade Locks

Brightwood

Zigzag

Rhododendron

Welches

SALMON-  
HUCKLEBERRY

1453 m

Bonneville  
Pool

KEN JERNSTEDT AIRFIELD

1511 m

MARK O.  
HATFIELD

WAUCOMA RIDGE

MOUNT  
HOOD

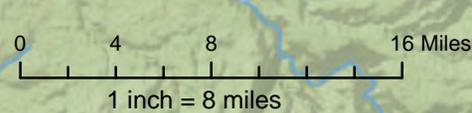
3425 m

Timberline  
Ski Area

Mt Hood Meadows  
Ski Area

Skibowl  
Ski Area

Government Camp



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## 1.3 Pilot Program

The Pilot Program is a combination of a number of different strategies to address the project objectives. They are described fully in the sections below, and a summary table of the strategies by priority is included in Table 1.

TABLE 1

**Pilot Program Strategies and Priority**

Strategy	Priority
Develop a Transportation Management Association or other organization to coordinate transit and TDM programs	High
Transportation System Management and Intelligent Transportation Systems	High
Increase and extend existing public transit	High
Increase and extend existing private transit	Medium/Low
Advertise and improve carpooling information sites	High/Medium
Create a “one stop” Mt. Hood traveler webpage with dynamic information on parking, weather, road conditions, travel time, and available transit	High
Increase cell phone coverage on the mountain	High

The outcome of this Pilot Program is an actionable plan that can be implemented immediately, and as such, funding sources were identified to help fund the strategies. A number of funding options have been identified, ranging from Federal and State sources, to potential Public-Private Partnerships.

Stakeholders involved in the planning process, through the Partners’ Group, have agreed to continue working with one another in an informal partnership to improve coordination and seek funding to implement the Pilot Program.





# Project Process

The Project Management Team (PMT) for this project, led by Mt. Hood National Forest and including Oregon Department of Transportation (ODOT), Western Federal Lands Highway Division (WFLHD), and the consultant team of CH2M HILL, recognized early on that implementation of a pilot program would require support and action from a variety of stakeholders. To that end, the project process included extensive and focused coordination among stakeholders, namely through the Partners’ Group described in this section. This section describes the process used to develop this pilot program.

## 2.1 Project Milestones

Major milestones of the planning process included: 1) existing conditions analysis, including stakeholder interviews, 2) conducting case studies of other national forests or recreation areas, and 3) developing a pilot program for Mt. Hood National Forest with an implementation timeline of one-to-five years. The PMT and Partners Group met to inform these major project milestones.

### Alternative Transit Opportunities and Transportation Management within the Mt Hood National Forest

	Nov.	Dec.	Jan.	Feb.	March	April	May	June
	2011			2012				
Background Information and Existing/Near-Term Conditions	█							
Case studies					█			
Transit, TDM, and Parking Scenarios							█	
Draft Pilot Program Design								
Final Pilot Program Design								

## 2.2 Coordination

The PMT directed coordination efforts, and was led by Mt. Hood National Forest and including ODOT, WFLHD, and the consultant team of CH2M HILL. Table 2 includes the PMT roster.

TABLE 2

### Project Management Team

Representative	Agency	Role
Tom Torres, P.E.	Mt. Hood National Forest	Project Manager
Rithy Bein	Mt. Hood National Forest	Staff Engineer
Sonya Kazen	ODOT	Senior Planner
George Fekaris	Western Federal Lands Highway Division	Senior Planner
Susan Law	Western Federal Lands Highway Division	Senior Planner
Sumi Malik, AICP	CH2M HILL	Consultant Project Manager
Terra Lingley, AICP	CH2M HILL	Staff Planner

During the planning process, the PMT met eight times around key milestones and the pilot program development. The PMT directed further coordination efforts with stakeholders.

## 2.3 Partners' Group

The PMT recognized that meeting project objectives and implementing a pilot program would require the aid of a variety of stakeholders within the Mt. Hood National Forest. Stakeholders included in the Partners' Group represent interests critical to the implementation of the pilot program on Mt. Hood, such as local transit agencies, private transit providers, ski areas, and community representatives. The Partners' Group role was to advise the PMT, and while they shaped the direction of the pilot program, they did not have a direct decision-making role. The Partners' Group, members listed below, met four times: 1) kick-off project and charter Partners' Group, existing conditions, and case study findings, 2) evaluation framework and brainstorm of potential solutions, 3) review strategies, 4) refine strategies for pilot program, define implementation steps, and review funding sources.

At the final Partners' Group meeting on August 8, 2012, the group wanted to capitalize on the momentum of the process to develop the Pilot Program, and was excited to continue meeting and potentially form an organization or other coordinating body. The most interest was in implementing increased transit service

to the ski areas and continuing to meet as a group and coordinate on achieving the goals of the Program. Specifically, a number of the ski areas were interested in working to extend public transit to Government Camp and exploring a partnership to implement that strategy.

The energy of this group moving forward will help implement the Pilot Program strategies, and a preliminary meeting has been scheduled for September. The Partners' Group will likely initially meet informally and may evolve into a governance structure, such as a Transportation Management Association (TMA), a recommended strategy within the Program. Table 3 below includes the list of Partners who have been active in developing the Program.

TABLE 3

**Partners' Group**

Representative	Organization
John Bay	Government Camp Tax Increment Finance Committee
Rithy Bein	Mt. Hood National Forest
Joshua Blaize	Sea to Summit Ski and Mountain Shuttles
Karen Buehrig	Transportation Planning, Clackamas County
Theresa Christopherson	Clackamas County Human Services
Sherrin Coleman	ODOT Public Transit Division
Danielle Cowan	Clackamas County Tourism
Lee Davis	Mazamas
George Fekaris	WFLHD
Jae Heidenreich	Clackamas County Tourism
Woody Hoye	Mt. Hood Meadows Ski Resort
Les Johnson	Fusion Bus/Luxury Accommodations
Sonya Kazen	ODOT Region 1
Tom Keenan	Keenan & Partners/Mt. Hood Ski Bowl
Susan Law	WFLHD
Kevin Liburdy	City of Hood River
Chris Mulcahy	Grease Bus
Mike Parziale	Grease Bus
Dave Queener	Clackamas County Development Agency
Bob Reeves	Villages at Mt. Hood
Nick Rinard	Government Camp Neighborhood Group
Dan Schwanz	Hood River County Transit
Julie Stephens	City of Sandy, Sandy Area Metro Transit
Tom Torres	Mt. Hood National Forest
John Tullis	Timberline Lodge
Scott Turnoy	Mid-Columbia Economic Development District
Steve Warila	Mt. Hood Meadows Ski Resort
Caleb Winter	Metro
Hans Wipper	Mt. Hood Skibowl

### 2.3.1 Stakeholder Interviews

Some of the early findings from both existing conditions analysis and case study research was defining four distinct travel markets that exist on US 26/OR 35 and in the recreation areas—winter recreation market, summer recreation market, through traffic, and local traffic—and that the greatest level of congestion and crashes or safety hazards on the Mt. Hood Highway exist during the winter. Therefore, both the Pilot Program and stakeholder interviews focused on winter demand. Table 4 below lists stakeholders who were interviewed. Information from stakeholder interviews is included in the Conditions Report in Appendix A.

TABLE 4

#### Stakeholders Interviewed

Interviewee	Organization	Role
Teresa Christopherson	Clackamas County Social Services	Operator of Mountain Express
Ryan Holmes Mike Parziale	Grease Bus	Manager Owner
Cathy Johnson	Fusion Bus/Luxury Accommodations	Owner
Jim McNamee	ODOT	District 2C Government Camp Maintenance Manager
Bob Reeves	Villages of Mt. Hood	Board Member
Julie Stephens	City of Sandy/Sandy Area Metro (SAM) Transit	Transit Manager
Jon Tullis	Timberline Lodge	Director of Public Affairs
Steve Warila	Mt. Hood Meadows Ski Resort	
Hans Wipper	Skibowl Winter and Summer Resort	Director of Development
Tom Keenan	Keenan and Partners Consulting	President

## 2.4 Strategies Development and Evaluation

Following the Partners' Group meeting at which the participants brainstormed strategies, the project team grouped strategies into several areas: governance, parking policies, transportation system management (TSM) and intelligent transportation systems (ITS), transit, carpooling information, and traveler webpage. Strategies from these areas were evaluated using an evaluation framework, which provided objective criteria to select and prioritize strategies. Evaluation criteria were based on project objectives defined by the PMT and success factors as defined by the Partners' Group. Evaluation criteria were designed to be measurable and to highlight relative differences between strategies.

The evaluation framework, in Appendix D, included evaluation areas, such as:

- Increases transportation options
- Leverages existing transit to focus on near-term solutions
- Improves safety
- An outcome criterion focused on affected parties support

## **2.5 Implementation**

During the final Partners' Group meeting for this planning process, the Partners recognized that implementation of the Pilot Program hinged on their participation and commitment. Many of the Partners committed to continuing to meet informally to further refine aspects of the pilot program, develop ways in which they could work together, and seek funding sources for implementation. The Partners' Group could form the basis for a governing structure in the future (see Pilot Program, Section 1.7), and will serve as the core Travel Options Working Group during the development of the Mt. Hood Multimodal Transportation Plan.

## **2.6 Mt. Hood Multimodal Transportation Plan - Project Leadership Team**

This project, the *Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest Pilot Program*, focuses on solutions that are implementable within one to five years. ODOT is launching another planning effort to develop a Mt. Hood Multimodal Transportation Plan (MHMTP) that will build on the outcome of the Pilot Program and develop additional solutions within a 20-year planning horizon. The Project Leadership Team for the Mt. Hood Multimodal Project includes:

- Chris Worth, Mt. Hood National Forest Supervisor
- Jamie Damon, Clackamas County Commissioner
- Karen Joplin, Hood River County Commissioner
- Jason Tell, Manager, ODOT Region 1

The project team attended an MHMTP Project Leadership Team meeting in March 2012 at which they presented case study findings and obtained feedback on more information to be gathered.



# Pilot Program

The Pilot Program is a combination of various strategies aimed at optimizing capacity of existing transportation infrastructure and travel options to Mt. Hood within one-to-five years. The Pilot Program is comprised of a combination of strategies meant to address the Program’s objectives. Table 5 includes a summary of the pilot program strategies, and individual strategies are discussed in detail below including the priority, potential funding sources, implementers, strategy champions, the results of the evaluation, next steps, and measures of success.

TABLE 5

**Pilot Program Strategies and Priority**

Strategy	Priority
Develop a Transportation Management Association or other organization to coordinate transit and TDM programs	High
Transportation System Management and Intelligent Transportation Systems	High
Increase and extend existing public transit	High
Increase and extend existing private transit	Medium/Low
Advertise and improve carpooling information sites	High/Medium
Create a “one stop” Mt. Hood traveler webpage with dynamic information on parking, weather, road conditions, travel time, and available transit	High
Increase cell phone coverage on the mountain	High

When designing the Pilot Program, and based on case study research, the project team realized it is important to recognize distinct travel markets to Mt. Hood National Forest and the varying needs of each of those markets.

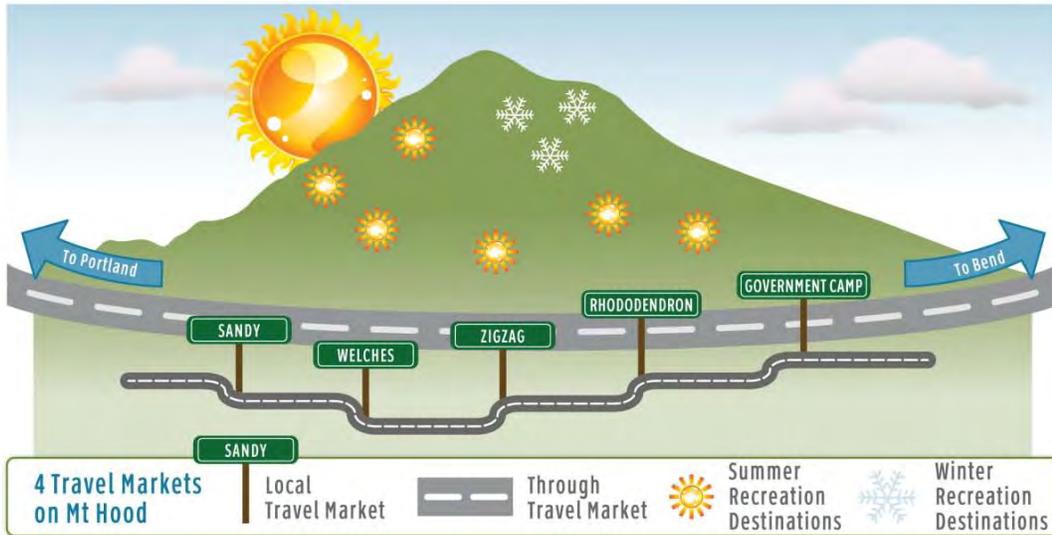
- **The through travel market –** these are trips on US 26 and OR 35 to regional destinations, including trips between the Portland Metro area and eastern Oregon and the cities of Bend and Redmond, or trips between Hood River and eastern Oregon.



*Through Traffic on US 26  
Photo Credit: Tom Torres*

These trips start and end outside of the Mt. Hood National Forest, traveling through the forest using the highways. Through trips include freight trucks; US 26 and OR 35 are designated Statewide NHS Freight Routes. The demand for these trips is year-round, and difficult to address with transit or other transportation demand management programs including carpooling due to the wide variety of destinations and variable lengths and times of the trip.

- **The local travel market** – these are trips made by residents along the OR 35 and US 26 corridors to get to work, access services, and complete other daily needs. The demand for travel is constant throughout the year and destinations are local. Some trips, like the work trip are generally during peak hour travel times, but other trips such as shopping or accessing services are more variable throughout the day. These trips are currently served by public transit (Mountain Express and CAT), though there are gaps in the service. The local transit market includes employee trips of those who live along US 26 and OR 35 and work at businesses along the corridor or at the ski resorts.
- **The summer recreational travel market** – these trips are made by visitors to the National Forest for recreational purposes during the summer visitor season (generally May through the end of September). These trips start in the Portland or Vancouver, WA metro area (around 90 percent of visitors to the National Forest) and end at a wide variety of recreation areas in the Forest. In summer, the destinations are widely disparate: visitors come to hike, camp, sightsee, view wildlife and otherwise enjoy the National Forest. Destinations include trailheads, Timberline Lodge, Skibowl, and Government Camp. This market is difficult to serve with transit due to the variable travel times, the variety of destinations, and also by recreational equipment hauling needs (camping, boating, etc).
- **The winter recreational travel market** – Similar to the summer recreational travel market, the winter travel market includes trips starting in the Portland metro area and end at discreet winter destinations. Most winter visitors are going to the three main ski areas, though a number of visitors go to other recreation areas for snow-based activities including Nordic skiing and snow play. These trips are easier to serve via transit because the destinations are fairly consolidated and the time of the trip is easier to accommodate. The ski areas open at 9:00 a.m., and most skiers come for the day and leave around 3:00 or 4:00 p.m. Ski areas experience congestion between 8:00 and 9:00 a.m. as skiers arrive at the resort and between 3:00 and 5:00 p.m. when most skiers leave to return to Portland. Moreover, winter conditions increase safety hazards and although overall traffic volumes are less in the winter than summer, crashes in the winter are more frequent and severe.



The pilot program focuses, primarily on the winter recreational travel market, because the demand is consolidated to mainly the ski areas and the time of the trip is fairly predictable, winter weekends and holiday mornings and late afternoons. These two factors make winter recreation trips a good target for increasing transit and carpooling. Case study research reveals that other recreation areas with transit and other travel management techniques often targeted winter recreation trips first for the same reasons, and then expanded into other travel markets and seasons.

Figure 2 shows the location and variety of activity areas within the Mt Hood National Forest.

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# LEGEND

COUNTY ROADS



KEY CITIES



CAMPGROUND



TRAILHEAD



SNO-PARK



TIMBERLINE LODGE



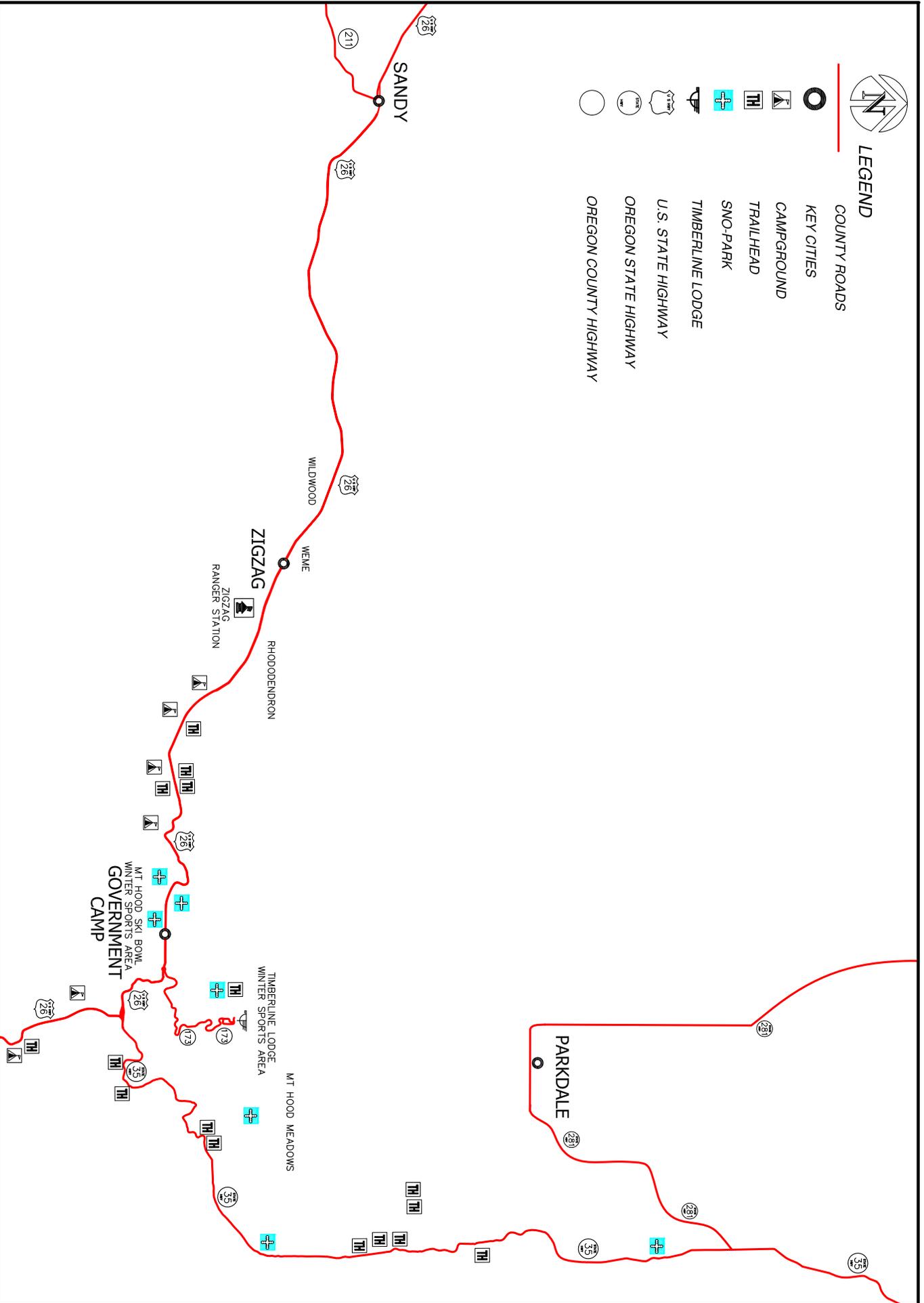
U.S. STATE HIGHWAY



OREGON STATE HIGHWAY



OREGON COUNTY HIGHWAY



NOT TO SCALE

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## 3.1 Governance Structure

The Mt. Hood Highway corridor does not currently have any organization or overarching governing body charged with coordinating all transportation services to various destinations within the area. The National Forest protects and manages natural resources within the National Forest, but does not govern transportation services per se. A governing body focused on transportation could help organize the different stakeholders and may have the authority to raise and distribute funds to meet program goals. Some type of governance structure is recommended to ensure that stakeholders are working to implement the goals of the Pilot Program. Many of the recommendations that follow would benefit from the guidance of an informal coordination group or more formal governing body.

### 3.1.1 Transportation Management Association

A Transportation Management Association (TMA) could provide the organization and coordination needed to organize the various stakeholders. A TMA is a non-profit, member controlled organization that helps provide transportation services in targeted areas. TMAs are generally public-private partnerships, and can be comprised of businesses and other stakeholders with local government support. TMAs can provide an institutional framework for Transportation Demand Management (TDM) services and programs and are eligible for support from government grants. TMAs can help provide a variety of services that encourage more efficient use of transportation and parking services. Best practices for TMAs include:

- Support a variety of transportation services, travel options and incentives, and parking brokerage service to help businesses share and trade parking resources
- Include both positive and negative incentives. Improving travel choices and providing incentives to use alternatives to driving alone
- Work to develop and maintain cooperation between transportation agencies, transit service providers, businesses, employees, and residents affected by TMA programs<sup>1</sup>

The Truckee North Tahoe Transit Management Association (TNT/TMA) from the North Tahoe Case Study (Appendix B) is a good example of how a TMA could work with ski areas, a transit district, a chamber of commerce, and local cities and counties to provide shuttles, coordinated transit, develop and implement park and rides, and coordinate regional carpooling. The TNT/TMA has a 13 member board of directors and is funded through subsidies from the ski resorts, federal grants, trade memberships and business associations.

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<sup>1</sup> TMA definition from the TDM Encyclopedia from the Victoria Transport Policy Institute. [www.vtppi.org](http://www.vtppi.org)

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*The Partners' Group is likely to form the future group or organization. They have made a commitment to continue to meet after the Pilot Program is finished to maintain the momentum generated by this Program.*

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TMAs require business support to be successful, along with active stakeholder support, both in organizational support and funding. TMAs generally have a purpose statement, a charter, and a board of directors.

### **3.1.2 Other Groups/Organizations**

An informal group could also serve as the coordinator for the various stakeholders in the Mount Hood Highway corridor. Such a group could meet informally and share information, ensure that transit providers do not duplicate efforts, and that all members were working towards a shared goal. An informal group could be the first step in developing a TMA or a transit district, but would not have taxing authority.

Currently, transit providers in the Columbia River Gorge in both Washington and Oregon meet informally to exchange information on grants and available transit funding. They also maintain an informational website

<http://www.gorgetranslink.com/> that provides schedule and route information along with the applicable service providers. The group has no charter or formal agreement to work together, but meets on a regular basis, to share information and coordinate services as needed.

Table 6 includes a summary of the TMA or other group/organization strategy.

TABLE 6

**TMA Summary**

	TMA or Organization
Priority	High
Funding	Public –private partnerships through contributions from the member entities including the ski resorts, chambers of commerce, funds from the cities and counties represented Membership dues Tax assessments (business improvement districts, URA, etc)
Implementers	Most stakeholders, and future members of the TMA
Champions	ODOT and Forest Service
Evaluation results	A TMA or other group or organization would leverage existing transit, would address the variety of seasonal markets, would consider employee and resident needs, could support economic development, could incentivize alternate forms of transportation, and would be supported by a variety of stakeholders.
Next Steps	The Partners’ Group is likely to become the TMA or informal group. Continue to meet, develop a purpose and charter, determine what type of organization would work best Determine next steps for implementing programs and continue coordination among stakeholders
Measures of Success	Continuing (at least annual) meetings and coordination between Mt. Hood National Forest stakeholders. A purpose statement and set of goals to guide the organization, along with a structure and decision-making framework within one year of forming A plan for implementing and coordinating other aspects of the Pilot Program within one year of forming

## 3.2 Highway Transportation System Management and Intelligent Transportation Systems

Transportation System Management (TSM) generally employs a variety of techniques to optimize the capacity of existing transportation infrastructure without resorting to large-scale capital projects. Examples of TSM can include techniques that address crash or incident related congestion or Intelligent Transportation Systems (ITS) techniques.

ITS techniques are emerging hardware and software technologies that address the challenges of transportation congestion. They often provide real time roadway related information to users to improve safety through travel routing and driver information.

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### *What is Transportation Demand Management (TDM) and Transportation System Management (TSM)?*

*Transportation Demand Management (TDM) and Transportation System Management (TSM) are related strategies. TDM is used as an umbrella term to describe a variety of strategies aimed at reducing congestion through means that reduce demand for the roadway capacity. Successful strategies often cause a shift in travel demand to another mode, such as transit, another time period, such as a less-congested time, or another route. Transportation System Management (TSM) is another umbrella term that encompasses strategies aimed at reducing congestion through better management of the transportation system without resorting to major capacity improvements. For example, improved incident response to clear a crash quickly or variable message signs that tell drivers about weather conditions and recommended safe speeds are ways to manage the system without major capital investments.*

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Strategies below are TSM or ITS techniques.

### 3.2.1 Incident Response Communications

Crashes on US 26 and OR 35 can cause periods of congestion or exacerbate already congested conditions. Crashes are also a safety hazard because vehicles may block part of or the entire width of the roadway and other drivers do not expect the roadway to be blocked, potentially resulting in additional crashes. US 26 on Mt. Hood is designated by ODOT as a safety corridor, in recognition of the high occurrence of crashes. ODOT Maintenance may or may not be the first to arrive at a crash scene, along with local fire department and Emergency Medical Services. ODOT Maintenance's role is to secure the scene, set up traffic control to safely divert traffic, and clear the travel lanes.

Most incidents are reported to 911, which then notifies the local fire department. Hoodland Fire Department covers US 26, and Parkdale Fire Department covers OR 35. Fire departments then determine if ODOT Maintenance is needed and contact ODOT Region 1 dispatch. Incidents may also be reported directly to ODOT. ODOT Region 1 has a Computer Aided Dispatch system that notifies ODOT District 2C Maintenance in Government Camp and Parkdale. During off-hours, ODOT maintenance personnel carry a pager to respond to calls. However, there can be delays of up to an hour or more between the time ODOT is notified of an incident and can respond depending on time of day, available staff and equipment, number of incidents in the area, and weather conditions.

There are 1-3 Oregon State Patrol officers stationed in Government Camp. Clackamas and Hood River county Sheriff Departments also cover the area. This Pilot Program recommendation is to advocate for increased police and sheriff presence on Mt. Hood,

particularly to respond to incidents on high risk/high traffic days during winter weekends and holidays. Additionally, the Forest Service has law enforcement/emergency response personnel that can respond to emergencies if the Oregon State Police or Clackamas County responders are not available.

Currently, a pilot project in partnership between ODOT's Traffic Management Operations Center (TMOC) system and the Public Service Answering Points (PSAP), 911 Interconnect, is testing the capability of transferring critical information between 911 PSAPs and ODOT TMOC. Testing is being done in conjunction with Oregon State Police (OSP) and Hood River and Deschutes County 911. This technology could be employed in the Mt. Hood National Forest area if technical and funding issues can be resolved.

### 3.2.2 Incident Response Vehicle Enhancements

ODOT Maintenance responds to incidents or crashes using Incident Response pickup trucks that have a hitch on them. They contact a tow company if the roadway needs to be cleared of vehicles or in some cases they are able to clear the roadway by moving vehicles or debris to the shoulder. Vehicles have amber lights and no siren. ODOT has previously considered added push-bumpers to clear vehicles from the road, but there are potential liability issues.

ODOT has an agency Emergency Vehicle Response Plan in place. District 2C will be developing their own plan which will call for obtaining up to three Emergency



*Oregon State Police Patrolling on US 26  
Photo Credit: Tom Torres*

Response vehicles for use on Mt. Hood. These vehicles would differ from the regular Incident Response Vehicles and be equipped with special lighting and beepers, which will help the vehicles get through traffic more quickly to arrive at emergency scenes on the highway.

The Pilot Program strategy is to advocate that ODOT explore equipping Incident Response vehicles with push bumpers and to employ ODOT Emergency Vehicles for District 2C use on Mt. Hood. The results of the Hood River-Deschutes 911-ODOT connect pilot project should be tracked by the partners for potential application in the Mt. Hood area.

### 3.2.3 Chain-up Area Education and Management

ODOT Maintenance is aware that some chain-up areas can be a safety hazard due to drivers who use the areas incorrectly. For example, at the chain-up area on US 26 between mile point 47.5 and 48.5, when drivers see a sign that chains are required they sometimes will stop in the travel lane and chain-up instead of pulling into the chain up area. Also, when drivers pull into the chain-up area, they often stop at the back end and subsequent drivers assume no room is up ahead, causing vehicles to bottleneck in the last 200 feet of the chain up area.

As part of the pilot program, recreation providers and local businesses can provide copies of OSP's *Winter Driving Guide*, or provide web-links to it on their web sites. The *Winter Driving Guide* includes information about chain up areas and chaining requirements. Additionally, ODOT should explore the cost and feasibility of adding and maintaining additional signs to inform drivers to "move to the front of the chain up areas" to help prevent vehicles queuing at the end of the chain up areas. Recommend to ODOT DMV that the *Oregon Driver Manual* add information in the Night and Bad Weather Driving section on how to chain-up tires and use chain-up areas.



Chain-up Area on US 26  
Photo credit: Tom Torres

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*Traffic cameras are a common ITS solution. The ODOT ITS project programmed for construction in 2014 will install several additional cameras on OR 35 and Timberline Road at US 26 to supplement the existing traffic camera network with the National Forest.*

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Additional signs would be costly and would require maintenance of the signs themselves and would be additional objects around which to snow plow. The size, shape, and language of chain up area signs are regulated by the Manual on Uniform Traffic Control Devices (MUTCD), and additional signs that ask drivers

to move up to the front of the chain up area would be non-compliant with MUTCD regulations.

MUTCD has a process for experimentations of signage. For ideas for new traffic control devices or a different application of an existing device that would improve road user safety or operation, it is possible to experiment with the device, in this case the sign. A successful experiment is one where the research results show that the public understands the new device, the device generally performs as intended, and the device does not cause adverse conditions. The experimenter, or implementing agency, must evaluate conditions both before and after instillation of the experimental device and describe the measurements of effectiveness of the safety and operational benefits. As part of an exploration of additional signage, ODOT could seek experimental status with MUTCD as well<sup>2</sup>.

### 3.2.4 Variable Message Signs

Variable message signs that alert drivers about weather conditions (including forest fires), accidents ahead, lane changes, and appropriate speeds have been beneficial for drivers throughout the state. In addition to the traditional information displays, a second set of variable message signs could be installed to inform drivers of parking conditions and would operate only when needed. More of these signs along US 26 and OR 35 would be helpful.



VMS on US 26  
Photo credit: Tom Torres

During snowy conditions, lanes can be difficult to decipher, and a simple sign-bridge indicating where lanes are could improve safety conditions. VMS sign bridges could potentially augment or replace the current roadside VMS on Mt. Hood.

ODOT has received a \$1.2 million FHWA Forest Highways grant for the “US 26 and OR 35 Mt. Hood Safety and Traveler Information Project”, and has also earmarked \$3,500,000 of rural ITS funds for US 26-OR 35 improvements. These

funds will be used in a combined project that will be developed in 2013 and constructed in 2014. Currently, the project is slated to include:

- Variable speed signs triggered by in-road temperature/moisture sensors at different altitudes along the highway

<sup>2</sup> Manual on Uniform Traffic Control Devices, “Knowledge Experimentations,” retrieved on 9-14-12 from <http://mutcd.fhwa.dot.gov/condexper.htm>.

- New Variable Message Signs at Mt. Hood Meadows-OR 35 interchange, Timberline Road-US 26, and on OR 35 heading south from the City of Hood River
- Travel Time Sensors which will route travel time information to the highway VMS signs as well as to ODOT Trip Check
- Automated “Chains Required” drum signs
- Additional Road cameras on OR 35 and Timberline Road

The pilot program strategy is for the partners/transportation coordination group to stay informed and provide input during ODOT’s project development.

### **3.2.5 Sign Bridges for Lane Markings**

During snowy conditions, lanes can be difficult to decipher, and a simple sign-bridge indicating where lanes are could improve safety conditions. A sign bridge could also display weather conditions or other information that would be displayed on a variable message sign. However, due to the high cost of sign bridge structures they are not being considered for the upcoming ODOT VMS project. The visual impacts of either automated or static sign bridges on US 26-OR 35, which comprise the Mt. Hood National Scenic Byway, would need to be addressed in any sign bridge project.

The strategy is to recommend that ODOT consider sign bridges in future highway improvement projects.

Table 7 includes a summary of the TSM and ITS strategies.

TABLE 7

**TSM and ITS Summary**

	<b>Highway Transportation System Management (TSM) and Intelligent Transportation Systems (ITS)</b>
Priority	High Priority
Funding	<p>Public Land Highway funds are available for transportation planning, research, engineering, and construction of the highways, roads, and parkways, and of transit facilities within the Federal public lands.</p> <p>Public-private partnerships – Ski areas or other Mt. Hood businesses could enter into a partnership with ODOT and MHNF to explore additional ITS strategies, particularly for systems which provide non-emergency visitor information.</p> <p>STIP (Statewide Transportation Improvement Program) – statewide transportation funding can be sought through ODOT Region 1, the Oregon Transportation Commission or a future Area Commissions on Transportation (which would need to be formed in the Mt. Hood area).</p> <p>National Highway System Fund. NHS funds could be used in NHS corridors for TSM and ITS strategies.</p> <p>Transportation Utility Fee assessed by a potential TMA or other organization could be assessed on uses in the area, such as ski resorts and other businesses, and revenues could go towards TSM and ITS strategies.</p>
Implementers	ODOT and MHNF
Champions	ODOT and Mt. Hood National Forest
Evaluation results	TSM and ITS strategies addresses multiple known safety issues, and do not add new operational safety concerns, provide solutions that address seasonal changes in traveler needs, benefits accrue to many users/markets or over a greater number of user days, Strategy equitably distributes benefits and impacts among a wide range of populations and user groups,
Next Steps	Partners group to work with ODOT during development of the ITS projects programmed for construction in 2014. Partners to participate in the Mt. Hood Multimodal Transportation Plan particularly to improve non-emergency visitor information systems and coordination.
Measures of Success	Successful implementation of one TSM/ITS pilot program strategy within 2 years and implementation of all TSM/ITS pilot program strategies in some form within 5 years.

## 3.3 Transit

The transit strategy includes expanding both public and private service to fill existing gaps and meet the need for transit within the Mt. Hood National Forest.

The different travel markets and disparate destinations make providing transit that meets all of these needs difficult. The goals of the Pilot Program necessitate a focus on the local and winter recreational travel markets, with the understanding that the summer recreational trip could be served outside of the Pilot Program time frame. The recommendation is a two-prong approach to transit using existing public and private transit providers. Figure 3 shows the potential expansion of the transit routes for both public and private transit.

### 3.3.1 Public Transit

Public transit is eligible to receive a variety of funding from the FTA, State, FHWA, and other sources. Funds have historically been restricted to capital investments including buses, bus stops, park and ride facilities, etc., but some funding is starting to become available for operations and maintenance activities to provide ongoing service. Public transit currently serving the local transit market and expanded service would continue to serve residents and area employees. The two public transit providers that are appropriate to expand service into the Mt. Hood National Forest are Columbia Area Transit and Mountain Express.

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*Public transit is eligible to receive Federal Transit Administration funding, and can also create a taxing district to support transit services*

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#### Columbia Area Transit (CAT)

CAT currently runs in Hood River County with regular routes between Hood River, The Dalles, and Portland, and less frequent service to Bingen/White Salmon. CAT currently only provides dial-a-ride service within Hood River County, and does not provide any service to destinations within the Mt. Hood National Forest. This strategy would expand CAT service to the Mt. Hood National Forest with multiple trips per day to the mountain via OR 35; an employee trip earlier in the morning and an additional trip for skiers and recreationists later, and several return trips in the afternoon would accommodate both visitors and employees.

CAT is currently constructing a Park and Ride in the City of Hood River, but expanded service would benefit from additional park and rides in town. There are a number of potential locations for sharing existing parking lots, including the Wal-Mart and the Best Western parking lots (already used by Mt. Hood Meadows employee shuttles as a pick up and drop off location). There are a number of other potential park and ride locations along OR 35 and in Hood River.

## Mountain Express Bus Service

Mountain Express currently provides point-deviated fixed route service between Sandy and Rhododendron along US 26, and is administered by Clackamas County Social Services. The bus makes six runs Monday-Friday and four runs on Saturday. Currently, Mountain Express does not offer service on Sundays or Holidays.

This strategy would expand Mountain Express service to Government Camp, closing the public transit gap between Rhododendron and Government Camp. In addition to the geographic expansion, service days and times for Mountain Express would be extended to cover the high demand days for rides up to the recreational areas – adding more service on Saturday, and potentially adding service on Sundays and holidays. A later evening run would be added on weekdays, and Mountain Express could explore instituting express routes in early morning and afternoon for employees. The service would provide a way for employees and local visitors to travel by transit to Government Camp. Once transit riders arrive in Government Camp, the ski areas or private transit companies could provide connecting shuttles to the major ski areas.

Table 8 includes a summary of the Public Transit strategy.

TABLE 8

### Public Transit Summary

	CAT	Mountain Express
Priority	Medium to low priority	High. The Partners' Group is interested in extending service to Government Camp for the 2012-2013 ski season
Funding	Local property Tax ODOT Public Transit Division grants Public private partnerships – ski areas or other businesses could enter into a partnership to help expand service and purchase capital equipment like buses and bus stops. National Highway System Fund. NHS funds can be used in NHS corridors for activities such as transit and park and ride lots. Ski areas and other employers could subsidize employee transit passes Transit Utility Fee Hotel Tax revenues Hood River County funds	Local property Tax ODOT Public Transit Division grants Public private partnerships – ski areas or other businesses could enter into a partnership to help expand service and purchase capital equipment like buses and bus stops. National Highway System Fund. NHS funds can be used in NHS corridors for activities such as transit and park and ride lots. Ski areas and other employers could subsidize employee transit passes Transit Utility Fee Hotel Tax revenues Clackamas County funds

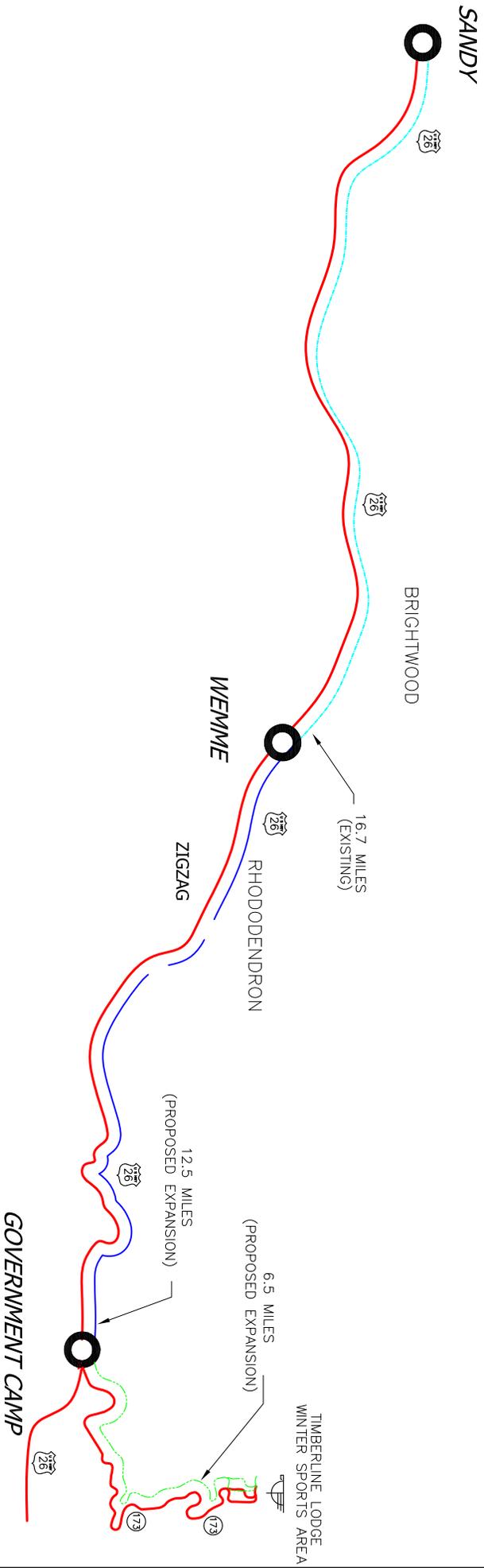
TABLE 8  
**Public Transit Summary**

	CAT	Mountain Express
Implementers	Hood River County/CAT	Clackamas County/Mountain Express
Champions	All transit providers, and Ski Areas	
Evaluation results	Public transit improves travel options, leverages existing transit, could address multiple transit markets including considerations for employees and residents, could support economic development, distributes benefits and impacts among a wide range of user groups, and has strong support from the Partners' Group	
Next Steps	<p>Explore how to fund the Mountain Express for the 2012-2013 ski season to Government Camp</p> <p>Determine when applications need to go in for Federal and State funds</p> <p>Determine locations for use of existing park and rides and parking lots for transit and carpoolers travelling to Mt. Hood; start talking with land owners</p>	
Measures of Success	<p>Public transit service providers coordinating with the TMA or other organization on an (at least) yearly basis</p> <p>Extending the Mountain Express service to Government Camp for the 2012-2013 ski season</p> <p>Extending CAT Service to Mt. Hood Meadows/Government Camp within 3 years</p> <p>Identifying and obtaining capital improvement funding for transit to support the expanded service for the time frame identified above</p> <p>Identifying and obtaining sustainable operations and maintenance funding for transit to support service in the time frame above</p>	



**LEGEND**

- COUNTY ROADS
- EXISTING ROUTE (FROM SANDY TO WEMME)
- PROPOSED ROUTE (FROM WEMME TO GOVERNMENT CAMP)
- PROPOSED ROUTE (FROM GOVERNMENT CAMP TO TIMBERLINE LODGE)
- KEY CITIES
- TIMBERLINE LODGE
- U.S. STATE HIGHWAY
- OREGON COUNTY HIGHWAY



NOT TO SCALE

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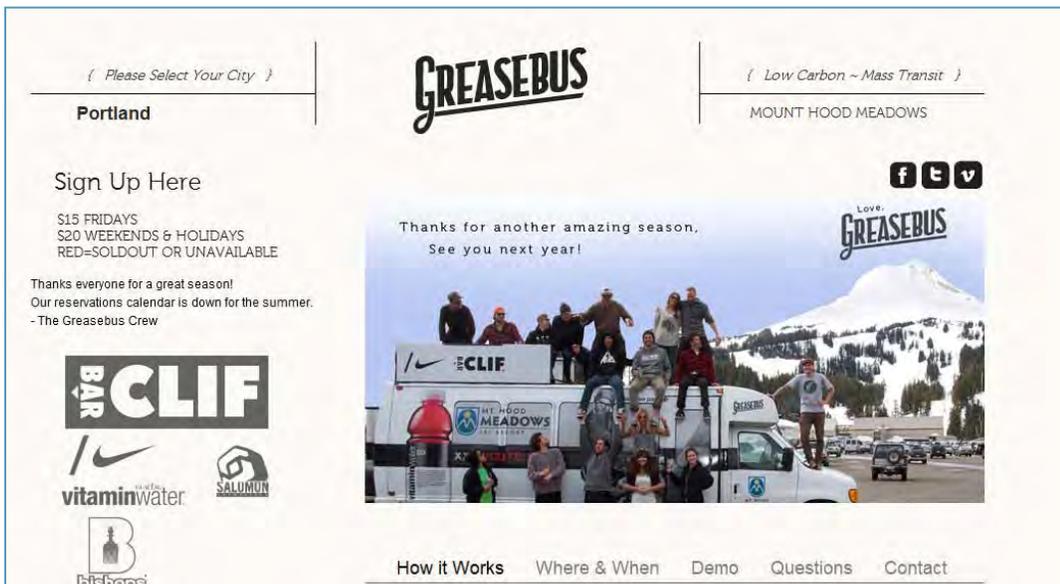
### 3.3.2 Private Transit

There are currently five main private transit providers to the ski areas, along with additional on-demand charter service. The recommendation is to expand service through the existing providers, discussed below in alphabetical order. Private transit would best serve the Portland to Government Camp/ski area recreational trip and could potentially use existing park and rides in the Portland area and gateway cities. The recommendation at this time is to focus on additional transit for the winter recreational trip, with the long-term goal of providing summer service. For the purposes of this Pilot Program, the service is recommended only in the winter, when demand is distinct and relatively predictable.

*Private transit in the Mt. Hood National Forest include Luxury Accommodations, Grease Bus, shuttles and circulators run by both Skibowl and Mt. Hood Meadows, and Sea to Summit Ski and Mountain Shuttles*

#### Grease Bus

The Grease Bus operates a ridership-funded service model, providing rides from the east side of Portland to Mount Hood Meadows. In the 2012-2013 season, Grease Bus will only be providing one bus between their offices on Sandy Boulevard in Portland and Mt. Hood Meadows Friday through Sunday and holidays. Grease Bus keeps their overhead and ticket prices low by obtaining cooking oil for free from area restaurants, providing that oil to Sequential Biodiesel Company in exchange for processed biofuel, and for partnering with sponsors who then advertise with decals on the bus.



This strategy would add another Grease Bus route to Timberline and Skibowl resorts, with stops at two park and rides, at Fred Meyer in Gresham (off of US 26), and in Government Camp to link to future expanded transit and/or circulator bus. Grease Bus is also interested in providing a local circulator bus on the mountain to connect with other transit service if they are able to recoup the costs associated with the service.

### Luxury Accommodations/Fusion Shuttle

Luxury Accommodations operates the Fusion shuttle, currently funded by Skibowl and Timberline Ski Resorts. The shuttle runs on select weekends and holidays in the peak ski season between November and February including every day in the two weeks of the winter holiday. The shuttle rarely collects fares directly from riders; the Fusion Shuttle business model is a contract and partnership with ski resorts that directly fund the service as a guest amenity for Fusion Pass (season ticket) holders. The transit rides provided by Luxury Accommodations are included in a package deal for visitors and pass holders. Luxury Accommodations is interested in expanding service, but would prefer to keep the current business model. Luxury Accommodations would be interested in exploring the possibility of also providing service with fare collection, if feasible.

This strategy would explore ways for Luxury Accommodations to expand service, either through a contract with hotels and businesses similar to its current business model, and/or to change the nature of the service and start collecting fares from passengers as they board the vehicle. Service expansion could provide trips on additional days and routes. Luxury Accommodations does not currently provide regular service to Mt. Hood Meadows and could potentially add the resort as a regular destination.

### Mt. Hood Meadows Shuttles

Mt. Hood Meadows currently provides a weekend shuttle from Portland to the resort between December and March. This bus, known as the PDX Park and Ride picks up at three TriMet park and rides:

- Tualatin Park and Ride
- Beaverton Park and Ride
- Gateway Park and Ride

The park and ride program offers reduced lift tickets with the transit ride, or a bus ticket only for those who already have ski tickets. Ticket receipts from riders fully cover the costs to operate the PDX Park and Ride Shuttle. Mt. Hood Meadows is looking to expand the capacity of the shuttle service by adding more vehicles to the route.

## Sea to Summit Ski and Mountain Shuttles

Sea to Summit shuttles currently provides on-demand service to all three ski areas, including discount packages with lift tickets and equipment rental options. Sea to Summit picks up at Pioneer Square downtown and has a partnership with REI in the Pearl District for a park and ride and pick-up location. Sea to Summit's customer base includes out of town visitors staying in downtown hotels, REI members, and riders from the west side of Portland interested in transit to the mountain.



This strategy would increase Sea to Summit service to Mount Hood to seven days a week, instead of the current on-demand basis. Sea to Summit would add another route that would pick up passengers at the TriMet Sunset Transit Center and take them to the ski resorts.

## Skibowl Shuttles

Skibowl provides private shuttles between Skibowl West, Collins Lake Resort, Skibowl East, Ski Bunny, Summit Ski Area, and Government Camp. The shuttles continually circulate during Skibowl operating hours, and are heavily used on weekends and holidays. These shuttles are free for riders, and are completely subsidized by Skibowl as a guest amenity. Skibowl is interested in expanding the circulator service both in hours and locations to serve a wider geography and with more frequency on Mt. Hood.



*Skibowl Shuttle Stop  
Photo Credit: Tom Torres*

This strategy would tie in with the strategies to expand both public and private transit in the Government Camp area. A local circulator bus would allow visitors who used transit to get to the Government Camp area or ski resorts to travel between the town and other activity areas on the mountain.

Table 9 includes a summary of the private transit strategies.

TABLE 9  
**Private Transit Summary**

	Luxury Accommodations/ Fusion Shuttle	Grease Bus	Mt. Hood Meadows Shuttles	Skibowl Shuttle	Sea to Summit Shuttles
Priority	Medium	Medium	Medium	Medium	Medium
Funding	Consider charging a fare Partnerships and/or contracts with chambers of commerce, hotels, ski resorts, and other businesses near the National Forest to bring visitors to the ski resorts Sponsorship opportunities to advertise in or on the vehicles to help fund vehicles and offset operating costs	Grants or funding through the potential future TMA Sponsorship opportunities to advertise in or on the vehicles to help fund vehicles and offset operating costs	Sponsorship opportunities to advertise in or on the vehicles to help fund vehicles and offset operating costs Grants or funding through the potential future TMA	Consider charging a fare Grants or funding through the potential future TMA Sponsorship opportunities to advertise in or on the vehicles to help fund vehicles and offset operating costs	Sponsorship opportunities to advertise in or on the vehicles to help fund vehicles and offset operating costs Grants or funding through the potential future TMA
Implementers	Luxury Accommodations	Grease Bus	Mt. Hood Meadows	Skibowl	Sea to Summit
Champions	All transit providers, Ski areas				
Evaluation Results	Private transit improves travel options, leverages existing transit, could address multiple transit markets, could support economic development, and has support from the Partners’ Group				

TABLE 9  
**Private Transit Summary**

	Luxury Accommodations/ Fusion Shuttle	Grease Bus	Mt. Hood Meadows Shuttles	Skibowl Shuttle	Sea to Summit Shuttles
Next Steps	<p>Coordinate with the stakeholder organization to minimize overlap and competition among transit service providers.</p> <p>Reach out to potential partners for contract transit service</p> <p>Identify and apply for funding</p>	<p>Coordinate with the stakeholder organization to minimize overlap and competition among transit service providers.</p> <p>Identify and apply for funding</p>	<p>Coordinate with the stakeholder organization to minimize overlap and competition among transit service providers.</p> <p>Identify and apply for funding</p>	<p>Coordinate with the stakeholder organization to minimize overlap and competition among transit service providers.</p> <p>Determine circulator route and connections to other expanded public and private transit</p> <p>Identify and apply for funding</p>	<p>Coordinate with the stakeholder organization to minimize overlap and competition among transit service providers.</p> <p>Identify and apply for funding</p> <p>Develop a schedule and route for expanded service</p>
Measures of Success	<p>Continued regular (bi-annual) coordination with the stakeholder group to ensure complete coverage of transit in the Forest</p> <p>A contract or agreement with hotels and/or ski areas to provide transit</p>	<p>Continued regular (bi-annual) coordination with the stakeholder group to ensure complete coverage of transit in the Forest</p> <p>An additional route service Skibowl and Timberline within the 5 year time-frame</p>	<p>Continued regular (bi-annual) coordination with the stakeholder group to ensure complete coverage of transit in the Forest</p> <p>Increased ridership 50 percent above current levels within the 5 year time-frame</p>	<p>Continued regular (bi-annual) coordination with the stakeholder group to ensure complete coverage of transit in the Forest</p> <p>Increased ridership 50 percent above current levels within the 5 year time-frame.</p> <p>Extended service hours and frequency (10 minute intervals) within the 5 year time-frame.</p>	<p>Continued regular (bi-annual) coordination with the stakeholder group to ensure complete coverage of transit in the Forest</p> <p>Increased ridership 50 percent above current levels within the 5 year time-frame</p> <p>An additional pick-up location in Portland within the 5 year time frame</p>

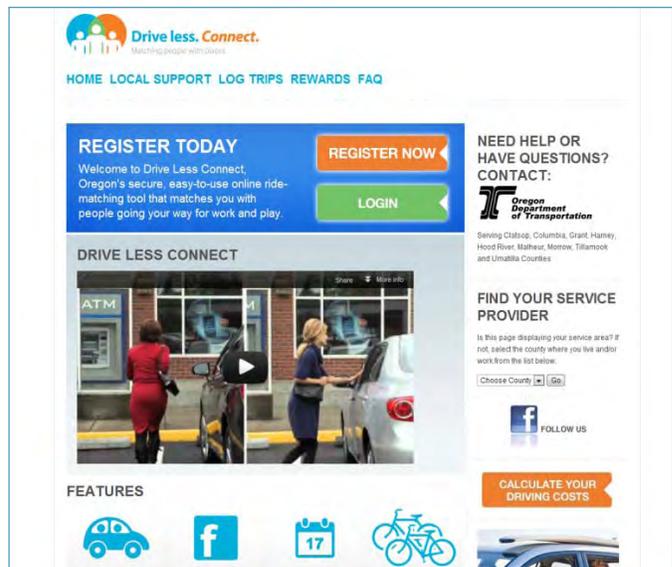
## 3.4 Carpooling Information Sites

Carpool information sites allow riders and drivers to connect with those looking for rides and allow people to share the cost of the trip between multiple people. Carpooling can also increase visitation to the mountain by increasing vehicle occupancy and reducing the number of visitors who drive alone. Ridesharing sites also allow drivers making the longer trip (i.e. Portland to Bend) to connect with riders who may want to be dropped off along the route in Government Camp.

### 3.4.1 Drive Less Connect

Drive Less Connect ([www.drivelessconnect.com](http://www.drivelessconnect.com)) is an ODOT-run program which allows users to register and log their trips, finds carpool matches, and has the opportunity to offer rewards for carpooling. It is available for all types of trips and times with origins in Oregon, Washington, and Idaho. Additionally the website includes a “commute calculator” which allows users to calculate how much money they save by carpooling, and allow them to more accurately compare the cost of driving alone to carpooling. Drive Less Connect is linked with Facebook to allow users to post their rides.

Currently all ski areas include a link to Drive Less Connect on their home pages. Drive Less Connect is currently configured and would continue to serve the regular, dependable trip such as those made by employees or regular skiers. The sign-up process, ride matching, and carpooling managing needed to navigate the Drive Less Connect program does easily not serve the spontaneous trip-making decisions that recreational users are likely to make.



This strategy would explore ways to improve utilization of the website for visitors to the Mount Hood National Forest. It is set up to serve the consistent, recurring trip and is recommended for employees in the Mt. Hood Forest and regular visitors who make trips at predictable times and days and can log their trips to match up with other travelers making the same or similar trip. The strategy would reconfigure the tool to allow potential users to view current trips before signing up and will explore ways to share driving costs between drivers and riders through online pay tools such as PayPal. Because Drive Less Connect already exists and is run by ODOT, additional funding is not needed.

### 3.4.2 Private Carpooling Sites

There are a number of private ridesharing sites that cater to the one-off and sporadic recreational trip. These sites allow visitors to see the types of trips being made and have fewer sign-in requirements than Drive Less Connect. Some entities allow the rider to pay the driver for the ride, others simply match drivers and riders with no money exchanged. Most of these operate throughout the United States, but are not widely used in the Portland Metro Area or for trips to the Mount Hood National Forest. The benefits of private sites are that users could have used these sites for other trip purposes and may already be comfortable with the concept.

One private site, Zimride, creates a ski-area specific “landing page”, and helps provide carpool-specific benefits such as priority parking and raffles. Private carpool websites also allow riders to link and post their rides with Facebook, Twitter, and other social media accounts to share with their online social network.

This strategy would provide information on private carpooling sites to increase awareness and usage of carpooling for the Mt. Hood area. Since these private sites would be in direct competition with ODOT’s Drive Less Connect, the strategy would be to encourage usage of that site, but to also provide private sites as additional resources on a general informational website for the entire Forest – the strategy described in section 3.5 below.

Since private carpooling sites already exist, this strategy does not need additional funding sources outside of the general support and linkages to a traveler webpage. Zimride, the private site mentioned above works with Ski Areas in the Lake Tahoe area to provide more specific carpooling amenities. More information on Zimride can be found in the Case Study Appendix B.

Table 10 includes a summary of the carpool website strategy.

TABLE 10

**Carpool Website Summary**

	Drive Less Connect	Private Carpooling Sites
Priority	High	Medium
Funding	N/A	N/A
Implementers	ODOT	TMA for coordination. Websites already exist
Champions	Forest Service, ODOT	Forest Service
Evaluation results	Drive Less Connect improves travel options, works with existing TDM programs, addresses employee needs, is an implementable solution with few direct costs, is supported by the Partners’ Group, and has low capital and operating costs.	Private carpooling sites improve travel options, they would also work with existing TDM programs, is relatively easy to implement, is supported by the Partners’ Group, and has low capital and operating costs.
Next Steps	Retool the web page to be more user-friendly and determine how to target the less frequent trip makers	Set up the traveler webpage. Potentially reach out to specific sites if they will help achieve program goals
Measures of success	A more user-friendly interface and easier sign-up process within 1 year. At least 50 carpool rides per season each for the A higher vehicle occupancy rate, up to 3.5 persons per vehicle for ski areas	At least 50 carpool rides per season through informal carpooling sites A higher vehicle occupancy rate, up to 3.5 persons per vehicle for ski areas

### 3.5 Traveler Webpage

This strategy recommends exploring a one-stop webpage for traveler information, potentially hosted by the Forest Service or a future TMA or other organization. Currently the State runs an informational website: [www.tripcheck.com](http://www.tripcheck.com) that provides links to the traffic cameras throughout the state, along with roadway closures, weather conditions, and traveler advisories such as incidents. This strategy would provide similar information to Trip Check, but would also include links to all transit providers, carpool resources, traveler information, and could highlight businesses in the corridor. ODOT’s webpage, while highly used, does not currently allow information on commercial enterprises, and is not specific to the Mt Hood area. It will be important to develop a webpage that is both useful and integrated with the

existing webpage, and one possibility for a successful page would be an amalgamation of multiple informational sites that allow users to view data from a number of different sites.

To create a traveler webpage, the following is needed:

- Determine which entity is appropriate to host, and how it would coordinate with ODOT's Trip Check site
- Management by some entity to ensure relevant, appropriate, and time-specific information
- An agreement between potential competing business (ski resorts, transit providers) to provide as much information as possible to allow travelers to choose the best mode of travel for them
- A potential tie-in with text messaging capabilities so travelers can get real-time information while on the road

Additionally, the webpage could be developed in conjunction with an "app" for smartphones that could provide the same type of information for travelers (but not drivers) in the National Forest.

Table 11 includes a summary of the traveler webpage strategy.

TABLE 11

**Traveler Webpage Summary**

	Traveler Webpage
Priority	High
Funding	<p>The traveler webpage would optimally be run by a TMA or other organization and would be funded with the same sources. Those include:</p> <ul style="list-style-type: none"> <li>• Public –private partnerships through contributions from the member entities including the ski resorts, chambers of commerce, funds from the cities and counties represented</li> <li>• Membership dues</li> <li>• Tax assessments (business improvement districts, URA, etc)</li> </ul>
Implementers	Most stakeholders, and future members of the TMA
Champions	Forest Service, ODOT, and Partners’ Group members
Evaluation Results	The traveler webpage could leverage a variety of programs, would help serve the recreational travel market for both main seasons, could promote economic development, has the support of multiple entities, could benefit a wide range of user groups, and has low capital and operating costs.
Next Steps	<p>Determine what entity should host the website (Forest Service, or independent group)</p> <p>Create a TMA or other group to help coordinate website</p> <p>Ensure that data are accurate and up-to-date</p>
Measures of Success	<p>The website up and running within one year, with static data (likely high utilization days, winter driving trips, transit routes and opportunities).</p> <p>In five years, integrate dynamic traveler information such as arrival/departure times for transit, weather and roadway conditions.</p> <p>The website will have an average of 1000 unique visits per year, once established.</p>

### 3.6 Increase Cell Phone Coverage

There are currently gaps in cell phone coverage along the US 26 and OR 35 corridors and elsewhere along the highways in the Mt Hood National Forest. This creates delays for incident response as well as barriers to accessing real-time information such as parking and roadway conditions/delay. Two cell phone coverage gaps include the Mirror Lake Curve on US 26 and near the Mt. Hood Meadows HRM parking lot along OR 35.

This strategy would increase cell phone coverage either permanently or temporarily based on high-demand days or seasons to ensure that travelers (but not drivers) can

get up-to-date parking, weather, and road conditions information as they travel to their destinations within the National Forest. Adding cell phone coverage will also allow travelers to call for emergency services in the event of an incident.

Table 12 includes a summary of the increase cell phone coverage strategy.

TABLE 12

### Increase Cell Phone Coverage Summary

	Increased Cell Phone Coverage
Priority	High
Funding	Cell phone towers and coverage are determined by cell phone providers and permitted by the National Forest. The towers are usually funded, built, and maintained by cell phone companies.
Implementers	Cell phone service providers
Champions	Ski Areas, Mt. Hood National Forest
Evaluation results	This strategy could be useful for year-round travelers, has support from multiple stakeholders, and would be relatively inexpensive to the public to implement; funding is entirely private.
Next Steps	Determine what provider would be appropriate to approach Determine legal and/or zoning restrictions for adding a cell phone tower in a National Forest
Measures of Success	The process to site and partner with a cell phone service provider to add a cell tower determined within 1 year. An additional cell tower to address one or both of the existing “dead zones” on US 26 and/or OR 35 within the next 3 years

## 3.7 Funding for Pilot Program Strategies

The following funding sources could potentially be used to implement a number of strategies described in this Pilot Program. For a number of the strategies, funding could be provided through the Federal government, the State, or from local sources. Other sources could potentially be identified as the strategies are implemented that could help support the elements and help the Partners Group to put the Pilot Program into action.

### 3.7.1 Statewide Transportation Improvement Program (STIP)

Statewide transportation funding can be sought through ODOT Region 1, the Oregon Transportation Commission or a future Area Commissions on Transportation (which would need to be formed in the Mt. Hood area).

### 3.7.2 MAP-21

On June 29, 2012, the U.S. Congress passed a new 27-month, \$118 billion federal transportation bill, Moving Ahead for Progress in the 21st Century Act (MAP-21). Congress provides MAP-21 funding through the Federal Highway Administration (FHWA) to ODOT Region 1, the applicable for the Mt. Hood National Forest. The original source of these funds is primarily the federal gas tax, various truck taxes, and funding from the federal general fund.

Allocation and distribution of federal funds, other than routine maintenance, are accounted for in the Statewide Transportation Improvement Program (STIP). Some of these revenues are limited by FHWA to a particular purpose, such as highway bridge replacement and rehabilitation. Most of the funds, however, are flexible in that they can be spent on highways, streets, bikeways, sidewalks, transit capital, transportation system management (TSM), and transportation demand management (TDM).

MAP-21 is composed of the following authorizations and programs that are relevant to this Pilot Program:

- Transportation Mobility
- National Highway Performance Program
- Highway Safety Improvement Program
- Transportation Infrastructure Finance and Innovation Program (TIFIA)

### 3.7.3 Street Utility Fees

Several cities have adopted street maintenance fees that are included in the local sewer and water bill. The fees are based upon the cost to maintain the street system and are used for maintenance activities within each the area of assessment. A TMA could assess and collect a street utility fee, freeing up other dollars to be used on non-maintenance related projects or programs.

### 3.7.4 TMA Funding Sources:

In addition to public grants, TMAs can collect a variety of fees, which include membership dues, fees for service, in-kind contributions, and assessments, such as a Business Improvement District.

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*MAP-21 is the new transportation funding bill through FHWA. The bill authorizes funding for a variety of transportation projects including mobility, performance, and safety.*

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### 3.8 Projects Currently Underway

ODOT submitted and was successful in securing a grant from the FHWA for the US 26 and OR 35 Mt. Hood Safety and Traveler Information Project. This project will allow ODOT to use a Road Weather Information System to collect real-time winter weather information along US 26 and OR35. Variable Speed Limits will be used on these two corridors based on traffic speed and volume detection, weather information, and road surface condition technology to determine appropriate speeds drivers should be traveling. Variable speed limits will be displayed on dynamic message signs, and these technologies have been used elsewhere to reduce speeds, potentially reduce driver error, and have the potential to decrease the frequency and severity of crashes in the corridor.

These ITS strategies coupled with the ITS and TSM strategies mentioned above could help address the safety and congestion issues found along US 26 and OR 35.

### 3.9 Pilot Program Strategies Considered and not Recommended



*Sno-Park Permit Sign  
Photo Credit: Tom Torres*

During the course of developing the Pilot Program, the Partners Group, PMT, and Technical Team brainstormed a number of strategies that were not ultimately included in this Pilot Program. These strategies are briefly described below along with the reasons they were dismissed. Many of the strategies considered and dismissed were due to the difficulty of completing them within the 5 year time frame, redundancy with ideas included in the Pilot Program and/or push-back from the implementing agency or multiple stakeholders.

#### 3.9.1 Parking Policies

The current Sno-park program in place at the 24 winter Sno-park sites (including the parking lots of all three major ski areas) requires visitors to purchase and display a Sno-Park permit between November 1<sup>st</sup> and April 30<sup>th</sup>. The Sno-Park system is a state-run program and the permits are valid in Oregon, Washington, and Idaho, and the Sno-Park program helps maintain and removes snow in the Sno-Park lots. Users purchase a transferrable parking permit and are required to display the permit when parked at any areas with signs identifying them as Winter Recreation Areas. Sno-Park user fees are currently set at \$20 for an annual permit, \$7 for a 3 consecutive day permit, and \$3 for a daily permit. The fine for parking without a permit is \$30, and any law enforcement officer may issue tickets for parking violations. More information on the current Sno-Park Program can be found in Appendix A, Conditions Report.

The strategy considered and not carried into the Pilot Program was to explore the potential for an additional Mt. Hood surcharge for Sno-Park permits, with the surcharge to be used to fund increased transit and TDM measures for Mt Hood. The surcharge would be purchased as an add-on sticker to the annual, 3-day or daily Sno-Park permits for use within the Zig Zag and Hood River Ranger Districts (the areas with the highest winter recreation use and parking demand, and that experience highway congestion and high crash rates). The purpose of the surcharge proposal was two-fold; to make a private car trip to recreation areas in the winter more expensive, therefore making transit and carpooling more appealing, and to provide a funding source to support transit and TDMs in this Pilot Program.

This strategy was not supported by ODOT due to Oregon Revised Statutes (ORS) restrictions on Sno-parks that prohibit any designated Sno-Park facilities from charging additional parking fees if they are part of the Sno-Park program. Additionally, the ski resorts were also not unanimous in support of exploring this option; the Sno-park program has had difficulty raising prices in the past and the existing program including the plowing services is important to ski area operations.

The other option in this strategy was for the Forest Service to explore the feasibility of an additional use fee for the study area instead of adding to the ODOT-administered program. There are restrictions for the Forest Service to charge user fees; there are facilities requirements (restrooms, ADA accessible parking spots) that would be difficult to implement at affected Sno-Park areas in the Forest.

### **3.9.2 Reversible Lanes**

Reversible lanes allow one or more lanes on a facility to shift direction during the day to accommodate traffic patterns such as morning and evening peaks. There must be a large directional flow during peak periods to make this a viable solution. Utilizing additional lanes in the direction with more traffic demand, can reduce congestion, and increase overall capacity. Lane Control, signs, and special pavement markings are used to inform motorists of lane direction and movements.

ODOT, the US 26 and OR 35 road authority does not support including exploration of reversible lanes in the Pilot Program. Potential implementation of reversible lanes would require careful consideration of roadway geometry and operations for segments under consideration, and ODOT cannot commit to funding such a study at this time.

### **3.9.3 Google Maps**

Google Maps provides directions to areas throughout the globe. Recent additions to these directions include how to access destination using transit where it is available. The strategy considered by not included in the Pilot Program was to integrate transit with Google maps, so when travelers Google directions and choose the “transit” button, it provides information on all of the transit to the mountain including schedules, transfers, and costs. SAM and CAT have this ability (but Mountain Express

does not), and of the private providers, only Grease Bus has this function. This strategy was dismissed because it already exists for most of the public transit providers, and is an expensive and time-consuming process for private providers. Additionally, the other private providers who do not have this functionality, Luxury Accommodations and Sea to Summit Ski and Mountain Shuttles are largely demand-responsive and could be more difficult to provide up-to-date information on when they are running. This concept could be explored by private transit providers independently if they choose to initiate the process.

#### **3.9.4 Open-Source Map Tool**

Open-source web tools are free web-based programs that allow any user to access and/or manipulate data and information on a website. Currently in use in Seattle, [www.livingcitymap.com](http://www.livingcitymap.com) provides information on events, but information such as transit routes, times, and costs as well as park and rides could be added for the Mt. Hood area. This strategy was considered and dismissed due to the lack of champions or implementers. The map tool would require constant and accurate updating, and would in a large part be redundant with the “one stop” website in the Pilot Program.

#### **3.9.5 Ski-Resort Sponsored Website**

This strategy was to create a ski-resort sponsored website to provide up-to-date information for all three ski resorts including road conditions, parking availability, transit and carpooling links, and other information. A ski-resort website could simplify transportation and amenities for new travelers to Mt. Hood and provide information to allow visitors to choose the best mode of transportation that suits their needs based on conditions.

This strategy was considered and dismissed because of its similarity to the one-stop traveler webpage for the Mt Hood National Forest that is currently included in the Pilot Program. The strategy would require more coordination and had the potential to create conflict between competing businesses. The Partners’ Group decided that a neutral, transportation-focused website would be more effective.





# Existing Conditions

The first milestone of the Pilot Program was to understand the current conditions in the Mt. Hood National Forest to determine travel patterns, destinations, and how the transportation system operates today. The existing conditions were gathered through a project team site visit, conversations with area stakeholders, and compilation of data from existing reports and other sources. Previous studies were reviewed and consolidated, as a number of studies have been conducted in the past 20 years analyzing traffic and other conditions in the National Forest. No new traffic data or safety analyses were conducted as part of this Pilot Program. The highlights of the findings are included below, and the full existing conditions report can be found in Appendix A.

## 4.1 Visitation Rates

Mt. Hood National Forest attracts between 2 and 5 million visitors annually, most of which are from the Portland Metropolitan area<sup>3</sup>. Peak visitation days are weekends in both the summer and winter seasons, with traffic volumes 50-100 percent higher on the weekends than the weekdays, and summer traffic volumes higher than winter volumes<sup>4</sup>.

Visitors purchase Northwest Forest Pass permits to use designated recreation areas in the summer. Approximately 80 percent of visitors that purchase wilderness permits are for day-use only<sup>5</sup>. The limited lodging and overnight usage suggest that most visitors are day-trippers, returning to the Portland Metro area instead of staying overnight in the Forest.

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<sup>3</sup> USDA Forest Service Region 6. January 2009. *National Visitor Use Monitoring Results: Mt. Hood National Forest*. National Visitor Use Monitoring Program.

<sup>4</sup> Interagency Transportation Assistance Group (TAG). June 2009. *Transportation Solutions: Mt. Hood National Forest*. US Department of Transportation Federal Highway Administration. Research and Innovative Technology Administration.

<sup>5</sup> USDA Forest Service Region 6. January 2009. *National Visitor Use Monitoring Results: Mt. Hood National Forest*. National Visitor Use Monitoring Program.

### 4.1.1 Destinations/Activities

In winter, visitors come to the Forest to take advantage of the ski areas, including both downhill and Nordic skiing. Other winter activities include snowshoeing, tubing, and other snow play. Forty-eight percent of visitors come for downhill skiing, while nine percent come for Nordic skiing. The next most popular reason for visiting the mountain is to view natural features, which occurs primarily in the summer months. Summer activities include hiking, fishing and rustic camping, viewing wildlife and scenic areas, and visiting developed campgrounds. Approximately 2 million visitors a year come solely to see Timberline Lodge, a National Historic Landmark built by the Works Progress Administration during the Great Depression. Visitors are attracted to the lodge year-round<sup>6</sup>.



*Timberline Lodge and Parking Lot*  
*Photo Credit: Tom Torres*

These different destinations and activities create different travel markets: the summer recreation trip, the winter recreation trip, local trips by residents and employees near the National Forest, and through trips on US 26 to eastern Oregon.

Sno-Park areas are a large draw in the winter as they provide winter recreation activities. There are 24 designated Sno-Parks in the Mt Hood National Forest including the parking areas adjacent to the three main ski areas. Activities at Sno-Park areas include downhill skiing, sledding/snow play, cross-country, or Nordic Skiing, and snowmobiling. Table 13 includes a list of all the Sno-Park areas, the number of parking spots, and the activities available.

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<sup>6</sup> USDA Forest Service Region 6. January 2009. *National Visitor Use Monitoring Results: Mt. Hood National Forest*. National Visitor Use Monitoring Program.

TABLE 13  
SNO-PARKS and Adjacent Mt Hood Activity Areas

Activity Area	# of spaces	Downhill skiing	Sledding/ Snow Play	Cross-country skiing	Snow-mobiling
<b>Timberline</b> 6 miles north of Government Camp	900 70 spaces of the 900 are reserved for lodge patrons	✓	✓		
<b>Glacier View</b> ½ mile west of Government Camp on US 26	40			✓	
<b>Skibowl West</b> Across from Government Camp off US 26	370	✓		✓	
<b>Skibowl East</b> South of Government Camp off US 26	200	✓			
<b>Summit Ski Area</b> Located at Government Camp on US 26	130	✓	✓	✓	
<b>Government Camp</b> Government Camp Loop Road	972				
<b>Government Camp Maintenance Station</b> ¼ mile east of Government Camp on US 26	80			✓	
<b>Snow Bunny Lodge</b> 3 miles east of Government Camp on US 26	75		✓	✓	
<b>Trillium Lake</b> 3 miles east of Government Camp on US 26	75			✓	✓
<b>Barlow Pass</b> 2 miles north of US 26 on OR 35	50			✓	

TABLE 13  
SNO-PARKS and Adjacent Mt Hood Activity Areas

Activity Area	# of spaces	Downhill skiing	Sledding/ Snow Play	Cross-country skiing	Snow-mobiling
<b>Boy Scout Camp</b> 4 miles north of US 26 on OR 35	40			✓	
<b>White River West</b> 4 miles north of US 26 on OR 35	228			✓	
<b>White River East</b> 4 miles north of US 26 on OR 35	40			✓	✓
<b>Bennett Pass</b> 6 miles north of US 26 on OR 35	55			✓	✓
<b>Mt. Hood Meadows</b> 38 miles south of Hood River on OR 35	1,600	✓		✓	
<b>Hood River Meadows</b> 37 miles south of Hood River on OR 35	660	✓		✓	
<b>Teacup Lake*</b> 36.5 miles south of Hood River on OR 35	45			✓	
<b>Clark Creek</b> 36.5 miles south of Hood River on OR 35	76			✓	
<b>Pocket Creek</b> 34.5 miles south of Hood River on OR 35	40			✓	
<b>Little John</b>	40		✓	✓	✓

TABLE 13  
SNO-PARKS and Adjacent Mt Hood Activity Areas

Activity Area	# of spaces	Downhill skiing	Sledding/ Snow Play	Cross-country skiing	Snow-mobiling
<b>Cooper Spur</b> 30 miles south of Hood River on OR 35	300	✓	✓	✓	
<b>Frog Lake</b> 4.5 miles east of OR 35 on US 26	~50			✓	✓
<b>Skyline Road</b> 10 miles east of OR 35 on US 26	~50			✓	✓

\* Teacup Lake to be expanded at completion of FHWA White River project.

Source: 2009 TAG Report



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## 4.2 Visitor Capacity

There are a number of capacity constraints that limit the number of visitors to the Forest including roadway capacity, parking capacity, and visitor capacity limits at the Ski Areas.

### 4.2.1 Roadway Capacity

The ability for US 26 to accommodate the vehicular demand is exceeded on both summer and winter weekends and holidays. In traffic studies, the traffic volumes were forecasted to double over the next 20 years, however, the current economic conditions have reduced traffic demand growth over the last five years, and it is unclear when economic conditions will improve. Currently US 26 experiences 150 days of congestion and the current roadway cross section (between two and three lanes, depending on the location) does not provide many opportunities for traffic to pass slower moving vehicles<sup>7</sup>. The highway carries traffic access the forest, as well as provides the most direct route between Portland and eastern Oregon and the communities of Madras, Redmond, and Bend and the Warm Springs Reservation.

In addition to the congestion on the roadway, safety along US 26 is a concern; there is a high crash rate at the intersections near Government Camp loop roads, mostly due to winter conditions such as snow, ice, or wet pavement. The month of January has the most crashes, and the highest crash type is running off the road and hitting a fixed object (usually a result of speed and weather conditions), followed by rear-end crashes (usually a result of congestion). January has more total crashes than the months of May through September, even though these summer months are the five highest months for traffic volumes on US 26. US 26 in the Mt. Hood area is designated a safety corridor in recognition of the high-crash rates at this location<sup>8</sup>.

Incident response on the mountain and the time it takes to respond to crashes and clear the roadway contribute to increased congestion and can also affect safety along the corridor. A variety of entities respond to incidents: the local fire departments, Oregon State Police, and ODOT depending on the severity and needs associated with the crash.

### 4.2.2 Ski Area Capacity

The ski areas have a permitted capacity of Persons at One Time (PAOT), have limited parking availability, and a low percentage of visitors that take transit or alternative modes to the areas. Table 14 below shows the capacity constraints associated with the three main ski areas in the Forest, number of annual visitors, and bus mode split. It should be noted that the permitted capacity is not a target, but the maximum

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<sup>7</sup> Interagency Transportation Assistance Group (TAG). June 2009. *Transportation Solutions: Mt. Hood National Forest*. US Department of Transportation Federal Highway Administration. Research and Innovative Technology Administration.

<sup>8</sup> Kittelson & Associates, Inc. June 2009. *Road Safety Audit: Mt. Hood Highway Mile Post 47.0-54.3*. ODOT.

number of people able to be accommodated by the ski area taking into account the available facilities.

TABLE 14

### Ski Area Capacity, Visitors, and Mode Split

Ski Area	Permitted Capacity (PAOT)	Existing Parking Spots <sup>1</sup>	Number of Park-out Days per Season <sup>2</sup>	Annual Visitors	Bus mode Split
Mt. Hood Meadows	13,900 winter, 1,500 summer	2,500	4-6	393,000	6%
Timberline	4,655	1,000	5-33	320,000 for skiing, 1.6 million to visit the lodge	5-6 %
Skibowl	7,800	1,200	5-10	435,000	10%

<sup>1</sup> Parking spots at the ski areas are part of the Sno-Park system, and are open to all users, as long as they have and display a Sno-Park pass. Parking spots are not reserved for visitors to the ski areas.

<sup>2</sup> Park-out days are the number of days the ski area has to turn away visitors because of full parking lots. The timing and frequency of park-out days is largely weather and snow-condition dependant

Sources: Interviews with ski area stakeholders, Ski area master plans, and a January 2012 site visit

In addition to the constraints at the ski areas, the following constraints exist in other areas of the forest: roadway capacity, other activity center parking limitations, and safety concerns on the roadway.

### 4.2.3 Activity Area Capacity

Throughout the year, various activity areas within the forest are at capacity. Many of the popular trailheads, including Mirror Lake and Trillium Lake near Government Camp have more demand for parking than the parking lot can accommodate. When parking lots are full, vehicles park illegally along US 26, creating potential safety issues. For most activity areas, the limiting factor is available parking, not the capacity of the area itself to accommodate the visitors to the site.

## 4.3 Transit

This section will include a discussion of the transit “markets” that have been talked about throughout the process, along with some of the challenges of meeting the needs of these markets.

### 4.3.1 Existing Transit

Existing transit is fairly limited, and no public transit currently serves the ski areas or other destinations within the Forest. All three ski areas contract with outside companies to provide charter bus service, with pickups around the Portland Metro area. Schools and other groups also rent buses to bring larger groups to the Forest for skiing or other activities. Timberline and Skibowl also jointly support the Fusion

Bus, which provides free transit from Sandy to the two ski areas for Fusion Pass holders and a charge for non-pass riders. Timberline and Mt. Hood Meadows also provide two shuttles each for employees, and Skibowl runs an internal shuttle between the Collins Lake Resort and the various Skibowl properties. Mt. Hood Meadows also runs a seasonal shuttle between Government Camp and Mt. Hood Meadows. A private company called Grease Bus also runs a 22 person shuttle six days a week from inner southeast Portland to Mt. Hood Meadows. Sea to Summit, another private shuttle operates seven days a week from Downtown Portland to all three ski areas (depending on demand) using two vehicles: a 22 person bus and a 14 passenger van.

In addition to the commercial transit providers, there are a number of public transit agencies that operate near the Forest. Mountain Express bus is run through Clackamas County public services on behalf of the Villages at Mount Hood. The bus is a point-deviated fixed route system and runs along the US 26 corridor between Sandy and Rhododendron, but does not provide service to Government Camp or the ski areas. The Mountain Express serves mostly residents, commuters, and transit-dependent populations along the US 26 corridor. Sandy Area Metro (SAM) provides



*SAM Bus Stop on US 26 in Sandy  
Photo Credit: Tom Torres*

service in Sandy, and connects with other transit systems including Portland's TriMet and the Mountain Express. Columbia County runs Columbia Area Transit (CAT) which provides demand-responsive service in Hood River County and fixed-route service to The Dalles, but does not serve the Forest.

Both types of transit serve very different "Transit markets": the local resident and employment/services year-round transit market is served by

Mountain Express, SAM, and CAT, while the recreational and seasonal market is served by the private transit providers to individual ski areas. Currently there is no transit provider regularly serving the recreational summer market, and only one private transit provider for the through traffic market.

### 4.3.2 Past Transit

There have been a number of transit routes in the past with a variety of providers that have since been discontinued. Skibowl used to provide an employee shuttle, though found that with the increased job demand the cost to provide the shuttle was not justified. Additionally CAT used to provide service from Hood River to

Mt. Hood Meadows, but discontinued the service due to cost, unruly passenger issues and driver safety. At one point Greyhound bus lines used to provide daily service between Portland and Government Camp. The bus arrived in Government Camp at 6:00 p.m. and departed for Portland at 12:55 p.m. Service was discontinued due to low ridership.



# Case Studies

The planning process included case studies that evaluated the effectiveness of transit, Transportation Demand Management (TDM), and parking systems at seven comparable locations in North America to help inform the pilot program development. These case study locations were chosen based on input from the Project Management Team (PMT) and recommendations from the Mt. Hood area stakeholders. Information was gathered through available documents, online searches, and telephone interviews with managers and others at ski areas and forest service locations.

The seven case studies (in no particular order) are:

1. Alta, Brighton, Snowbird, and Solitude, near Salt Lake City Utah
2. Devils Postpile National Monument, near Mammoth California
3. Breckenridge, Colorado
4. Whistler, British Columbia
5. Squaw Valley, Northstar, Alpine Meadows, near North Lake Tahoe, California
6. Mt. Baker, Crystal, Summit at Snoqualmie, and Stevens Pass, Snoqualmie National Forest, Washington
7. Mt Bachelor in Deschutes National Forest

## 5.1 Similarities to Mt. Hood

While each place is unique, the case studies were chosen because of similarities to Mt. Hood—mainly hosting day-trippers, proximity to a city, along a state highway, limited parking conditions, multiple ski areas, and on forest land. The case studies illustrate similarities and differences to help determine what types of transit service and TDM strategies could be successful on Mt. Hood, which are listed as lessons learned. Table 15 below shows the differences and similarities between the case studies and the Mt. Hood National Forest. Full circles indicate locations where the case studies are similar to the Mt. Hood National Forest, and partial circles indicate where there are some similarities. Many of the case study locations have similar characteristics to conditions on Mt. Hood. The similarities to Mt. Hood make lessons learned more relevant and applicable to strategies for the pilot program.

TABLE 15

**Case Study Characteristics Comparison to Mt. Hood**

Area	Mostly Day-Trippers	Within 2 Hours of a City	Along a State Highway	Limited Parking (Ski & Trail Head)	Multiple Ski Areas	Forest Land
Mt. Hood	●	●	●	●	●	●
Alta Area, Utah	●	●	●	●	●	●
Devils Postpile, CA	-	-	-	●	-	●
Breckenridge, CO	●	●	●	●	●	●
Whistler, BC	◐	●	●	-	-	-
North Lake Tahoe, CA	◐	-	●	◐	●	◐
Snoqualmie National Forest, WA	●	●	●	◐	●	◐
Deschutes National Forest	●	●	-	◐	-	●

● indicates that the case study location is very similar to Mt. Hood  
 ◐ indicates that the case study location is partially similar to Mt. Hood  
 - indicates that the case study is dissimilar to Mt. Hood

## 5.2 Findings from Case Studies

There are differences and similarities between all of the case studies and the conditions on Mt. Hood National Forest. Through the Case Study work, a number of themes emerged that can be used to help create a pilot project to support alternative transit opportunities and transportation demand management within the Mt. Hood National Forest.

The three main themes that emerged during the case study discussion are: providing incentives for visitors and employees to take transit or carpool (Table 16), utilizing management techniques to reduce the number of visitors who drive (Table 17), and leveraging partnerships to create useful and successful TDM or transit service (Table 18). Within each theme, common strategies are identified for case study

locations. Each case study description has specific information about each strategy. More information about each case study can be found in Appendix B.

1. Providing incentives for visitors and employees to take transit or carpool:
  - Cheap or free transit (subsidized)
  - Discounts, or bundled lift pass and transit prices
  - Bus amenities, such as guided tours or places for gear
  - Discounts for those who carpool and/or premium parking spots
  - Providing employee shuttles or having an employer buy a transit pass for employees

TABLE 16

### Case Study Locations that Provide Transit or Carpool Incentives

Area	Cheap or Free Transit	Discounts/ Bundled Lift Pass & Transit	Bus Amenities	Carpool Discounts Premium Parking	Employee Shuttles/ Employer Buys Transit Pass
Mt. Hood	-	◐	◐	-	◐
Alta Area, Utah	●	●	●	-	●
Devils Postpile, CA	●	N/A	●	-	-
Breckenridge, CO	●	●	●	●	●
Whistler, BC	●	-	●	●	●
North Lake Tahoe, CA	●	●	●	●	●
Snoqualmie National Forest, WA	-	-	-	◐	◐
Deschutes National Forest	●	-	-	-	●

● indicates that the case study location is very similar to Mt. Hood  
 ◐ indicates that the case study location is partially similar to Mt. Hood  
 - indicates that the case study is dissimilar to Mt. Hood  
 N/A indicates that the case characteristic is not applicable

2. Utilizing management techniques to reduce the number of visitors who drive:
  - Charge for parking (up to \$20 a day)
  - Limited parking
  - Transit and park and ride facilities
  - Requirement, or mandatory transit usage
  - Providing bus priority on the roadways
  - Utilizing social media to encourage people to carpool or change their travel habits
  - Parking intelligent transportation systems

TABLE 17

**Case Study Locations that Employ Management Techniques to Reduce the Visitors who Drive**

Area	Charge for Parking	Limited Parking	Transit + Park and Rides	Requirement (Mandatory Use)	Bus Priority	Social Media	Parking/ITS
Mt. Hood	-	●	-	-	-	◐	◐
Alta Area, Utah	-	●	●	-	●	-	●
Devils Postpile, CA	-	●	●	●	●	-	-
Breckenridge, CO	●	●	●	-	-	-	-
Whistler, BC	◐	-	-	-	●	●	●
North Lake Tahoe, CA	◐	◐	◐	-	-	●	-
Snoqualmie National Forest, WA	◐	◐	-	-	-	●	-
Deschutes National Forest	-	◐	●	-	-	◐	-

- indicates that the case study location is very similar to Mt. Hood
- ◐ indicates that the case study location is partially similar to Mt. Hood
- indicates that the case study is dissimilar to Mt. Hood

3. Leveraging partnerships to create a useful and successful TDM or transit service
  - Transitioning from winter to summer service (winter destinations are often fewer and easier to serve as a starting point and then extending to summer destinations which are often more disperse).
  - Transitioning from employee to visitor service (employee trips are more predictable with respect to time of day, origins and destinations and a good way to start transit service and then expanding).
  - Partnering with transit agencies
  - Leveraging shared funding through transit authorities
  - Emphasizing the sustainability ethic and resource management

TABLE 18

**Case Study Locations with Leveraged Partnerships**

Area	Winter to Summer Service	Employee to Visitor Service	Transit Agencies	Transit Authority	Sustainability Ethic and Resource Management
Mt. Hood	-	-	-	-	◐
Alta Area, Utah	●	●	●	●	●
Devils Postpile, CA	-	-	-	-	●
Breckenridge, CO	●	●	●	●	●
Whistler, BC	-	-	●	●	●
North Lake Tahoe, CA	◐	◐	●	●	-
Snoqualmie National Forest, WA	-	-	-	-	◐
Deschutes National Forest	-	◐	●	●	◐

● indicates that the case study location is very similar to Mt. Hood  
 ◐ indicates that the case study location is partially similar to Mt. Hood  
 - indicates that the case study is dissimilar to Mt. Hood



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# Next Steps

Pilot program strategies will be implemented through cooperation of the Partners' Group, which will initially meet informally and may evolve into a governance structure, such as a Transportation Management Association, a recommended strategy within the pilot program. ODOT and the National Forest Service will work in partnership during the Mt. Hood Multi-Modal plan to evaluate long-term solutions and further implement and evaluate pilot program strategies.

Immediate areas the Partners' Group would like to address are: 1) help shape implementation of the \$1.2 million grant received by ODOT for Variable Message Signs, and 2) expand Mountain Express service to Government Camp, and 3) begin to charter a Transportation Management Association, continuing to meet, implement and seek funding informally.

The Partners' Group itself could grow to include a larger number of stakeholders as it implements the pilot program. Future stakeholders could include area chambers of commerce, fire departments that serve the area, ODOT maintenance staff, and others.



**Appendix A**  
**Background Information and Existing/  
Near Term Conditions Report**

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# Background Information and Existing/Near Term Conditions Report

PREPARED FOR: Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest PMT

COPY TO: Sumi Malik, CH2M HILL

PREPARED BY: Terra Lingley, CH2M HILL

DATE: August 2, 2012

## Executive Summary

The Mt. Hood National Forest (MHNH) is approximately 55 miles east of Portland, Oregon. The forest is bounded to the south and southeast by the Willamette National Forest and the Warm Springs Indian Reservation and to the west by the Willamette Valley. The Columbia River Gorge National Scenic Area (managed by a separate USFS unit) and Hood River and Wasco counties border the northern edge of the MHNH. Most visitors access the Forest from Portland via US 26 eastbound, with an alternate route via I-84 eastbound to Hood River, and then OR 35 south to US 26. US 26 is the most direct route from the Portland Metro area to central Oregon, serving both visitors to the Forest as well as through-traffic and freight between Redmond and Bend and Portland. Both US 26 and OR 35 are designated as Statewide Highways in the *Oregon Highway Plan*, and Freight Routes on both the state and National Highway Systems. Additionally, US 26 in the Mt. Hood area is designated a safety corridor, in recognition that it is a high-crash location.

The Alternative Transit Opportunities and Transportation Demand Management (TDM) within the Mt. Hood National Forest Study will:

- Examine existing and past transportation in the northern portion of the Mt. Hood National Forest primarily along the Mt Hood Highway/US 26-OR 35 corridor,
- Look at potential transit, transportation demand management, and parking scenarios, and
- Develop a recommended pilot program for transit and TDM projects that can be implemented in the next five years.

This report summarizes the available information on existing winter and summer recreation visitation rates, and projected future rates at the three ski areas and other recreation sites in the Mt. Hood National Forest, Zig Zag and Hood River Ranger districts. It includes existing and past public, private, and charter transit services, operations, and cost/revenues. The scope and effectiveness of current transportation demand management programs are also reported.

## Report Findings

### Visitation rates

Mt Hood National Forest attracts between 2 and 5 million visitors annually, most of which are from the Portland Metropolitan area. Peak visitation days are weekends in both the summer and winter seasons,

with traffic volumes 50-100 percent higher on the weekends than the weekdays, and summer traffic volumes higher than winter volumes.

Visitors must purchase permits to use recreation areas in the summer. Approximately 80 percent of visitors that purchase wilderness permits are for day-use only. The limited lodging and overnight usage suggest that most visitors are day-trippers, returning to the Portland Metro area instead of staying overnight in the Forest.

### Visitor Destinations/Activities

In winter, visitors come to the Forest to take advantage of the ski areas, including both downhill and Nordic skiing. Other winter activities include snowshoeing, tubing, and other snow play. Forty-eight percent of visitors come for downhill skiing, while nine percent come for Nordic skiing. The next most popular reason for visiting the mountain is to view natural features, which occurs primarily in the summer months. Summer activities include hiking, fishing and rustic camping, viewing wildlife and scenic areas, and visiting developed campgrounds. Approximately 2 million visitors a year come solely to see Timberline Lodge, a National Historic Landmark built by the Works Progress Administration during the Great Depression. Visitors are attracted to the lodge year-round.

These different destinations and activities create different travel markets: the summer recreation trip, the winter recreation trip, local trips by residents and employees near the National Forest, and through trips on US 26 to eastern Oregon.

### Capacity Constraints

There are a number of capacity constraints that limit the number of visitors to the Forest including roadway capacity, parking capacity, and visitor capacity limits at the Ski Areas. The ski areas have a permitted capacity of Persons at One Time (PAOT), have limited parking availability, and a low percentage of visitors that take transit or alternative modes to the areas. Table 1 below shows the capacity constraints associated with the three main ski areas in the Forest, number of annual visitors, and bus mode split. It should be noted that the permitted capacity is not a target, but the maximum number of people able to be accommodated by the ski area taking into account the available facilities.

TABLE 1  
Ski Areas Capacity, Number of Visitor, and Mode Split in the Mt Hood National Forest

Ski Area	Permitted Capacity (PAOT)	Existing Parking spots <sup>1</sup>	Number of Park-out Days per season <sup>2</sup>	Annual Visitors	Bus mode split
Mt Hood Meadows	13,900 winter, 1,500 summer	2,500	4-6	393,000	6%
Timberline	4,655	1,000	5-33	1.9 million	5-6 %
Skibowl	7,800	1,200	5-10	435,000	10%

<sup>1</sup> Parking spots at the ski areas are part of the Sno-Park system, and are open to all users, as long as they have and display a Sno-Park pass. Parking spots are not reserved for visitors to the ski areas.

<sup>2</sup> Park-out days are the number of days the ski area has to turn away visitors because of full parking lots. The timing and frequency of park-out days is largely weather and snow-condition dependant

Sources: Interviews with ski area stakeholders, Ski area master plans, and a January 2012 site visit

In addition to the constraints at the ski areas, the following constraints exist in other areas of the forest: roadway capacity, other activity center parking limitations, and safety concerns on the roadway.

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## Roadway Capacity

The ability for US 26 to accommodate the vehicular demand is exceeded on both summer and winter weekends and holidays. In traffic studies, the traffic volumes were forecasted to double over the next 20 years, however, the current economic conditions have reduced traffic demand growth over the last five years, and it is unclear when economic conditions will improve. Currently US 26 experiences 150 days of congestion and the current roadway cross section (between two and three lanes, depending on the location) does not provide many opportunities for traffic to pass slower moving vehicles. The highway carries traffic access the forest, as well as provides the most direct route between Portland and eastern Oregon and the communities of Madras, Redmond, and Bend and the Warm Springs Reservation.

In addition to the congestion on the roadway, safety along US 26 is a concern; there is a high crash rate at the intersections near Government Camp loop roads, mostly due to winter conditions such as snow, ice, or wet pavement. The month of January has the most crashes, and the highest crash type is running off the road and hitting a fixed object (usually a result of speed and weather conditions), followed by rear-end crashes (usually a result of congestion). January has more total crashes than the months of May through September, even though these summer months are the five highest months for traffic volumes on US 26. US 26 in the Mt. Hood area is designated a safety corridor in recognition of the high-crash rates at this location.

Incident response on the mountain and the time it takes to respond to crashes and clear the roadway contribute to increased congestion and can also affect safety along the corridor. A variety of entities respond to incidents: the local fire departments, Oregon State Police, and ODOT depending on the severity and needs associated with the crash.

## Existing Transit

Existing transit is fairly limited, and no public transit currently serves the ski areas or other destinations within the Forest. All three ski areas contract with outside companies to provide charter bus service, with pickups around the Portland Metro area. Schools and other groups also rent buses to bring larger groups to the Forest for skiing or other activities. Timberline and Skibowl also jointly support the Fusion Bus, which provides free transit from Sandy to the two ski areas for Fusion Pass holders and a charge for non-pass riders. Timberline and Mt Hood Meadows also provide two shuttles each for employees, and Skibowl runs an internal shuttle between the Collins Lake Resort and the various Skibowl properties. Mt Hood Meadows also runs a seasonal shuttle between Government Camp and Mt Hood Meadows. A private company called Grease Bus also runs a 22 person shuttle six days a week from inner southeast Portland to Mt Hood Meadows. Sea to Summit, another private shuttle operates seven days a week from Downtown Portland to all three ski areas (depending on demand) using two vehicles: a 22 person bus and a 14 passenger van.

In addition to the commercial transit providers, there are a number of public transit agencies that operate near the Forest. Mountain Express bus is run through Clackamas County public services on behalf of the Villages at Mount Hood. The bus is a point-deviated fixed route system and runs along the US 26 corridor between Sandy and Rhododendron, but does not provide service to Government Camp or the ski areas. The Mountain Express serves mostly residents, commuters, and transit-dependent populations along the US 26 corridor. Sandy Area Metro (SAM) provides service in Sandy, and connects with other transit systems including Portland's TriMet and the Mountain Express. Columbia County runs Columbia Area Transit (CAT) which provides demand-responsive service in Hood River County and fixed-route service to The Dalles, but does not serve the Forest.

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Both types of transit serve very different “Transit markets”: the local resident and employment/services year-round transit market is served by Mountain Express, SAM, and CAT, while the recreational and seasonal market is served by the private transit providers to individual ski areas. Currently there is no transit provider regularly serving the recreational summer market, and only one private transit provider for the through traffic market.

### **Past Transit**

There have been a number of transit routes in the past with a variety of providers that have since been discontinued. Skibowl used to provide an employee shuttle, though found that with the increased job demand the cost to provide the shuttle was not justified. Additionally CAT used to provide service from Hood River to Mt Hood Meadows, but discontinued the service due to cost, unruly passenger issues and driver safety. At one point Greyhound bus lines used to provide daily service between Portland and Government Camp. The bus arrived in Government Camp at 6:00 pm and departed for Portland at 12:55 pm. Service was discontinued due to low ridership.

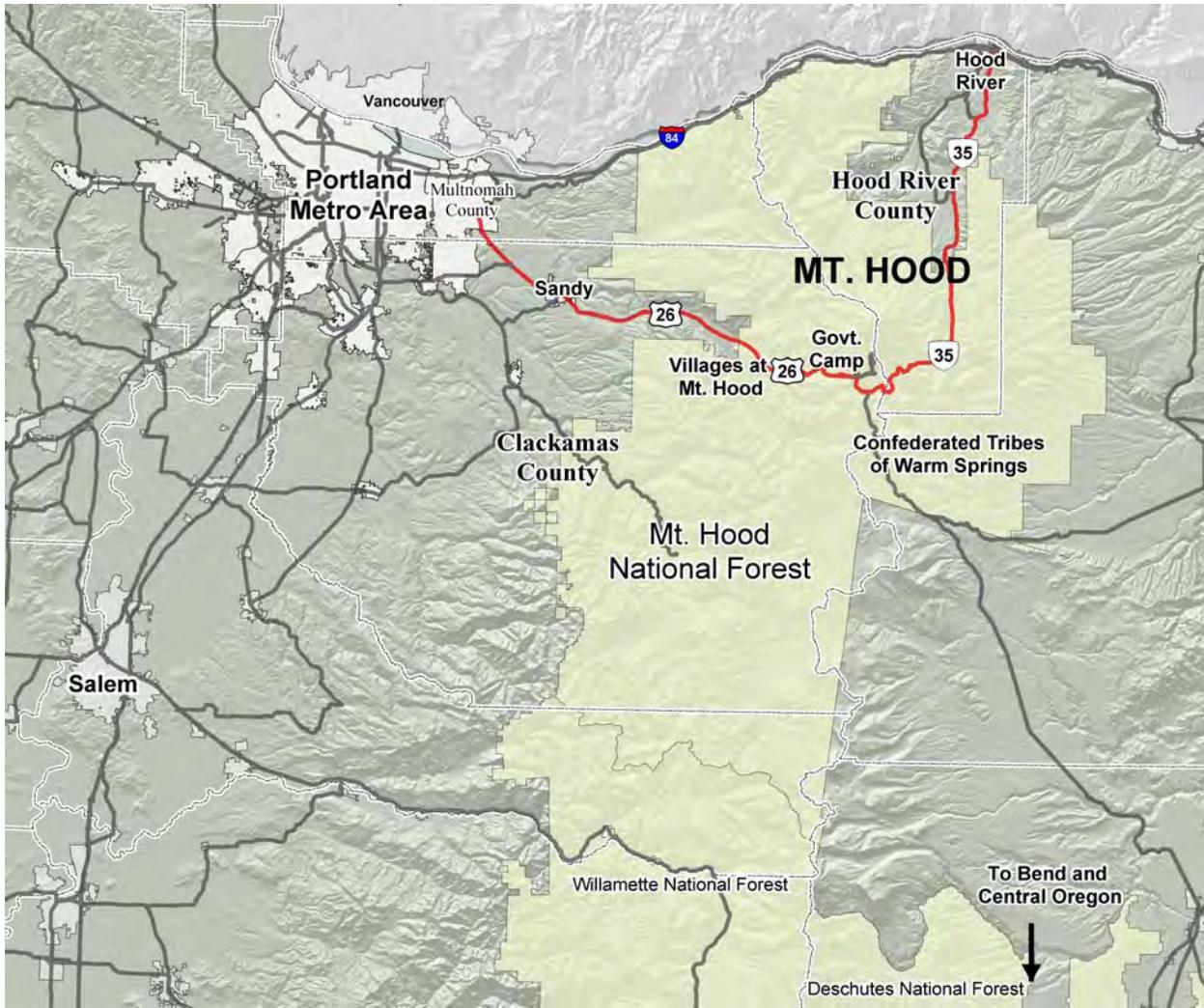


Figure 1 Vicinity Map

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## Acronyms/Definitions

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Acronym	Definition
ADT	Average Daily Traffic
ATR	Automatic Traffic Recorder
BETC	Business Energy Tax Credit
CAT	Columbia Area Transit. Hood River County public transit agency.
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HRM	Hood River Meadows (Mt. Hood Meadows parking area)
ITS	Intelligent Transportation System
JARC	Jobs Access Reverse Commute funding source from FTA
MHNF	Mount Hood National Forest
MOU	Memorandum of Understanding
ODOT	Oregon Department of Transportation
PAOT	Persons At One Time
RITA	Research and Innovative Technology Administration
ROD	Record of Decision
SAM	Sandy Area Metro. City of Sandy public transit agency.
TDM	Transportation Demand Management
TAG	Transportation Solutions Mt. Hood National Forest Report by Interagency Transportation Assistance Group
TIS/TIA	Traffic Impact Statement/Traffic Impact Analysis
USDA	United States Department of Agriculture
USFS	United States Forest Service
VMS	Variable Message Sign

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## Introduction

The purpose of the Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest Project is to:

- Provide additional travel options for visitors,
- Help reduce congestion on US 26 and OR 35 within the forest,
- Increase highway safety for visitors to the forest and all travelers as a result of reducing vehicle trips,
- Increase the ability for the ski areas to operate to their permitted capacity,
- Reduce the environmental impact of vehicle use, and
- Help increase economic opportunities for recreation-related commercial enterprises for local communities within the Mt Hood Highway corridor.

The project will be completed with a number of steps: 1) understand the existing and anticipated future needs of forest users and through travelers; 2) research case studies to see what comparable areas are doing to address congestion and move visitors more efficiently; 3) develop transit, transportation demand management and parking scenarios; and 4) as the final product of the plan, develop a pilot program to implement in the next five years.

The Mt. Hood National Forest is about an hour and a half east of Portland, Oregon. The Portland metro area (including Vancouver and Hillsboro) has a population around 2.2 million people, and is the closest population center to the Forest. The forest is bounded to the south and southeast by the Willamette National Forest and the Warm Springs Indian Reservation and to the west by the Willamette Valley. The Columbia River Gorge National Scenic Area (managed by a separate USFS unit) and Hood River and Wasco counties border the northern edge of the MHNH for a total area of over 1 million acres, with 314,000 acres of designated wilderness including the Mt. Hood Wilderness (the mountain peak and upper slopes). Most visitors access the Forest from Portland via US 26 eastbound, with an alternate route via I-84 eastbound to Hood River, and then OR 35 south to US 26. US 26 is the most direct route from the Portland Metro area to central Oregon, serving both visitors to the Forest as well as through-traffic and freight between the Bend area and Portland. Both US 26 and OR 35 are designated as Statewide highways in the *Oregon Highway Plan*, and Freight Routes on both the state and National Highway Systems. The roadways are owned, operated and maintained by the Oregon Department of Transportation.

US 26 is five lanes (two lanes in each direction with a center turn lane) east of Sandy, with sections of four lanes until east of Rhododendron, where the speed limit is 45 mph through the Villages at Mount Hood. From Rhododendron east to Government Camp, there are generally two eastbound lanes allowing for a climbing lane, and one westbound lane. The speed limit in this section is 55 mph. US 26 is three lanes through Government Camp: two eastbound and one westbound. East of the Timberline Highway, US 26 narrows to two lanes until just west of the interchange with OR 35, when the roadway widens to three lanes again: two westbound lanes and one eastbound lane. The segment of US 26 between Sandy and the interchange with OR 35 is approximately 31 miles. After the OR 35 interchange, US 26 is two lanes, and widening to three lanes: two eastbound lanes and one westbound to the boundary of the National Forest.

OR 35 is mainly a two-lane roadway starting at the US 26 interchange, with some sections of three lanes (two lanes northbound, and one lane southbound) east of the US 26 interchange to Forest Service Road

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3530, and then narrowing to two lanes with a speed limit of 55 MPH to the edge of the National Forest. There are 35 miles between the interchange of US 26 and Hood River on OR 35. During the winter both US 26 and OR 35 may have chain and traction tire requirements for vehicles on the roadway depending on weather and driving conditions. When chains or traction tires are required, drivers not using the devices can be ticketed.

There is fairly limited parking for the most popular activities including trailheads and the ski areas, and at times visitors are unable to park legally and must be turned away. In the winter, the Sno-Park program permits parking at winter recreation areas. Users purchase a parking permit and are required to display the permit when parked at any areas with signs identifying them as Winter Recreation Areas. Funds from the Sno-Park program provide for snow-removal and parking enforcement. During the summer, wilderness areas and trailheads require wilderness permits at 30 different trailheads and two picnic areas. Wilderness permits pay for restroom upkeep, erosion and facilities upkeep, and trail maintenance.

While there are a number of existing public and private transit services, these tend to be season-specific and piecemeal, not a comprehensive transit network serving a variety of uses within the forest. Past transit has been a bit more comprehensive, but the challenges of winter service, the vast array of destinations in the summer, and the recreational nature of travelers presents a number of challenges to comprehensive transit service.

The Mt. Hood National Forest draws visitors for a variety of reasons; most visitors come for the abundant outdoor activities in both winter and summer.

Activities include:

- Downhill skiing
- Nordic skiing
- Snowshoeing
- Miscellaneous snow play including tubing
- Hiking
- Camping
- Boating
- Hunting
- Fishing
- Wildlife/wildflower viewing
- Sightseeing
- Mountain biking

In the next 20 years, the population of the Portland Metro area is expected to grow to between 2.9 and 3.2 million people, with an annual percentage rate of growth between 1.37 and 1.70 percent.<sup>1</sup> Growth in the Portland Metro region is likely to correlate with a growth in anticipated visits to the Forest. In eastern Oregon, Deschutes County, which contains the City of Bend, is projected to grow from 158,000 people in 2010 to 214,000 people in 2025, with an estimated annual percentage rate of growth around 1.22 percent. Economic conditions have slowed the population growth in the Bend region, though as the populations of both metro areas increase, vehicle demand for US 26 between the two are expected to continue to increase, contributing to increased congestion on the highway.

Project stakeholders and partners include:

- Mt. Hood National Forest
- Oregon Department of Transportation (ODOT)

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<sup>1</sup> Metro, 2009. *20 and 50 Year Regional Population and Employment Range Forecasts.*

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- Federal Highways Administration – Federal Lands Federal Highway Division

The agencies above coordinate the roadway system through the National Forest, and the activities that take place within the Forest. In addition to the state and federal agencies, the following municipalities and counties are involved:

- Clackamas and Hood River Counties
- Cities of Sandy and Hood River
- Villages at Mount Hood
  - Brightwood
  - Wemme
  - Welches
  - Zigzag
  - Rhododendron
- Government Camp
- Metro (City of Portland Metropolitan Planning Organization)

Existing transit and bus service providers include:

- Sandy Area Metro (SAM)
- Mountain Express (run by Clackamas County in partnership with the Villages at Mount Hood)
- Columbia Area Transit (CAT, run by Hood River County)
- Fusion Bus
- Grease Bus
- Sea to Summit Ski and Mountain Shuttles

Other organizations involved in the project as stakeholders to ensure that the pilot project reflects the needs of the community and businesses within the National Forest include

- Mazamas hiking club
- Pacific Crest Trail Association
- Mid-Columbia Economic Development District

The purpose of this memorandum is to review information gathered in past studies; update parking and traffic information utilizing the most recent data available; and report on site visits and conversations with various stakeholders including the three ski resorts, ODOT maintenance staff, and current transit providers. No new traffic data or analyses were done as part of this review; the information reported in this memorandum was gathered through existing documents and stakeholder interviews. The Appendix lists stakeholders with whom the project team spoke. Understanding current visitation levels, parking and roadway congestion problems, and past and existing transit will help provide a complete picture of travel options within the MHNF, and provide a base of understanding to start to develop scenarios and the pilot program.

## Visitation Rates

The National Forest Service completes a visitor use monitoring program and releases data in the *National Visitor Use Monitoring Results Report* every few years to determine visitation rates and visit purpose. The most recent report was released in 2009, with data from 2003 and 2006. For 2003 and 2006, the estimated annual site visits in the Mount Hood National Forest were 5,089,390 in 2003, and 2,046,500 for 2006. The estimates are based on surveys, and there is a margin of error associated with both numbers. Table 2 below shows information on number of visitors and visitor activity.

Most visitors interviewed by the Forest Service were visiting the Mt. Hood National Forest for recreational purposes for both sample years. The majority of visitors (approximately 75 percent) live within 75 miles of the forest. More males than females visit the National Forest; 66-69 percent of visitors are male. In 2006 by race, the majority (98.5 percent) of visitors were white, with Asian (2.1 percent) visitors comprising the second largest group of non-Caucasian visitors. Hispanic visitors comprise about 2.6 percent of visitors, but are comprised of a variety of races, which is why the total percentage is over 100 percent. Demographic data from 2003 are similar to the 2006 data. The majority of visitors to the park are between 20 and 49 years old, followed by those under 16. Few visitors are 60 or older, which was consistent in both the 2003 and 2006 data.

TABLE 2  
Annual Visitation Estimate (FY 2003 and FY 2006 data)

Visit Type	FY 2003		FY 2006	
	Visits (thousands)	90% confidence interval width(%) <sup>c</sup>	Visits (thousands)	90% confidence interval width (%) <sup>e</sup>
Total Estimated Site Visits	5,089.39	45.5	2,046.5	11.4
Designated Wilderness Visits <sup>a</sup>	186.58	80.7	59.9	29.5
Special Events and Organizational Camp Use <sup>b</sup>	35.38	0.0	49.3	0.0
Total Estimated National Forest Visits	4,369.49	46.5	1,830.8	11.6

<sup>a</sup> Designated Wilderness visits are included in the Site Visits estimate.

<sup>b</sup> Special events and organizational camp use are not included in the Site Visit estimate, only in the National Forest Visits estimate. Forests reported the total number of participants and observers so this number is not estimated; it is treated as 100% accurate.

<sup>c</sup> This value defines the upper and lower bounds of the visitation estimate at the 90% confidence level, for example if the visitation estimate is 100 +/-5%, one would say "at the 90% confidence level visitation is between 95 and 105 visits."

Source: 2009 *National Visitor Use Monitoring Results*

Many of those surveyed visited only one site during their trip to the National Forest for both 2003 and 2006. The average number of people per vehicle was high: more than 2.6 for both 2003 and 2006. Most people surveyed also visited the National Forest between one and 10 times per year. Also, over three quarters of the visitation to the Mt Hood National Forest are people on day trips, while approximately 12 percent of visitors stay overnight in the forest primarily in campgrounds or cabins. According to the Visitor Use Monitoring Program, winter sports dominate the visitation for Mt. Hood. Approximately 48 percent of the visits were for downhill skiing, and another 9 percent for cross-country skiing. After those two activities, viewing natural features was the next most popular primary activity (5.5 percent). Table 3 shows the breakdown of activities and the percentage of visitors who were interviewed and their primary activity. Table 3 shows the number of visits to the three ski areas in both the winter and summer seasons.

TABLE 3  
**Summer and Winter Ski Area Visits**

Ski Area	Annual Skier Visits	Annual non-skier visits
Mt Hood Meadows <sup>1</sup>	393,000	N/A
Timberline	300,000-340,000	1.6 million – 1.56 million
Skibowl	354,000	145,000

<sup>1</sup> Mt Hood Meadows currently only provides winter activities  
 Source: Ski area stakeholder interviews

Table 4 shows the types of activities that visitors reported in fiscal year 2003 and 2006.

TABLE 4  
**Activity Participation on Mt Hood National Forest**

Activity	FY 2003		FY 2006	
	% of visitors <sup>a</sup>	% primary activity <sup>b</sup>	% of visitors	% primary activity <sup>b</sup>
Camping in developed sites	7	4	6	3
Primitive camping	3	1	2	2
Backpacking	6	1	1	1
Resort Use	14	4	4	1
Picnicking	7	1	7	0
Viewing wildlife, birds, fish, etc	42	3	14	0
Viewing natural features (scenery)	52	8	30	6
Visiting historic/prehistoric sites	24	0	6	1
Visiting a nature center	14	0	3	0
Nature Study	6	0	2	0
Relaxing	47	10	22	3
Fishing	6	1	5	2
Hunting	0	0	3	3
OHV use	1	0	0	0
Driving for pleasure	29	3	13	2
Snowmobile travel	0	0	1	1
Motorized water travel	1	0	1	0
Other motorized activities	0	0	0	0
Hiking or walking	53	23	25	9
Horseback riding	0	0	1	0
Bicycling	5	1	3	1

TABLE 4  
**Activity Participation on Mt Hood National Forest**

Activity	FY 2003		FY 2006	
	% of visitors <sup>a</sup>	% primary activity <sup>b</sup>	% of visitors	% primary activity <sup>b</sup>
Non-motorized water travel	4	1	3	2
Downhill skiing or snowboarding	21	19	49	48
X-C skiing, snow shoeing	4	2	12	9
Other non-motor activity (swim, etc.)	11	5	7	0
Gathering forest products mushrooms, berries, firewood, etc.	3	0	2	0
Motorized Trail Activity	NA	NA	0	0

<sup>a</sup> Respondents could select multiple activities; column may total more than 100%.

<sup>b</sup> Some respondents selected more than one activity; column may total more than 100%.

Source: 2009 *National Visitor Use Monitoring Results*

Due to rounding, percentages may not equal 100%

The visitor monitoring report also includes income information for visitors surveyed, and the amount of money spent in the National Forest over the course of a visit. Almost 20 percent of visitors surveyed reported incomes between \$100,000 and \$150,000 range, however, one third of all visits are made by people whose household income is in the \$25,000 to \$50,000 range. Table 5 below shows the income distribution of visitors. The average amount of money spent in the forest was \$191 per visiting party.

TABLE 5  
**Mt Hood National Forest Visitor Annual Household Income (FY 2006 data)**

Household Income Categories	Percent of those interviewed who reported household income within these levels
UNDER \$25,000	10.7
\$25,000 – 49,999	34.8
\$50,000-74,999	20.8
\$75,000-99,999	9.6
\$100,000 – 149,999	19.3
\$150,000 and OVER	4.9

Source: 2009 *National Visitor Use Monitoring Results*

According to the Transportation TAG report (2009), many of the Mt. Hood National Forest visitors are from the Portland metropolitan area, including Vancouver, WA. However, the Forest’s reputation for scenic beauty and its recreational amenities draws visitors from all over the United States as well as international travelers. Various prior studies estimate between 80 to 90 percent of visitors to the Mt. Hood National Forest are from the Portland metropolitan area, the majority of which are day-trippers. Traffic volumes on US 26 are slightly higher during summer weekdays than during winter weekdays due to an increased demand for through traffic on US 26. Weekend traffic volumes are much higher than the weekday counts, by 50 to 100 percent, with summer volumes only slightly higher than winter.

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Year-round and seasonal recreational activities include downhill skiing (which can be year-round higher on the mountain), cross-country (Nordic) skiing, hiking, fishing, camping, boating, hunting, and sightseeing. Berry-picking and mushroom collecting are also popular activities, and many residents visit in December to cut Christmas trees. A recreation pass is required at many of the recreation sites in MHNH including trailheads, day use sites, and boat launches. One day passes cost \$5, and the day use fee is \$6. Day pass sites include about 34 trailhead facilities, while day use sites are concession operated areas: there are 12 sites in the Mt Hood National Forest. A recreation pass is required from May 15<sup>th</sup> to October 1<sup>st</sup> except for four out of the 34 sites which require a pass year-round. MHNH has over 80 campgrounds with over 1,250 campsites. The fee for camping varies from \$0 to \$18 with most sites between \$10 and \$16 per site per night. According to the wilderness permits purchased in 2010, approximately 79 percent of the permits purchased were for day use, and 21 percent for overnight use.

## Roadway Capacity and Safety

### Safety

During summer and winter weekends and holidays, existing traffic volumes approach or surpass the capacity of US 26 and volumes are projected to double over the next 20 years (2009 TAG report). ODOT notes that US 26 experiences approximately 150 days of congestion: primarily Saturday mornings and Sunday afternoons in both the winter and summer. Summer traffic patterns are slightly different; fewer vehicles are coming from ski areas, but Sunday afternoons experience high vehicle traffic volumes traveling from Bend and Central Oregon to Portland via US 26. According to ODOT's *US 26 Traffic Study Report Skibowl – Government Camp – Timberline Section*, on US 26 at West Skibowl, there are 55 seconds of delay for the northbound approach during the summer, and 116 seconds of delay during the winter. At US 26 and East Skibowl, there is 41 seconds delay for the northbound approach during the summer, and 100 seconds delay during the winter.

The intersection of US 26/East Ski-Bowl/West Government Camp Loop Road is projected to be severely congested during both the summer and winter with anticipated traffic from approved developments. Additionally, the US 26/East Government Camp Loop Road and the Multorpor/Government Camp Loop Road also experience long delays in the summer and winter. These congested conditions affect the businesses and services in Government Camp and safety on US 26. The most frequent crash types were rear-end and fixed object, and 75 percent of the total crashes occurred at or within 250 feet of any study intersection (Skibowl West Access, Skibowl East Access, Western Government Camp Loop Road/Tyrolean Drive intersections, Eastern Government Camp Loop Road intersection, and Timberline Highway intersection). The US 26/East Ski-Bowl/West Government Camp Loop Road accounts for more than a third of all the crashes reported at intersections within the report area between 2003 and 2007. The crash rate on this segment of US 26 is two times higher than the statewide average on similar roadways.<sup>2</sup>

Approximately 50 percent of all vehicle crashes occur on Saturdays or Sundays. The highest months for crashes are January and December. January has more total crashes than the months of May through September even though these summer months are the five highest months of traffic volumes on US 26. Approximately 25 percent of crashes occur between 3 and 6 pm Most (70 percent) of all crashes occur with either ice or snow on the roadway, and places where the roadway transitions from wet to icy pavement are especially prone to crashes. According to the ODOT request for funds from FHWA Western Federal Lands Highway Division for US 26/OR 35 Mt Hood Safety and Traveler Information

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<sup>2</sup> ODOT, 2009. *Traffic Study Report: US 26 Skibowl – Government Camp – Timberline Section*.

Project which references the unreleased 2011 Safety Audit, 80 percent of crashes on OR 35 occur on snow and ice. No further safety information on OR 35 is available at this time.

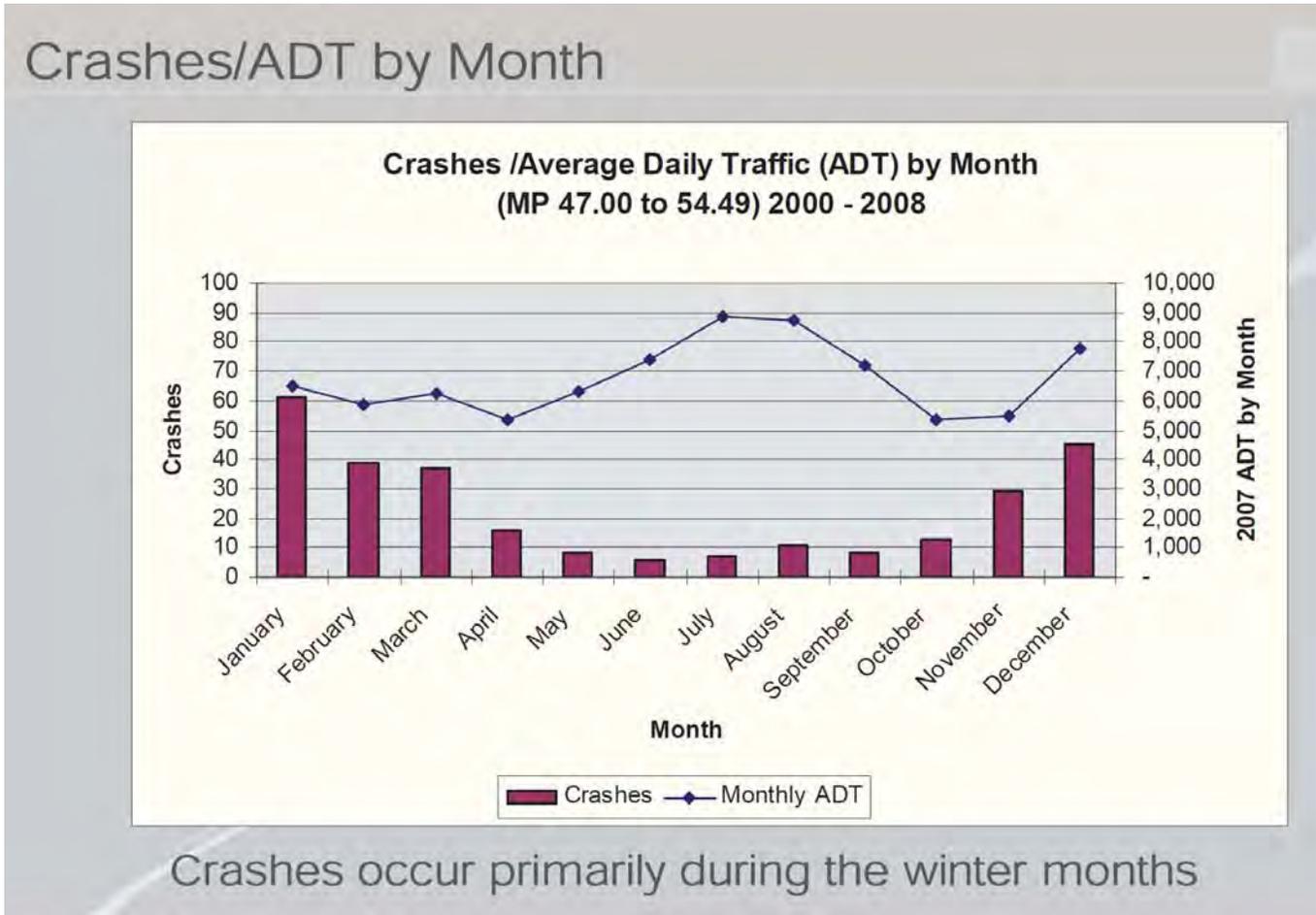


Figure 2 Crashes vs. Average Daily Traffic on US 26

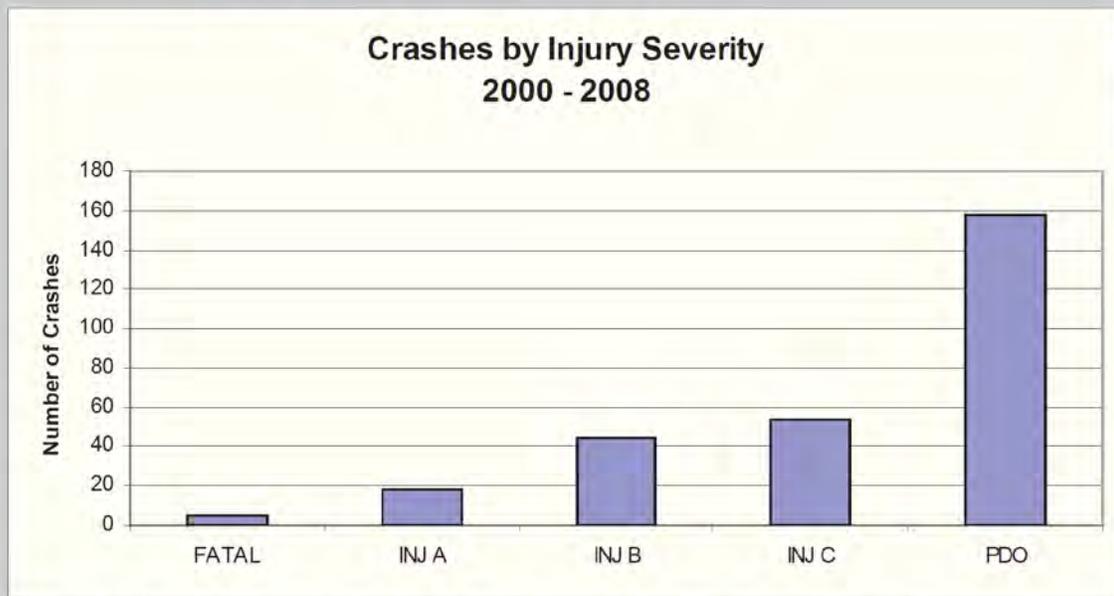
SOURCE: US 26 CAMP CREEK TO TIMBERLINE ROAD SAFETY AUDIT, ODOT & KITTELSON AND ASSOCIATES, 2009.

Data on crash severity are also gathered when a crash occurs. The different categories are described below:

- Fatality
- Injury A-C – Injury A is the most severe (generally requiring extensive hospitalization), Injury B is less severe (but still requires hospitalization), and Injury C is generally mild injury (whiplash to bruising to airbag burns generally not requiring hospitalization).
- Property Damage Only (PDO).

The majority of crashes in the study area corridor (US 26 from MP 47.0 to 54.3) resulted in PDO between 2000 and 2008. The number of severe crashes is much lower than the PDO – 55 percent of crashes result in no injury.

## Crashes by Injury Severity



FATAL – Fatality; INJ A – Injury A; INJ B – Injury B; INJ C – Injury C; PDO – Property Damage Only

55% of all crashes are non-injury (PDO) crashes

Figure 3 Crashes on US 26 by Injury Severity 2000-2008

SOURCE: US 26 CAMP CREEK TO TIMBERLINE ROAD SAFETY AUDIT, ODOT & KITTELSON AND ASSOCIATES, 2009.

### Crash Response

Crashes on US 26 and OR 35 can cause periods of congestion or exacerbate already congested conditions. Crashes are also a safety hazard because vehicles may partially or completely block the roadway. When this happens, other drivers do not expect the roadway to be blocked, potentially resulting in additional crashes.

Most incidents are reported to 911, which then notifies the local fire department. Hoodland Fire Department covers US 26, and Parkdale Fire Department covers OR 35. Fire departments then determine if ODOT Maintenance is needed and contact ODOT Region 1 dispatch. ODOT Region 1 dispatch will then notify ODOT Maintenance in the Mt. Hood area. ODOT Maintenance's role is to secure the scene, set up traffic control to safely divert traffic, and clear the travel lanes. During off-hours, ODOT maintenance personnel carry a pager to respond to calls. Sometimes, there is an hour delay between the time an incident is reported and the time ODOT Maintenance is notified. During off-hours, this time lag can be longer.

### Hazard Areas

ODOT Maintenance is aware that some chain-up areas can be a safety hazard, largely due to drivers who do not know how to properly use the areas. For example, at the chain-up area on US 26 between mile point 47.5 and 48.5 when drivers see a sign that chains are required, they sometimes will stop in the

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travel lane and chain up. When drivers use the chain-up area, they are likely to stop at the back end and subsequent drivers assume no room is up ahead, causing vehicles to bottleneck the last 200 feet of the available area.

## Roadway Capacity

Since US 26 serves both trips to the ski areas and through trips to Bend and further east, there are competing trip types along the roadway – those visiting the ski areas would like the greatest and quickest use of the roadway to access those areas, and those headed east for recreational or commuting purposes want to travel quickly through the forest to reach destinations such as Redmond and Bend.

Commercial trucks and buses can cause travel delay and sometimes congestion by traveling under the speed limit while climbing or descending grades along the roadway. There are also limited areas for vehicles to legally pass slow-moving vehicles, especially in downhill lanes west of Mirror Lake, where traffic is restricted to one lane westbound. In these areas, one slow vehicle can cause congestion and substantially back traffic up on the highway. Safety is a factor since crashes typically result in congestion until the accident has been cleared. Similarly, adverse weather can cause motorists to slow down and is also a leading factor in crashes. Parking affects congestion since motorists may need to circle on portions of the roadway in search of available parking spaces. Finally, intersections with inadequate storage in channelization lanes can contribute to congestion from vehicle queuing.

According to ODOT, the average daily traffic (ADT) up the mountain on US 26 is 8,500 from Rhododendron, with 14-17 percent trucks. ADT is 5,000 on US 26 east of the OR 35 split. Heading east from Sandy during peak travel times, approximately 20-25 percent of traffic is destined for Government Camp, five percent to Skibowl, and 20-25 percent to Timberline. The remainder of the trips proceed on US 26 towards Bend or to OR 35 and Mt. Hood Meadows.

Access to Timberline Lodge is via Timberline Road, a state Local Interest highway, which intersects US 26 just east of Government Camp and runs 5.5 miles, climbing approximately 2,100 feet. Timberline Road is a winding, steep two-lane facility with narrow shoulders, which is kept open in winter despite difficult snow conditions. This highway experiences congestion during busy periods. Due to limited parking, Timberline closes the road to incoming vehicles when their lots are at capacity; buses are used to shuttle visitors from Government Camp. As reported by resort operators, during the afternoon peak, vehicles coming from Timberline and turning onto US 26 either east or westbound must wait for a gap in traffic, which is difficult when the roadway is congested.

The ADT on OR 35 at Mt. Hood Meadows is 1,800. This number is calculated for December through March and July through September. The ADT for this area ranges from 700 in November to 2,450 in December. To access Mt. Hood Meadows, 20 to 25 percent of visitors take I-84 to OR 35, and 75 to 80 percent use US 26. According to the March 2012 *Mt. Hood Highway (US 26/OR 35) EIS Corridor Capacity Study*, in the morning peak hour, 80 percent of the traffic uses US 26, and the rest takes OR 35, but in the evening peak hour, only 70 percent of traffic uses US 26. Table 6 below shows the total traffic counts referenced in the capacity study.

TABLE 6  
Existing AM and PM Peak Mt Hood Meadows Traffic

Time Period	To/From Government Camp traffic count	To/From Government Camp percentage	To/From Hood River traffic count	To/From Hood River Percentage	Total traffic count
Weekend AM Peak Hour total	1,068	79.5%	276	20.5%	<b>1,344</b>
Weekend PM Peak Hour total	695	70.3%	294	29.7%	<b>989</b>

Source: Kittelson and Associates, 2012. *Mt. Hood Highway (US 26/OR 35) EIS Corridor Capacity Study*

According to the *Outdoor Recreation in the Pacific Northwest and Alaska Trends in Activity Participation* publication, Mount Hood is expected to experience increases in recreational uses, especially for day-use activities as the population increases in the Portland Metro area.

### Winter Visitation Rates

According to the *1997 Mt. Hood Meadows EIS Record of Decision (ROD)*, the permitted capacity for the Mt. Hood Meadows Ski Area in winter is 13,900 persons at one time (PAOT), and the summertime capacity is 500-1,500. The Timberline approved capacity from the 1975 Timberline Master Plan is 4,665 PAOT. The *1978 Skibowl Master Plan* is between 2,300 to 2,900 PAOT depending on development, and 7,800 PAOT with the full Master Plan build out. These permitted capacities represent maximum numbers allowed, and are not targets for development. It is possible that environmental and other considerations may necessitate lower levels of development.

In addition to the winter usage, President Obama signed the Ski Area Recreational Opportunity Enhancement Act in November 2011, which enables ski areas to offer an expanded range of outdoor recreation activities at already developed ski areas. The Act is meant to expand the public's access to natural resource-based recreation, utilize existing facilities and stimulate job growth at ski areas and local communities. Expansion of facilities must be identified in a Master Development Plan before being implemented, and will go through the appropriate environmental review under the National Environmental Policy Act.

Peak times for all ski areas on Mt. Hood are weekends and holidays, especially if snow conditions are favorable: new snow after a period of no snow, forecasted blue skies after a large storm. Most visitors to the ski areas arrive between 7:30 and 10:30 am, leaving between 3 pm and 6 pm, with the exception of Mt. Hood Meadows and Skibowl, which offer night skiing starting at 3 or 4 pm and ending between 9 and 11 pm depending on the day.

According to the *Fatal Flaw Analysis for an Aerial Tram*, the three ski areas create a daily demand for 5,000-6,250 people including skiers, sightseers, and other recreational users that is currently not met due to transportation and/or parking-related issues. The analysis recommended a 2,000 to 2,500 space parking area to accommodate that number of people, assuming 2.5 people for the average vehicle occupancy. The study identified three potential parking areas/tram stations: at the base of Laurel Hill, near the commercial core of Government Camp, and on the east end of Government Camp.

The ski areas offer a variety of lift tickets. Pricing is dependent upon demand, the type of ticket, when the ticket is purchased, the age of the skier, and sometimes the time of day or the specific day. Variable ticket pricing can be a tool to shift visitors from peak times to arriving at off-peak times, as those visitors sensitive to price changes can choose to arrive later for a discounted lift ticket. Ticket prices for both daily and season passes are reported for each ski area, and the Fusion Pass pricing is noted under

Timberline, however, Fusion Passes can be purchased online and are redeemable at both Timberline and Skibowl Ski Resorts.

## Ski Areas

### MT. HOOD MEADOWS

According to the TAG report, Mt. Hood Meadows has 393,000 annual skier visits, making it the second most visited ski area in the state. In previous years, according to stakeholder interviews, Mt. Hood Meadows has had over 500,000 skiers annually. Mt. Hood Meadows’ goal is to become the most-visited resort in the state, with 600,000 skiers per year. Within their permit area, Mt. Hood Meadows has parking for 2,500 vehicles divided between three lots: Main Lot, Sunrise Lot, and the Hood River Meadows lot, and is conducting an EIS to expand parking at a new Twilight Parking Lot near the Hood River Meadows lot which would accommodate 900 more vehicles. The current parking lots are full four to six times a year. When the spaces are full, Mt. Hood Meadows turns people away, and will place a variable message sign (VMS) on US 26 before the turnoff to OR 35 to warn motorists that the Mt. Hood Meadows parking lots are full.

Mt. Hood Meadows will also place a VMS at their access roads to warn departing motorists of congestion on US 26 and recommending skiers use OR 36 to I-84 to return to Portland in the afternoon peak. The peak season for Mt. Hood Meadows is dependent upon snow conditions, but is usually January and February, sometimes including March. November, December, April, and May are considered the shoulder season. Peak days are weekends and holidays, especially if a storm has deposited new snow after a period of no snow, and if a clear day is predicted after a large storm.

Table 7 shows lift ticket prices for both daily passes and season passes. The daily passes are either open to close, or After Dark (3-9 pm) passes. Season passes provide unlimited access to the ski resort, and passes during off-peak times including night and mid-week are priced lower, encouraging off-peak visitors. In addition to the tickets reported in Table 7, there are a number of packages that provide ski lessons and transportation to the resort from the Portland Metro area.

TABLE 7  
Ticket Prices for Mt. Hood Meadows Ski Resort

Type of ticket	Price
<b>Daily</b>	
Adult open to close lift ticket	\$69
After Dark lift ticket (3-9 pm Wednesday through Sunday and select Holidays)	\$30
<b>Season Passes</b>	
Season pass (Age 23-64)	\$999
Midweek pass	\$429
Night pass	\$129
Nordic pass	\$80
10 time pass	\$439
5 time night pass	\$89

2011-2012 Ski Season

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## Employee Information

Mt. Hood Meadows employs a total of 800-1200 people in the winter, and 85 people in the summer. At any given day during the ski season, approximately 400-600 employees are at the ski area. Most employees live nearby: a majority of employees live in the Hood River Valley area; others come from the City of Sandy or Government Camp area, a few come from Portland (mainly weekend-only employees), and the Warm Springs area. Employees generally drive their own vehicles with some carpooling to reduce costs. Mt. Hood Meadows operates a free shuttle for employees, discussed in the Shuttle section below.<sup>3</sup>

## Traffic Conditions

An annual traffic monitoring report was required as a condition of the *Mt. Hood Meadows Master Plan EIS* in 1997. Since then, traffic has continually monitored for the Mt. Hood Meadows Ski area. Data collected for the 2010/2011 ski season was reported in a June 2011 memo prepared for Mt. Hood Meadows by Kittelson and Associates. The memorandum documents current traffic patterns and distribution patterns to and from Mt. Hood Meadows during a “typical” weekend in the 2010/2011 ski season. Data were reported from manual traffic counts and Automated Traffic Recorders (ATR) both east and west of the ski area on OR 35.

The memo notes that the traffic volumes on Saturday were 4,825 entering vehicles for the 12 hour data collection, while Sunday counts showed 1,620 entering and existing vehicles during a four hour data collection. Most trips enter in the morning, with exiting trips peaking in the mid-afternoon. The comparison between the traffic counts and the ATR data show that for every 100 Saturday vehicles counted, approximately 73 vehicles enter or exit Mt. Hood Meadows between 7 am and 7 pm. Of all traffic leaving the Mt. Hood Meadows area on OR 35, approximately 83 percent are coming from the ski resort.

## Parking Conditions

Mt Hood Meadows currently has three parking lots: the Main Lot, the Sunrise Lot, and the Hood River Meadows lot. The Main and Sunrise lots are located near the main base area, with the Sunrise lot located partially up the access road to the main lodge. The Hood River Meadows lot is located a mile north of the main entrance. On weekends and holidays, the Main Parking Lot usually is full by 9 am, and then traffic is directed to the Sunrise Lot. Depending on snow conditions, the Main Parking Lot can also reach capacity during the weekdays. The Hood River Meadows lot is considered a satellite parking lot that opens at 8 am, and Mt Hood Meadows directs visitors to this lot when both of the main lot areas are full. As noted in the introduction section, parking spots in Mt Hood Meadows (and all Sno-Park parking lots) are open to all visitors with Sno-Park passes, and not reserved specifically for visitors accessing the ski area.

Mt. Hood Meadows runs visitor shuttles between its various parking lots, contracting with First Student bus services. These shuttles are free to visitors, and run continuously during scheduled resort operations. Since the buses are school buses, there are no special storage places for skis, poles, or snowboards. Most visitors pile their gear in one seat as they board the bus. Loading and unloading passengers takes the most time in the circuit.

The report also includes historical parking counts for the three parking lots at Mt. Hood Meadows for the past nine years for which data are available. Total parked cars were lower in 2011 than in previous

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<sup>3</sup> Information from stakeholder interviews

years, and significantly lower than the nine year average of 1,958. This is likely due to unfavorable weather or seasonal variation.

The data are included in Table 8 below:

TABLE 8  
Comparison of Historical Parking Counts

Year*	Main Lot	Hood River Meadows Lot	Annex Lot	Total
2011	963	212	447	1,622
2009	1,073	677	412	2,173
2008	1,087	768	428	2,283
2007	1,110	365	435	1,910
2006	865	825	395	2,085
2005	880	600	0**	1,480
2003	840	860	170	1,870
2002	955	1,040	180	2,175
2001	940	855	225	2,020

\* 2004 counts are not available

\*\* No cars parked in annex lot due to low demand because of poor snow conditions

Source: Mt. Hood Meadows Traffic Monitoring Report 2010-2011, Kittelson & Associates Inc. 2011.

Average vehicle occupancy in a private vehicle is 2.6 persons per vehicle, and 45 people per bus. The mode split data are included below:

TABLE 9  
Mt. Hood Meadows Mode Split

Analysis Period	Number of entering buses	Number of cars	Estimated number of skiers on buses <sup>1</sup>	Estimated number of people in private vehicles <sup>2</sup>	Bus Mode Share
Saturday, February 2009	26	2,565	1,170	6,415	18.3%
Sunday, February 8, 2009	13	1,370	585	3,426	17.0%

<sup>1</sup> Assuming 45 passengers per bus

<sup>2</sup> Assuming 2.6 passengers per vehicle

Additionally, Mt. Hood Meadows submitted a Traffic Impact Statement (TIS) in September 2011 to help justify adding an eastbound left-turn storage lane on OR 35 and the Hood River Meadows (HRM) Access Road to accommodate expected future demand to the new parking lot (Twilight Parking Lot). Information on queuing and traffic demand for the HRM access road was included. The Twilight Parking Lot is proposed to accommodate 960 vehicles on 8.0 acres on the east side of the HRM access road, providing an overflow parking area for the main Mt. Hood Meadows lodge and users who want to access the nearby Nordic (cross country) ski trails and proposed skier services building. The Twilight Parking Lot is planned for construction in 2013.

Currently, OR 35 is a two-lane facility with a 55 mph speed limit. The Mt Hood Meadows September 2011 TIS determined that through traffic volumes on OR 35 are very low (both historically and

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currently), and have not varied much over the past few years. Left turn demand, however, varies depending on the level of activity at the ski area. The traffic analysis showed that with the new Twilight Parking Lot, approximately 90 percent of traffic on OR 35 turns left onto the HRM Access Road.

The Twilight Parking Lot would increase available parking at the HRM lot from 910 to 1,870 spaces. Previously, on-street parking was allowed along the HRM Access Road, however recently Mt. Hood Meadows Ski Resort (at the request of ODOT) has restricted parking on the access road due to its impact on snow plowing.

Increased traffic demand associated with the proposed parking lot is expected to be spread evenly throughout the day, instead of occurring at the peak hours. The planned 100 foot turn pocket and 520 foot deceleration distance easily accommodates the anticipated vehicle turn demand of the proposed parking lot. Most of the parking at Mt. Hood Meadows is for downhill skiing, however, the ski resort has a number of Nordic trails. The Nordic season is shorter than the downhill season: it typically operates for a quarter of the season that downhill skiing runs. When the Nordic trails are open, approximately three percent of parking spaces at Mt. Hood Meadows are taken by Nordic skiers. When the entire ski season is considered, Nordic visitors account for only one percent of the vehicles parked at Mt. Hood Meadows.

In March of 2008, Mt. Hood Meadows Ski Area submitted a proposal to ODOT to create a Laurel Hill Park and Ride at the former Laurel Hill Pit, which was an ODOT quarry site in the MHNH. The Meadows' proposal includes space for 3,500 vehicles on a 30 acre park and ride lot, and would serve all recreation uses on Mt. Hood throughout the year. The site would be developed with an electronic or staffed entry gate to collect parking fees, with the potential to sell ski lift and hiking permits at the site. Additionally, restroom facilities for travelers could be included. This proposed Park and Ride site is located on US 26, and improvements to the highway would be needed to provide for safe access. Currently, this proposed park and ride is not in ODOT, MHNH or Clackamas County adopted plans.

## **Shuttles**

Mt. Hood Meadows also runs employee shuttles serving Sandy and Hood River: the resort runs two 55 person buses a day between Hood River starting at 6 am, arriving at the ski area 7 am, or leaving Hood River starting at 6:30 am, arriving at the resort at 7:30. There are three departure times from Mt. Hood Meadows to Hood River: 12, 4, and 5 pm. Mt. Hood Meadows provides a swing/night bus for employees leaving Hood River at 1 pm, arriving at the ski resort at 2 pm, with a bus leaving Mt. Hood Meadows at 10 pm. There is also a bus that leaves Sandy at 6:10 am, arriving in Mt. Hood Meadows at 7:30, and departing the resort at 5 pm. According to Mt. Hood Meadows, these buses run at or near capacity every day. Buses are free for employees, and owned by Mt. Hood Meadows.

Mt. Hood Meadows also provides a shuttle between Collins Lake Resort at Government Camp at 7:30 am departing from the ski area at 2:30 pm. It only runs only over the winter holidays from December 17<sup>th</sup> to January 2<sup>nd</sup>. The shuttle is subsidized by Mt Hood Meadows, as it costs approximately \$70 to operate, and riders pay \$12 for a round-trip seat.

Mt. Hood Meadows also contracts with Raz Transportation, Blue Star, and Oregon Coach Ways to provide 55 passenger charter motor coaches for various multi-week programs including youth groups, college groups, mid-week adult programs, and park and ride shuttles. Users get a combined ski ticket and reduced transportation from the Portland metro area to the ski resort.

The Park and Ride shuttles provide service on weekends and holidays, with one bus leaving from Tualatin Park and Ride at 6:50 am, Beaverton Park and Ride at 7:05 am, and Gateway Park and Ride at 7:30 am. The shuttle departs the mountain at 4 pm.

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There are a number of shuttles provided by third party companies to Mt. Hood Meadows: The Grease Bus, Sea to Summit Ski and Mountain Shuttles, and a number of other private providers. These shuttles usually take US 26 from Portland, turning on OR 35 to access Mt. Hood Meadows. If US 26 is closed or extremely congested, shuttles may take OR 35 north to Hood River, and then I-84 west into Portland.

#### *Aspen Limo Tours*

Aspen, a private company, provides luxury transportation all seasons and locales in the northwest. They general serve corporate/special event business for Mt. Hood Meadows. Rides must be arranged in advance, and can be scheduled individually with visitors.

#### *Grease Bus*

The Grease Bus is an independent 22 person capacity vehicle that provides service from Portland every day but non-holiday Mondays between December 1<sup>st</sup> and May 1<sup>st</sup>. The Grease Bus leaves Portland from NE 13<sup>th</sup> Street and Sandy Blvd. at 8 am, and leaves Mt. Hood Meadows at 4 pm, scheduled to arrive back in Portland at 6 pm, weather and traffic permitting. The cost is \$15 for a round-trip ticket weekdays, and \$20 during the weekends and holidays. Advance online sign-ups are required. The Grease Bus has a direct link on the Mt. Hood Meadows Ski resort webpage, advertises at local ski and snowboard shops, and online via Facebook and company website. Depending on the vehicle, there is either a roof rack for ski gear, or a large area at the back of the bus for riders to stow their boards, skis, and boots.

The Grease Bus has been operating for four years in Portland, starting with one bus. Last year, the company added another bus for weekend trips to Mt. Hood Meadows, but is now only operating one bus all days during the season. The cost to operate the Grease Bus is partially subsidized by partnering with sponsors, mainly ski and snowboard and other sports-related companies such as Burton Snowboards, Nike, Solomon, Clif Bar, and Vitamin Water. Mt. Hood Meadows resort also purchases space on the bus for advertising. Sponsors cover most of the cost of the vehicle, and the operating costs are covered through ticket sales and additional advertising. The bus uses used vegetable oil from area restaurants for fuel, which reduces fuel costs for the operators.

Ridership has been strong, and is linked with good ski weather conditions, similar to popular days at the ski resorts. About 60 to 70 percent of the ridership is male, aged 18-30, but there is a wide range of ages. Some people who ride the Grease Bus do not have access to a vehicle, and some prefer not to drive in snowy conditions. Many riders indicate that the price is the reason they ride the bus. The majority of Grease Bus riders get dropped off at the Grease Bus office on Sandy Boulevard in Portland, while some drive and park, and others take TriMet, bike, or sometimes take a cab to the pick-up point. Last year, when there were two buses operating during the weekends, there were 250 trips, and 4,000 seats sold. At the beginning of February 2012, they had sold 8,500 seats since they started operations; the operators predict that they will have their 10,000<sup>th</sup> rider in 2012. The owners and operators of the Grease Bus have noticed that they have a regular group of customers.

#### *Hood River Area's B.R.T (Bed, Ride, and Ticket) 4x4 Shuttle Service*

The Inn of the White Salmon provides a ski shuttle to Mt. Hood Meadows from the Inn at White Salmon, Washington. White Salmon is located across the Columbia River from Hood River, approximately one hour from Mt Hood Meadows Ski Resort. For the 2011-2012 season, the inn offered ski ticket and transportation packages for \$59 on top of the cost of the room, or \$10 round trip for the ride only. The shuttle leaves the Inn at 8:00 am, and returns no later than 3:00 pm, and runs based on demand – a minimum of four or more passengers is required. If there is room, local residents of White Salmon or Hood River can take the shuttle for the \$10 ticket price. The Inn offers the shuttle as an amenity to

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guests; the ticket prices do not cover the cost of service. The shuttle carries approximately 200-300 visitors a ski season.

### *Sea to Summit Ski and Mountain Shuttles*

The Seat to Summit Ski Shuttle is a private service operated by Sea to Summit Ski and Mountain Shuttles Company that has been in operation for the last 12 years. These shuttles operate seven days a week from Downtown Portland, leaving the REI in downtown (NW 14<sup>th</sup> and NW Johnson Street) at 7:15 am, and Pioneer Square at 7:30 am, returning to Portland at 3:30 pm. Tickets cost \$40 for the shuttle only for midweek, \$50 for shuttle only on the weekends and holidays. Sea to Summit also provides lift ticket packages ranging from \$75 for junior midweek to \$110 beginner special (including ski equipment rental, lesson, and transportation) on the weekend or holidays. Sea to Summit operates two vehicles: a 22 person bus, and a 14 passenger van. Both vehicles are equipped with four-wheel drive and studded snow tires and provide space for riders to store their gear. Shuttles carry approximately 2,000 to 3,000 visitors a season. Riders can purchase tickets online, and a partnership with REI allows riders to park for free in the REI parking structure while they ride the shuttle. Sea to Summit provides service to all three ski areas, and emphasizes dependable, reliable, and safe trips to and from the Mt Hood area.

### **TIMBERLINE**

Timberline Lodge is a prominent destination in the MHN and attracts 1.9 million visitors annually. Visitors come in winter and summer to this very popular sightseeing destination. The lodge, a National Historic Landmark was constructed by the Works Progress Administration (WPA) and opened in 1937. RLK Company operates the lodge including skiing, restaurants, and special events under permit with USFS. According to RLK Company, annual skier visits are between 300,000 and 340,000. The lodge has 70 guest rooms and is filled to capacity on weekends during the peak season.

Ski lift ticket prices for Timberline are variable based on the type of day (peak days – weekends and holidays), time of day, and the age of the skier. Timberline is the only ski resort that offers reduced lift tickets for visitors arriving later in the day (between 1 and 4 pm) in addition to reduced ticket prices for night skiing (which all three ski resorts currently offer). This encourages skiers who are sensitive to price to travel during non-peak times. Timberline also offers both daily and season passes, with a wide variety of types of passes available based on the number of times a skier would like to visit the resort. Table 10 includes ticket prices, showing the discounts based on when the visitor is skiing.

TABLE 10  
**Timberline Ski Resort Ticket Pricing**

Type of Ticket	Time	Price
<b>Adult Daily Tickets (Age 18-64)</b>		
Regular	Anytime	\$58
Regular	1pm – 4pm	\$50
Regular	4pm – 10pm	\$25
Peak	Anytime	\$64
Peak	1pm – 4pm	\$54
Peak	4pm – 10pm	\$25
<b>Season Passes</b>		
Timberline Complete		\$999
Weekday Plus Pass (any non-holiday weekday)*		\$229
Flex 5 Pass*		\$195
Flex 10 Pass*		\$379
Adult Season Pass*		\$499

\* Passes must be purchased by 11/6/11  
 2011-2012 Ski Season

Additionally, Timberline partners with Skibowl to sell the Fusion Pass which includes unlimited visits to both resorts, and pass owners can ride the Fusion Shuttle between the City of Sandy and these ski resorts. Description of the Fusion shuttle is below, and Fusion Pass prices are shown in Table 11.

TABLE 11  
**Fusion Pass (Skibowl and Timberline Combined Unlimited Pass)**

Age	Price
When purchased on or before November 13 <sup>th</sup>	
Adult (23-64)	\$475
Teen (15-22)	\$365
Junior (7-14)	\$255
Senior (65-70)	\$255
When purchased on or after November 14 <sup>th</sup>	
Adult (23-64)	\$649
Teen (15-22)	\$549
Junior (7-14)	\$449
Senior (65-70)	\$449

2011-2012 Ski Season

### Employee Information

Timberline employs between 400 and 450 employees in the wintertime and between 300 and 350 employees in the summer. There are also volunteers that help with ski patrol or as ski hosts, generally 100 volunteers per season. Employees mostly come from the Hoodland corridor and Sandy area, while others come from Government Camp, Gresham, and Hood River. Timberline provides two 12 person vans to bring employees to the lodge and ski area: one brings employees to the mountain (ski area) department, and one brings employees to the lodge from Hoodland. The vans are operated as –a vanpool: employees drive the vehicles; RLK Company pays for the vehicles, insurance, and gas. The vans are full every day. Employees who do not take the shuttle come via private vehicle, carpools, or hitchhike to the resort to work.<sup>4</sup>

Timberline has skiing year-round, and summer skiers are generally part of camps or ski teams training in the off season. Most of the summer groups and teams come by charter bus to Timberline, and depending on the ski camp, some stay for extended periods of time in Government Camp. Timberline has less seasonal variation than the other two ski resorts, as visitors are drawn to the resort year round.

### Parking Information

According to the TAG report, Timberline ski area has parking for 1,000 cars, but would like to add an additional 900 parking spaces. The resort has had to turn away people 17 days in 2008-2009 ski season because parking was at capacity, but the demand for skiing depends on the quality of snow and varies from year to year. Some years Timberline turned people away as few as five days out of the season, but other years visitors were turned away on as many as 33 days. Parking is actively managed during the ski season: Timberline staff conducts “rolling closures”, permitting vehicles to circulate through the lots to find parking, and filling spaces as they are vacated. As noted in the introduction section, parking spots at Timberline (and all Sno-Park parking lots) are open to all visitors with Sno-Park passes, and not reserved specifically for visitors to the ski area. They currently have a proposal to build an additional parking lot and other facilities at the base of its Molly’s lift, two-thirds of the way up Timberline Highway.

<sup>4</sup> Information from Stakeholder interviews

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According to the Traffic Impact Study for the proposed Molly's Base Area (David Evans & Associates, August 2010), the new parking area would reduce the amount of days Timberline Ski Area turns away visitors due to parking capacity. The proposed development includes a 15,000 square-foot day lodge with a restaurant, ticket sales, lockers, and tubing rentals. New snow tubing and snow play area with four to six tubing lanes, with a surface lift, and a new parking facility with access off of Timberline Highway for employees, core skiers, and snow play enthusiasts, with approximately 741 parking spaces: 109 for employee parking, 49 for tubing and snow play, and 583 for general parking.

As part of the development proposal for the Molly's Base Area, the traffic impact study included hourly parking counts on three separate days: the day after Thanksgiving 2009, the day after Christmas, 2010, and a non-holiday Saturday in January 2010. Additionally, Timberline staff collected daily peak parking counts for 17 days in winter 2008/2009, and 32 days in winter 2009/2010. The individual capacities of the seven locations add up to 1,101 vehicles, however, the total capacity was never observed, because the different lots were at capacity at different times reflecting the parking needs of the various users. The Timberline Lodge parking lot is reserved for hotel guests only, experiencing the lowest usage during the late morning, which is the overall peak parking period for the other parking areas. Traffic volumes on holidays and special event days are higher than traffic volumes on non-holiday days.

After Thanksgiving, Christmas, Martin Luther King Jr. and President's Day, traffic volumes increased steadily from the morning until reaching a peak in the afternoon. For non-holiday days, there were more distinctive morning and afternoon peak period, with peaks at both times, and a lull in traffic in the middle of the day. The traffic study assumed that with a new parking lot for the Timberline Ski area, peak day trips in 2035 would be almost 7,000 vehicles. The study also assumed that there are 300 employees, 2,475 skiers/snowboards, and 350 non-skiers/non-snowboarders on a peak weekend day (for a total of 3,125 people). The Molly's Base Area is projected to serve 1,750 guests per day, which is defined as "the number of daily visitors the area can comfortably or efficiently accommodate at one time without overburdening the infrastructure."

For the traffic impact study, visitors to Timberline were asked about their historical behavior, preferences, and correlating personal characteristics in a user survey. The survey revealed that the vehicle occupancy is high to Timberline as most users carpool. There are on average 3.12 people per vehicle, and nearly 66 percent of users carpool to the ski area. From the survey data, the traffic impact study assumed that on peak days, 23 percent of users were turned away due to parking facilities being at capacity. These visitors that were turned away either went home (23 percent), or headed to another ski area (48 percent), or visited Government Camp (18 percent). The additional parking area at Molly's Base is not anticipated to exceed standards to traffic operations at the new access off of Timberline Highway, and may help alleviate some congestion caused by vehicles on US 26 and Timberline Highway that currently circle to try and get a parking space on days when there is excessive parking demand.

There is also unmet demand for snow play areas with adequate parking. Many visitors to Timberline are not actually skiers using the ski area; they are tourists visiting the historic lodge, hikers climbing Mt. Hood and other trails, and those interested in playing in the snow.

## **Shuttles**

There are a number of shuttles and buses that bring visitors to Timberline: Fusion Shuttle (shared between the Skibowl resort), and the Sea to Summit Shuttle mentioned above.

### *Fusion Shuttle*

The Fusion shuttle runs a 24 person bus between the City of Sandy and Skibowl and Timberline, beginning the day after Thanksgiving through the end of February on weekends and holidays. The

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shuttle leaves Sandy from the Bi-Mart Parking lot off of US 26 and Industrial Way at 7 am, arrives at Skibowl at 8 am, and Timberline at 8:40 am, leaving Timberline at 4 pm. The majority of riders get on in Sandy, though on occasion, the bus will pick riders up in Welches and other communities along the route. When the shuttle is not traveling between Sandy and the ski resorts, it circulates between Skibowl, Collins Lake Resort, Government Camp, and Timberline throughout the day. The shuttle is free to Fusion Pass holders, for non-pass holders, the cost is \$20 to/from Sandy, \$10 to/from Welches, and \$5 to/from Collins Lake. The cost to provide the shuttle is \$50,000 per season, which is split evenly between Timberline and Skibowl. The Fusion Bus is full most weekends, and 90 percent of the ridership is Fusion Pass holders, who have first seat priority over non-pass riders. During the 2011 and 2012 winter season, the Fusion Shuttle carried 1,580 riders, mostly from the Portland area, though some riders come from Vancouver, WA. The operator of the Fusion Shuttle, Luxury Accommodations indicates that there is a loyal customer base, and they see the same group of riders from week to week.

### *Sea to Summit Ski & Mountain Shuttle*

See the section in Mt Hood Meadows section above for information on this shuttle service.

### **MT. HOOD SKIBOWL**

Skibowl is the third largest ski area on Mt. Hood, located near Government Camp on US 26, and is at a lower elevation than either Timberline or Mt. Hood Meadows. Skibowl is the largest night skiing resort on Mt. Hood (and the most night skiing terrain in North America), and because of this, nights are the busiest time for the resort. Annual skier visits are 110,000 between June and September; 320,000 visitors in the winter. Average visitor total for the past three years is approximately 434,800 annual visitors. Skibowl averages 4,000-6,000 visitors a day on peak days, and the busiest day of the year is traditionally New Year's Eve day. Skibowl also owns the Summit Ski area and Ski Bunny snow play area. Summit Ski area is located at the east end of the Government Camp Loop Road, and Ski Bunny is located two miles east of the Summit Ski Area on US 26. Approximately 30-40,000 visitors come to Summit and Ski Bunny areas annually. Summit Ski Area is a beginner slope with one lift and includes a snow-play and tubing area in addition to beginner ski lessons. Snow Bunny provides three separate areas for snow tubing.

During the summer, weekends are busier than weekdays, starting on the 4<sup>th</sup> of July through Labor Day weekend. Skibowl has experienced visitor growth in summer demand, and provides a variety of attractions at the Adventure Park. In 2011, Skibowl attracted 145,000 summer visitors, and hosted special events such as weddings and concerts.

Similar to the other ski resorts, visitors generally drive their own cars to Skibowl; approximately 10 percent ride the Fusion Shuttle or the Skibowl free shuttle. Skibowl provides options for overnight stays on the mountain – the Collins Lake resort rents condos. Once visitors are in the area, they can access Ski Bowl and the other ski areas on the mountain via shuttles, reducing the need to drive in the Government Camp area or between ski areas.

As reported by the ski resort, accessing Skibowl West from Portland via US 26 is easy in the morning peak; visitors turn right into the ski bowl parking lot. When visitors are leaving Skibowl, they turn left onto US 26 from the parking lot at an unsignalized intersection to return to Portland. While traffic is generally lighter in the eastbound direction in the afternoon peak, it is still difficult for drivers to find a gap in traffic that allows them to make a safe turn, as most of the traffic is westbound in the afternoon peak. Accessing Ski Bowl East from eastbound US 26 requires visitors to make a left turn across US 26 onto the Government Camp Loop Road, to the Multorpor Road overpass over US 26 and south to the ski area.

Skibowl offers both daily and season passes, and their pricing is based on blocks of time. There are three shifts per day – Open (9 am) to 4 pm, 11 am – 7 pm, and 1 pm – close (10 pm on weekdays, 11 pm on weekends). The shifts are all the same price, shown in Table 12. In addition, Skibowl bills itself as the largest night skiing area in North America, and offers two types of night tickets: the night ticket, 3pm to close, and the twilight ticket, 7 pm to close. Season passes are based on the age of the pass holder. As mentioned in the Timberline section above, Skibowl also participates in the Fusion Pass.

TABLE 12  
**Skibowl Ski Area Pass Pricing**

Type	Shits/Hours Covered	Price
<b>Daily Pass Rates</b>		
Adult Day or Shift Ticket	Open – 4pm or 11am – 7pm or 1pm – Close	\$49
Adult night Ticket	3pm – Close	\$30
Adult Twilight Ticket	7pm – Close	\$26
<b>Season Pass Rates</b>		
Night Pass – all ages		\$129
10 time pass – all ages		\$249
Unlimited Adult (23-64) Season Pass		\$525

2011-2012 ski season

### Employee Information

Skibowl employs around 310 people in the winter, 160 employees in the summer, for an annual employee count of 470. Employees come from Portland, Vancouver, and the Mt. Hood corridor (Government Camp to Gresham). The majority of employees drive their own vehicles or carpool to work. The employees that live in Government Camp generally walk to work, while approximately 2 percent hitchhike to work. Skibowl does not currently provide an employee shuttle, although in the past they have partnered with Timberline to provide a shuttle. During peak demand times for Ski Bowl, the resort requires employees to park on a gravel lot in Collins Lake and take their shuttle to the ski area in order to preserve parking for visitors at the ski area.

### Parking Information

According to the TAG report, Skibowl has total parking for 1,200 vehicles, 500-700 cars on the west side of US 26, and 400-500 cars on the east side. They estimate that their parking lots reach capacity five to ten days a year in the winter. When parking is at capacity, Skibowl does not turn people away, but directs visitors to park in Government Camp and the Collins Lake Resort, and shuttles them to the ski area. Approximately 10 percent of the Ski Bowl parking lots are used by visitors not coming to Skibowl to ski or snow tube. Many of the non-downhill or tube visitors are Nordic Skiers, snowshoers, and others accessing the Mirror Lake recreational area. According to Skibowl, the National Forest closes the Mirror Lake parking lot in the winter to address safety concerns with access to US 26, which results in those visitors parking in the Ski Bowl Parking lot and walking along US 26 to the trailhead. As noted in the introduction section, parking spots at Skibowl (and all Sno-Park parking lots) are open to all visitors with Sno-Park passes, and not reserved specifically for visitors to the ski area.

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## Shuttles

Ski Bowl provides a free shuttle bus and van between Skibowl West, Collins Lake Resort, Skibowl East, Ski Bunny, Summit Ski Area, and Government Camp. The shuttles continually circulate during Ski Bowl operating hours, and are heavily used on weekends and holidays.

In addition to the free visitor shuttle, Skibowl also shares the cost of the Fusion Shuttle with Timberline, described above.

### *Sea to Summit Ski & Mountain Shuttle*

See the section in Mt Hood Meadows section above for information on this shuttle service.

## Sno-Parks

Between November 1 and April 30<sup>th</sup>, valid Sno-Park permits are required to park in designated winter recreation areas. There are a number of Sno-Park areas adjacent to Mt Hood Recreational areas (including the parking lots of all three major ski areas), and the Sno-Park program helps plow the parking lots at these areas. Users purchase a transferrable parking permit and are required to display the permit when parked at any areas with signs identifying them as Winter Recreation Areas statewide. Permit holders can park in any recreation area where a permit is required. Permits can be purchased at DMV offices and permit agents in resorts, sporting goods stores, and other retail outlets, which are allowed to charge an additional service fee for each permit they sell. The cost of the annual permit provides a discount to frequent Sno-Park users over the three day and daily permits. A survey of Sno-Park users indicated that annual permits are used on average more than 13 times per winter. Funds from the Sno-Park program provide for snow-removal and parking enforcement. In recent years enforcement has been increased due to the high number of visitors who fail to purchase a permit. Table 13 below includes Sno-Park Fees including the fine for parking without a permit. Table 14 includes a list of the Sno-Parks in the Mt Hood National Forest and the activities provided at each area.

TABLE 13  
**Sno-Park Fees and Fines**

Type of permit	Fee <sup>1</sup>
Annual	\$20
3-day (Consecutive)	\$7
Daily	\$3
Fine for Parking without a permit	\$30

<sup>1</sup> Agents (resorts, sporting goods stores, and other retail outlets) are allowed to charge an additional service fee for each permit they sell.

Source: [http://www.oregon.gov/ODOT/DMV/vehicle/sno\\_park\\_permits.shtml](http://www.oregon.gov/ODOT/DMV/vehicle/sno_park_permits.shtml)

According to the TAG report and stakeholder interviews, there is currently high demand for family snow play activities including sledding, tubing, and simply experiencing snow. Many stakeholders in the forest note that there is not enough existing parking for the high snow play demand, and there are few designated snow play areas within the MHNF. Throughout the year, these locations are likely to be at capacity during high usage times (usually weekends in either the winter or the summer season).

TABLE 14  
SNO-PARKS and Adjacent Mt Hood Activity Areas

Activity Area	# of spaces	Downhill skiing	Sledding/ Snow Play	Cross-country skiing	Snowmobiling
<b>Timberline</b> 6 miles north of Government Camp	900 70 spaces of the 900 are reserved for lodge patrons	✓	✓		
<b>Glacier View</b> ½ mile west of Government Camp on US 26	40			✓	
<b>Skibowl West</b> Across from Government Camp off US 26	370	✓		✓	
<b>Skibowl East</b> South of Government Camp off US 26	200	✓			
<b>Summit Ski Area</b> Located at Government Camp on US 26	130	✓	✓	✓	
<b>Government Camp</b> Government Camp Loop Road	972				
<b>Government Camp Maintenance Station</b> ¼ mile east of Government Camp on US 26	80			✓	
<b>Snow Bunny Lodge</b> 3 miles east of Government Camp on US 26	75		✓	✓	
<b>Trillium Lake</b> 3 miles east of Government Camp on US 26	75			✓	✓
<b>Barlow Pass</b> 2 miles north of US 26 on OR 35	50			✓	
<b>Boy Scout Camp</b> 4 miles north of US 26 on OR 35	40			✓	
<b>White River West</b> 4 miles north of US 26 on OR 35	228			✓	
<b>White River East</b> 4 miles north of US 26 on OR 35	40			✓	✓
<b>Bennett Pass</b> 6 miles north of US 26 on OR 35	55			✓	✓

TABLE 14  
SNO-PARKS and Adjacent Mt Hood Activity Areas

Activity Area	# of spaces	Downhill skiing	Sledding/ Snow Play	Cross-country skiing	Snowmobiling
<b>Mt. Hood Meadows</b> 38 miles south of Hood River on OR 35	1,600	✓		✓	
<b>Hood River Meadows</b> 37 miles south of Hood River on OR 35	660	✓		✓	
<b>Teacup Lake*</b> 36.5 miles south of Hood River on OR 35	45			✓	
<b>Clark Creek</b> 36.5 miles south of Hood River on OR 35	76			✓	
<b>Pocket Creek</b> 34.5 miles south of Hood River on OR 35	40			✓	
<b>Little John</b>	40		✓	✓	✓
<b>Cooper Spur</b> 30 miles south of Hood River on OR 35	300	✓	✓	✓	
<b>Frog Lake</b> 4.5 miles east of OR 35 on US 26	~50			✓	✓
<b>Skyline Road</b> 10 miles east of OR 35 on US 26	~50			✓	✓

\* Teacup Lake to be expanded at completion of FHWA White River project.  
Source: 2009 TAG Report

## Local Small Communities

**Government Camp** – The Government Camp urban unincorporated community in Clackamas County is completely surrounded by the MHNH. The town has a year round population of about 400, and is a focal point for recreational activity in the study area. The community offers lodging, restaurants, and some retail services.

According to the TAG report, when parking is full at Skibowl or Timberline, visitors try to park in Government Camp, which can reduce parking availability for Government Camp businesses and housing. There is limited on-street parking in Government Camp during the day, with slightly more availability overnight. Sno-Park permits are required to park on Government Camp Loop Road in the winter. Timberline and Skibowl run shuttles from Government Camp when their parking lot is full.

**Villages at Mt. Hood** – The Villages at Mount Hood was formed in part to support the Mountain Express Bus (discussed in the Transit section below), and also to provide a forum to express issues of concern and coordinate community-based activities among the five villages/Citizen Planning Organizations and to Clackamas County. The villages include Brightwood, Wemme, Welches, Zigzag, and Rhododendron, and allow unincorporated areas of the County to have a voice in county decision-making. According to the census, the population of the villages is 3,306 year round. According to Clackamas County, the Villages at Mt. Hood entity has the ability to form a tax district with approval from voters, but there is no current tax associated with the Villages at Mt. Hood.

**Parkdale** – Parkdale is a Hood River County unincorporated community of about 300 people, located north of Mt. Hood along OR 35. A number of ski resort employees live in Parkdale, and there are a few inns and hotels and restaurants. Cooper Spur resort is also nearby, providing overnight lodging and dining opportunities for visitors to the Forest.

**Odell** – Odell is an unincorporated Hood River County community located north of Parkdale along OR 35, just south of the City of Hood River. Odell has a population of approximately 2,300 people, and is known for fruit orchards. There are no hotels or inns in Odell, and only a few restaurants. The Hood River Railroad operates in this area providing tourist orchard tours during the spring and summer, and fruit hauling in the fall.

## Hiking Areas

In addition to Nordic skiing at certain trails during the winter, hiking areas experience high visitation during the spring through fall season. Hiking areas such as Mirror and Trillium Lakes are often over-capacity for the available parking, and parking is not allowed on the shoulder of US 26. However based on conversations with ODOT maintenance staff, visitors often park illegally and are then towed for safety reasons. Mirror Lake attracts visitors in both summer and winter, and the location of the parking lot is especially difficult to safely access from US 26 due to the restricted sight distance at the curve on the highway. There are additional safety issues when the parking lot is over capacity and visitors continue to try and park at the trailhead. Additionally, some visitors park on the opposite side of US 26 and cross the highway to the trailhead. Due to these deficiencies, a number of crashes have been reported at Mirror Lake in both summer and winter, and the FS, at the request of ODOT, has begun closing the Mirror Lake parking area during the winter snow season.

Mirror Lake is the most popular of the hiking areas, but these parking capacity issues occur throughout the forest where trailheads are adjacent to US 26. With visitation rates expected to increase, parking congestion and safety issues are anticipated to continue to be an issue.

## Visitor Permits

### Trail Use Permits

Additionally, there are use permits issued at trailheads, and data are collected each year to track the number of visitors to the various trailheads and campgrounds. Table 15 below includes permit types (individuals and groups, along with the percentage of users who only stayed during the day).

TABLE 15  
2010 Wilderness Use Permits

MT. HOOD WILDERNESS	TOTAL USE		OVERNIGHT USE		% DAY USE
	PEOPLE	GROUPS	PEOPLE	GROUPS	
BURNT LAKE NORTH	2,575	1,089	0	0	100%
BURNT LAKE SOUTH	734	303	131	56	82%
CAST CREEK	326	123	118	29	64%
CASTLE CANYON	358	147	8	2	98%
HIDDEN LAKE	320	132	45	16	86%
HORSESHOE RIDGE	71	35	6	4	92%
MUDDY FORK TOP SPUR	4,081	1,642	536	222	87%
PARADISE PARK	415	224	79	41	81%
PACIFIC COAST TRAIL TIMBERLINE	5,099	2,156	1,648	691	68%
RAMONA FALLS	9,016	3,429	731	274	92%
TIMBERLINE SOUTH SIDE CLIMB	4,013	1,596	1,023	353	75%
WEST ZIGZAG MOUNTAIN	226	110	33	17	85%
CLOUD CAP	3,190	1,279	341	141	89%
ELK COVE	328	119	181	37	45%
ELK MEADOWS NORTH	87	49	46	24	47%
ELK MEADOWS SOUTH	1,879	854	201	94	89%
MAZAMAS	377	176	57	23	85%
MCGEE CREEK	144	77	15	35	90%
NEWTON CREEK	219	78	259	99	(18%)*
PINNACLE	233	78	50	24	79%
TILLY JANE	820	352	307	100	63%
VISTA RIDGE	1,055	454	397	159	62%
<b>TOTAL</b>	<b>35,566</b>	<b>14,502</b>	<b>6,212</b>	<b>2,441</b>	<b>79%</b>

\* More visitors stayed overnight than came for day use at this site.

Source: Mt Hood National Forest 2010 Wilderness Permit Data

### Timberline Mountain Bike Expansion

Timberline Ski Area submitted a proposal for a Timberline Bike Park with a variety of skill level trails, and a skills park located near the Brunos chairlift. The proposed trails would total about 17 miles in a 12 acre area. The bike area would be completely enclosed, and is not designed to interface with other ski area or

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Forest Service trails. It would be patrolled by park staff, and only mountain bikers would be allowed on the trails.

Once the park is constructed, the Timberline Bike Park would open once snowmelt is sufficient to allow trail maintenance crews to maintain the trails, entry/exit trails, and skills park, expected July 15-30 each summer. The park would close for the season in October, usually by October 15<sup>th</sup>, or when soil moisture is sufficient to warrant park closure.

Activity at the park would not begin until at least an hour after sunrise daily. Currently, the proposal is to start public operations at 10 am, allowing trail maintenance crews several hours to work before riders enter the park. Closing times would depend on the demand and use levels; however, park patrol staff would need at least one hour to sweep the trail network after closing and before sunset.

The estimated visitation six years after construction for the Timberline Bike Park, when the park is expected to reach its full operating capacity, is 21,656 visits over 10 weeks of the operating season, or 2,156 average visits a week during the summer. The expected peak times would be during the weekends, with an estimated 6,760 total visits during the summer weekends.

### **Skibowl lift-served mountain biking**

Skibowl maintains steep, downhill trails providing high-speed, fall-line descents, intended for experienced riders. The resort also hosts downhill mountain bike events such as the FluidRide Downhill Series. Riders at Skibowl ride the Lower and Upper Bowl lifts, which are Riblet fixed-grip, double chairlifts. Mountain bikers and hikers share the same trails.

## **Existing and Past Transit Service**

There is limited, seasonal bus service to MHNF; most people choose to drive their own vehicles to the forest, mainly due to the ease of transporting their equipment in cars. Destinations within the MHNF are more dispersed during the spring-summer-fall season than during the winter.

There are both public and private transit providers. The public providers for the most part serve the local communities and focus on providing transit trips for those commuting to work, accessing services, and running daily errands. The private transit providers generally provide trips for recreational visitors, mainly to the three main ski areas, or are a charter type service. Only one transit provider, Central Oregon Breeze, serves through traffic along US 26 between Portland and eastern Oregon. These are three distinct transit markets that are difficult to service with just one transit model.

Table 16 below summarizes existing and past transit service to various areas in MHNF.

TABLE 16  
Existing and Past Transit Service

Transit Name	Route	Status	Price	Notes	Hours
Amtrak - Public	Portland to the Columbia River Gorge	Discontinued in 1996 on the Oregon side. Several trains a day on the Washington side	N/A	No plans to reinstate passenger service on the south side of the Columbia river.	N/A
Central Oregon Breeze - Private	Between Portland and Bend. Stops at Portland Union Station, Portland Airport, Gresham (Cleveland Avenue MAX Station, Madras Tiger Mart, CET connection in Redmond, Redmond Airport, and Bend Sugarloaf Mountain Motel. Will stop along US 26 in Welches, Sandy, Government Camp, or Warm Springs if requested and reserved in advance.	Currently Running	Adults: \$49 one way (\$88 round-trip) Seniors: \$44 one way (\$78 round-trip) First two children are half price when traveling with an adult.	To date, the Breeze has served several thousands of people, a couple dozen of which have gotten off or on in Welches or Government Camp.	Twice a day in both directions.
Columbia Area Transit (CAT) - Public	Demand Response service in Hood River County, and fixed route service to the Dalles.	No longer provides service to Mt. Hood Meadows Still provides service to HRC and Dalles.	Was \$5	Discontinued due to cost, and usage by unruly passengers, driver safety (on the ice) considerations.	N/A
The Fusion Shuttle - Private	Between Sandy and Skibowl and Timberline (December to February). Stops at Hoodland Thriktway, Zig Zag Ranger Station, Collins Lake Resort, and Government Camp	Yes – only on specific days (weekends and holidays)	Free for Fusion Pass holders (combined ticket to Skibowl and Timberline) <u>For non-pass holders:</u> \$20 to/from Sandy \$10 to/from Welches \$5 to/from Collins Lake	Between Skibowl and Timberline 3 times a day. 2009-2010 ski season is the 4 <sup>th</sup> year in operation. Timberline – runs at 95-100% capacity. Riders pay for a very small percentage of the service – most are pass holders, and the cost is shared between Timberline and Skibowl - \$50,000 a year.	Departs Sandy 7 am, arrives Skibowl at 8 am, Timberline at 8:45. Returns to Sandy at 4 pm. Shuttles run at 90-95 percent capacity.
Grease Bus – Private	From the Grease Bus offices in Portland at SE 12 <sup>th</sup> and Sandy to Mount Hood Meadows, one 22 person bus a day.	Currently Running	\$15 on weekdays \$20 on weekends and holidays	Funded entirely through riders and sponsors who advertise on the bus (mainly ski/snowboard companies and recreation-related businesses.	Departs Portland at 8 am, departs Mt Hood Meadows at 4 pm. Operates every day but Monday from NE 12 <sup>th</sup> and Sandy Boulevard.
Greyhound – Private	Portland to Government Camp	Not currently running	Information not available	Discontinued due to cost concerns?	One trip in each direction daily. Arrived in Government Camp at 6:00 pm, departed for Portland at 12:55 pm
Hood River Area's B.R.T. (Bed, Ride and Ticket) 4x4 Shuttle Service - Private	Shuttle between the Inn of the White Salmon in Hood River and Mt Hood Meadows.	Currently Running	An additional \$59 per person to hostel or private room rate for ski ticket package. \$10 per person for the ride only. Will also take local residents to Mt Hood Meadows	Package deal – reduced lift ticket with an overnight stay in Hood River. The \$10 per person cost (without lift ticket) does not cover the cost to operate.	Leaves the Inn at 8:00 am, departs the ski area no later than 3:00 pm
Mountain Express - Public	Villages at Mt. Hood – connects Rhododendron, Zig Zag, Welches, Wemme, and Brightwood with Sandy and Sandy Area Metro (SAM). Takes 30 minutes	Currently Running	\$2 one-way for adults \$1 for students 10 and older (<10 ride free), seniors over 60, eligible people with disabilities.	Weekday and Saturday only (no holidays or Sundays). Three runs in am, 3 in pm each direction between Rhododendron and Sandy. Extends to Estacada Applied for JARC funding to extend to ski areas, but no funds were available.	Monday-Friday Between 5:45 and 6:30 pm, Saturdays 9:15 am to 8:40 pm. Ridership is high and has been steadily increasing – also dependent upon gas prices. <a href="http://www.villagesmthood.us/bus.htm">http://www.villagesmthood.us/bus.htm</a>
Mt. Hood Meadows - Private	Circulates between all parking lots and base lodge	Currently Running	Free	Contract with First Student – no special consideration for gear, converted school buses. Riders do not pay for the service – funded by Mt Hood Meadows.	During Mt. Hood Meadows operating hours. Usage depends on how busy the resort is, and weekends and holiday time periods.
Mt. Hood Meadows Employee Shuttle - Private	From Gresham and Hood River	Currently Running	Free for employees	Contract with First Student school bus company. Riders do not pay for the service – funded by Mt Hood Meadows.	Shuttles are full every day

Transit Name	Route	Status	Price	Notes	Hours
Mt. Hood Meadows - Private	Various buses that are provided for package deals. Leave from a variety of park and rides in the Portland Metro area, and travel to Mt. Hood Meadows via US 26 and OR 35	Yes, though weekday ridership especially has dropped off due to current economic conditions	Depends on the package deal and number of visits.  For the 8 week program, the ride comes out to \$6 per weekly visit.	40-50 buses per day. Overall, 26 % of visitors to MHM come by bus.  Need to be 93 percent full to be profitable. Program is struggling. Ideally, riders pay the majority of the cost of service, in practice, this is much less.	Weekend buses see high usage, ridership is dropping for midweek.
Mount Hood Railroad (MHRR) - Private	Tourist and freight service between Hood River and Parkdale	Currently Running	Between \$27 and \$69, depending on the excursion	Provides a variety of themed excursions such as dinner, western train robbery, murder mystery, Thomas the Tank Engine and the Polar Express.  MHRR is considering busing people from Portland to Hood River, ride the train, and continue by bus from Parkdale to Mt. Hood.	July through September on the weekends, and select dates for specific events (Valentine's Day, St. Patrick's Day, etc)
Private Charter Services <ul style="list-style-type: none"> <li>o Aspen Limo Tours</li> <li>o Blue Star Airporter (between airport and Mt Hood)</li> <li>o RAZ Transportation</li> </ul>	On demand – luxury transportation service.	Currently Running	Depends on the service and number of people.	Requires reservations for vehicles.	Operates year-round.
Sandy Area Metro (SAM) - Public	Three routes: Gresham Transit Center Estacada Circulates through Sandy	Currently Running	Free	Operates 6 days a week (M-Sa), except for Estacada Route (no Saturdays).  Provides 250,000 rides per year for all three routes, and approximately 17,000 rides between Gresham and Sandy. Riders do not pay for the service – funded completely by the City of Sandy.	Gresham Transit Center every 30 minutes weekdays, every hour Saturday  Estacada every 2-3 hours weekdays only  Circulates through Sandy 5:30 am, 6:30 am, 6:30 pm, 7:30 pm, demand response at all other times
Sea to Summit Ski and Mountain Shuttles– Private	Provides both group transportation and scheduled service between Portland and all three ski areas. Shuttles pick up at REI in Portland (free park and ride) and Pioneer Square.	Currently Running	Shuttle only \$40 Ski packages (lift ticket and rentals) vary between \$75 and \$110 depending on the package and day.	Carries 2,000-3,000 skiers per season. Operates depending on demand. In operation for 12 years.	Operates year round to Mt Hood, but the ski season is November 15 <sup>th</sup> through April. Leaves Portland at 7:15 am from REI, 7:30 am from Pioneer Square, leaves the ski area at 3:30 pm.
Skibowl Area Shuttle - Private	Circulates between east and west locations and Government Camp	Currently Running	Free	Also stops at Summit Ski Area and Snow Bunny Snow-play area. Riders do not pay for the service – funded by Skibowl.	During normal Skibowl operating hours. Has high usage on holidays and weekends.
Skibowl Employee Shuttle - Private	Sandy area to the Ski resort	Not currently running	Free	Discontinued due to cost	N/A
Timberline Employee Shuttle - Private	Sandy to Hoodland	Currently Running	Free for employees	Two shuttles, one to the hotel, and one to mountain services. Timberline pays for the shuttle and gas, organized by the employees. Riders do not pay for the service – funded by Timberline.	Shuttles are full every day
TriMet - Public	Provided service to Government Camp 20-25 years ago.  Currently provides service to Gresham Transit Center, which connects to SAM.	Not currently running	N/A	Discontinued due to cost	N/A

Source: 1999 Nelson Nygaard Transit Feasibility Study supplemented with information from stakeholder interviews.

Transit riders are sensitive to in-vehicle travel time and transfer time. According to the 1999 Transit Feasibility Study (ODOT 1999, prepared by Nelson Nygaard) more people would be willing to take transit to Mt. Hood if it were to run every 30 minutes, and take no more than 15 minutes longer than driving. These two characteristics would reduce the amount of time riders had to wait for the bus, and the time spent in transit. Added amenities such as direct lodge service and gear storage would influence people to take transit. Those who responded to the preference survey also favored park-and-ride facilities at the Gresham MAX station and/or in the City of Sandy.

Most riders who take transit do so because it is the better or only available choice, or to reduce the hassle or cost of driving themselves to the mountain. Many transit providers market their service as a way to avoid fighting for a parking space, or an alternative to having to drive in adverse weather conditions. The Feasibility report notes that the following are fundamental factors for a successful transit system to a ski area:

- Skiers must perceive benefits from using service to encourage use
- Benefits to the resort must be substantial and worthy of their financial participation
- Ongoing commitment is required to fund and promote the service.

## **Public Transit Service**

The transit services to the ski areas are described in the ski area sections above. Other transit services are summarized below.

### **Mountain Express**

Mountain Express currently provides point-deviated fixed-route transit service between the City of Sandy and Rhododendron. This type of service has a published route, but will pick up ADA and paratransit riders within  $\frac{3}{4}$  mile of that route. The service is currently administered by Clackamas County Social Services with a contract bus operator who owns 15 passenger buses. The bus was originally organized by the Villages at Mt. Hood community to address concerns about the lack of transit service for area youth to and from school, and the lack of services for seniors and the disabled population in the US 26 corridor in the Hoodland Area. The initial service was started with a partnership with ODOT, then a non-profit group managed the bus, and Clackamas County has been managing the bus since 2007. Clackamas County operates the Mountain Express with the City of Sandy's SAM service, providing six runs per day on the weekdays, and four runs per day on Saturday: Monday-Friday between 5:45 am and 6:30 pm, and Saturdays 9:15 am to 8:40 pm.

Ridership has been steadily increasing, and is made up of approximately 25 percent youth, 15-20 percent seniors or disabled riders, and the rest are commuters traveling to work. Sometimes skiers will take the Express and then hitch-hike the last 13 miles to Government Camp. The Mountain Express serves approximately 1,600-1,700 riders per month, and ridership fluctuates with the price of gasoline. When the price per gallon is high, ridership increases, and when the cost of gasoline goes down, ridership decreases. However, ridership has steadily increased during the time the service has existed. Ridership is fairly steady throughout the year; however, there is a dip of 100-200 riders in the winter months as riders are less likely to want to wait for transit in January and February.

The annual budget for the Mountain Express is \$140,000, and includes operating costs which are contracted by Clackamas County and the revenue hour rate. Maintenance and gas are separate from this figure. Mountain Express owns the buses. Operations are funded through Federal Transit Administration 5311 funding, which provides funding for rural public transit, administered by ODOT. The

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County matches 48 percent in in-kind funding, and \$10,000 special transportation funding provides part of the match. Currently Business Energy Tax Credit (BETC) funding supports 30-35 percent of service, however, Oregon House Bill 3672 sunsets the BETC program and funding is expected to end in 2014, and Clackamas County is looking into other funding sources that are more sustainable. Currently the Villages at Mount Hood does not have a tax district, but could implement one to help fund the Mountain Express. Previously, the Mountain Express applied for Jobs Access and Reverse Commute (JARC) Program grant funding from the Federal Transit Administration (FTA). The Express was approved for a grant, but funding was not available.

The Mountain Express needs a consistent source of funding and a source for local match dollars such as a transit district or taxing entity. Additionally, businesses in the area could also contribute as employees and potential customers could be riding transit. The Express has contacted the ski areas to work on a partnering deal to serve employees and ski resort visitors; however, no agreement has been made at this point. Currently Mountain Express is focused on providing service to local residents of the rural areas and would need additional funding to expand their existing service.

Clackamas County has a number of policies to support transit, and would like to continue the Mountain Express service. Their 2001 Transportation System Plan includes goals to support an integrated transit system, encourage transit ridership, provide transit to those who do not have access to private vehicles, and to those with disabilities, and meet the county's local needs.

### **Sandy Area Metro (SAM)**

SAM is a public transit system that is operated by the City of Sandy and provides two routes Monday through Saturday: Sandy Local and Gresham Express, and Sandy to Estacada. The Sandy Local and Gresham Express bus starts service at 5:30 am, ending at 9 pm. The Saturday route starts at 9:30 am, ending at 10:30 pm. The Sandy Estacada route is Monday through Friday only, starting at 7 am, and ending at 8 pm. Both lines connect to TriMet service – the MAX in Gresham, and bus line 30 in Estacada. All of the SAM service is free for users. The City of Sandy also offers a demand-response (“Dial-a-ride”) STAR service between 5:30 am and 9 pm Monday through Friday, and 10:15 am to 4:30 pm on Saturdays. Fares are \$0.50 each way for adults. SAM provides approximately 250,000 rides per year, and 20,000 total rides per month, with 17,000 of those rides between Gresham and Sandy.

### **Transportation Demand Management (TDM)**

In accordance with the 1997 Mt Hood Meadows Ski Area Master Plan Final Environmental Impact Statement (FEIS), the following TDM measures are currently employed by Mt Hood Meadows:

- Continue the program with Hood River retailers for food/beverage discounts at Hood River restaurants
- Continue price incentives for off-peak skiing
- Continue promotional packages that sell combinations of lift tickets and bus transportation
- Maintain the reader board along Forest Road 3555 to advise departing drivers of travel times on OR 35 versus US 26
- Continue to actively promote the use of OR 35 as an alternative to US 26
- Expand night skiing to help reduce peak hour arrivals/departures

Mt Hood Meadows continues to include all of these aspects into their webpage and daily operations.

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Timberline also has TDM resources on its website, <http://www.timberlinelodge.com>, including alternate transportation options, a link to Drive Less. Connect (an online carpool matching site run by ODOT), and recommendations on how to avoid times when the parking lot is full. Timberline and Skibowl also run the Fusion Shuttle for ticket holders, reducing the number of Fusion Pass holders who drive. All three ski areas offer reduced ticket prices based on time of day to encourage visitors to come during off-peak times.

### **Intelligent Transportation Systems (ITS)**

There are several Variable Message Signs (VMS) along US 26 and along Mt. Hood Meadows Road. Existing ODOT VMS are at US 26 near Zig Zag and US 26 near Frog Lake. ODOT is planning to install four more VMS along US 26 between 2012 and 2013. These will include one at US 26 and OR 212 and two at US 26 and OR 35. Mt. Hood Meadows also has four mobile VMSs to guide motorists to the appropriate parking lot. Mt. Hood Meadows sends text messages and tweets about the status of parking out to visitors who have signed up for these alerts so that visitors know what to expect when they arrive.

ODOT currently has electrical and phone service to a potential area on OR 35 near the Bennett Pass Road and main Mt. Hood Meadows access road for additional VMS, however, they currently do not have any funding or immediate plans to add a VMS at this location. Currently, Mt. Hood Meadows provides mobile VMS on US 26 before the interchange with OR 35 and at their main and HRM parking lots to warn drivers if their parking lots are full to capacity. ODOT also has a funding request in to FHWA Western Federal Lands Highway Division for additional ITS and variable message signage along US 26 through the Mt Hood National Forest. The goal of the funding request is to improve driver safety by reducing the number and severity of crashes, especially those related to inclement weather conditions. The ITS elements of the funding request include incorporating the current weather conditions and camera feeds along the roadway into ODOT's current Trip Check traveler information website ([www.tripcheck.org](http://www.tripcheck.org)). The project would install variable speed limit signs and collect real-time winter weather information. Posted speeds would then be adjusted on the roadway according to the weather conditions. The variable speed limits would be changed based on information about road surface conditions, traffic speed and volume detection, and weather conditions.

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# Appendix

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- ODOT, Region 1 Traffic Unit. April 2009. *Traffic Study Report: US 26 Skibowl – Government Camp – Timberline Section*.
- SE Group. September 2001. *Preliminary Feasibility Study and Fatal Flaw Analysis for an Overhead Transportation System Serving the Government Camp/Mt. Hood Area*. Clackamas County Development Agency, Clackamas County, OR.
- USDA Forest Service Region 6. January 2009. *National Visitor Use Monitoring Results: Mt. Hood National Forest*. National Visitor Use Monitoring Program.

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## List of Stakeholder Interviews

**Joshua Blaize**, Owner, Seat to Summit Ski and Mountain Shuttles

Conversation via phone May 31<sup>st</sup>

**Teresa Christopherson**, Administrative Services Manager, Clackamas County Social Services, Operator of the Mountain Express

Conversation via phone February 1<sup>st</sup>

**Ryan Holmes** Manager, Grease Bus, and **Mike Parziale**, Owner, Grease Bus

Conversation via phone January 30<sup>th</sup>

**Cathy Johnson**, Luxury Accommodations

Conversation via phone January 30<sup>th</sup>

**Jim McNamee**, ODOT Maintenance Manager, Zig Zag,

Conversation via phone February 1<sup>st</sup>

**Bob Reeves**, Board Member, Villages at Mount Hood, Partner of the Mountain Express

Conversation via phone February 3<sup>rd</sup>

**Julie Stephens**, Transit Manager, City of Sandy (SAM)

Conversation via phone February 7<sup>th</sup>

**Jon Tullis**, Director of Public Affairs, Timberline Resort

Conversation January 17 at Timberline Lodge

**Steve Warila**, Executive Director of Mountain Operations and Planning, Mt. Hood Meadows Ski Resort

Conversation January 17 at Mt. Hood Meadows Ski Resort

**Hans Wipper**, Director of Development, Skibowl Winter and Summer Resort, and **Tom Keenan**, President, Keenan and Partners Consulting

Conversation January 17 at Skibowl Ski Resort

**Appendix B**  
**Case Study Report**

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## Case Study Report

PREPARED FOR: Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest PMT

COPY TO:

PREPARED BY: Terra Lingley, CH2M HILL  
Sumi Malik, CH2M HILL

DATE: August 10, 2012

### Introduction

This case study report evaluates the effectiveness of transit, Transportation Demand Management (TDM) and parking systems at seven comparable locations in North America to help inform the pilot program development for the Mt Hood Transit Alternatives project. These case study locations were chosen based on input from the Project Management Team (PMT), and recommendations from the Mt. Hood area stakeholders. Information was gathered through available documents, online searches, and telephone interviews with managers and others at ski areas and forest service locations.

The six case studies (in no particular order) are:

1. Alta, Brighton, Snowbird, and Solitude, near Salt Lake City Utah
2. Devils Postpile National Monument, near Mammoth California
3. Breckenridge, Colorado
4. Whistler, British Columbia
5. Squaw Valley, Northstar, Alpine Meadows, near North Lake Tahoe, California
6. Mt. Baker, Crystal, Summit at Snoqualmie, and Stevens Pass, Snoqualmie National Forest, Washington
7. Mt Bachelor in Deschutes National Forest

The summary of findings will note similarities and important aspects of successful transit or TDM strategies to consider when developing the pilot program for the Mt. Hood National Forest. For the purposes of this study and case study research, Transportation Demand Management (TDM) is used to describe a variety of strategies aimed at reducing congestion using means other than increasing roadway capacity; although, TDM measures can include some spot capacity increases. Some examples of TDM strategies include, but are not limited to:

- Carpooling,
- Vanpooling,
- Traveler information to shift demand to another time of day,
- investment in other modes such as biking and transit,
- pricing parking or providing preferential parking for carpools, and

- Intelligent transportation system strategies that aim to integrate wired and wireless communications with transportation, such as ramp metering and real-time traveler information.

The Mt Hood National Forest, as reported in the Background Information and Existing/Near Term Conditions Report has the following aspects:

- Attracts mostly day trip visits,
- Is within two hours of the Portland metro area,
- Is bisected by a state highway,
- Has limited parking capacity at both trailheads and ski resorts,
- Supports multiple ski areas, and
- Is situated on forest land.

While each place is unique, the case studies were chosen because of similarities to Mt. Hood—mainly hosting day-trippers, proximity to a city, along a state highway, limited parking conditions, multiple ski areas, and on forest land. The case studies illustrate similarities and differences to help determine what types of transit service and TDM strategies could be successful on Mt. Hood, which are listed as lessons learned. Table 1 below shows the differences and similarities between the case studies and the Mt Hood National Forest. Full circles indicate locations where the case studies are similar to the Mt Hood National Forest, and partial circles indicate where there are some similarities. Many of the case study locations have similar characteristics to conditions on Mt. Hood.

TABLE 1

Case Study Aspect Comparison

Area	Mostly day - trippers	Within 2 hours of a city	Along a state highway	Limited parking (ski & trail head)	Multiple ski areas	Forest land
Mt Hood	●	●	●	●	●	●
Alta area, Utah	●	●	●	●	●	●
Devils Postpile, CA	-	-	-	●	-	●
Breckenridge, CO	●	●	●	●	●	●
Whistler, BC	◐	●	●	-	-	-
North Lake Tahoe, CA	◐	-	●	◐	●	◐
Snoqualmie National Forest, WA	●	●	●	◐	●	◐
Deschutes National Forest	●	●	-	◐	-	●

● indicates that the case study location is very similar to Mt Hood.

◐ indicates that the case study location is partially similar to Mt Hood.

- indicates that the case study is dissimilar to Mt Hood

## Lessons Learned from Case Studies

There are differences and similarities between all of the case studies and the conditions on Mt Hood National Forest. Through the Case Study work, a number of themes emerged that can be used to help create a pilot project to support alternative transit opportunities and transportation demand management within the Mt Hood National Forest.

The three main themes that emerged during the case study discussion are: providing incentives for visitors and employees to take transit or carpool (Table 2), utilizing management techniques to reduce the number of visitors who drive (Table 3), and leveraging partnerships to create useful and successful

TDM or transit service (Table 4). Within each theme, common strategies are identified for case study locations. Each case study description has specific information about each strategy.

1. Providing incentives for visitors and employees to take transit or carpool:

- Cheap or free transit (subsidized)
- Discounts, or bundled lift pass and transit prices
- Bus amenities, such as guided tours or places for gear
- Discounts for those who carpool and/or premium parking spots
- Providing employee shuttles or having an employer buy a transit pass for employees

TABLE 2

Case Study Locations that Provide Transit or Carpool Incentives

Area	Cheap or free transit	Discounts/ bundled lift pass & transit	Bus amenities	Carpool discounts premium parking	Employee shuttles/employer buys transit pass
Mt Hood	-	◐	◐	-	◐
Alta area, Utah	●	●	●	-	●
Devils Postpile, CA	●	N/A	●	-	-
Breckenridge, CO	●	●	●	●	●
Whistler, BC	●	-	●	●	●
North Lake Tahoe, CA	●	●	●	●	●
Snoqualmie National Forest, WA	-	-	-	◐	◐
Deschutes National Forest	●	-	-	-	●

● indicates that the case study location is very similar to Mt Hood.  
 ◐ indicates that the case study location is partially similar to Mt Hood.  
 - indicates that the case study is dissimilar to Mt Hood  
 N/A indicates that the aspect is not applicable

2. Utilizing management techniques to reduce the number of visitors who drive:
  - Charge for parking (up to \$20 a day)
  - Limited parking
  - Transit and park and ride facilities
  - Requirement, or mandatory transit usage
  - Providing bus priority on the roadways
  - Utilizing social media to encourage people to carpool or change their travel habits
  - Parking intelligent transportation systems

TABLE 3

Case Study Locations that Employ Management Techniques to Reduce the Visitors who Drive

Area	Charge for parking	Limited parking	Transit + Park and rides	Requirement (mandatory use)	Bus Priority	Social Media	Parking ITS
Mt Hood	-	●	-	-	-	◐	◐
Alta area, Utah	-	●	●	-	●	-	●
Devils Postpile, CA	-	●	●	●	●	-	-
Breckenridge, CO	●	●	●	-	-	-	-
Whistler, BC	◐	-	-	-	●	●	●
Lake Tahoe, CA	◐	◐	◐	-	-	●	-
Snoqualmie, WA	◐	◐	-	-	-	●	-
Deschutes National Forest	-	◐	●	-	-	◐	-

- indicates that the case study location is very similar to Mt Hood.
- ◐ indicates that the case study location is partially similar to Mt Hood.
- indicates that the case study is dissimilar to Mt Hood

3. Leveraging partnerships to create a useful and successful TDM or transit service

- Transitioning from winter to summer service (winter destinations are often fewer and easier to serve as a starting point and then extending to summer destinations which are often more disperse).
- Transitioning from employee to visitor service (employee trips are more predictable with respect to time of day, origins and destinations and a good way to start transit service and then expanding).
- Partnering with transit agencies
- Leveraging shared funding through transit authorities
- Emphasizing the sustainability ethic and resource management

TABLE 4

Case Study Locations with Leveraged Partnerships

Area	Winter to Summer Service	Employee to Visitor Service	Transit Agencies	Transit Authority	Sustainability Ethic and Resource Management
Mt Hood	-	-	-	-	◐
Alta area, Utah	●	●	●	●	●
Devils Postpile, CA	-	-	-	-	●
Breckenridge, CO	●	●	●	●	●
Whistler, BC	-	-	●	●	●
North Lake Tahoe, CA	◐	◐	●	●	-
Snoqualmie National Forest, WA	-	-	-	-	◐
Deschutes National Forest	-	◐	●	●	◐

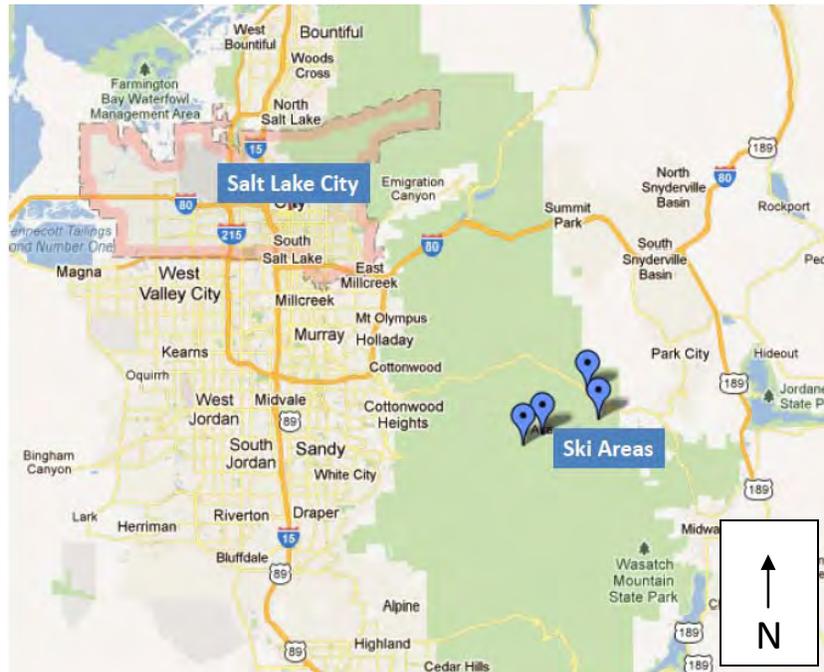
- indicates that the case study location is very similar to Mt Hood.
- ◐ indicates that the case study location is partially similar to Mt Hood.
- indicates that the case study is dissimilar to Mt Hood

## Case Study Findings

### Alta, Brighton, Snowbird, and Solitude, near Salt Lake City Utah

The four ski areas are within the Uinta-Wasatch-Cache National forest on two steep canyons within an hour drive of Salt Lake City, Utah. To access the ski resorts, visitors take Highway 210 east of the City on a steep roadway with congestion, safety, and avalanche issues. Most of the ski areas are within an hour (or less) drive of the Salt Lake City metro area.

#### Basic location and information



The ski areas are all fairly comparable, operating at similar hours and the general season. Alta and Snowbird are the largest of the four, while Brighton is the smallest. Table 5 below shows the skiable acres, lifts, lift capacity, and hours for each of the ski areas.

TABLE 5  
Utah Ski Resort Statistics

Resort Name	Hours of operation	Season	Skiable Acres	# of Lifts	# of Runs	Uphill Skier capacity (per hour)	Average Annual Snowfall (inches)	On-site lodging?
Alta	9:15 a.m.- 4:30 p.m.	Mid-November to end of April	2,200	11	116	11,248	500	Yes – hotels and condos to rental houses and chalets
Brighton	9:00 a.m. – 4:00 p.m. Night skiing 4:00 p.m. – 9:00 p.m.	December through March	1,050	7	66	10,950	500	One hotel on-site, other lodging nearby
Snowbird	8:40 a.m. – 3:00 pm weekdays, 8:30 a.m. – 4:00 p.m. weekends Night skiing 5:30 – 8:00 p.m. on Wednesday, Friday, and Saturday. Half-day tickets starting at 12:30	Mid-November through May	2,500	11	85	17,400	500	Yes - 882 lodging rooms in 4 properties
Solitude	9:00 a.m. – 4:00 p.m. Half day tickets, and tickets based on the number of lift rides	Mid November to Mid-April.	1,200	8	64	14,450	500	Yes – village development

Sources: Find the Best website, ski resorts: [ski-resorts.findthebest.com](http://ski-resorts.findthebest.com), Alta Ski Area: [www.alta.com](http://www.alta.com), Brighton Ski Area: [www.brightonresort.com](http://www.brightonresort.com), Snowbird Ski Resort: [www.snowbird.com](http://www.snowbird.com), and Solitude Mountain: [www.skisolitude.com](http://www.skisolitude.com) websites. Accessed April 2012.

## Activities

Table 6 shows the variety of activities available at Utah ski areas in both summer and winter.

TABLE 6  
Utah Ski Resort Activities

	Alta <sup>1</sup>	Brighton <sup>2</sup>	Snowbird <sup>3</sup>	Solitude <sup>4</sup>
<b>Summer Activities</b>				
Alpine Slide			X	
Biking	X			X
Disc Golf				X
Fishing			X	X
Hiking/Climbing	X		X	X
Horseback Riding			X	
Tennis			X	
Tram/Gondola rides			X	
Tours (ATV, Scooter)			X	X
Zipline			X	
<b>Winter Activities</b>				
Ice Skating				X
Night Skiing/Snowboarding			X	
Nordic Skiing				X
Skiing	X	X	X	X
Snowboarding		X	X	X
Snowmobile Tours			X	
Snowshoeing	X		X	

<sup>1</sup> Alta Ski Resort website: [www.alta.com](http://www.alta.com) Accessed March 2012

<sup>2</sup> Brighton Ski Area website: [www.brightonresort.com](http://www.brightonresort.com) Accessed March 2012

<sup>3</sup> Snowbird Ski Resort website: [www.snowbird.com](http://www.snowbird.com) Accessed March 2012

<sup>4</sup> Solitude Mountain Resort website: [www.skisolitude.com](http://www.skisolitude.com) Accessed March 2012

## Visitor Information

Given the proximity to Salt Lake City, many visitors come for the day; however, the ski resorts are also destinations and attract visitors from across the country.

Salt Lake City hotels, ski resorts, and visitor centers actively market ski bus service; however, UTA would like to improve marketing. In conjunction with season pass sales, the ski resorts provide customers with a ski bus schedule and a voucher that can be used to obtain a contactless card (a card that is scanned) for transit use. In the past, ski resorts have shared their database of season pass holders with UTA, and UTA in turn has had a direct mail campaign to season pass holders encouraging the use of the ski bus system.<sup>5</sup>

## Transit

Currently the Utah Transit Authority (UTA) provides eight bus routes between Salt Lake City and the ski areas, along with an intra-canyon circulator shuttle. Five of the routes go to Snowbird and Alta, two go to Solitude and Brighton, and one bus serves Sundance.

Fares for UTA are:

- One-way - \$4.25
- Intra-canyon shuttle - \$2.10
- Senior one-way fare - \$2.10

Ski bus service runs mid-December through mid-April. The Ski bus picks up in downtown Salt Lake City, and each route has a number of stops in town, including at the University, various hotels, five park and rides, and at least five light-rail (TRAX) stops within the City. In addition to these routes, UTA also partners with Summit County to provide transit service to Park City and nearby ski resorts.<sup>6</sup>

Travel time by ski bus from downtown Salt Lake City to Alta, the furthest ski resort, is approximately one hour. Car travel time from downtown Salt Lake City is approximately 40 to 45 minutes, making travel time by transit roughly comparable to drive time and competitive. From the park-and-ride locations at the mouth of the canyon, transit travel time is only 20 to 25 minutes.

UTA has found ridership on the ski bus system to be the most variable of all their routes. UTA has specific ski bus supervisors that monitor bus loads and park and ride usage to adjust service levels. Ridership is high between December 20<sup>th</sup> and January 3<sup>rd</sup> during the winter holidays, following major snow storms, and on weekends (Friday through Sunday). Ridership goes down significantly Monday through Thursday. UTA has a policy to not leave any riders behind, and to that end, following a snow storm or during anticipated peaks, UTA increases service capacity.<sup>5</sup>

## Parking

The Uinta-Wasatch-Cache National Forest master plan includes a policy to not expand parking within the forest, with the exception of facilities to support mass transit. The forest is the primary watershed for Salt Lake City and the policy to not expand parking was established to protect the watershed. Nonetheless, parking is currently limited at trailheads. The geography of the area also limits parking expansion – the steep narrow canyon is not conducive for large level parking areas. Currently none of the ski resorts charge for parking and are concerned that charging for parking may turn visitors away.<sup>7</sup>

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<sup>5</sup> Taylor, Ryan, Utah Transit Authority. Personal Interview. 18 July 2012.

<sup>6</sup> UTA website: [www.rideuta.com/](http://www.rideuta.com/) Accessed April 2012.

<sup>7</sup> Majeske, Carol, Ranger District at Uinta-Wasatch-Cache National Forest, Utah

## Intelligent Transportation Systems and Visitor Notification

UTA has a dynamic real-time parking count at three different park and ride lots alerting potential parkers how many empty spaces there are in each lot.<sup>8</sup>

## Funding and Organizational Support

The Forest Service, ski resorts and UTA have developed a strong partnership to provide transit service. The Forest Service obtained grants through Federal Highway Administration's Forest Highways program to purchase specially equipped busses that could handle the steep grades and winter conditions in the canyon. The grant was a pass-through to UTA, and one to which UTA would not have otherwise have access.

The relationship between the ski resorts and UTA dates back to the late 1970s and early 1980s. The ski resorts worked with UTA to establish a ski bus system for several reasons.<sup>9</sup>

- 1) **Constrained Parking** – the ski resorts found it difficult to obtain permits needed to expand parking. The forest service master plan now calls for no expansion of parking unless in support of transit or watershed conservation; however, the ski resorts wanted expanded transit due to constrained parking prior to this policy.
- 2) **Congestion**—when lifts close, congestion within the canyon can causes a one-to-two hour back-up and the ski resorts thought transit service could alleviate some of this congestion and provide a better experience for skiers.
- 3) **Concerns about Pollution**—the canyon, an old lakebed, is a unique place. It is bowl-shaped and in the winter a clear inversion effect is in place. When people traveled to and from the ski resorts, they drove through the smog caused by the inversion effect in winter. People witnessed the smog worsening with greater levels of traffic and congestion. The very visible inversion effect and smog caused all parties, including skiers, to realize alternatives to driving needed to be sought.

Initially, when the ski bus program began, the ski resorts helped purchase specially equipped buses with adequate horsepower, breaks, and snow handling ability. Today, the ski resorts pay for the transit trips of all season pass holders and employees. UTA's total ski bus operating cost is approximately \$1.5 million, and annual payments from the ski resorts equal approximately \$500,000. The rest of the operating costs are funded through UTA's general funds, which are primarily sales tax revenues. Leadership from the Snowbird ski resort also served on UTA's board of directors, which helped engender trust between the two parties. The simplicity of involving few entities has also helped developing service.<sup>9</sup>

## Additional Information

About six years ago, UTA moved to using a contactless fare card. Ski resorts currently pay the transit fare for all season pass holders and employees. Prior to the contactless fare card, bus operators would manually count season pass holders and employees. The contactless card has helped the ski resorts feel they are receiving reliable invoices because the system is now automated. The ski bus fleet of 40 to 45 buses is also a small fleet for UTA and contactless fare cards were tested on this fleet.

To support transit trips to ski resorts, the Forest Service has been working with ski areas to provide better end-of-trip facilities, such as changing rooms and lockers at the resort for people to store extra

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<sup>8</sup> Majeske, Carol, Ranger District at Uinta-Wasatch-Cache National Forest, Utah

<sup>9</sup> Taylor, Ryan, Utah Transit Authority. Personal Interview. 18 July 2012.

gear that they would otherwise leave in the trunk of a car. End-of-trip facilities are important from a rider's perspective because they make a transit trip practical and a convenient alternative to driving.

### **Lessons Learned**

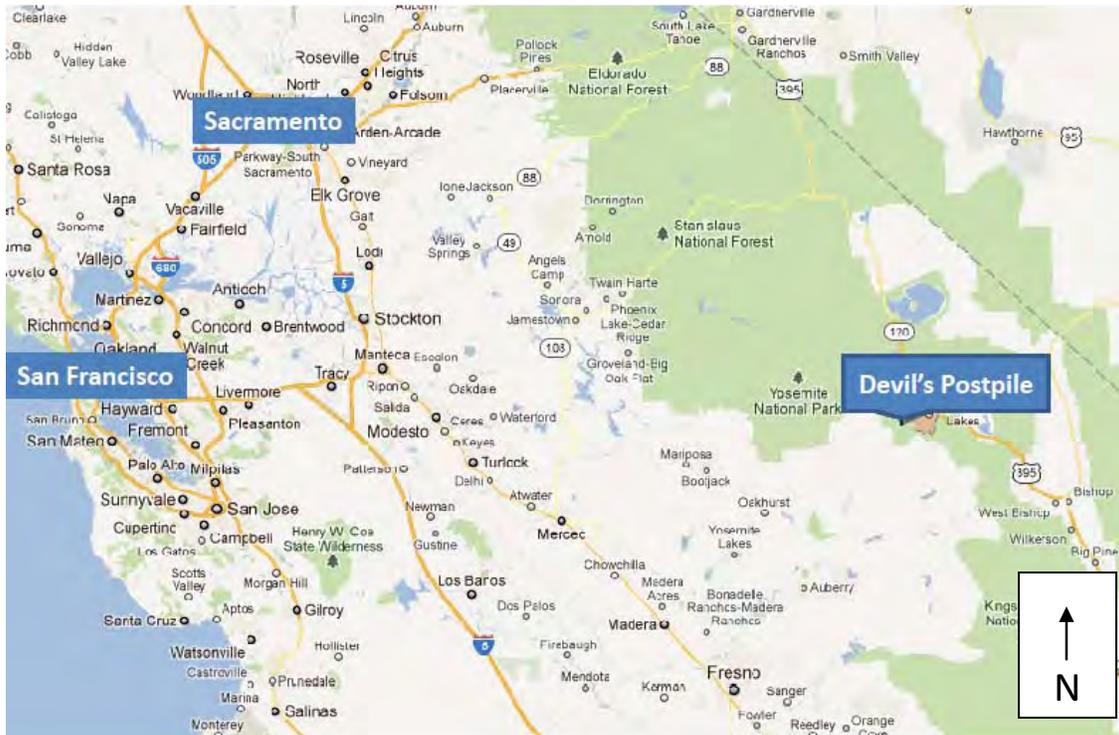
UTA provides successful transit service to the four ski areas, though currently service is only available during the winter. Future plans include expanding transit service into the summer season, building upon employee shuttle service already provided, and expanding to general service. At this point, the service is winter only because destinations are more consolidated, making them easier to serve. Summer destinations are more disperse and more difficult to serve, but the hope is to build on the success of the winter routes to provide summer service in the future.

The Forest-led restriction on adding more parking is a significant policy decision that requires recreation and ski areas consider shifting visitor traffic to transit or increasing vehicle occupancy. Constrained parking in this case creates an incentive to invest in transit service.

## Devils Postpile National Monument, near Mammoth California

### Basic location and information

Devils Postpile National Monument is located near Yosemite National Park in the Sierra Nevada Mountains. The town of Mammoth Lakes is nearby, which has a population of 8,234.<sup>10</sup> The monument and surrounding area attracts visitors due to its unusual geologic formation, access to backcountry hiking, and Rainbow Falls. Additionally, Mammoth Mountain Ski area is located within Mammoth Lakes. The town of Mammoth Lakes is located 325 miles north of Los Angeles, a similar distance east of San Francisco, and 164 miles south of Reno, NV. Visitors access the town via US Highway 395 from the north and south, I-80 and Highway 50 from the east and west. Snowfall averages 400 inches per year.<sup>11</sup>



### Activities

Devils Postpile is open 24 hours a day, seven days a week during the operating season, which is typically mid-June through mid- to late-October. Rainbow Falls is two miles downstream from the Postpile formation, and there are various backcountry trailheads, and camping areas that are popular destinations in the summer. Reds Meadow Valley offers no facilities or services in the winter and visitors are recommended to be prepared for harsh winter conditions, but are allowed for back-country activities. Table 7 below includes the activities available in the National Forest and at the ski area.

<sup>10</sup> 2010 US Census data.

<sup>11</sup> City of Mammoth website: [www.ci.mammoth-lakes.ca.us/](http://www.ci.mammoth-lakes.ca.us/). Accessed March 2012.

**TABLE 7  
Activities at Devils Postpile and Mammoth Ski Area**

	Devils Postpile/Rainbow Falls	Mammoth Ski Area
<b>Summer Activities</b>		
Biking	X	x
Camping	X	
Fishing	X	x
Golfing		X
Hiking/Climbing	X	x
Horseback Riding	X	x
Tram/Gondola rides		x
Tours		x
Wildlife Viewing	X	
<b>Winter Activities</b>		
Gondola Rides		x
Nordic Skiing		x
Skiing	X	X
Sledding		
Snowboarding		X
Snowmobile Tours		x
Snowplay/Snowpark		x
Snowshoeing	X	
Snow Tubing		x

**Visitor Information**

Devils Postpile attracts visitors from all over the world. The town estimates that 1.3 million visitors come during winter, and 1.5 million come in summer, for a year-round visitation of approximately 2.8 million people. A visitor survey from 2004 and 2007 found that the average visitor stays five nights per visit in the summer, and four nights per visit in the winter. There are approximately 4,774 rentable units in the town including hotels, motels, inns, condos, bed and breakfasts, and campgrounds.<sup>12</sup>

**Transit**

The National Park Service requires Devils Postpile visitors to park at the Mammoth Mountain Ski Area or in the town of Mammoth Lakes and use the mandatory shuttle. The shuttle operates from mid-June through the Wednesday after Labor Day, and is owned and operated by the Eastern Sierra Transit Authority. There are exceptions to the mandatory shuttle system: visitors who arrive before 7:00 am and after 7:30 pm, or overnight guests of the Reds Meadow Resort, those who camp within the Reds Meadow Valley, and those who are hauling stock trailers, watercraft, or have a physical handicap (with proof) are allowed to drive to the monument.

<sup>12</sup> City of Mammoth website: [www.ci.mammoth-lakes.ca.us/](http://www.ci.mammoth-lakes.ca.us/). Accessed March 2012.

The Eastern Sierra Transit Authority (ESTA) was established in 2006 as a Joint Powers Authority between the Counties of Inyo and Mono, The City of Bishop and the Town of Mammoth Lakes. ESTA is a public transit agency created to meet the growing need for public transportation in and for the four member jurisdictions and throughout the Eastern Sierra region.<sup>14</sup>

Fee for the bus are as follows.

One day passes:

- Adult - \$7
- Child (3 to 15 years old) - \$4

Three day passes:

- Adult - \$14
- Child - \$8

Season passes:

- Adult - \$35
- Child - \$20

Buses run every 20 or 30 minutes during the operating hours. Those who do not ride the bus pay a fee of \$10 per vehicle for the day, \$20 per vehicle for a three day pass and a season pass of \$35 per vehicle. Camping passes cost \$10 for the duration of the visit.<sup>13</sup>

In addition to the shuttle service to the National Monument, Mammoth Lakes has a free transit service on fixed routes through town, and a pay dial-a-ride service. Summer transit includes six free trolley and shuttle routes, and two pay routes: to the Monument and to Reno. All transit is provided by the ESTA.<sup>14</sup>

### **Parking**

Environmental impacts related to parking near Devils Postpile caused the Forest Service to limit parking. A park-and-ride location is provided, and visitors are required to use a shuttle to visit the monument itself. Visitors who are hauling gear can obtain an exception to the use of the mandatory shuttle, so the mandatory shuttle does not limit the type of recreation possible at the monument.

### **Lessons Learned**

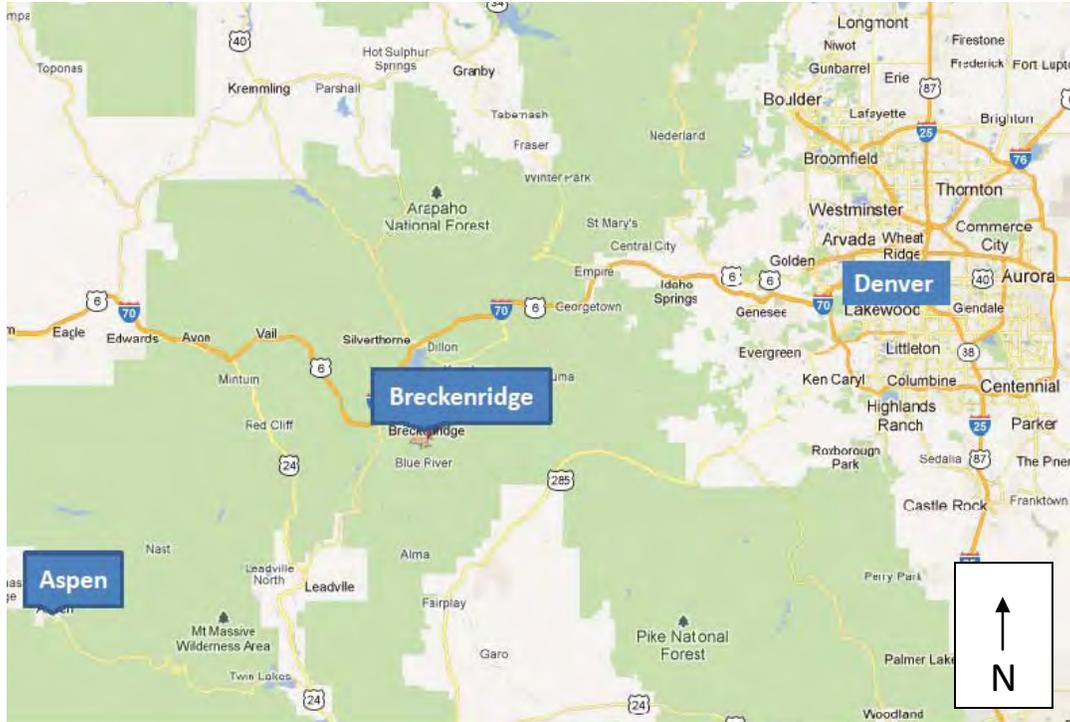
Resource management issues led to parking limitations and mandatory shuttle use. Devils Postpile is taking the initiative to become a “Climate Friendly Park,” aiming to reduce its overall greenhouse gas emissions significantly over the next five years through a series of actions including carpooling, public transit, and replacing lighting systems to consume less energy. It is for this reason that Devils Postpile has entered into a partnership with ESTA.<sup>13</sup>

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<sup>13</sup> Devils Postpile National Monument website: [www.nps.gov/depo/index.htm](http://www.nps.gov/depo/index.htm) Accessed March 2012 and August 2012.

<sup>14</sup> Eastern Sierra Transit Authority website: [www.estransit.com](http://www.estransit.com) Accessed March 2012 and August 2012

## Breckenridge, Colorado (White River National Forest)



### Basic location and information

The White River National Forest is located east of Denver, CO. It is a large Forest, with 2.3 million acres and 12 ski areas. For simplicity, the following ski areas are included in the information below: Aspen (made up of four ski areas: Snowmass, Aspen Mountain, Aspen Highlands, and Buttermilk), Beaver Creek, Breckenridge, Copper Mountain, Keystone, and Vail. Table 8 shows the ski area statistics for the select ski areas.

TABLE 8  
**Breckenridge Ski Resort Statistics**

Resort Name	Hours of operation	Season	Skiable Acres	# of Lifts	# of Runs	Uphill Skier capacity (per hour)	Average Annual Snowfall (inches)	On-site lodging?
Aspen Highlands	9:00 a.m. – 3:30 p.m.	December 8 – April 14	1,028	5	118	6,500	300	Yes, a huge selection of lodging types
Aspen Mountain	9:00 a.m. – 3:30 p.m. Half day – 9:00 a.m. – 12:00 p.m.	November 22 – April 14	675	8	76	10,755	300	Yes, a huge selection of lodging types
Beaver Creek	8:30 a.m. – 4:00 p.m.	November to April	1,815	25	149	34,220	325	Yes, Village development at the resort.
Breckenridge	8:30 a.m. – 4:00 p.m.	November to April	2,358	31	155	37,880	374	Yes, Village and town nearby
Buttermilk	9:00 a.m. – 3:30 p.m.	December 15 – April 7 <sup>th</sup>	470	8	44	7,500	200	Yes, a huge selection of lodging types
Copper Mountain	Monday – Friday 9:00 a.m. – 4:00 p.m. Weekends 8:30-4:00 p.m.	November to April	2,465	22	126	32,324	282	Yes, village nearby.
Keystone Resort	8:30 a.m. – 4:00 p.m. Night skiing 4:00 p.m. – 8:00 p.m.	November to April	3,148	20	135	35,175	230	Yes, Village and resort nearby
Snowmass	9:00 a.m. – 3:30 p.m.	November 22 – April 14	675	21	76	7,500	300	Yes, a huge selection of lodging types
Vail Ski Resort	9:00 a.m. – 3:30 p.m.	Mid-November to Mid April	5,289	31	193	53,381	348	Yes

Sources: Find the Best website, ski resorts: [www.ski-resorts.findthebest.com](http://www.ski-resorts.findthebest.com). Accessed July 2012.

## Activities

There are a wide range of activities in both seasons. Table 9 includes a list of activities.

TABLE 9

**Breckenridge Ski Resort Activities**

	Aspen/ Snowmass/ Buttermilk	Beaver Creek	Breckenridge	Copper Mountain	Keystone Resort	Vail
<b>Summer Activities</b>						
Alpine Slide			X			
Biking	X	X		X	X	X
Camping	X					
Canoeing/Kayaking	X		X	X	X	X
Fishing	X		X		X	X
Golf	X	X	X		X	X
Hiking/Climbing	X	X	X	X		X
Horseback Riding	X	X			X	X
Ice Skating		X	X			
Tennis	X	X			X	X
Tram/Gondola rides	X		X	X	X	
Zipline		X		X	X	
<b>Winter Activities</b>						
Gondola Rides			X		X	
Ice Skating			X		X	
Night Skiing/Snowboarding					x	
Nordic Skiing	X	X	X		X	X
Skiing	X	X	X	X	X	X
Sledding			X			
Snowboarding	X	X	X	X	X	X
Snowmobile Tours			X			
Snowshoeing	X					X
Snow Tubing				X	X	X

**Visitor Information**

White River National Forest attracts approximately 4.5 million annual skiers between Breckenridge, Copper Mountain, Arapahoe Basin, and Keystone ski areas.

**Transit****Roaring Fork Transportation Authority (RFTA)**

RFTA is a regional transportation authority provides service to the following locations:

- Roaring Fork Valley
- Aspen
- Snowmass Village
- Hogback/Rifle
- Glenwood Springs
- The 4 Mountain Connector
- Woody Creek
- Maroon Bells Guided Bus Tours

In addition to these locations, RFTA provides paratransit for the service area, serving residents, commuters, and visitors. In 2006 RFTA carried 4.1 million passengers with a fleet of 82 vehicles. Routes are free for children under five years old, seniors over 65 years old, along all City of Aspen routes, Aspen to Snowmass Village route, and Aspen/Snowmass Village to Woody Creek. Outside of the free routes, fares for trips range from one to ten dollars, starting around 5:00 a.m. until 9:00 p.m., most of the routes run seven days a week.<sup>15</sup>

Transit service has evolved over time. Initially, RFTA provided service during the winter when demand was greatest. During the summer, RFTA would lay-off drivers and pay for unemployment benefits. Their rolling stock of busses would be idle with continued maintenance costs and no opportunity for revenue generation. Every summer, RFTA would lose money with this service model. RFTA approached the Forest Service to provide summer service, as guided tours to Maroon Bells, a very popular summer-time destination drawing visitors worldwide. Providing service during the summer allows RFTA to keep their drivers employed and allows for some revenue generation. While RFTA does not generate a lot of revenue from operating the summer route, they lose less money than if they did not have the route. This is an example of a partnership that has brought benefits to both the transit agency and Forest.

Services are partially funded by the City of Aspen and Aspen Skiing Company through a service contract. The contract allows for reimbursement of a portion of operational expenses and capital costs from both the City and Aspen Skiing Company.

### **Free Ride Breckenridge**

The Town of Breckenridge also provides a free community transit service that operates between 6:15 a.m. and 11:45 p.m., seven days a week. There are nine routes throughout the community, including access to the airport, the ski area lots, and downtown.<sup>16</sup> The free transit service is provided in conjunction with park-and-ride lots, which charge for parking (\$15)<sup>17</sup> and are located throughout town. The combination of park-and-rides and complimentary transit service has created activity hubs throughout the town, leading to additional ancillary services and economic development.

### **Summit Stage**

Summit Stage provides countywide transit service. Originally the service was run by the ski resorts as a free service starting in 1977, but since 1989, the county has run the service, though it is still free for

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<sup>15</sup> RFTA website: [www.rfta.com/#](http://www.rfta.com/#) Accessed April 2012

<sup>16</sup> Free Ride Breckenridge website: [www.townofbreckenridge.com/index.aspx?page=136](http://www.townofbreckenridge.com/index.aspx?page=136) Accessed April 2012

<sup>17</sup> Breckenridge website: <http://www.breckenridge.com/mountain/mountain-information.aspx#parking#Top>

riders. Annual ridership is around 1.75 million riders. Summit Stage provides transit service between Silverthorne, Wildernest, Dillon, Dillon Valley, Keystone, Summit Cove, Frisco, Breckenridge, Boreas, Copper Mountain, and Leadville. Service is seven days a week year-round, at least once an hour starting at 6:00 a.m. until about 2:00 a.m. depending on the route.<sup>18</sup>

### **Parking**

The town of Breckenridge charges \$15 per day at their park-and-ride lots. Lots at the ski resort charge between \$5 per day to \$20 per day (during weekends and holidays) and provide \$5 per day discounts for carpools of four or more people.<sup>19</sup> The combination of charging for parking and free transit service from park-and-ride lots within Breckenridge have provided an opportunity for visitors to stop in Breckenridge, whereas they otherwise may go straight to the ski resorts.

### **Lessons Learned**

For the town of Breckenridge and the ski resort, a high parking fee has shifted visitors to transit. Providing park-and-rides in Breckenridge paired with free transit to the ski resort attracts visitors to the town as well as the ski resort. For Breckenridge, charging for parking and free transit service have been an economic development tool.

For RFTA, providing service to Maroon Bells has allowed the agency to make use of rolling bus stock during the summer, when it would otherwise sit idle. This strategy allows RFTA to recover some costs. Likewise, they are able to continue to employ employee drivers who would otherwise be laid off, thus avoiding paying unemployment benefits. Partnering with the Forest Service has provided benefits for RFTA, visitors, and the Forest Service.

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<sup>18</sup> Summit Stage website: [www.summitstage.com/](http://www.summitstage.com/) Accessed April 2012

<sup>19</sup> Breckenridge website: <http://www.breckenridge.com/mountain/mountain-information.aspx#parking#Top>

## Whistler, British Columbia

### Basic location and information

Whistler British Columbia is located in the Coast Mountains, about 25 miles inland from the Pacific Ocean, and 75 miles north of Vancouver, BC. In 2010 Whistler hosted the alpine activities for the Olympic Games, and draws around 2 million visitors annually. The Resort Municipality of Whistler (RMOW) is the local government, and the permanent population is around 10,000 people. By car, travel time to Whistler from Vancouver is two hours, and travel to Whistler from Seattle takes about five hours.

According to the Municipality of Whistler, as of December 2011, the total number of developed, self-contained dwelling units zoned for tourist accommodation use was 15,880:

- 8,010 tourist accommodations,
- 254 pension/bed and breakfast rooms,
- 7,105 hotel rooms,
- 283 hostel beds, and
- 228 campsites<sup>20</sup>.



<sup>20</sup> Municipality of Whistler website. [www.whistler.ca/residents/history/facts-figures](http://www.whistler.ca/residents/history/facts-figures) Accessed March 2012

TABLE 10  
**Whistler/Blackcomb Ski Resort Statistics**

Resort Name	Hours of operation	Season	Skiable Acres	# of Lifts	# of Runs	Uphill Skier capacity (per hour)	Average Annual Snowfall (inches)	On-site lodging?
Whistler/Blackcomb	8:30 a.m.- 3:30 p.m.	November - April	8,100	37	200	65,507	469	Yes – Resorts and the town are nearby

Sources: Find the Best website, ski resorts: [ski-resorts.findthebest.com](http://ski-resorts.findthebest.com), Whistler-Blackcomb resort website: [www.whistlerblackcomb.com/mountain/stats/index.htm](http://www.whistlerblackcomb.com/mountain/stats/index.htm). Accessed March 2012

The resort actually encompasses two separate mountains that are connected by a PEAK 2 PEAK gondola, and there are individual gondolas on each mountain.<sup>21</sup>

### Activities

Whistler is an attraction year-round for those visiting Canada from all over, and for the more local Vancouver and Seattle residents. Winter activities include skiing, Nordic skiing, snowshoeing, snow tubing and other snow sports. Summer activities include hiking, mountain biking, water sports on area lakes, fly fishing, helicopter sightseeing, wildlife viewing, and there is a kid zone with various activities for children. Year round, people visit Whistler to ride the gondolas for the views, visit restaurants, and go shopping.<sup>22</sup>

### Visitor Information

In summer, approximately half of those visiting Whistler travel to Vancouver by air, and then either rent cars and drive to the village or ride transit. Approximately a third of summer (May to October) visitors come from Vancouver. The resort also draws visitors from nearby Seattle.<sup>23</sup>

Peak times during winter start mid-December depending on snowfall, peak over Christmas and New Year. Weekends and holidays tend to be busy throughout the ski season. Summer visitation is fairly constant throughout the summer months as visitors to Vancouver take trips up to the village. Most visitors stay overnight at Whistler, and less than half of visitors are day visitors.<sup>24</sup>

### Transit

The municipality of Whistler has run the transit system since 1991, and experiences high ridership per service hour. In 2009/2010, Whistler Transit carried 2.7 million passengers, and 2010/2011 there were 3.1 million riders on 25 low-floor and wheelchair accessible buses. Buses run between 5:30 a.m. and 3:00 a.m. every day. Hydrogen fuel cell powered buses were purchased to support the Olympic Games, and are still in use today, representing 70 percent of the Whistler bus fleet. The buses have racks for skis in winter and bikes in summer, and charge \$2.50 for a one-way ticket. The Whistler transit system is part of the BC Transit Regional Systems Program. It is funded in partnership between the RMOW (53 percent)

<sup>21</sup> Whistler Blackcomb website: [www.whistlerblackcomb.com/mountain/stats/index.htm](http://www.whistlerblackcomb.com/mountain/stats/index.htm). Accessed March 2012

<sup>22</sup> *Ibid*

<sup>23</sup> Whistler Blackcomb website: [www.whistlerblackcomb.com/mountain/stats/index.htm](http://www.whistlerblackcomb.com/mountain/stats/index.htm). Accessed March 2012

<sup>24</sup> Graebing, Mary Ann, Tourism Whistler. Personal Interview. 1 March 2012

and BC Transit (47 percent). The RMOW share is funded by fares (25 percent), provincial hotel tax revenues (9 percent), and local taxation (19 percent).<sup>25</sup>

Fifty-eight percent of Whistler residents travel to work by carpool, transit, walking, or biking in the summer. The vast majority (96 percent) of seasonal residents use these modes in the winter. Additionally, Jack Bell Ride-Share provides online ridematching and vanpooling. Jack Bell is funded by TransLink and BC transit. Individuals register online and then search for carpool matches. There are preferential parking areas in three Whistler Village lots to groups of three or more commuters who ride-share a minimum of four days per week, and who purchase a ride-share parking permit.<sup>26</sup>

There are also employee carpool programs and shuttles. Most employees that live in Squamish and Pemberton take transit to work in Whistler, and many employers either partially subsidize or buy employees transit passes outright. Seasonal workers, especially foreign workers are more likely to take transit than the year-round employees. The RMOW has a strong sustainability ethic which translates into a supportive environment for transit.<sup>27</sup> Between 2002 and 2004, vehicle occupancy for vehicles during the winter is around two people per vehicle. In 2007 and 2008, residents used “preferred commuting alternatives”: Mass transit, carpool, or cycling between 47 and 58 percent of the time.<sup>28</sup>

In addition to the transit provided by the municipality, there are a number of private and charter buses between Vancouver and Whistler shown in Table 11.

TABLE 11  
Private Transit to Whistler

Name	Route	Cost	Discounted lift tickets?	Amenities?
Pacific Coach	Between Vancouver Airport and Whistler	\$25-\$63 depending on time and day		
Snowbus	Between Richmond (Vancouver suburb), through Vancouver, and Whistler. Seven stops in Vancouver.	\$34.95 one way, \$60 round trip	Yes	Movies, snacks and host on the ride
Greyhound	9 trips per day between Vancouver bus station and Whistler Creek bus station	\$22 one way, \$44 round-trip	No	Movies
Ride Booker	Vancouver airport to Whistler.	\$62 for adult	No	

Source: Whistler Blackcomb website: [http://www.whistlerblackcomb.com/getting\\_here/trains-buses-taxis/index.htm](http://www.whistlerblackcomb.com/getting_here/trains-buses-taxis/index.htm) Accessed March 2012

## Parking

There is adequate parking for most visitors in Whistler Village and additional parking associated with the numerous hotels in the area. Currently there are areas where parking is free and areas where visitors must pay to park. Parking in Whistler is managed by a variety of entities: the municipal government, the

<sup>25</sup> Municipality of Whistler Website: [www.whistler.ca/whistler-transit-system-financial-and-facility-review](http://www.whistler.ca/whistler-transit-system-financial-and-facility-review). Accessed March 2012

<sup>26</sup> Municipality of Whistler Website: [www.whistler.ca/residents/transportation/whistlerway](http://www.whistler.ca/residents/transportation/whistlerway) Accessed March 2012

<sup>27</sup> Graebing, Mary Ann, Tourism Whistler. Personal Interview. 1 March 2012

<sup>28</sup> Whistler 2020 Website [www.whistler2020.ca/](http://www.whistler2020.ca/) Accessed March 2012

Whistler Blackcomb ski resort, jointly owned lots, and private lots and garage facilities in Whistler Village.

TABLE 12  
Parking Stall and Ownership in Whistler

Type of Parking/Ownership	Number of stalls
RMOW (municipal on-street and underground parking, Whistler Village)	375
Whistler Blackcomb (lots 6, 7, 8, Whistler Creekside)	2,835
Day Lots 1-5 (RMOW/Whistler Blackcomb)	1,755
Private lots and garage facilities in Whistler Village	1,269
<b>Total</b>	<b>6,234</b>

Source: Municipality of Whistler website: <http://www.whistler.ca/parking> Accessed March 2012

Visitors pay to park in Day lots 1, 2, and 3. Residents and others may purchase discounted monthly passes. Some on street parking is also pay to park. Hourly rates are \$1 an hour, day parking is \$2 hourly, and \$8 daily. Parking overnight in summer costs \$16. A ten-time visit pass is \$65, monthly pass is \$50, and a three month pass is \$120. For six month parking pass, the cost is \$180.<sup>29</sup>

### Intelligent Transportation Systems and Visitor Notification

Roadway conditions are communicated to visitors to Whistler via a Variable Messaging Sign (VMS). Within Whistler village, there are signs near parking areas that indicate when parking is full and direct visitors to available parking nearby.<sup>30</sup>

### Additional Information

Whistler is the first Resort Municipality for British Columbia; it is a unique governmental structure that requires coordination between the resort owners, hoteliers, and the federal government. The RMOW is in a unique position to implement transportation policy and work closely with BC Transit to increase the number of people who take transit within the village.

### Lessons Learned

The high level of cooperation and coordination between the local government, ski resort, and public transit agency creates a welcoming environment for low-cost, high-ridership transit. Working with employers and local citizens to increase awareness and cultivate a sustainability ethic helps support transit and reduces the number of citizens that drive alone in Whistler.

Additionally, charging for parking reduces the demand for parking as potential drivers either carpool or switch to transit to avoid paying for parking.

<sup>29</sup> Municipality of Whistler website: [www.whistler.ca/parking](http://www.whistler.ca/parking) Accessed March 2012

<sup>30</sup> Graebbling, Mary Ann, Tourism Whistler. Personal Interview. 1 March 2012

## Squaw Valley, Northstar, and Alpine Meadows, near North Lake Tahoe, California

### Basic location and information

Lake Tahoe is located in the Sierra Nevada Mountains and spans the state line between California and Nevada. The closest large cities to Lake Tahoe include Reno and Carson City in Nevada, and Sacramento in California. There are a number of smaller communities near the lake or on the lakeshore: Truckee, South Lake Tahoe, and Tahoe City. The permanent year-round residential population is around 56,000 (2000 US Census). Most visitors come to Lake Tahoe during the winter ski season (December through March), and the summer seasons (June through August). August has the highest travel demand in terms of peak hour traffic volumes on the roadways.<sup>31</sup>

Elevation at lake level is 6,225 feet, and the mountains encircling the lake range upwards of 10,000 feet in elevation. The roadway network consists of Highway 89, in effect a primarily two-lane “ring road” which connects to a handful of regional access points. The primary routes to Lake Tahoe are on Interstate 80 via Truckee, US Highway 50 to South Shore, and Nevada Highway 431 to Incline Village. Except for U.S. 50 from the east, all the access routes are two-lane highways.<sup>32</sup> There are a number of ski areas and recreation areas all along the lake and Highway 89, however, for the purposes of this memorandum, Northstar, Squaw Valley, and Alpine Meadows were chosen to narrow the scope of the study.

Squaw Valley is located off of Highway 89 northeast of Tahoe City, and was the site of the 1960 winter Olympics. Approximately 600,000 visitors come annually. There is lodging on site in the village, with 180 rooms, along with shops, restaurants, bars, and a spa.<sup>33</sup> The owner of Squaw Valley, KSL Capital Partners LLC, also owns the nearby Alpine Meadows Ski resort, though the resorts are reported separately in this Case Study since they retain their distinct identities. Alpine Meadows is located south of Squaw Valley off of Highway 89. Northstar is located off of Highway 267 southeast of Truckee. Northstar is owned by Vail Resorts, which also owns Heavenly ski area in South Lake Tahoe.

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<sup>31</sup> FHWA Publication. Mitigating Traffic Congestions, the Role of Demand-Side Strategies. [ops.fhwa.dot.gov/publications/mitig\\_traf\\_cong/mitig\\_traf\\_cong.pdf](https://ops.fhwa.dot.gov/publications/mitig_traf_cong/mitig_traf_cong.pdf) Accessed March 2012

<sup>32</sup> *Ibid*

<sup>33</sup> Squaw Valley Website [www.squaw.com/](http://www.squaw.com/) Accessed March 2012

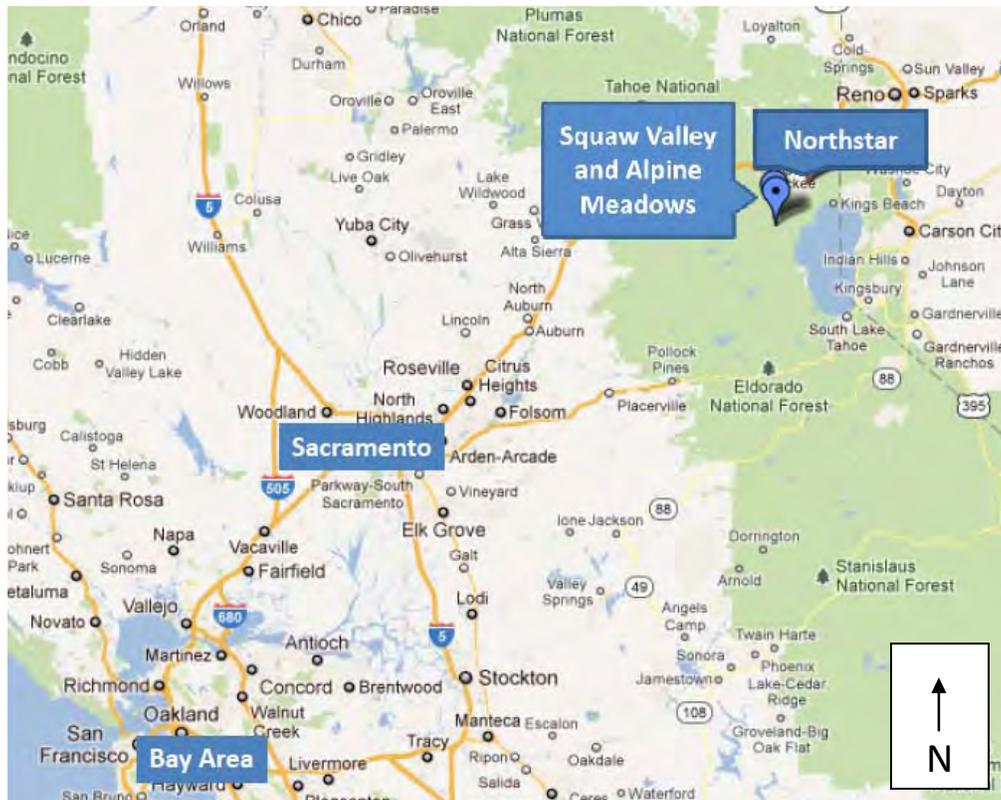


Table 13 below has more detailed information about the three ski resorts.

**TABLE 13**  
**North Tahoe Ski Area Statistics**

Resort Name	Hours of operation	Season	Skiable Acres	# of Lifts	Runs	Uphill Skier capacity (per hour)	Average Annual Snowfall (inches)	On-site lodging?
Squaw Valley	9:00 a.m. – 8:00 p.m. Night Skiing is between 3:00 p.m. and 8:00 p.m., half day tickets start at 12:30 p.m.	November to May	4,000	33	170	49,000	450	Yes – in the village complex
Alpine Meadows	9:00 a.m. – 4:00 p.m., half day tickets start at 12:30 p.m.	Mid November to Mid May	2,400	14	100	16,000	365	No - though there are some private homes nearby
Northstar	8:30 a.m. – 4:00 p.m. half day tickets start at 12:30 p.m.	November to April	3,170	20	89	34,799	350	Yes – resort manages 200 units, with 2,000 privately owned homes and condos nearby

Sources: Find the Best website, ski resorts: [ski-resorts.findthebest.com](http://ski-resorts.findthebest.com), Squaw Valley: [www.squaw.com](http://www.squaw.com), Alpine Meadows: [www.skialpine.com](http://www.skialpine.com), and Northstar: [www.northstaratahoo.com](http://www.northstaratahoo.com) websites.

**Activities**

Lake Tahoe and the surrounding area is a tourist destination year-round with lake-centric activities (boating, waterskiing, canoeing and kayaking), bicycling, and hiking in the summer, and snow-play activities including skiing, snowshoeing, snowmobiling, and sledding in the winter. Casinos on the

Nevada side draw visitors year-round. Table 14 breaks down summer and winter activities by ski resort location.

TABLE 14

Lake Tahoe Ski Resort Activities

	Squaw Valley <sup>34</sup>	Alpine Meadows <sup>35</sup>	Northstar <sup>36</sup>
<b>Summer Activities</b>			
Biking	X		X
Canoeing/Kayaking			X
Fishing			X
Golf	X		X
Hiking/Climbing	X		X
Horseback Riding			X
Roller Skating			X
Tennis	X		X
Tram/Gondola rides	X		X
Zipline	X		
<b>Winter Activities</b>			
Gondola Rides	X		X
Ice Skating	X		X
Night Skiing/Snowboarding	X		
Nordic Skiing	X	X	X
Skiing	X	X	X
Sledding	X (Dog Sledding)		
Snowboarding	X	X	X
Snowmobile Tours	X		
Snowshoeing	X		X
Snow Tubing	X		

**Visitor Information**

Most visitors come to the Tahoe area for weekend or longer vacations. Lake Tahoe is a vacation destination with a large amount of lodging and second homes both near the ski areas and around the

<sup>34</sup> Squaw Valley website: [www.squaw.com](http://www.squaw.com) Accessed March 2012

<sup>35</sup> Alpine Meadows Ski Resort website: [www.skialpine.com](http://www.skialpine.com) Accessed March 2012

<sup>36</sup> Northstar California Resort website: [www.northstarattahoe.com](http://www.northstarattahoe.com) Accessed March 2012\

lake. Visitors come from all over the world to visit Tahoe, though most domestic visitors come from the Bay Area, Sacramento, or Reno. Most visitors to all three ski areas are either in the area for the day only or up for a weekend trip, and stay either at the resorts or elsewhere in the north Tahoe area.

### **Squaw Valley**

Squaw Valley has between 6,000-12,000 visitors on an average weekend day. On weekdays, 1,000 and 4,000 visitors come to the resort. The busiest days at Squaw Valley tend to be weekends and holidays, with the week between Christmas and New Years the most popular, and the shoulder season starts around Easter. Most visitors (approximately 80 percent) come from the Sacramento or Bay area, a three hour drive under good road conditions, about ten percent come from Reno, and the final ten percent come from the Lake Tahoe area communities. Most visitors drive private vehicles to the resort, with very few people coming by bus.<sup>37</sup>

### **Alpine Meadows**

Alpine Meadows has on average 1,000 skiers per day, and the busiest days and clientele are similar to Squaw Valley.<sup>38</sup>

### **Northstar**

Northstar attracts between 3,000 and 8,000 skiers depending on the day and snow conditions. The ski season starts the weekend before Thanksgiving, and ends in the middle of April. Like Squaw Valley, most of the visitors come from the Bay Area, Sacramento, and to a lesser degree, Reno.<sup>39</sup>

### **Transit**

There is one public transit provider, the Tahoe Area Regional Transit (TART). TART provides two routes year-round and an additional route in the peak winter and summer peak seasons, serving both the seasonal and permanent population. The mainline route travels along Highway 89 around the north and west shore of the lake from Sugar Pine State park in El Dorado County, through Tahoe City and the other towns in Placer County, and crosses the Nevada state line into Incline Village, turning around at the Hyatt Hotel. The Highway 89 route travels from Tahoe city to Truckee. The winter route travels between Truckee and Crystal Bay via Highway 267. One way fare (Winter 2011/2012) costs \$1.75, or \$3.50 for an all day pass. Buses start on the west shore at 7:00 a.m. and in north shore and Incline village at 6:00 and 6:30 a.m. respectively, ending between 6:00 and 7:00 p.m., running at one hour headways.<sup>40</sup>

Ridership is around 400,000 riders per year, with the highest ridership in the summer and winter peak. Squaw Valley (and potentially other large employers) purchases passes for their employees to ride TART to work. Generally, ridership increases when gas prices go up: in 2008 TART saw its highest ridership, but since then ridership has been dropping, largely due to the recession. TART would like to increase service, either by expanding routes or decreasing the time between buses. Barriers to expansion are the associated costs, the difficulty of maintaining drivers through the slow seasons, and the demand for transit.

The TART is funded from a variety of sources: farebox recovery covers approximately 15 percent of costs, federal sources cover another 15 percent, and the rest is covered through operating subsidies of

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<sup>37</sup> Kronkhyte, Rob, Squaw Valley. Personal Interview. 29 February 2012

<sup>38</sup> Jones, Cheryl, Alpine Meadows. Personal Interview. 1 March 2012

<sup>39</sup> Paulson, Dave, Northstar. Personal Interview. 2 March 2012

<sup>40</sup> TART website: [www.placer.ca.gov/Departments/Works/Transit/TART.aspx](http://www.placer.ca.gov/Departments/Works/Transit/TART.aspx) Accessed March 2012

approximately \$50,000 per year from the ski areas, funds from the hotel tax, and ¼ cent of the state sales tax collected in Placer County. Ridership is mostly commuters (85 percent), and the remainder of riders are visitors, those under 16 years riding to skiing, and visitors from outside of the United States.<sup>41</sup>

### **Truckee North Tahoe Transit Management Association (TNT/TMA)**

The Tahoe region has an active Transportation Management Association which runs programs and fosters public-private partnerships and resources to address transportation challenges in the Truckee-North Lake Tahoe Resort Triangle. The association is active, with a number of programs ongoing.

Current programs in process include:

- Ride share and van pool services
- Coordinated ski shuttle program
- Improved transit service frequency
- Year round Hwy 267 transit service
- Water shuttles
- Park and ride
- Transportation to meet social service needs
- Bike and pedestrian trail connections for a bike friendly community

The TMA has already accomplished:

- North Lake Tahoe Express Airport Shuttle
- Winter and Summer free Night Rider Shuttles
- Truckee-Donner Summit shuttle service
- Summer Transit Connection to South Lake Tahoe
- American Cancer Center's Road to Recovery - Volunteer Driver Program
- Google Transit for North Lake Tahoe and Truckee
- Tahoe Trolley Program with TART
- Electronic Fare boxes for TART Buses
- Seasonal Traffic Management
- Adopt a Bus Shelter Program - Tahoe City Rotary Club sponsors several
- Bear Boxes for Bus Shelters and Busy Bus Stops
- Seasonal Highway 267 TART Service
- Enhanced Public Outreach and Marketing
- Crosswalk Implementation
- Tahoe City Transit Center

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<sup>41</sup> Garner, Will, TART. Personal Interview. 29 February 2012

- CNG Buses for TART and Fueling Facility at Cabin Creek
- Hourly Hwy 89 Transit Service

There is a high degree of coordination among the ski areas, resorts, counties, and cities with the TMA to help address transportation issues in the North Tahoe Triangle.<sup>42</sup> The TMA is funded through ski resort subsidies, federal grants, trade memberships, and business associations such as chambers of commerce and tourism agencies. The 13 member board of directors has representatives from Truckee, the Hwy 267 corridor, North Lake Tahoe, Squaw Valley, West Shore, Donner Summit (NV and CA), Nevada County Transportation Commission, and Washoe County – Crystal Bay and Incline Village.

#### ***North Lake Tahoe Express Shuttle***

North Lake Tahoe Express is operated by the TMA and provides rides between the Reno airport and the North Lake Tahoe and Truckee region starting at 3:30 a.m. until midnight. Travel time is about an hour to an hour and a half, depending on weather and traffic conditions. A one-way trip costs \$40, and round-trip is \$75 with discounts for groups of travelers. They also provide discounted tickets for multiple trips.

#### ***Truckee Park and Ride***

This winter season the TNT/TMA and ski areas attempted to create two park and ride lots in Truckee, one for Squaw Valley and Alpine Meadows, and the other for Northstar. The two weekends they targeted for the park and ride service, however, were low-volume days at the ski areas due to poor snow conditions and the low parking demand did not encourage people to use the park and rides. The park and ride concept is still being developed, and the ski areas and the TNT/TMA are planning again for next year.<sup>43</sup>

#### ***Zimride***

Zimride is an online rideshare matching program that creates a marketplace where drivers can sell empty seats in their cars to those looking for a ride. The system allows users to create a profile, identify themselves as riders or drivers, and then matches riders to drivers using Google Maps. Passengers pay drivers for their seats via PayPal, and once the ride is finished, both driver and rider can leave reviews about their experience. This year Zimride expanded their service to Tahoe area ski areas, partnering with Kirkwood, Squaw Valley, Heavenly, and Alpine Meadows. The ski areas provide preferential, signed parking and links on their websites, send out email blasts to their lists, and use Facebook and Twitter to promote Zimride to the resorts. Zimride provides each resort with a custom “landing page” on the Zimride website that has the resort address already programmed into the Google Map, delivers the Zimride signs for the parking lot, and promotes the ski resorts through social media. Zimride members are entered to win gas vouchers.<sup>44</sup>

The biggest hurdle to attracting new ride sharing customers is introducing them to the concept, and getting them to try carpooling. Once people have had the ridesharing experience, the feedback is mostly positive. Zimride is not limited to geography, riders and drivers are free to post their trips for anywhere, however, partnering with the ski areas is fairly simple due to the shared destination and general consistency of the trip time.

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<sup>42</sup> TNT/TMA website: [www.LakeTahoeTransit.com](http://www.LakeTahoeTransit.com) Accessed March 2012

<sup>43</sup> Colyer, Jan, TNT/TMA. Personal Interview. 1 March 2012

<sup>44</sup> Zimride website: [www.zimride.com](http://www.zimride.com) Accessed March 2012

In the first year of operation, in a poor quality ski year, Zimride has connected 1,678 shared trips between the San Francisco area and Tahoe ski areas. Of those trips, 142 trips were to Squaw Valley, and 34 trips were to Alpine Meadows.<sup>45</sup> Zimride expects the number of rides to increase next season as awareness grows.

### **Squaw Valley**

The Squaw Valley ski resort runs buses from north shore Lake Tahoe from mid- December to Easter weekend. The resort also contracts with an outside company to provide service from Reno and south shore. Rides are \$10 one way, and the service is heavily subsidized by the ski area.

In the past, the ski area provided bus service between Truckee, Squaw Valley and Alpine Meadows, however, there was not enough ridership to support the route. They do not currently provide bus service in the summer, though they are looking to expand service for summer visitors. The resort also runs a free shuttle between Alpine Meadows and Squaw Valley during operating hours in the winter.<sup>46</sup>

### **Alpine Meadows**

Alpine Meadows has the same bus routes as Squaw Valley, and is a part of the free shuttle between the two ski areas.

### **Northstar**

Northstar provides free shuttle rides to all visitors who rent or stay in the properties owned by the resort. They maintain a fleet of 40 buses from smaller 12 person shuttles to large, full-sized buses that seat 40 people. The buses run in both winter and summer, and are dial-a-ride and circulate constantly through the 20 miles of roadway maintained by the resort. Their goal is to have no longer than a 20 minute wait for customers who call for a ride.

In addition to the dial-a-ride service, they have a number of parking lot circulator shuttles that circulate within and between the resort's parking lots. On average, buses are about half full, but during the peak periods they are at capacity. Last season (2010-2011) during a good snow year shuttles moved over 1 million passengers during the winter season. This season (2011-2012) due to poor snow conditions, the shuttles served around 670,000 passengers. Northstar considers its shuttles an added amenity for customers and includes the shuttle service as part of its marketing message.

The resort also has third party charter bus service to the resort from the bay area, a service that has grown 300 percent in the last few years, especially for large special events such as weddings and other events in the summer.<sup>47</sup>

### **Parking**

Currently the resorts have adequate parking for most of their service days.

### **Squaw Valley**

Squaw Valley has parking capacity for 5,000 cars, and creates snow ramps to increase their parking capacity. There have been a few days where parking has been at capacity in the past five years.<sup>48</sup>

### **Alpine Meadows**

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<sup>45</sup> Matthews, Zac, Zimride. Personal Interview. 1 March 2012

<sup>46</sup> Kronkhyte, Rob, Squaw Valley. Personal Interview. 29 February 2012

<sup>47</sup> Paulson, Dave, Northstar. Personal Interview. 2 March 2012

<sup>48</sup> Kronkhyte, Rob, Squaw Valley. Personal Interview. 29 February 2012

Alpine Meadows fills their parking lots to capacity around 20 days per year. When parking is full, they direct people to park at the bottom of the hill. Parking is free during the weekdays, but \$20 a day to park on the weekends.<sup>49</sup>

### **Northstar**

Northstar has 2,400 parking spots with 900 free public parking, 300 pay parking spots in the village, and 1,200 parking spots in their overflow parking lot. During good snow years, parking can be at capacity 14 days a season, and other years they fill their parking lots six days a season. When their parking lot is full, they direct visitors to park at the Truckee airport and bus people to the resort.

There are a few areas for preferential carpool parking (defined as three or four passengers per car), and outside of Zimride carpools, mainly employees use the carpool designated spots. The resort also provides prizes and vouchers to encourage employees to carpool.<sup>50</sup>

## **Intelligent Transportation Systems and Visitor Notification**

### **Squaw Valley**

Squaw Valley notifies visitors of road and parking conditions via text message and social media. During large events, they send text messages about parking capacity, and which lots to use when coming for an event<sup>51</sup>.

### **Alpine Meadows**

Alpine Meadows and Squaw Valley utilize the same notification systems.

### **Northstar**

Northstar uses social media and the Caltrans site to provide roadway and parking information for visitors.

## **Additional Information**

### **Squaw Valley**

During busy weekends, Squaw Valley uses variable direction lanes to manage heavy traffic entering or exiting the resort on their access road. In the morning there are two lanes inbound, and in the evening two lanes outbound. These lanes are managed by ski resort staff and cones to indicate which direction traffic should flow.

Additionally, on busy days the resort delays closing the lifts to allow people to leave in waves instead of leaving all at once. The ski area also works with the California Highway Patrol to modify the signal sequencing from the access road onto Highway 89 and Highway 267 to Highway 80 to optimize operations.<sup>52</sup>

## **Lessons Learned**

The organizational support from an outside agency such as the TNT/TMA can help organize and implement a variety of entities to provide coordinated transit service, TDM, and other transit ideas. Preferential parking and charging for parking help encourage visitors to take transit and/or carpool, especially when paired with web-based carpooling match programs integrated into social media.

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<sup>49</sup> Jones, Cheryl, Alpine Meadows. Personal Interview. 1 March 2012

<sup>50</sup> Paulson, Dave, Northstar. Personal Interview. 2 March 2012

<sup>51</sup> Kronkhyte, Rob, Squaw Valley. Personal Interview. 29 February 2012

<sup>52</sup> Kronkhyte, Rob, Squaw Valley. Personal Interview. 29 February 2012

In resort areas with lots of lodging and in areas that market themselves as a destination, visitors are less likely to take transit initially from their homes to the destination. However, once in a destination, visitors are more likely to take transit if it is provided to reduce the hassle of moving their vehicles within a resort area. To support this pattern, resorts are providing transit service as an added value to customers as part of their service package, and less of a way to reduce the number of people who drive their own vehicles or to increase transit usage.

## Summit at Snoqualmie, Crystal Mountain, and Stevens Pass, Washington

### Basic location and information

Summit at Snoqualmie, Crystal Mountain, and Stevens Pass are located near the Snoqualmie National Forest east of the Puget Sound metro area. Summit at Snoqualmie is approximately an hour from Seattle area along I-90. Crystal Mountain is an hour and half from Tacoma, and an hour and 45 minutes from Seattle along Highway 410.

Stevens Pass is located along Highway 2 approximately two to two and a half hour drive from Seattle. Transit service does not serve Forest sites directly, though some sites are within walking, hiking, or biking distance of stops. Public transit throughout the region is continuing to experience service cuts as a result of funding cuts. At this time, it is unlikely that expanded or additional routes to the forest will occur in the immediate future.

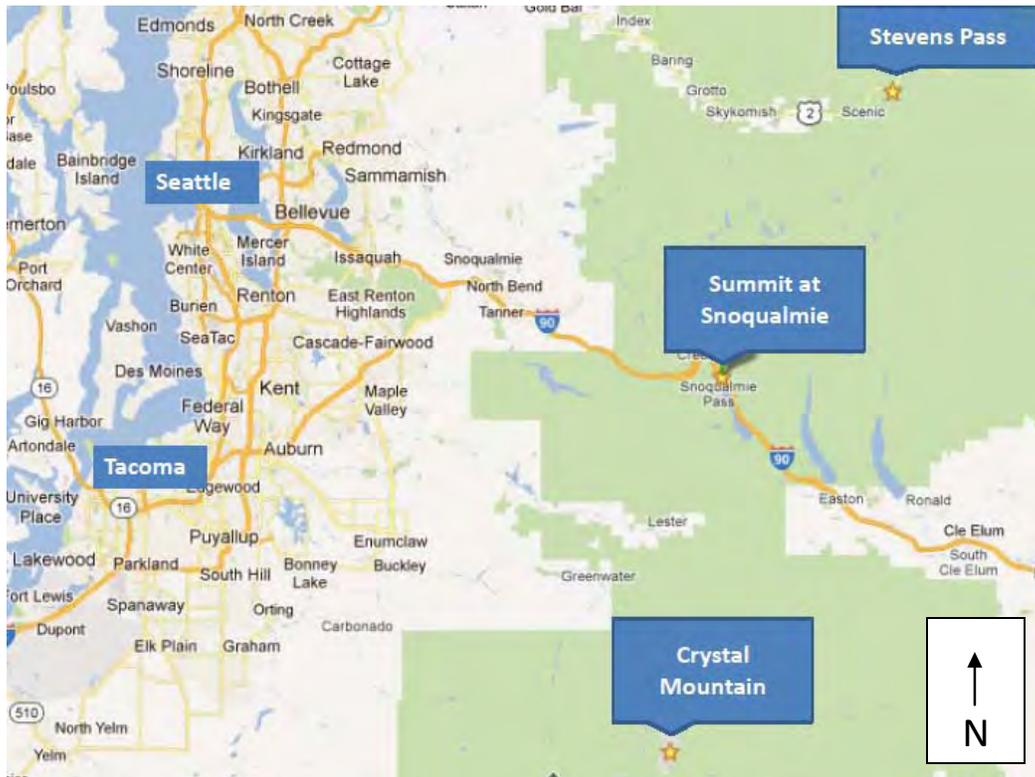


Table 15 below shows the statistics for each of the ski areas.

TABLE 15  
**Snoqualmie National Forest Ski Area Statistics**

Resort Name	Hours of operation	Season	Skiable Acres	# of Lifts	Runs	Uphill Skier capacity (per hour)	Average Annual Snowfall (inches)	On-site lodging?
Summit at Snoqualmie	Night skiing	December – Mid-April	1,981	30	96	24,490	405	No, though there is a Best Western hotel nearby with approximately 150 beds.
Crystal Mountain	9:00 a.m. – 4:00 p.m. Night skiing	Mid-November to Mid-April	2,600	11	50	22,310	380	Yes, there are approximately 300 beds in the lodging nearby.
Stevens Pass	Sunday to Thursday – 9:00 a.m. – 4:00 p.m., Friday and Saturday, 9:00 a.m. – 10:00 p.m.	Mid-December to Mid-April	1,125	10	37	15,800	450	No – Some visitors stay in the town of Leavenworth.

Sources: Find the Best website, ski resorts: [ski-resorts.findthebest.com](http://ski-resorts.findthebest.com), Summit at Snoqualmie: [www.summitatsnoqualmie.com/](http://www.summitatsnoqualmie.com/), Crystal Mountain: <http://www.crystalmountainresort.com/>, and Stevens Pass: [www.stevenspass.com/](http://www.stevenspass.com/) websites. Accessed April 2012

## Activities

TABLE 16

### Snoqualmie Ski Resort Activities

	Summit at Snoqualmie <sup>53</sup>	Crystal Mountain <sup>54</sup>	Stevens Pass <sup>55</sup>
<b>Summer Activities</b>			
Biking	X	X	X
Camping	X	X	
Canoeing/Kayaking	X		
Fishing	X		
Disc Golf	X	X	
Hiking/Climbing	X	X	X
Horseback Riding	X	X	
Tennis	X		
Tram/Gondola rides	X	X	X
<b>Winter Activities</b>			
Gondola Rides		X	
Night Skiing/Snowboarding	X	X	X
Nordic Skiing	X	X	X
Skiing	X	X	X
Snowboarding	X	X	X
Snowshoeing	X	X	
Snow Tubing	X		

## Visitor Information

### Summit at Snoqualmie

Summit at Snoqualmie does not characterize their service as a destination resort, they are primarily a day resort. There is no lodging on site, but there are a few small hotels within a short drive. The vast majority of visitors come for the day, mostly from Puget Sound. The vast majority (95 percent) arrive at the ski area by personal vehicle.<sup>56</sup>

### Crystal Mountain

<sup>53</sup> Summit at Snoqualmie website: [www.summitatsnoqualmie.com/](http://www.summitatsnoqualmie.com/) Accessed March 2012

<sup>54</sup> Crystal Mountain website: <http://www.crystalmountainresort.com/> Accessed February 2012

<sup>55</sup> Stevens Pass Website: [www.stevenspass.com/](http://www.stevenspass.com/) Accessed March 2012

<sup>56</sup> Kostanich, Trevor, Summit at Snoqualmie. Personal Interview. 2 March 2012

Crystal Mountain averages 350,000 people per year, and last year (2011) the ski resort had their first year of full operations on the gondola during the summer, and had 50,000 visitors. Most of the visitors to Crystal Mountain are from the Puget Sound area, and very few stay overnight.<sup>57</sup>

### **Stevens Pass**

Most visitors (80 -90 percent) come from the Puget Sound area, the rest come from east of the Cascades. Most visitors come for the day, though some stay in the town of Leavenworth. The resort has a small RV lot, and some visitors stay in RVs. Most visitors drive personal vehicles to the resort.<sup>58</sup>

### **Transit**

#### **Summit at Snoqualmie**

Summit does not operate any transit besides the six internal shuttles used to move visitors among the various bases. There are a number of private charter and bus services that come to the mountain, providing bus services for ski schools.<sup>59</sup>

#### **Crystal Mountain**

There are weekend bus services provided by a third party charter company – the Snowbus, and there are a few midweek shuttles to Crystal. The Snowbus has two routes with four stops each in the Puget Sound area, and can accommodate 110 people on the weekends. The ticket for a round-trip ride is \$79 per person, which includes a lift ticket. The cost of service is covered by the ticket price.<sup>60</sup>

#### **Stevens Pass**

Most of the bus service to Stevens Pass is charter or club buses, and the resort provides priority bus parking. There is no other transit service to the resort.

In the past, there was a shuttle from Salton, Washington that was publically funded, however, costs were not being covered by ridership and it was discontinued. Stevens Pass has a strong sustainability ethic, but transit has proven too expensive to provide without outside funding. They have attempted to collaborate with REI and other companies to provide transit; however, the resort has not been successful to date.<sup>61</sup>

The Grease Bus, a private transit provider runs weekend service between Seattle and Stevens Pass for a \$20 round-trip on a 20 person bus. The bus picks up at two locations in Seattle, leaving around 8 am, returning at 4 pm. Sign-ups are via the Grease Bus website.<sup>62</sup>

In 2004, the Federal Lands Alternative Transportation Systems Study was completed for the FHWA and documented alternative transportation needs in forest service lands. Mt. Baker Snoqualmie National Forest Stevens Pass area was one of the areas studied. The recommendation was to expand the guest shuttle bus system linking Stevens Pass and the community of Sultan and the community of Monroe to help reduce congestion along Route 2 and reduce the need for expanded on-site guest parking areas at Stevens Pass. The strong relationship between the ski area and the National Forest was one of the

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<sup>57</sup> Hyatt, Justus, Crystal Mountain Ski Area. Personal Interview. 9 March 2012

<sup>58</sup> Meriwether, John, Stevens Pass. Personal Interview. 2 March 2012

<sup>59</sup> Kostanich, Trevor, Summit at Snoqualmie. Personal Interview. 2 March 2012

<sup>60</sup> Hyatt, Justus, Crystal Mountain Ski Area. Personal Interview. 9 March 2012

<sup>61</sup> Meriwether, John, Stevens Pass. Personal Interview. 2 March 2012

<sup>62</sup> Grease Bus Website [www.greasenotgas.com](http://www.greasenotgas.com) Accessed March 2012

factors under consideration when this recommendation was made. However, in the years since the transit service has been discontinued between Stevens Pass and Sultan, and alternate transit has not been pursued.

## **Parking**

### **Summit at Snoqualmie**

Snoqualmie expanded parking three years ago, and has around 5,800 parking spaces. Since expansion, the resort has not had to turn visitors away because of parking capacity issues. For the Summit West parking lot in January and February, there is a \$10 per day parking charge for those who do not carpool (defined as three people or more).<sup>63</sup>

Summit works with the King County Commuter Benefits Plus program to help employees with carpooling and vanpooling, and provides preferential parking areas for carpoolers. Currently there are three vanpools for employees, and Summit subsidizes the program. Summit provides vouchers for gas, sporting goods, car wash businesses, etc and prizes for employees who carpool. Additionally, Summit provides a link to [rideshareonline.com](http://rideshareonline.com), a Washington State run program to connect drivers and riders throughout the state for visitors.<sup>64</sup>

### **Crystal Mountain**

Parking is free for visitors to Crystal Mountain in the approximately 3,000 spaces. In an average season, the resort turns visitors away due to parking capacity between two and five times a year. Crystal does not charge visitors for parking. The resort provides a link to [TheSkiLift.org](http://TheSkiLift.org) website on their transportation page. The website is a free ridesharing matching service that is nationwide, where users log in to advertise space in their car or search for a ride.<sup>65</sup>

### **Stevens Pass**

Stevens Pass has more than 2,700 parking spaces over eight lots. Generally, this is enough parking for 90 percent of the days that they are open. The parking lot will fill up three to five times a year, mainly on Saturdays. Up until February of this year, it was a poor snow year, so the resort had not turned people away. Based on a carrying capacity analysis, Stevens Pass has enough parking to accommodate the number of skiers the hill can handle. In the summit lot (parking lot A), the parking fee is \$10 on weekends, though the fee is reduced to \$5 for vehicles with three or more people. All other parking lots are free. Stevens Pass also has a link to the [skilift.org](http://skilift.org) website.<sup>66</sup>

## **Intelligent Transportation Systems and Visitor Notification**

### **Summit at Snoqualmie**

Summit coordinates with the Washington Department of Transportation (WSDOT) to provide mountain pass alerts for traffic conditions.<sup>67</sup>

### **Crystal Mountain**

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<sup>63</sup> Kostanich, Trevor, Summit at Snoqualmie. Personal Interview. 2 March 2012

<sup>64</sup> Summit at Snoqualmie website: [www.summitatsnoqualmie.com/](http://www.summitatsnoqualmie.com/) Accessed March 2012

<sup>65</sup> Crystal Mountain website: <http://www.crystallmountainresort.com/> Accessed February 2012

<sup>66</sup> Meriwether, John, Stevens Pass. Personal Interview. 2 March 2012

<sup>67</sup> Kostanich, Trevor, Summit at Snoqualmie. Personal Interview. 2 March 2012

Crystal Mountain utilizes Twitter, Facebook, and their website to post information about parking and roadway conditions.<sup>68</sup>

### **Stevens Pass**

Stevens Pass utilizes Facebook and texts to alert visitors of traffic and parking conditions.<sup>69</sup>

### **Lessons Learned**

Transit has been less successful in the ski areas near Snoqualmie National Park. There are a few reasons for this:

- Most ski areas have adequate parking, and so visitors feel that they will likely get a parking spot and do not need to take transit
- The drive time between Puget Sound and the ski areas is short (for some ski areas), around one hour, which is too short to make transit an appealing alternative.

Most of the ski resorts in this case study found that employees are much more likely to carpool and vanpool to the ski areas than visitors. This is most likely due to the consistency of shifts and to some extent, employer support.

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<sup>68</sup> Crystal Mountain website: <http://www.crystallmountainresort.com/> Accessed February 2012

<sup>69</sup> Meriwether, John, Stevens Pass. Personal Interview. 2 March 2012

## Mt. Bachelor Ski Area, Deschutes National Forest

### Location and Basic Information

Mt. Bachelor is located approximately 20 miles west of Bend in central Oregon. The ski area is located in the Deschutes National Forest, just south of The Sisters wilderness. The ski area and surrounding national forest land provide many winter and summer recreation opportunities, and the forest is heavily utilized for recreation much of the year. Mt. Bachelor Ski Area is the sixth largest ski resort in terms of skiable terrain in the United States.<sup>70</sup>



TABLE 17  
Mt. Bachelor Ski Area

Resort Name	Hours of operation	Season	Skiable Acres	# of Lifts	Runs	Uphill Skier capacity (per hour )	Average Annual Snowfall (inches)	On-site lodging?
Mt. Bachelor	9:00 a.m. – 4:00 p.m. in winter; 10:00 a.m. – 8:00 p.m. Friday – Sunday in summer	December – May; July to Sept. for summer activities	3,683	14	71	22,000	370	No. Nearest lodging is in Bend, Oregon (20 miles away)

Sources: Go Oregon: <http://www.go-oregon.com/Mt-Bachelor/>, Mt. Bachelor ski area: [www.mtbachelor.com](http://www.mtbachelor.com)

<sup>70</sup> Mt. Bachelor Ski Area website: [www.mtbachelor.com](http://www.mtbachelor.com). Accessed July 31, 2012.

TABLE 18

**Mt Bachelor Ski Area Activities****Mt. Bachelor****Summer Activities**

Biking	X
Disc Golf	X
Hiking/Climbing	X
Tram/Gondola rides	X
Wildlife Viewing	X

**Winter Activities**

Nordic Skiing	X
Skiing	X
Sledding	X
Snowboarding	X
Snowplay/Snowpark	X
Snowshoeing	X
Snow Tubing	X

**Visitor Information**

Deschutes National Forest receives 2.8 million visitors each year, with 50 percent of visitors coming from surrounding communities and 75 percent of the total coming from Oregon. The majority of visits are day use only.<sup>71</sup> Approximately 500,000 people visit the ski area each year, with 60 percent of visitors coming from Oregon, 10 percent from Washington, and about 10 percent from California.

With respect to skiing at Mt. Bachelor, nearest lodging is in Bend and data do not exist to track if those coming from Bend are staying there as visitors in lodging or live there as residents.

**Transit**

Cascade East Transit (CET) is the regional transit provider in the Bend, Oregon region. CET serves the communities of Bend, Redmond, Prineville, Sisters, Madras and several other rural locations with regular routed bus service. CET has an annual operations budget of approximately \$2.7 million and presently has no dedicated revenue source. Capital and operations are funded through general fund allocations from member jurisdictions and federal funds.<sup>72</sup>

Transit service between Bend and Mt. Bachelor began as a privately-run employee shuttle between Bend and the ski area. The public could also use the service, but the number of round trips per day was very limited. In recent years, the ski area did not have funds available to replace their shuttle fleet with many vehicle exceeding 1,000,000 service miles. The ski area proposed a public-private partnership with

<sup>71</sup> Deschutes National Forest Sarbanes planning grant application: [http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/FY\\_2009\\_TRIP\\_Deschutes\\_ATS\\_Planning.pdf](http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/FY_2009_TRIP_Deschutes_ATS_Planning.pdf). Accessed August 1, 2012.

<sup>72</sup> Ayock, Scott. Cascades East Transit. Personal Interview. 8 August 2012

the City of Bend and CET to improve and expand transit to the ski area.<sup>73</sup> In 2009, Mt. Bachelor Ski Area partnered with both the city and transit agency to apply for a grant from FTA's Paul S. Sarbanes Transit in Parks grant program to purchase new shuttle busses. FTA awarded \$1,000,000 in funds for capital upgrades to the shuttle system with the ski area providing \$200,000 as match. CET purchased six new fuel-efficient busses, bike racks, recreational trailers, and constructed two new bus stops on Century Drive (the main road connecting Bend to Mt. Bachelor) with these funds.<sup>74</sup> Mt. Bachelor pays for 100 percent of operation costs, though CET provides the service. During the 2011-2012 ski season the shuttle cost \$237,000 to operate.<sup>75</sup> The ski area used their old busses to supplement CET's service on the "shoulders" of the ski season (very beginning and end of the season), when CET did not operate the shuttle.

The recent shuttle purchase is expected to support action items from the *Deschutes National Forest Alternative Transportation Feasibility Study* (also funded by a FTA Sarbanes grant), currently underway. The Forest is interested in increasing visitation through strategic investment in transportation infrastructure. Phase I of the project will consist of data collection and review, with Phase II including development of alternatives and recommended implementation items. Project goals include reducing the environmental impact of transportation on the forest, reducing the need for increased road and parking infrastructure, and providing opportunities for the traditionally underserved to access the forest.<sup>76</sup> Forest officials anticipate that increasing transit service will be an important part of the final plan.

CET provides transit service in partnership with Mt. Bachelor Ski Area between Bend and the ski area during the winter ski season only; no summer transit is provided. CET is interested in expanding service to the summer season and also including other resort destinations, but presently does not have funds available to do so. Five busses leave from the Mount Bachelor Park-and-Ride during the morning and early afternoon, with afternoon return trips each day the ski area is open during the season. Service is reduced to two round trips during the spring ski season. The fare is \$11 round trip, or \$8 one-way, with season pass options also available; the shuttle is free for all 800 winter employees of the ski area.<sup>77</sup> Riders pay a reduced fare if they only travel to one of the intermediate snowpark destinations. In January, 2012, riders made 6,137 round trips on the service.<sup>78</sup> Approximately 1,000 passengers use the service on an average day, with 65,000 total trips made annually, depending on duration of the ski season.<sup>79</sup> Riders took 56,265 trips during the 2011-2012 ski season. Seventy percent of passengers are ski area employees and the remaining 30 percent are visitors. Of the visitors, about 55 percent are season or 14-day pass holders and the remainder are one-day visitors.<sup>80</sup>

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<sup>73</sup> Fisher, Peggy. Deschutes National Forest. Personal Interview. 1 August 2012

<sup>74</sup> The Environment Center News. *Federal Transit Administration Grant Award*. <http://envirocenter.org/news/federal-transit-administration-grant-award>. Accessed August 1, 2012.

<sup>75</sup> Aycock, Scott. Personal Interview. 8 August 2012

<sup>76</sup> Deschutes National Forest Sarbanes grant application: [http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/FY\\_2009\\_TRIP\\_Deschutes\\_ATS\\_Planning.pdf](http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/FY_2009_TRIP_Deschutes_ATS_Planning.pdf). Accessed August 1, 2012.

<sup>77</sup> Cascades East Transit website: <http://www.cascadeseasttransit.com/>. Accessed August 1, 2012.

<sup>78</sup> Ayock, Scott. Cascades East Transit. Personal Interview. 18 June 2012

<sup>79</sup> Deschutes National Forest Sarbanes capital grant application: [http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/FY2010\\_TRIP\\_Deschutes\\_MtBachelor\\_Implementation.pdf](http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/FY2010_TRIP_Deschutes_MtBachelor_Implementation.pdf). Accessed August 1, 2012.

<sup>80</sup> Stanfill, Cary. Mt. Bachelor Ski Area. Personal Interview. 8 August 2012

Cog Wild, a local mountain biking touring company, also provides charter shuttle service from Bend to anywhere in Deschutes National Forest. Cog Wild charges \$80 per hour for their 15-passenger shuttle vans. While the service is aimed at transporting mountain bikers from Bend to the national forest, any group can call and reserve their shuttle for any purpose.<sup>81</sup>

### **Parking**

Parking at the ski area is free. Average daily parking at the ski area is 1,100 vehicles with a total parking capacity of 3,975 cars. Parking reaches capacity 10-12 days per year, with demand exceeding capacity 1-2 days per year. A USDOT-sponsored group surveyed the transportation system in Deschutes National Forest in 2009, and found that the current parking areas can accommodate approximately 14,000 visitors at the resort.<sup>82</sup> The ski area has a permitted capacity of 26,000 visitors per day. The Forest management plan calls for allowing additional parking at the ski area, in balance with ski lift, ski run, and lodge capacity at the resort.<sup>83</sup>

### **Lessons Learned**

Deschutes National Forest was not directly involved in creating the public-private partnership that resulted in the current shuttle service. New management at Mt. Bachelor Ski Area was dedicated to maintaining and improving shuttle service from Bend to the mountain, and initiated talks with the city and transit service. The current service would not have happened without the ski area's initiative and willingness of the City of Bend, CET, ODOT and Deschutes National Forest to implement the program. The ski area and CET successfully formed a public-private partnership to fund both capital and operations. The service would likely have been discontinued or become very limited without this partnership.

Mt. Bachelor Ski Area is permitted to have up to 26,000 visitors per day – well in excess of its current visitation level. The ski area is interested in accommodating more visitors without having to provide more parking. Increased parking would be a significant cost, and would also increase the ski area's physical impact on the environment. The shuttle service is considered an effective method to mitigate parking demand as the resort expands in the future, especially on days when lots reach capacity.

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<sup>81</sup> Cog Wild website: <http://cogwild.com/>. Accessed August 2012

<sup>82</sup> Interagency Transportation Assistance Group. Transportation observations, considerations, and recommendations for Deschutes National Forest. [http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/TAG\\_Report\\_Deschutes\\_012510.pdf](http://publiclands.volpe.dot.gov/usfs-alternative-transportation/docs/TAG_Report_Deschutes_012510.pdf). Accessed August 1, 2012.

<sup>83</sup> Deschutes National Forest. 1990 Land and Resource Management Plan. [http://www.fs.usda.gov/detail/centraloregon/landmanagement/planning/?cid=fsbdev3\\_035906](http://www.fs.usda.gov/detail/centraloregon/landmanagement/planning/?cid=fsbdev3_035906). Accessed August 1, 2012.

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Graebbling, Mary Ann, Tourism Whistler. Personal Interview. 1 March 2012

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**Appendix C**  
**Partners Group Meeting Summaries**

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**ALTERNATIVE TRANSIT OPPORTUNITIES AND  
TRANSPORTATION DEMAND MANAGEMENT WITHIN THE MT.  
HOOD NATIONAL FOREST**

**Partner's Group Meeting #1**

Wednesday, April 25, 2012  
1:00 p.m. –2:30 p.m.

Mt. Hood National Forest  
(16400 Champion Way) Sandy, OR

**Agenda**

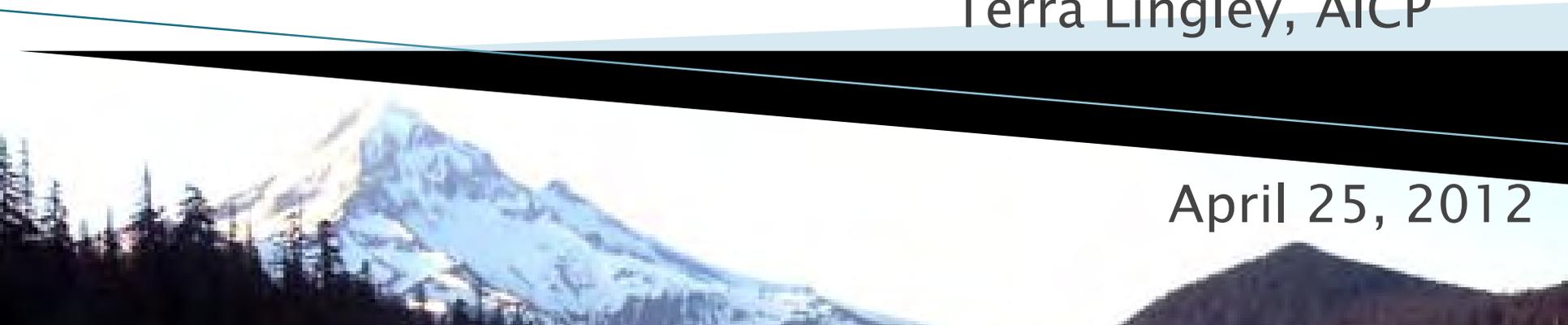
**Purpose:** To understand the project goals, get to know members of the Partners Group, and to understand and provide feedback on existing conditions and case studies that will help us develop a pilot project.

<b>TIME</b>	<b>AGENDA TOPIC AND GOAL</b>
<b>1:00 – 1:15</b>	<b>Welcome/Introductions/Agenda Review</b>
<b>1:15 – 1:25</b>	<b>Partner's Group Organization</b> <u>Goal:</u> Provide an overview the Partner's Group role, commitment, and project schedule.
<b>1:25 – 1:45</b>	<b>Presentation of Existing Conditions on Mt. Hood</b> <u>Goal:</u> Relay and seek feedback on year-round existing conditions, particularly for transit and traffic management.
<b>1:45 – 2:25</b>	<b>Presentation of Case Studies</b> <u>Goal:</u> Relay and seek feedback on case studies of other ski areas and national forests. Understand similarities of Mt. Hood with places elsewhere and the potential within Mt. Hood for transit and traffic management.
<b>2:25 – 2:30</b>	<b>Meeting Wrap-up and Next Steps</b>

# Mt Hood Alternative Transit Opportunities and Transportation Demand Management

Partners Group Meeting  
Sumi Malik, AICP  
Terra Lingley, AICP

April 25, 2012



# Presentation Outline

- ▶ Project Background
- ▶ Partners Group Organization
- ▶ Existing Conditions on Mt Hood
- ▶ Case Studies
- ▶ Next Steps



# Project Background – Objectives

- ▶ Increase transit opportunities and transportation demand management technique usage
- ▶ Develop a pilot project
- ▶ Planning time horizon is 2012–2017

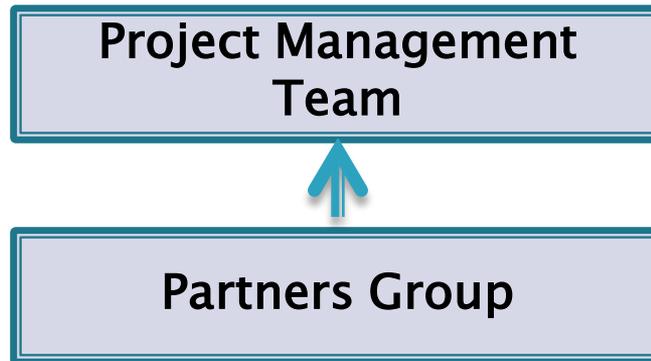


# Project Background – Process

- ▶ Background Information and Existing/Near Term Conditions Report
- ▶ Case Studies Report ←
- ▶ Transit, TDM and parking Scenarios
- ▶ Draft Pilot Program Design
- ▶ Final Pilot Program Design



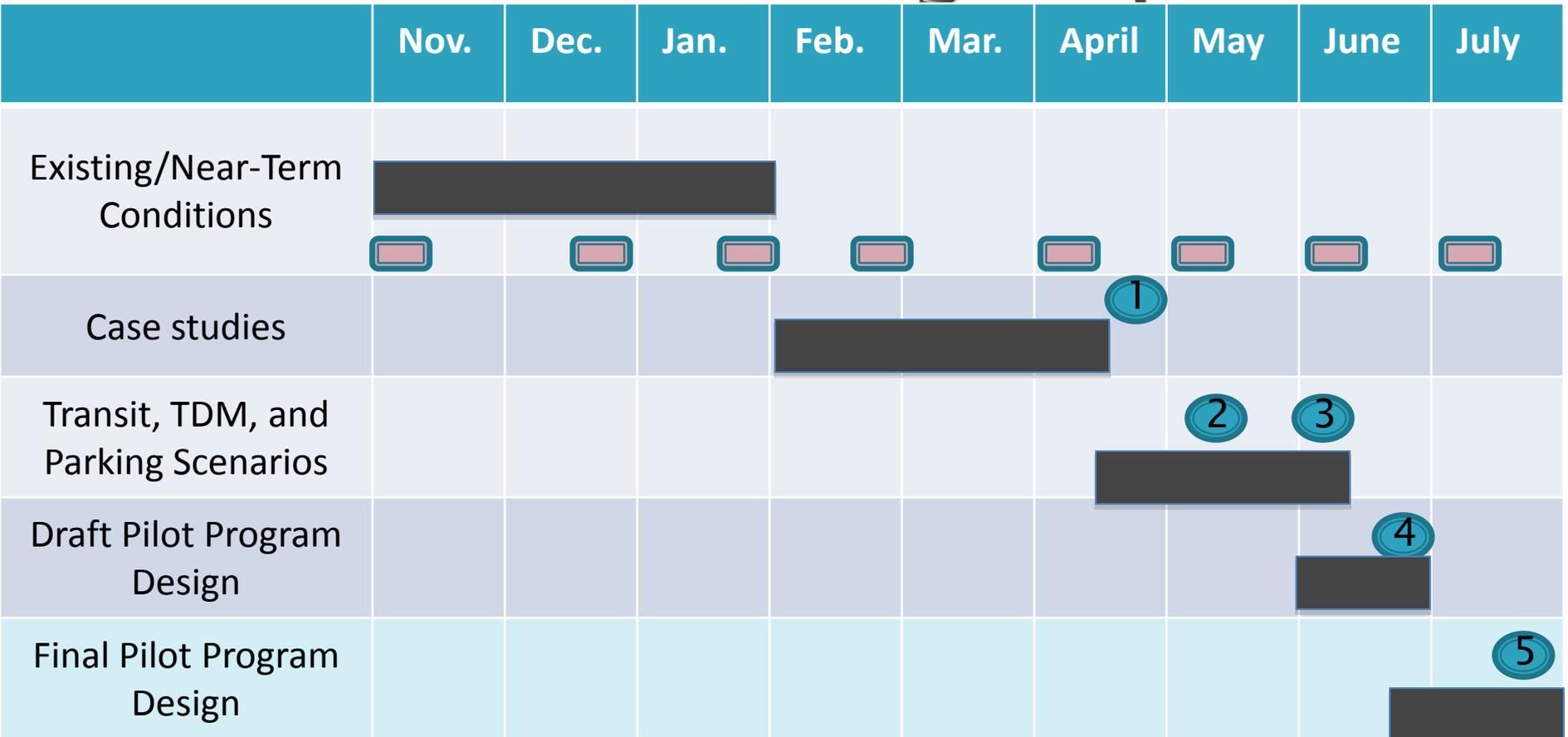
# Decision-Making Structure



**Project Management Team:** MHNH, ODOT, FHWA–Western Federal Lands Federal Highway Division, and Consultant Project Manager

**Partner's Group:** Mt Hood Meadows, Skibowl, and Timberline Ski Areas, Clackamas and Hood River Counties, Cities of Sandy and Hood River, Villages at Mount Hood, Government Camp, Mazamas, Metro, Grease Bus, Fusion Bus, Warm Springs Tribe, Pacific Northwest Ski Area Association, Pacific Crest Trail Association, Mid-Columbia Economic Development District, and Sandy Area Metro (SAM), and the Project Management Team.

# Committee Meeting Sequence



Partner's Group



Project Management Team



# Partners Group Meetings

1. Partner's Group Kick-off
  - A. Project purpose and problem definition
  - B. Relationship to Mt. Hood Multi-Modal Plan
  - C. Define pilot project goals and objectives to evaluate the menu of TDM and Transit tools
  - D. Report existing conditions findings
  - E. Present case study findings
2. Develop menu of TDM/Transit/Parking tools to be considered
  1. Develop evaluation criteria or characteristics of a successful pilot project
  2. Develop menu of TDM/Transit/Parking tools to be considered

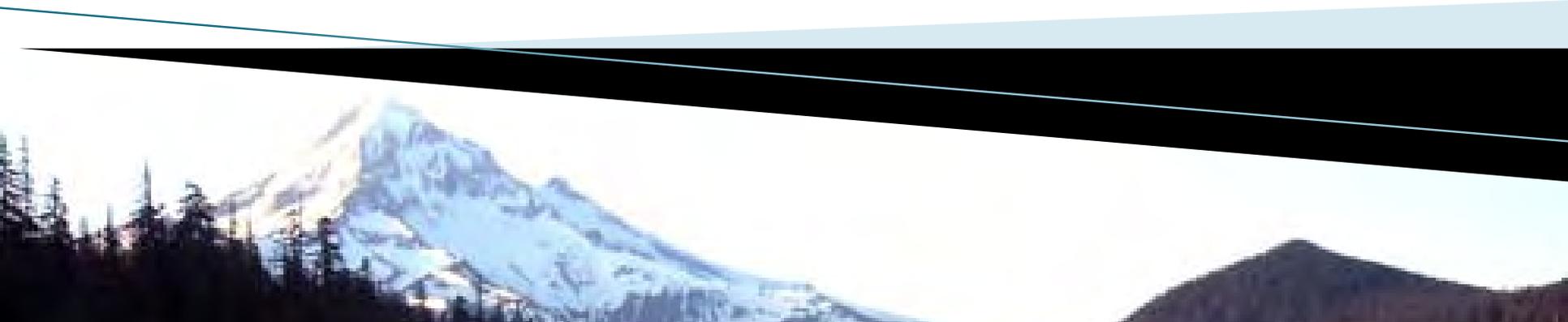


# Partners Group Meetings

3. Refine menu of TDM/Transit/Parking into pilot project scenarios. Evaluate scenarios against goals and objectives developed in meeting #1.
4. Present and seek feedback on recommendations for pilot program design
5. Finalize pilot program recommendations, define next steps for implementation, and the relationship to the Mt. Hood Multi-Modal planning effort



# Existing Conditions



# Existing Conditions Topics

- ▶ Visitation rates
- ▶ Visitor Destinations/Activities
- ▶ Capacity Constraints
- ▶ Existing Transit
- ▶ Past Transit



# Mt Hood Visitation Rates

- ▶ 5.1 million in 2003, 2.0 million in 2009
- ▶ 80–90% of visitors are from the Portland Region
- ▶ Weekend traffic volumes on US 26 are 50–100% greater than weekday
- ▶ Summer traffic volumes slightly higher than winter
- ▶ Wilderness permits – 79% are for day uses



# Visitor Destinations / Activities

## ▶ Winter

- Ski areas – Skiing, Nordic
- Snow parks – snowshoeing, tubing, snow play
- Resort areas (Collins Lake, Government Camp)

## ▶ Summer

- Trailheads (Mirror Lake, Trillium Lake, etc) – hiking, fishing, rustic camping
- Wildlife and scenic areas – birding, taking photos, sightseeing
- Campgrounds

## ▶ All Seasons

- Timberline Lodge



# Capacity Constraints

Ski Area	Permitted Capacity (PAOT)	Existing Parking spots	Park out days	Visitors	Bus Mode Split
Mt Hood Meadows	13,900 winter, 1,500 summer	2,500	4-6 times/ year	393,000 annually	6%
Timberline	4,655	1,000	5-33 times/ year	1.9 million annually	5-6%
Skibowl	7,800	1,200	5-10 times/ year	435,000 annually	10%



# Capacity Constraints (cont'd)

## ▶ Roadway Capacity

- Exceeded on summer and winter weekends and holidays
- Volumes forecasted to double over next 20 years
- 150 days of congestion
- Few passing lanes
- Balance through trips and trips to Mt Hood destinations

## ▶ Crashes

- US 26 and Government Camp Loop Roads
- 70% due to snow, ice, or wet to icy pavement
- January highest crashes, though highest volumes in summer
- Mostly rear-end crashes



# Existing Transit

- ▶ Charter service for all three ski areas
- ▶ Fusion Bus
- ▶ Mountain Express
- ▶ Employee shuttles (Timberline and Mt Hood Meadows)
- ▶ Internal shuttles – within Skibowl properties, and Collins Lake to Mt Hood Meadows
- ▶ Grease Bus



# Past Transit

- ▶ Skibowl employee shuttle
  - Discontinued due to demand for jobs and cost considerations
- ▶ Columbia Area Transit (CAT)
  - Discontinued due to cost, unruly passenger issues, and driver safety
- ▶ TriMet
  - 20–25 years ago, discontinued due to cost, equipment damage considerations

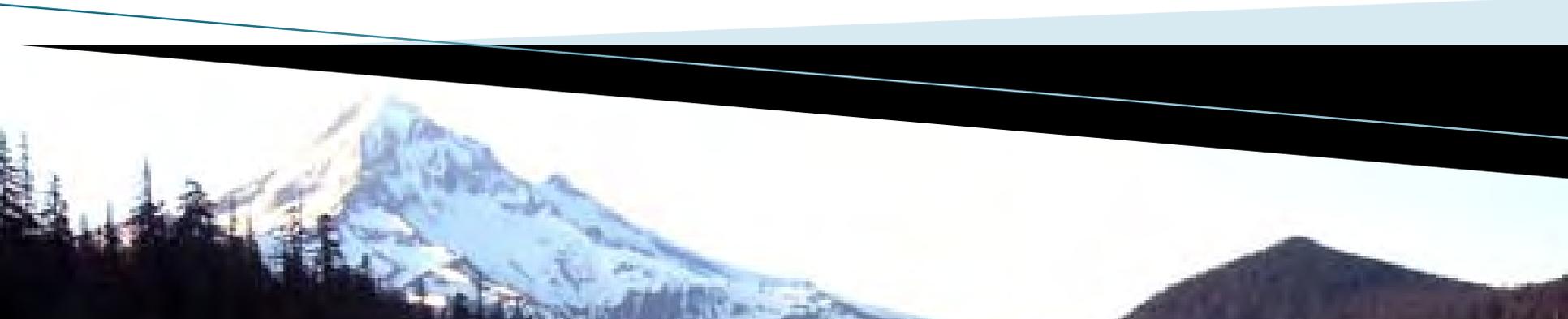


# Existing Conditions

- ▶ Is this what you expected to find?
  - ▶ If not, what did you expect?
- ▶ Are we missing anything?



# Case Studies



# Case Study Locations

- ▶ Alta, Brighton, Snowbird, and Solitude, UT
- ▶ Devil's Postpile National Monument, CA
- ▶ Breckenridge, CO
- ▶ Whistler, BC
- ▶ North Lake Tahoe, CA
- ▶ Snoqualmie National Forest, WA



# How the case studies compare to Mt Hood

Area	Mostly day – trippers	Within 2 hours of a city	Along a state highway	Limited parking (ski & trail head)	Multiple ski areas	Forest land
Mt Hood	●	●	●	●	●	●
Alta area, Utah	●	●	●	●	●	●
Devil’s Postpile, CA				●		●
Breckenridge, CO	●	●	●	●	●	●
Whistler, BC	◐	●	●			
North Lake Tahoe, CA	◐		●	◐	●	◐
Snoqualmie National Forest, WA	●	●	●	◐	●	◐

# Alta, Brighton, Snowbird, and Solitude, Utah

- ▶ Uinta–Wasatch–Cache National Forest
- ▶ Four ski resorts and two steep canyons
- ▶ Within an hour drive of Salt Lake City
- ▶ Utah Transit Authority operates winter bus service
- ▶ Themes:
  - No expansion of parking in forest plan
  - Winter service with aim to expand to summer service
  - Employee service in summer with aim to expand to general service



# Devil's Postpile National Monument, California

- ▶ Geologic monument and Rainbow Falls
- ▶ Mandatory shuttle provided by the Eastern Sierra Transit Authority
- ▶ Exception permits are allowed
- ▶ Theme:
  - Resource management issues led to parking limitations and mandatory shuttle use



# Breckenridge, Colorado (White River National Forest)

- ▶ 12 ski areas in White River National Forest
- ▶ Breckenridge and Keystone in particular have a high number of day-trippers
- ▶ Nearly two hours from Denver
- ▶ Themes:
  - High cost for parking and free carpool parking
  - Park-and-ride in town of Breckenridge and free transit to ski resort
  - Travel company provides a ski train package



# Whistler

- ▶ 2 million visitors
- ▶ 75 miles/ 2 hours from Vancouver
- ▶ Resort town with lots of lodging
- ▶ Themes:
  - Cooperation between BC Transit, municipality, and ski area
  - Low cost, high ridership transit
  - Charge for parking
  - Preferential carpool parking
  - Employees/residents use transit/carpool



# Squaw Valley, Northstar, Alpine Meadows, North Lake Tahoe, CA

- ▶ Three ski areas: approximately 1–2 million visitors per year
- ▶ 3 hours from the Bay Area, 2 from Sacramento, 1 from Reno, NV
- ▶ Themes:
  - Truckee North Tahoe TMA
  - Tahoe Area Regional Transit (TART)
  - Zimride – 1700 rides



# Snoqualmie National Forest, WA

- ▶ High percentage of day trippers (around 90%+)
- ▶ 1–2 hours from Seattle
- ▶ Summit has adequate parking – hasn't parked out since lot expansion
- ▶ Themes:
  - Employees more likely to carpool and vanpool than visitors
  - No transit service
  - Grease Bus – some success



# Incentives for Visitors and Employees

Area	Cheap or free transit	Discounts/ bundled lift pass + transit	Bus amenities	Carpool discounts premium parking	Employee shuttles/ employer buys transit pass
Mt Hood		◐	◐		◐
Alta area, Utah	●	●	●		●
Devil's Postpile, CA	●	N/A	●		
Breckenridge, CO	●	●	●	●	●
Whistler, BC	●		●	●	●
North Lake Tahoe, CA	●	●	●	●	●
Snoqualmie National Forest, WA				◐	◐

# Management Techniques for reducing the number of visitors who drive

Area	Charge for parking	Limited parking	Transit + Park and rides	Requirement (mandatory use)	Bus Priority	Social Media	Parking ITS
Mt Hood		●				◐	◐
Alta area, Utah		●	●		●		●
Devil's Postpile, CA		●	●	●	●		
Breckenridge, CO	●	●	●				
Whistler, BC	◐				●		●
Lake Tahoe, CA	◐	◐	◐			●	
Snoqualmie, WA	◐	◐				●	

# Leveraging Partnerships

Area	Winter to Summer Service	Employee to Visitor Service	Transit Agencies	Shared Funding	Sustainability Ethic and Resource Management
Mt Hood					◐
Alta area, Utah	●	●	●	●	●
Devil's Postpile, CA					●
Breckenridge, CO	●	●	●	●	●
Whistler, BC			●	●	●
North Lake Tahoe, CA	◐	◐	●	●	
Snoqualmie National Forest, WA					◐

# Case Studies

- ▶ Is this what you expected to find?
  - ▶ If not, what did you expect?
- ▶ Any other lessons learned for Mt Hood?
- ▶ Are we missing anything?



# Next Steps

- ▶ Include what we heard today to develop a menu of transit, TDM, and parking scenarios
- ▶ Review the scenarios with this group, and apply evaluation criteria to determine the preferred scenario
- ▶ Create the Pilot program, identify partners for implementation



## Partners Group Meeting #1 Summary

**ATTENDEES:** John Bay, Government Camp TIF Committee  
 Karen Buehrig, Clackamas County  
 Teresa Christopherson, Clackamas County Social Services  
 Sherrin Coleman, ODOT Public Transit Division (via phone)  
 Danielle Cowan, Clackamas County Tourism  
 George Fekaris, FHWA  
 Brett Fischer, Collins Lake Resort/Skibowl  
 Bob Reeves, Mountain Express Bus  
 Sonya Kazen, ODOT

**COPY TO:** Sumi Malik, CH2M HILL  
 Tom Torres, Mt Hood National Forest

Susan Law, FHWA  
 Kevin Liburdy, City of Hood River  
 Mike Parziale, Grease Bus  
 David Queener, Clackamas County Development Agency  
 Nick Rinard, CPO Government Camp  
 Dan Schwanz, Hood River County Transportation District  
 Julie Stephens, City of Sandy Transit  
 Jon Tullis, Timberline  
 Scott Turnoy, Mid-Columbia Economic Development District  
 Caleb Winter, Metro

**PREPARED BY:** Terra Lingley, CH2M HILL

**DATE:** May 5, 2012

**PROJECT NUMBER:**

The first Partners Group meeting of the Mt Hood Alternative Transit Opportunities and Transportation Demand Management within the Mt Hood National Forest was held on April 25<sup>th</sup>, from 1:00 – 2:30 p.m. at the Mt. Hood National Forest Offices in Sandy. The purpose of the meeting was to understand project goals, introduce and understand the view-points of the Partners Group, and to understand and provide feedback on existing conditions and case studies that will help develop the pilot project.

### Welcome and Introductions

Sumi Malik welcomed the group and Tom Torres provided a brief overview of the project including project goals. Sumi then asked each attendee to introduce themselves, their organization, and to describe what a successful project would be.

### Definition of Success

- Mike Parziale from Grease Bus - increased buses to the Forest from Portland.
- Dave Queener from Clackamas county Economic Development District - improve transportation to development in Government Camp and other communities near the Forest.
- Sonya Kazen from ODOT - form partnerships to address project goals
- Danielle Cowan from Clackamas county Tourism - develop a successful economic engine to bring more people to the forest.
- Brett Fischer from Collins Lake Development and Skibowl - move visitors safely and quickly to and through the National Forest.
- John Bay from the Government Camp TIF (Tax Increment Finance Committee) - provide adequate parking to support activity hubs

- Julie Stephens from City of Sandy - reduce private vehicles on the road, and increase alternate transportation options.
- Bob Reeves from the Villages at Mount Hood - stability for the Mountain Express bus (with regard to funding), and transit service to Government Camp
- Karen Buehrig from Clackamas County - increase travel options for all activities on Mt Hood.
- Teresa Christopherson from Clackamas County Social Services - increase accessibility by bus (for all modes) for both residents and visitors to jobs and activity centers
- Jon Tullis from Timberline - a comprehensive approach to traffic and parking, and the outcome is likely to involve a combination of solutions including park and ride lots, increased parking capacity at the ski areas, and transportation demand management and signage.
  - After Sonya clarified that this project is a short term, implementable in the next 5 years, Jon clarified that success would be to utilize existing programs, expand transit to/from Sandy, identify parking lots along the corridor (including utilizing OR Trail School District lots during the weekend), church parking lots during the week.
- Kevin Liburdy from the City of Hood River - increase transportation options, safety, and respect for the unique environment on Mt Hood. He also mentioned that they are currently working to develop a park and ride in Hood River, and are looking to expand the current project, and the City is looking for additional funding to help complete the full park and ride.
- Scott Turnoy from the Mid Columbia Economic Development District - create partnerships, and provide options for the workforce in the area.
- Caleb Winter from Metro - leverage existing programs to increase travel information tools to increase reliability. He also suggested that bike tourism program development is underway and should be included in this process, and mentioned that there are already carpool connect, Carpool Match NW, DriveLessConnect.com, and ODOT tripcheck, along with other travel information.
- George Fekaris from FHWA Forest Highway Division - sustainable solutions to provide lasting funding sources, and create partnerships.
- Susan Law from FHWA Forest Highway Division - actionable, cost effective solutions that could then feed into the multi-modal plan.
- Sherrin Coleman from ODOT Public Transit - reduce congestion, and serve the public need.

## Project Background

Sumi then shared the background of the project and the objectives of this work. She also talked about how this project will inform the upcoming Mt Hood Multimodal Transportation Plan that will start this summer. This project is a shorter-term (2012-1027) pilot project that will look at transportation demand management, parking improvements and may suggest policy or partnerships to address the project objectives, while the larger, longer-term Mt Hood Multimodal Plan will be looking at safety and longer-term infrastructure solutions in the Forest. Sumi also discussed the decision-making structure, and how the Partners Group will feed into the Project Management Team to inform the project.

There will be four additional meetings of the Partners Group, and the topics for the next meetings include:

- Meeting 2: develop a menu of TDM/transit/parking tools to be considered in the pilot project, and evaluation criteria/characteristics of a successful pilot project
- Meeting 3: Refine menu of tools into scenarios. Evaluate scenarios using criteria developed in meeting 2
- Meeting 4: Present and seek feedback on recommendations and pilot project design
- Meeting 5: Finalize pilot project recommendations, define next steps for implementation

## Existing Conditions

Terra presented the high-level findings from the existing conditions report, including visitation rates, visitor destinations and activities, capacity constraints, and existing and past discontinued transit.

Sumi then asked if there were any surprises or anything that the project team missed when presenting existing conditions.

There was one question about the mode split between charter and public transit to the ski areas. At this point, we do not have data that show the breakdown.

Another attendee suggested that the price point is important to get correct – travelers are very sensitive to the price of transit. The current Bend project to provide transit to Mt Bachelor charges \$15 for a round trip, and the service is subsidized by the ski area. One member pointed out that all transit is subsidized and no transit service is able to operate one-hundred percent on fare revenue.

Another aspect to consider for transit service is the timing and frequency of transit.

For the former bus from Hood River to Mt Hood Meadows, it was \$5 each way, and there were problems with attracting ridership. They marketed to hotels in Hood River, but the majority of riders were younger, and there were a number of issues with discipline and rowdiness on the bus.

Another attendee suggested that considering the low or lack of charge for parking creates a tradeoff for transit.

One thing that is missing from the existing conditions is a discussion of summer draw, including bicycling shuttles.

## Case Study

Sumi and Terra then presented the six case studies, focusing on lessons learned and the similarities of the case studies to Mt. Hood. The focus of the presentation was on the three themes found through the case study process: incentives for visitors and employees to take transit or carpool, management techniques for reducing visitors who drive, and leveraging partnerships. At the end of the presentation, attendees were again asked if there were any surprises, any other lessons learned for Mt Hood, and if anything was missing.

One attendee asked if the transit increased the total trips/capacity or if transit accommodated existing demand. This is a good question worth follow up with case study contacts.

Jon Tullis mentioned that in a lot of the case studies, there was an ability to leverage the ski towns, and providing a shuttle from the resort to the shops in the towns were more of an economic development activity, which is not the case on Mt Hood.

Attendees asked what other interests could be leveraged to support partnerships and Transportation Management Agencies.

Another person asked if there was other underutilized parking within a reasonable distance within the Mt Hood forest.

One question among attendees was what came first? Did the transit come first and businesses developed to support/serve transit riders, or did the businesses exist and the transit added access to what was already there? The true answer is often a combination—service and economic development occur in an iterative process.

Another question was if transit was increased in Mt Hood, would economic development follow to support the additional visitors?

The group talked about targeting park and rides in locations that made sense within the corridor.

Another aspect that was suggested was reversible lanes – the North Tahoe example has an instance where the access road to the ski area was reversible, however, it is not on a statewide facility. This is likely a longer-term solution to be considered as part of the Mt. Hood. Multimodal plan and was added to the “parking lot” of long-term ideas.

There was a comment that the chain-up areas caused congestion and safety concerns. The placement is problematic. Sonya mentioned that new chain-up areas were being developed and would be added this summer. Attendees suggested it could be a simple signage and enforcement issue, as many first time drivers in the snow will stop on the highway to put on chains.

Mike from Grease Bus noted that they use the chain-up issue as a sales point – they advertise that if you are on the Grease Bus, you don't have to chain up your car. They have a bus with automatic chains so they do not have to stop and place chains on the bus. This technology saves time, is safer, and better for transit operations.

The important thing in the mountain is to drive the demand for transit, and the project should indicate who the audience is, and who is expected to ride transit.

## **Parking Lot – Ideas, questions for the upcoming Mount Hood Multimodal Plan**

In addition to the discussion and conversation about the short term planning process and what can be done as part of this planning process, there were ideas that are more appropriate for the longer-term plan to address. These were noted on a flip-chart during the meeting, and noted below.

- Gondola
- Who has the organizational authority to make these things happen?
- Transit designated lanes
- Reversible lanes
- Chain-up locations, accessible, identifiable. It is important to consider the snow line.

## **Next Steps**

Sumi then talked about the next meeting, and suggested that the group work to schedule the next few meetings to ensure the next meeting is held when the majority of members can attend.

**ALTERNATIVE TRANSIT OPPORTUNITIES AND  
TRANSPORTATION DEMAND MANAGEMENT WITHIN THE MT.  
HOOD NATIONAL FOREST**

**Partner's Group Meeting #2**

Thursday, May 17, 2012  
3:00 p.m. –5:00 p.m.

Mt. Hood National Forest  
(16400 Champion Way) Sandy, OR

**Agenda**

**Purpose:** To translate success factors from the first meeting into criteria to evaluate future pilot project scenarios and to begin to brainstorm pilot project scenarios.

<b>TIME</b>	<b>AGENDA TOPIC AND GOAL</b>
<b>3:00 – 3:10</b>	<b>Welcome/Agenda Review</b>
<b>3:10 – 4:00</b>	<b>Review Draft Evaluation Framework</b> <u>Goal:</u> Review the draft evaluation framework that will be used to objectively review scenarios for the pilot project. The draft evaluation framework was developed based on project success factors identified at the last PG meeting.
<b>4:00 – 4:50</b>	<b>Brainstorm Transit and Transportation Demand Management (TDM) Ideas</b> <u>Goal:</u> Brainstorm a long list of transit and TDM ideas in small groups.
<b>4:50 – 5:00</b>	<b>Meeting Wrap-up and Next Steps</b> During our next meeting, we will refine menu of TDM/Transit/Parking into pilot project scenarios. To do so, we will evaluate scenarios against the framework developed during this meeting. Next meeting is mid-June.

# Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest Project

## Draft Evaluation Criteria

PREPARED FOR: Project Management Team and Partners Group

COPY TO: Sumi Malik, CH2M HILL  
Terra Lingley, CH2M HILL

PREPARED BY: Sam Daleo, CH2M HILL

DATE: May 16, 2012

### Introduction

This memorandum presents a proposed set of criteria for evaluating strategies aimed at reducing congestion without increasing roadway capacity along the Mt. Hood Highway (US-26/OR-35) corridor—these strategies will eventually be packaged together in a recommended design for a transit and TDM pilot program. Objective evaluation criteria are important for examining the potential transit, transportation demand management (TDM) and parking scenarios that may be used to develop a recommended pilot program that can be implemented within the next five years.

Using the project objectives and success factors as defined by the Partners Group as guidance, the Project Team developed draft criteria to evaluate and compare alternative improvement strategies. Evaluation criteria are designed to be measurable and to highlight relative differences between strategies. The specific project goals used to develop the evaluation criteria are:

- Reduced peak hour congestion on US 26 and OR 35 while increasing person throughput
- Increased transportation options to the Mt Hood National Forest
- Greater highway safety for visitors to the public lands and all travelers
- Increased abilities for the ski areas to operate to their permitted capacity
- Reduced environmental impact of vehicle use, and
- Increased economic opportunities for recreation-related commercial enterprises for local communities within the US 26 and OR 35 corridors (lodging, dining, recreation suppliers, etc.)

Success factors, as defined by the Partners Group, can be found in the summary of Meeting #1.

### Proposed Evaluation Criteria

The following sections list and describe the draft Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest Project (Project) evaluation criteria. The descriptions discuss each criterion's intent and how a particular strategy would receive a higher "rating."

In addition to the high, medium, and low ratings for the criteria, one threshold criterion would be applied to strategies first. This threshold criterion would be pass/fail criteria, and used as an initial screen. Criteria include questions that will be considered to assess how well a strategy could meet each criterion, and ultimately the project objectives.

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## **Threshold Criterion: Affected Parties Support**

Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able to be overcome in the near term? If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria. If No, the strategy will no longer be considered.

## **Increases Transportation Options**

Does the strategy provide additional transportation options or expand existing transportation options? Higher ratings will be assigned to strategies that increase the available number of overall transportation options.

## **Leverages Existing Transit**

To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today? A strategy that could substantially leverage existing transit will receive higher ratings.

## **Leverages Existing or Creates New Transportation Demand Management (TDM) Programs**

To what extent would the strategy leverage existing or create new TDM programs? A strategy that increases or expands TDM programs will receive higher ratings.

## **Improves Safety**

To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.

## **Considers Unique Needs of Seasonal Recreation Markets throughout the Year**

How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations? A strategy that addresses seasonal variations, can account for or adapt to seasonal markets, and serves multiple constituencies will receive higher ratings.

## **Considers Unique Needs of Employees**

How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.

## **Considers Unique Needs of Residents**

How well does the strategy meet the needs of area residents, including circulation between mountain communities?

## **Increases Economic Opportunities for Commercial Enterprises**

Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Higher ratings will be assigned to strategies that could increase the opportunity for economic growth. Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.

## **Provides Financial Incentives for Alternative Modes of Transportation**

What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy? A strategy that includes a financial incentive to use an alternative mode of transportation would receive higher ratings.

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## **Provides Implementable and Financially Sustainable Solutions**

Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)? Higher ratings will be assigned to strategies that are both implementable and financially sustainable, including operational costs.

## **Benefits from Support of Multiple Entities/Partnerships**

Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy? A strategy that multiple entities support and/or in which participate would receive higher ratings.

## **Capital Costs**

What is the order of magnitude capital cost for the strategy? Lower capital cost solutions will receive higher ratings.

## **Operating Costs**

What is the order of magnitude operating cost for the strategy? Lower operating cost solutions will receive higher ratings.

## **Proposed Rating System**

The alternative improvement strategies will be rated based on the extent to which they are anticipated to meet each evaluation criterion. The following table presents the proposed rating system for each criterion, including individual rating scales and descriptions. The scale is used to show which strategies meet the criteria, which strategies partially meet the criteria, and which strategies do not meet the criteria. Additionally, a N/A designation will be used where the criteria do not apply.

## Rating Description

Threshold Criterion: Affected Parties Support	Pass/ Fail	Does the strategy have the support of affected parties? Does the implementing or affected party have a legal barrier that cannot be overcome? If yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria. If no, the strategy will no longer be considered.
Increases Transportation Options	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)</p> <p>Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)</p> <p>Minimally or does not increase alternative options for transportation or expand existing transportation options</p>
Leverages Existing Transit	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Greatly utilizes, expands, or integrates with existing transit</p> <p>Moderately utilizes, expands, or integrates with existing transit</p> <p>Minimally or does not utilize, expand, or integrate with existing transit</p>
Leverages Existing or Creates New TDM Programs	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs</p> <p>Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program</p> <p>Minimally or does not utilize, expand, or integrate existing programs</p>
Improves Safety	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Addresses multiple known safety issue(s), and does not add new operational safety concerns</p> <p>Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues</p> <p>Does not address known safety issue(s)</p>
Considers Unique Needs of Seasonal Recreation Markets throughout the Year	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.</p> <p>Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.</p> <p>Does not provide a solution that considers seasonal changes in recreational user's needs</p>

<p>Considers Unique Needs of Employees</p>	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.</p> <p>Provides a solution that somewhat considers the unique needs of employees.</p> <p>Does not provide a solution that considers seasonal changes in recreational user's needs</p>
<p>Considers Unique Needs of Residents</p>	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.</p> <p>Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.</p> <p>Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.</p>
<p>Increases Economic Opportunities for Commercial Enterprises</p>	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Yields a substantial increase in multiple existing business and promotes new business</p> <p>Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place</p> <p>Yields minimal increase in existing business and promotes minimal new business</p>
<p>Provides Financial Incentives for Alternative Modes of Transportation</p>	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system</p> <p>Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system</p> <p>Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system</p>

Provides Implementable/ Financially Sustainable Solutions	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)</p> <p>Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program</p> <p>Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program</p>
Benefits from Support of Multiple Entities/ Partnerships	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.</p> <p>Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified</p> <p>The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it</p>
Capital Costs	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Capital costs are relatively low (\$100,000 or less)</p> <p>Capital costs are moderate (\$100,001 to \$1,000,000)</p> <p>Capital costs are high (\$1,000,001 or more)</p>
Operational Costs	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Operational costs are relatively low (\$100,000 or less)</p> <p>Operational costs are moderate (\$100,001 to \$1,000,000)</p> <p>Operational costs are high (\$1,000,001 or more)</p>

TABLE 14  
Existing and Past Transit Service

Transit Name	Route	Status	Price	Notes	Hours
Amtrak - Public	Portland to the Columbia River Gorge	Discontinued in 1996 on the Oregon side. Several trains a day on the Washington side	N/A	No plans to reinstate passenger service on the south side of the Columbia river.	
Central Oregon Breeze - Private	Between Portland and Bend. Stops at Portland Union Station, Portland Airport, Gresham (Cleveland Avenue MAX Station, Madras Tiger Mart, CET connection in Redmond, Redmond Airport, and Bend Sugarloaf Mountain Motel. Will stop along US 26 in Welches, Sandy, Government Camp, or Warm Springs if requested and reserved in advance.	Currently Running	Adults: \$49 one way (\$88 round-trip) Seniors: \$44 one way (\$78 round-trip) First two children are half price when traveling with an adult.	To date, the Breeze has served several thousands of people, a couple dozen of which have gotten off or on in Welches or Government Camp.	Twice a day in both directions.
Columbia Area Transit (CAT) - Public	Demand Response service in Hood River County, and fixed route service to the Dalles.	No longer provides service to Mt. Hood Meadows Still provides service to HRC and Dalles.	Was \$5	Discontinued due to cost, and usage by unruly passengers, driver safety (on the ice) considerations.	
The Fusion Shuttle - Private	Between Sandy and Skibowl and Timberline (December to February). Stops at Hoodland Thriftway, Zig Zag Ranger Station, Collins Lake Resort, and Government Camp	Yes – only on specific days (weekends and holidays)	Free for Fusion Pass holders (combined ticket to Skibowl and Timberline) <u>For non-pass holders:</u> \$20 to/from Sandy \$10 to/from Welches \$5 to/from Collins Lake	Between Skibowl and Timberline 3 times a day. 2009-2010 ski season is the 4 <sup>th</sup> year in operation. Timberline – runs at 95-100% capacity. Riders pay for a very small percentage of the service – most are pass holders, and the cost is shared between Timberline and Skibowl - \$50,000 a year.	Departs Sandy 7 am, arrives Skibowl at 8 am, Timberline at 8:45. Returns to Sandy at 4 pm. Shuttles run at 90-95 percent capacity.
Grease Bus – Private	From the Grease Bus offices in Portland at SE 12 <sup>th</sup> and Sandy to Mount Hood Meadows, one 22 person bus a day.	Currently Running	\$15 on weekdays \$20 on weekends and holidays	Funded entirely through riders and sponsors who advertise on the bus (mainly ski/snowboard companies and recreation-related businesses.	Departs Portland at 8 am, departs Mt Hood Meadows at 4 pm. Operates every day but Monday from NE 12 <sup>th</sup> and Sandy Boulevard.
Greyhound – Private	Portland to Government Camp	Not currently running	Information not available	Discontinued due to cost concerns?	One trip in each direction daily. Arrived in Government Camp at 6:00 pm, departed for Portland at 12:55 pm
Hood River Area's B.R.T. (Bed, Ride and Ticket) 4x4 Shuttle Service - Private	Shuttle between the Inn of the White Salmon in Hood River and Mt Hood Meadows.	Currently Running	An additional \$59 per person to hostel or private room rate for ski ticket package. \$10 per person for the ride only. Will also take local residents to Mt Hood Meadows	Package deal – reduced lift ticket with an overnight stay in Hood River. The \$10 per person cost (without lift ticket) does not cover the cost to operate.	Leaves the Inn at 8:00 am, departs the ski area no later than 3:00 pm
Mountain Express - Public	Villages at Mt. Hood – connects Rhododendron, Zig Zag, Welches, Wemme, and Brightwood with Sandy and Sandy Area Metro (SAM). Takes 30 minutes	Currently Running	\$2 one-way for adults \$1 for students 10 and older (<10 ride free), seniors over 60, eligible people with disabilities.	Weekday and Saturday only (no holidays or Sundays). Three runs in am, 3 in pm each direction between Rhododendron and Sandy. Extends to Estacada Applied for JARC funding to extend to ski areas, but no funds were available.	Monday-Friday Between 5:45 and 6:30 pm, Saturdays 9:15 am to 8:40 pm. Ridership is high and has been steadily increasing – also dependent upon gas prices. <a href="http://www.villagesmthood.us/bus.htm">http://www.villagesmthood.us/bus.htm</a>

TABLE 14  
Existing and Past Transit Service

Transit Name	Route	Status	Price	Notes	Hours
Mt. Hood Meadows - Private	Circulates between all parking lots and base lodge	Currently Running	Free	Contract with First Student – no special consideration for gear, converted school buses. Riders do not pay for the service – funded by Mt Hood Meadows.	During Mt. Hood Meadows operating hours. Usage depends on how busy the resort is, and weekends and holiday time periods.
Mt. Hood Meadows Employee Shuttle - Private	From Gresham and Hood River	Currently Running	Free for employees	Contract with First Student school bus company. Riders do not pay for the service – funded by Mt Hood Meadows.	Shuttles are full every day
Mt. Hood Meadows - Private	Various buses that are provided for package deals. Leave from a variety of park and rides in the Portland Metro area, and travel to Mt. Hood Meadows via US 26 and OR 35	Yes, though weekday ridership especially has dropped off due to current economic conditions	Depends on the package deal and number of visits. For the 8 week program, the ride comes out to \$6 per weekly visit.	40-50 buses per day. Overall, 26 % of visitors to MHM come by bus. Need to be 93 percent full to be profitable. Program is struggling. Ideally, riders pay the majority of the cost of service, in practice, this is much less.	Weekend buses see high usage, ridership is dropping for midweek.
Mount Hood Railroad (MHRR) - Private	Tourist and freight service between Hood River and Parkdale	Currently Running	Between \$27 and \$69, depending on the excursion	Provides a variety of themed excursions such as dinner, western train robbery, murder mystery, Thomas the Tank Engine and the Polar Express. MHRR is considering busing people from Portland to Hood River, ride the train, and continue by bus from Parkdale to Mt. Hood.	July through September on the weekends, and select dates for specific events (Valentine’s Day, St. Patrick’s Day, etc)
Private Charter Services <ul style="list-style-type: none"> <li>o Aspen Limo Tours</li> <li>o Blue Star Airporter (between airport and Mt Hood)</li> <li>o RAZ Transportation</li> </ul>	On demand – luxury transportation service.	Currently Running	Depends on the service and number of people.	Requires reservations for vehicles.	Operates year-round.
Sandy Area Metro (SAM) - Public	Three routes: Gresham Transit Center Estacada Circulates through Sandy	Currently Running	Free	Operates 6 days a week (M-Sa), except for Estacada Route (no Saturdays). Provides 250,000 rides per year for all three routes, and approximately 17,000 rides between Gresham and Sandy. Riders do not pay for the service – funded completely by the City of Sandy..	Gresham Transit Center every 30 minutes weekdays, every hour Saturday Estacada every 2-3 hours weekdays only Circulates through Sandy 5:30 am, 6:30 am, 6:30 pm, 7:30 pm, demand response at all other times
Sea to Summit Shuttle Service – Private	Provides both group transportation and scheduled service between Portland and all three ski areas. Shuttles pick up at REI in Portland (free park and ride) and Pioneer Square.	Currently Running	Shuttle only \$40 Ski packages (lift ticket and rentals) vary between \$75 and \$110 depending on the package and day.	Carries 2,000-3,000 skiers per season. Operates depending on demand. In operation for 12 years.	Operates year round to Mt Hood, but the ski season is November 15 <sup>th</sup> through April. Leaves Portland at 7:15 am from REI, 7:30 am from Pioneer Square, leaves the ski area at 3:30 pm.
Skibowl Area Shuttle - Private	Circulates between east and west locations and Government Camp	Currently Running	Free	Also stops at Summit Ski Area and Snow Bunny Snow-play area. Riders do not pay for the service – funded by Skibowl.	During normal Skibowl operating hours. Has high usage on holidays and weekends.

TABLE 14  
Existing and Past Transit Service

Transit Name	Route	Status	Price	Notes	Hours
Skibowl Employee Shuttle - Private	Sandy area to the Ski resort	Not currently running	Free	Discontinued due to cost	
Timberline Employee Shuttle - Private	Sandy to Hoodland	Currently Running	Free for employees	Two shuttles, one to the hotel, and one to mountain services. Timberline pays for the shuttle and gas, organized by the employees. Riders do not pay for the service – funded by Timberline.	Shuttles are full every day
TriMet - Public	Provided service to Government Camp 20-25 years ago. Currently provides service to Gresham Transit Center, which connects to SAM.	Not currently running		Discontinued due to cost	

Source: 1999 Nelson Nygaard Transit Feasibility Study supplemented with information from stakeholder interviews.

## Partners Group Meeting #2 Summary

**ATTENDEES:**

John Bay, Government Camp TIF Committee	Kevin Liburdy, City of Hood River
Rithy Bein, Mt Hood National Forest	Mike Parziale, Grease Bus
Karen Buehrig, Clackamas County	Bob Reeves, Mountain Express Bus
Teresa Christopherson, Clackamas County Social Services	Nick Rinard, CPO Government Camp
Sherrin Coleman, ODOT Public Transit Division	Julie Stephens, City of Sandy Transit
Lee Davis, Mazamas	Tom Torres, Mt Hood National Forest
George Fekaris, FHWA	Jon Tullis, Timberline
Sonya Kazen, ODOT	Steve Warila, Mt Hood Meadows
Tom Keenan, Collins Lake Resort/Skibowl	Caleb Winter, Metro
Susan Law, FHWA	Hans Wipper, Collins Lake Resort/Skibowl
Chris Mulcahy, Grease Bus	

**COPY TO:** Sumi Malik, CH2M Hill

**PREPARED BY:** Terra Lingley, CH2M Hill

**DATE:** September 21, 2012

**PROJECT NUMBER:**

The second Partners Group meeting of the Mt Hood Alternative Transit Opportunities and Transportation Demand Management within the Mt Hood National Forest was held on May 17<sup>th</sup>, from 3:00 – 5:00 p.m. at the Mt. Hood National Forest Offices in Sandy. The purpose of the meeting was to review the draft evaluation framework and start to brainstorm ideas for the pilot project.

### Welcome

Sumi Malik welcomed the group, and Sonya Kazen and Tom Torres provided some background for the new members in attendance. Sonya also distributed a chart and talked through the differences between this effort and the upcoming Mt Hood Multimodal Plan effort starting at the end of the summer. Members present then went around and introduced themselves by name and organization.

### Evaluation Criteria

Sumi talked through the purpose of the Evaluation Criteria – it is a framework to help the project team determine the differences between potential alternatives to go into the pilot project. The criteria were developed from the “success factor” discussion at the first Partner’s Group meeting.

The group went through each criterion and discussed any changes or questions members had. Terra recorded the comments on the flip chart.

### Threshold Criterion

The threshold criterion is meant to help screen ideas that do not meet the basic goals of the project and should not be considered further. The criterion asks if the strategy has the support of the affected parties. The discussion centered around this criterion potentially screening out viable options. The group didn’t want to preclude a possible solution because it might not have the support currently, and it is hard to determine what barriers there

will be ahead of time. The group suggested making this criterion an outcome criterion and a final check instead of an initial screen.

### **Increases Transportation Options**

The group wanted to add language about not just increasing transportation options, but also increasing access to transportation options. Another comment was to include teleworking and shift time changes to shift the demand from the peak hour. Teleworking is a concept that is appropriate under the “consider the needs of employees” criterion. Transportation options do not just have to be vehicles or transit. Sumi mentioned that this would be included in the Transportation Demand Management Program criterion.

### **Leverages existing transit**

The comment was made to focus on near-term strategies, in line with the time horizon of the pilot program, 1-5 years.

There were no comments on the leverages existing or creates now Transportation Demand Management (TDM) criterion.

### **Improves Safety**

The discussion here included the difficulty of assessing which strategies are likely to improve safety. Sumi noted that most likely, the measure will need to look at how the strategy improves continual traffic flow and reduces congestion as a proxy for determining the safety impacts.

### **Considers Unique Needs of Seasonal Recreation Markets Throughout the Year**

Sumi and Terra noted that the summer traffic differs from the winter traffic – it is more spread out throughout the day as opposed to having a morning and afternoon peak. A comment was made that a strategy should not have to target varying needs of all seasons, but if it is targeted towards accommodating the needs of users for one season in particular that is a positive as well.

### **Considers Unique Needs of Employees**

Sumi and Terra noted that employees are more sensitive to price when deciding on transportation options – this is reflected in the demand for employee shuttles at both Timberline and Mt Hood Meadows. The group suggested adding the concept of teleworking here, and noting that employee trips would be sensitive to price as some may be minimum wage earners.

### **Considers Unique Needs of Residents**

The discussion noted that residents are also sensitive to price. This criterion should consider the quality of life for residents, and impacts to the community. One comment noted that the study should not just focus on Government Camp, but should also consider other communities. The group suggested including the concept price sensitivity as well, since residents may have a lower tolerance for price for daily trips compared to recreational users. The group also suggested defining the residential communities considered.

### **Increases Economic Opportunities for Commercial Enterprises**

The discussion centered around equity – making sure that the benefits and costs are not distributed disproportionately on one group as opposed to another. Another member noted that freight should be considered as a corridor user, along with other non-freight through traffic. Sumi noted that it would be difficult to assess indirect benefits. One of the strategies to consider is working directly with the freight community, though another member noted that freight already self-selects to use the roadway in lower congested times – there was some discussion on this point – some members thought that they did, others thought that freight used US 26 when they wanted to, regardless of expected congestion. A criterion around equity in general should also be added to the framework.

### **Provides Financial Incentives for Alternative Modes of Transportation**

The discussion here indicated that the group was interested in looking at both financial and time incentives for alternative modes of transportation, recognizing that a reduction in travel time could also be an incentive.

There were no comments on the Provides Implementable and Financially Sustainable Solutions criterion.

### **Benefits from Support of Multiple Entities/Partnerships**

The group did not want to penalize or preclude one entity implementing a strategy on its own.

There were no comments on the Capital Costs criterion.

### **Operating Costs**

The group wanted to include a timeframe for operation, and one member suggested a time frame of 5 years which is the timeframe of the pilot program.

### **Other Comments on Criteria/Evaluation Framework**

- Need to add a criterion regarding the degree of complexity on the organizational structure
- Add a criterion about equity.
- How complicated will it be to develop the organizational structure?
- Magnitude of people affected: “Person throughput” to maintain as an example, or number of user groups or user days.
- Embed bus parking when thinking about parking strategies. Bus parking would be a strategy evaluated.

### **Brainstorm Transit and Transportation Demand Management (TDM) Ideas**

Attendees then separated into four groups to start brainstorming ideas. The groups were organized by topic area:

1. Transit
2. Transportation Demand Management (TDM)
3. Intelligent Transportation Solutions (ITS)
4. Parking

Members self-selected which group they joined, and had about 40 minutes to brainstorm ideas. Once the brainstorm session was finished, the individual groups presented to the larger group their best ideas. The summary of the ideas by group is included below.

#### **Transit**

- Coordination between existing
  - Schedules
  - Facilities
  - Fare Structure
- Local funding partnerships
  - Match state/federal?
  - Public Private Partnerships (PPP)
- Target specific days – weekend/holiday
- Use Google Maps – widget to incorporate multi stop/lines
- Need to balance Interconnected vs. Complicated systems
- Service must occur every 30 minutes

- Collaboration of existing shuttle providers
- Fee structure - \$15 from Sandy, \$10 from Hoodland, \$5 Government Camp – each way
- Needs to close gap (12 miles) where there isn't public transit/ Rhododendron to ski areas)
- Bus parking /access for buses at trailheads
- Use available Tri-Met buses on weekends (Gateway)
- MAX – Bus in Gresham – does it operate early enough for skiers to get up for first lift?
- Ski Ares contribute to Public Transit – roaring Fork (Aspen Model)
- Existing Transit – Expand operation
  - Rhododendron to Government Camp
  - Increase frequency

### **Parking**

- Existing Parking Plan – Government Camp
- Buses drop-off/pick up
  - Find a place for parking
  - Kiwanis Camp
  - Public School (weekend)
  - Churches
  - Information center (south of 26), owned by Clackamas County
- Talk about incentives to park and ride:
  - No need to chain-up
  - Lack of winter driving experience
  - Charge for parking
- ODOT survey (phone call) identified demand for park and ride below snow line
- Potential Park and Ride locations:
  - East of Thriftway – owner of 4 acre lot expressed interest to FS for developing a park and ride
  - Information Center at RV Village, parking behind County building, restrooms, south of US 26, just west of Welches, 100+ spaces, visitor information center that was opened with Chamber and Forest Service, didn't work, County owned building with restrooms
  - Forest Service property ranger station in Zig Zag
  - Open Space by Kiwanis Camp
  - Public schools (weekend only)
  - Welches – east of Thriftway, 4 acres
  - Build a park and ride near existing services (in Hood River, Welches, Sandy, Brightwood)
- Utilize and better identify existing park and ride locations
- Use a parking permit system similar to the SnoPark pass, but just for Mt. Hood area

### **Transportation Demand Management (TDM)**

- Shift time vs. route
- Efficient use of existing capacity
- Speed reduction to address upcoming congestion
- Promote “Drive Less, Connect”
- Accept additional congestion in more urban areas, economic benefits
- Investment in park and rides, transit frequency
- Pushing information regarding transportation options
  - Central database
  - Marketing
  - Available in multiple languages
- Reach 1 and 2 passenger travelers
  - Incentives
  - Matching service
  - Preferential parking for carpools with 3+ people.
- Increase threshold for incentives to carpool – tie-in with Ski rack promotion to enable gear-hauling with more people in a vehicle.
- Travel information for through travelers, alternate routes
- Reliability of alternatives, time differences for alternative routes at different times /days
- INRIX (travel time data tool)
- Driver education – use Vancouver “Sea to Sky” Highway, Whistler as an example
- Variable speed limits (ITS)
- Employer subsidies for transportation passes
  - Annual passes
- Ski lift ticket prices based on time of day – pricing structure already has “twilight” or night skiing prices.

## ITS

- Transit priority lanes using ITS
- Unified website with links to other sites (link through tourism?) Include the following information:
  - Weather conditions
  - Parking availability
  - Transit schedules
  - Sign up for text alerts
- Social Media
  - Text message sent with parking information
  - Transit information
  - Expanding existing programs

- Use variable message signs to share information about using transit, park and ride locations
- Parking full signs for Timberline. When parking is full – provide a shuttle up to the ski resort
- A “Smartphone Application” for coordinated transit opportunities
- Information on when transit will be arriving
- Signs at Government Camp informing people where they can get transit information

## **Next Steps**

After the report-out, Sumi informed the group that the next meeting would be in June, where these project ideas will be further refined. Partners group members could follow-up with additional ideas until the following Thursday. The meeting adjourned at 5:00 pm.

**ALTERNATIVE TRANSIT OPPORTUNITIES AND  
TRANSPORTATION DEMAND MANAGEMENT WITHIN THE MT.  
HOOD NATIONAL FOREST**

**Partner's Group Meeting #3**

Tuesday, June 26, 2012  
1:30 p.m. – 3:30 p.m.

Mt. Hood National Forest  
(16400 Champion Way) Sandy, OR

**Agenda**

**Purpose:** To review the updated evaluation framework, review potential strategies for the pilot program, and add any additional strategies to be considered.

<b>TIME</b>	<b>AGENDA TOPIC AND GOAL</b>
<b>1:30 – 1:40</b>	<b>Welcome/Agenda Review</b>
<b>1:40 – 2:00</b>	<b>Review Updated Evaluation Framework</b> <u>Goal:</u> Talk through the changes to the evaluation framework, talk about Choosing by Advantages (CBA)
<b>2:00 – 2:30</b>	<b>Review Strategies</b> <ul style="list-style-type: none"><li>• <b>Transportation System Management, Intelligent Transportation Solutions</b></li><li>• <b>Parking policies</b></li><li>• <b>Transit and Park and Rides</b></li><li>• <b>Transportation Demand Management</b></li></ul> <u>Goal:</u> Provide and overview of the strategies and how they were evaluated. Detail discussions will occur in small groups.

<p><b>2:30 – 3:20</b></p>	<p><b>Small Group Exercise</b></p> <p><b>Break into small groups to discuss strategies – Dot exercise to identify the most advantageous strategies</b></p> <p><u>Goal:</u> Review strategies. Are there any missing strategies that could be implemented within 1-5 years? Should any be removed?</p> <p>Review the evaluation framework? Do you agree/disagree with the assessment? Focusing on the results of the evaluation framework and advantages of each strategy, which strategies should be included in the pilot program?</p>
<p><b>3:20-3:30</b></p>	<p><b>Meeting Wrap-up and Next Steps</b></p> <p>During our next meeting, we will present the draft pilot project and seek feedback from partners. Next meeting is <b>July 23<sup>rd</sup> from 1:30-3:30 p.m.</b> in Sandy.</p>

# Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest Project

## Draft Evaluation Criteria

PREPARED FOR: Project Management Team and Partners Group

COPY TO: Sumi Malik, CH2M HILL  
Terra Lingley, CH2M HILL

PREPARED BY: Sam Daleo, CH2M HILL

DATE: June 20, 2012

### Introduction

This memorandum presents a proposed set of criteria for evaluating strategies aimed at reducing congestion without increasing roadway capacity along the Mt. Hood Highway (US-26/OR-35) corridor—these strategies will eventually be packaged together in a recommended design for a transit and TDM pilot program. Objective evaluation criteria are important for examining the potential transit, transportation demand management (TDM) and parking scenarios that may be used to develop a recommended pilot program that can be implemented within the next five years.

Using the project objectives and success factors as defined by the Partners Group as guidance, the Project Team developed draft criteria to evaluate and compare alternative improvement strategies. Evaluation criteria are designed to be measurable and to highlight relative differences between strategies. The specific project goals used to develop the evaluation criteria are:

- Reduced peak hour congestion on US 26 and OR 35 while increasing person throughput
- Increased transportation options to the Mt Hood National Forest
- Greater highway safety for visitors to the public lands and all travelers
- Increased abilities for the ski areas to operate to their permitted capacity
- Reduced environmental impact of vehicle use, and
- Increased economic opportunities for recreation-related commercial enterprises for local communities within the US 26 and OR 35 corridors (lodging, dining, recreation suppliers, etc.)

Success factors, as defined by the Partners Group, can be found in the summary of Meeting #1.

### Proposed Evaluation Criteria

The following sections list and describe the draft Alternative Transit Opportunities and Transportation Demand Management within the Mt. Hood National Forest Project (Project) evaluation criteria. The descriptions discuss each criterion's intent and how a particular strategy would receive a higher "rating."

In addition to the high, medium, and low ratings for the criteria, one outcome criterion would be applied to strategies last. This outcome criterion would be pass/fail criteria, and used as a final screen. Criteria include questions that will be considered to assess how well a strategy could meet each criterion, and ultimately the project objectives.

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## **Increases Transportation Options**

Does the strategy provide additional transportation options or expand existing transportation options? Higher ratings will be assigned to strategies that increase the available number of overall transportation options.

## **Leverages Existing Transit to Focus on Near-term Strategies**

To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today for the purpose of implementing in the near-term? A strategy that could substantially leverage existing transit will receive higher ratings.

## **Leverages Existing or Creates New Transportation Demand Management (TDM) Programs**

To what extent would the strategy leverage existing or create new TDM programs? To what extent does a strategy provide access to TDM programs? A strategy that increases, expands, or provides additional access to TDM programs will receive higher ratings.

## **Improves Safety**

To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.

## **Considers Unique Needs of Seasonal Recreation Markets throughout the Year**

How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations? A strategy that addresses seasonal variations, even for one season, or can account for or adapt to seasonal markets will receive higher ratings.

## **Considers Unique Needs of Employees**

How well does the strategy meet the needs of employees within the study area? Does the strategy provide opportunities for tele-working as practicable? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, the time of day of their commute, and the price sensitivity of employees who may be minimum-wage earners.

## **Considers Unique Needs of Residents**

How well does the strategy meet the needs of area residents, including circulation between mountain communities? Consider resident's quality of life and sensitivity to price—residents would have a lower tolerance for travel costs for daily trips compared to a recreational user. Residential communities are: Sandy, Brightwood, Wemme, Rhododendron, Mt Hood Village, Welches, Government Camp, ZigZag, Parkdale, Odell, and Hood River.

## **Reduces freight or through traffic demand in the U.S. 26 and OR 35 corridors**

TDM strategies can be aimed to reduce freight or through traffic demand in the U.S. 26 and OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting this demand would receive higher ratings.

## **Increases Economic Opportunities for Commercial Enterprises**

Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Higher ratings will be assigned to strategies that could increase the opportunity for economic growth. Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area. Consider negative consequences as well, such as unintended parking impacts.

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## **Provides Financial or Travel Time Incentives for Alternative Modes of Transportation**

What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy? What travel time savings is offered by the strategy? Travel time savings could be in comparison to current service or in comparison to driving. A strategy that includes a financial or travel time incentive to use an alternative mode of transportation would receive higher ratings.

## **Provides Implementable and Financially Sustainable Solutions**

Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)? Higher ratings will be assigned to strategies that are both implementable and financially sustainable, including operational costs.

## **Benefits from Support of Multiple Entities/Partnerships**

Does the strategy receive support from multiple entities? Note the strategy could be implemented by a single entity, but could receive support from multiple entities. Does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy? A strategy that multiple entities support and/or in which participate would receive higher ratings.

## **Higher Magnitude of Benefits**

What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings.

## **Equity**

Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantaged (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.

## **Capital Costs**

What is the order of magnitude capital cost for the strategy? Time period to consider is within 5 years. Lower capital cost solutions will receive higher ratings.

## **Operating Costs**

What is the order of magnitude operating cost for the strategy? Time period to consider is within 5 years or the duration of the pilot program. Lower operating cost solutions will receive higher ratings.

## **Outcome Criterion: Affected Parties Support**

Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that could be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able to be overcome in the near term? If yes, support exists from the affected party, the strategy can be passed along to be considered as part of a scenario and/or pilot program. If No, the strategy will no longer be considered.

## **Proposed Rating System**

The alternative improvement strategies will be rated based on the extent to which they are anticipated to meet each evaluation criterion. The following table presents the proposed rating system for each criterion, including individual rating scales and descriptions. The scale is used to show which strategies meet the criteria, which strategies partially meet the criteria, and which strategies do not meet the criteria. Additionally, a N/A designation will be used where the criteria do not apply.

## Rating Description

Criteria		Rating Scale
Increases Transportation Options	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)</p> <p>Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)</p> <p>Minimally or does not increase alternative options for transportation or expand existing transportation options</p>
Leverages Existing Transit	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Greatly utilizes, expands, or integrates with existing transit</p> <p>Moderately utilizes, expands, or integrates with existing transit</p> <p>Minimally or does not utilize, expand, or integrate with existing transit</p>
Leverages Existing or Creates New TDM Programs	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs</p> <p>Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program</p> <p>Minimally or does not utilize, expand, or integrate existing programs</p>
Improves Safety	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Addresses multiple known safety issue(s), and does not add new operational safety concerns</p> <p>Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues</p> <p>Does not address known safety issue(s)</p>
Considers Unique Needs of Seasonal Recreation Markets throughout the Year	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands. Strategy can address the needs of one season particularly well.</p> <p>Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand. Strategy can address the needs of one season somewhat well.</p> <p>Does not provide a solution that considers seasonal changes in recreational user's needs, nor does it address the needs of one season.</p>

Criteria		Rating Scale
Considers Unique Needs of Employees	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting. Strategy provides opportunities for tele-working if appropriate. Strategy considers price sensitivity of employees who may be minimum-wage earners.</p> <p>Provides a solution that somewhat considers the unique needs of employees.</p> <p>Does not provide a solution that considers seasonal changes in recreational user's needs</p>
Considers Unique Needs of Residents	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.</p> <p>Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.</p> <p>Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.</p>
Reduces freight or through traffic demand in the U.S. 26 and OR 25 corridors	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Provides a solution shifts freight or through traffic demand by route, time of day, or even mode.</p> <p>Provides a solution that somewhat shifts freight or traffic demand.</p> <p>Provides a solution that does not shift freight or through traffic demand.</p>
Increases Economic Opportunities for Commercial Enterprises	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Yields a substantial increase in multiple existing business and promotes new business</p> <p>Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place</p> <p>Yields minimal increase in existing business and promotes minimal new business</p>
Provides Financial or Travel Time Incentives for Alternative Modes of Transportation	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system</p> <p>Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system</p> <p>Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system</p>

Criteria		Rating Scale
Provides Implementable/ Financially Sustainable Solutions	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)</p> <p>Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program</p> <p>Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program</p>
Benefits from Support of Multiple Entities/ Partnerships	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.</p> <p>Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified</p> <p>The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it</p>
Higher Magnitude of Benefits	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Benefits accrue to many users/markets or over a greater number of user days.</p> <p>Benefits accrue to many fewer users/markets or over fewer number of user days.</p> <p>Benefits accrue to many the least number of users/markets or over the least number of user days.</p>
Equity	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Strategy equitably distributes benefits and impacts among a wide range of populations and user groups</p> <p>Strategy partially distributes benefits and impacts among a wide range of populations and user groups</p> <p>Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children population groups</p>
Capital Costs	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Capital costs are relatively low (\$100,000 or less)</p> <p>Capital costs are moderate (\$100,001 to \$1,000,000)</p> <p>Capital costs are high (\$1,000,001 or more)</p>

Criteria		Rating Scale
Operational Costs	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>	<p>Operational costs are relatively low (\$100,000 or less)</p> <p>Operational costs are moderate (\$100,001 to \$1,000,000)</p> <p>Operational costs are high (\$1,000,001 or more)</p>
Outcome Criterion: Affected Parties Support	Yes/ No	<p>Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that could be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able to be overcome in the near term? If yes, support exists from the affected party, the strategy can be passed along to be considered as part of a scenario and/or pilot program. If No, the strategy will no longer be considered.</p>

# Parking Policies

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Between November 1<sup>st</sup> and April 30<sup>th</sup>, valid Sno-Park permits are required to park in designated winter recreation areas, including at the ski resorts. There are a number of Sno-Park areas adjacent to Mt Hood Recreational areas (including the parking lots of all three major ski areas), and the Sno-Park program helps maintain and plow parking at these areas. Users purchase a transferrable parking permit and are required to display the permit when parked at any areas with signs identifying them as Winter Recreation Areas statewide. Permit holders can park in any recreation area where a permit is required. Permits can be purchased at DMV offices and permit agents in resorts, sporting goods stores, and other retail outlets, which are allowed to charge an additional service fee for each permit they sell. The cost of the annual permit provides a discount to frequent Sno-Park users over the three day and daily permits. Funds from the Sno-Park program provide for snow removal and parking enforcement. In recent years enforcement has been increased due to the high number of visitors who fail to purchase a permit. The table below includes Sno-Park Fees including the fine for parking without a permit.

TABLE 1  
Sno-Park Fees and Fines

Type of permit	Fee <sup>1</sup>
Annual	\$20
3-day (Consecutive)	\$7
Daily	\$3
Fine for Parking without a permit	\$30

<sup>1</sup> [Agents](#) (resorts, sporting goods stores, and other retail outlets ) are allowed to charge an additional service fee for each permit they sell.

Source: [http://www.oregon.gov/ODOT/DMV/vehicle/sno\\_park\\_permits.shtml](http://www.oregon.gov/ODOT/DMV/vehicle/sno_park_permits.shtml)

## Potential Recommendation

Explore the possibilities for using parking revenues as an incentive for using transit and carpooling. Explore opportunities to add a fee to the Sno-Park Program at parking lots that experience high demand, such as ski resort parking lots and popular winter recreation areas. Work with both ODOT and Mt. Hood National Forest to fully understand the regulatory environment.

A key question is how the revenue would be used. Those who pay the fee will want to know what benefit the fee provides. Revenues could be used to subsidize transit and traveler information and other pilot program strategies. Economic analysis would need to be conducted to better determine revenue potential.

Some questions would need to be resolved before an additional fee is implemented, and these include:

- How high would the additional cost to park need to be to begin to shift some travelers to carpools and transit?
- What is the risk of some travelers simply not taking the trip because parking prices are high or if they think carpooling and transit is an inconvenient alternative?

The goal is not to reduce the number of people who take a trip to the mountain; the goal is to encourage higher vehicle occupancy and expanded transit usage for winter recreation trips. Explore opportunities to provide preferential parking for carpools of 3 or 4 or more passengers.

### **Advantages**

If a visitor takes transit to a ski resort, they would avoid the additional parking fee; creating a modest incentive for transit usage (the visitor would still have the cost of travel time and the transit fare). Revenues from the additional parking fee could be used to pay for snow removal and to subsidize transit service to the mountain. If a carpool (3 or 4 + passengers) goes to a ski resort, they could have preferential parking closer to the lodge or lifts, or a reduced parking fee.

### **Disadvantages**

The regulatory environment is complex, and more research needs to be done to understand what is possible. The Sno-Park Program is a State program administered by ODOT. In this case, probably perhaps through an intergovernmental agreement, the Forest Service cannot charge an additional fee above the State's Sno-Park fee. Any agreement, the terms of the agreement, and the regulations that apply to parking must be researched. Revenues may also be required to be spent on-site, and may possibly not be allowed to be spent on transit.

Average vehicle occupancy rates are already high, around 2.4-2.6 persons per vehicle. This potential policy may reward existing carpools instead of being an incentive for visitors to change their travel behavior. Preferential parking, such as closer spots for carpools, is currently not allowed. Research must be done to understand this regulation better. Some logistic questions would need to be resolved:

- Would a separate queue need to be developed for carpool parking?
- How would a carpool of 3 or 4 or more be determined in whiteout conditions?
- Would the ski areas be amenable to potential additional staffing required to manage the carpool determination?

Parking Policies Evaluation

Criteria Category	Description	Rating		Strategies
Evaluation Criteria				Parking Policies
Increased transportation options	Does the strategy provide additional transportation options or expand existing transportation options?	●	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	○
		◐	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)	
		○	Minimally or does not increase alternative options for transportation or expand existing transportation options	
Leverages Existing Transit	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	●	Greatly utilizes, expands, or integrates with existing transit	◐
		◐	Moderately utilizes, expands, or integrates with existing transit	
		○	Minimally or does not utilize, expand, or integrate with existing transit	
Leverages Existing or Creates New Transportation Demand Management (TDM) programs	To what extent would the strategy leverage existing or create new TDM programs?	●	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	◐
		◐	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program	
		○	Minimally or does not utilize, expand, or integrate existing programs	
Improves Safety	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	●	Addresses multiple known safety issue(s), and does not add new operational safety concerns	◐
		◐	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues	
		○	Does not address known safety issue(s)	
Considers Unique Needs of Seasonal Recreation Markets throughout the Year	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	●	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	○
		◐	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.	
		○	Does not provide a solution that considers seasonal changes in recreational user's needs	
Considers Unique Needs of Employees	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	●	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	◐
		◐	Provides a solution that somewhat considers the unique needs of employees.	
		○	Does not provide a solution that considers seasonal changes in employees user's needs	
Considers Unique Needs of Residents	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	●	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	○
		◐	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.	
		○	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.	
Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	●	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode	○
		◐	Provides a solution that somewhat shifts freight or traffic demand	
		○	Provides a solution that does not shift freight or through traffic demand	
Increases Economic Opportunities for Commercial Enterprises	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	●	Yields a substantial increase in multiple existing business and promotes new business	○
		◐	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place	
		○	Yields minimal increase in existing business and promotes minimal new business	

Parking Policies Evaluation

Criteria Category	Description	Rating		Strategies
Evaluation Criteria				Parking Policies
Provides Financial or Travel Time Incentives for Alternative Modes of Transportation	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	●	Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	●
		◐	Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	
		○	Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	
Provides Implementable and Financially Sustainable Solutions	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	●	Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)	●
		◐	Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program	
		○	Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program	
Benefits from Support of Multiple Entities/Partnerships	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	●	More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.	◐
		◐	Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified	
		○	The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it	
Higher Magnitude of Benefits	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	●	Benefits accrue to many users/markets or over a greater number of user days.	◐
		◐	Benefits accrue to fewer users/markets or over fewer number of user days	
		○	Benefits accrue to the least number of users/markets or over the least number of user days	
Equity	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	●	Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	◐
		◐	Strategy partially distributes benefits and impacts among a wide range of populations and user groups	
		○	Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children	
Capital Costs	What is the order of magnitude capital cost for the strategy?	●	Capital costs are relatively low (\$100,000 or less)	●
		◐	Capital costs are moderate (\$100,001 to \$1,000,000)	
		○	Capital costs are high (\$1,000,001 or more)	
Operating Costs	What is the order of magnitude operating cost for the strategy?	●	Operational costs are relatively low (\$100,000 or less)	◐
		◐	Operational costs are moderate (\$100,001 to \$1,000,000)	
		○	Operational costs are high (\$1,000,001 or more)	
Outcome Criterion: Affected Parties Support	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able	Yes/No	If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria.	? - need to check with ODOT
			If No, the strategy will no longer be considered.	

# Expand Transit and Park and Rides

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## Expand Private Transit Services

Private transit service already exists on Mt Hood, and there are a number of providers including:

- Fusion Shuttle (Luxury Accommodation) - weekends and holidays only, end of November to end of February, Sandy to SkiBowl and Timberline
- Grease Bus - 6 days a week (Tuesday through Sunday), Portland to Mt Hood Meadows
- Sea to Summit – dependent upon ridership, year round, Downtown Portland to all three ski areas. Also provides trips to summer destinations.
- Ski package shuttles run by Mt Hood Meadows – every day during the ski season, Portland to Mt Hood Meadows
- Shuttle run by Mt Hood Meadows – December through February, weekends and holidays only, Collins Lake Resort to Mt Hood Meadows
- Other charter services (Aspen Limo Tours, Hood River B.R.T., Blue Star Airporter, Raz Transportation, Martin’s Tours, Shuttles & Charters, Eco Shuttle) – year round, Portland to Mt Hood, based on demand

Currently private transit services operate mainly during the ski season, and some providers only operate on the weekends and holidays, when demand is highest to the ski areas. Some providers operate year round.

## Potential Recommendation

Expand private transit services to provide more transit options.

Gaps in existing private service include:

- Lack of trips between Hood River and the ski areas
- A season-long circulator bus “on the mountain” between Government Camp and all three major ski areas
- Regular summer private transit (outside charters), particularly to popular destinations such as Timberline Lodge. The service could be a guided tour.

Expanding private transit services would require:

- Funding support to expand existing services.
- Consider advertising and marketing through local businesses to help support transit service, and as a way of attracting riders could include complimentary food and beverage through local providers in exchange for marketing.
- Coordination and cooperation between the various private service providers could help simplify and provide full transit service coverage to the Mountain.
- Additional vehicles with winter driving condition capabilities (4 wheel drive, studded tires, chains, etc)
- Potentially more park and ride areas for users in Portland or along US 26 or OR 35

## Advantages

- This idea would continue existing service, and increase access to transit.
- Providers already have infrastructure (websites and mailing lists) for customer outreach.
- Providers already have some vehicles, gear, and trained drivers for driving conditions on the mountain.
- Private transit providers are flexible and can adapt to demand, for example, only making the trip if there are riders for the trip, creating a cost-effective model for transit service.
- Done right, transit stops could support local businesses, potentially creating economic development in the study area. Could partner with recreation and other local businesses for sponsorship (similar to the Grease Bus model).

## Disadvantages

- Private providers are not as accountable to public, and could therefore stop service at any time.
- Providers need to cover all costs either through fare collection or sponsorships.
- All providers would need monetary support (grants or partnerships) to expand existing services and buy additional vehicles to meet demand.
- Private providers do not have infrastructure such as stops (shelters, signs) or vehicle depots in the study area.

## Expand Public Transit Services

There are three public service providers in the study area:

- Mountain Express (Sandy to Rhododendron), supported through Clackamas County. Deviated fixed route. \$2 per trip
- Sandy Area Metro (SAM), local loop routes in Sandy, connecting to Gresham and Estacada. Free for riders
- Columbia Area Transit (CAT) run by Hood River County Transportation District. Hood River to The Dalles loop, The Dalles to Clackamas Town Center in Portland, Hood River to White Salmon/Bingen, dial-a-ride service. Depending on the route, \$1.50-\$8 per trip

## Potential Recommendation

Expand public transit to provide more transit options.

Current public transit gaps include:

- No service between Rhododendron and Government Camp
- No service between Hood River and Government Camp
- No service to any of the ski areas, snow play areas or summer recreation areas
- Limited hours and routes
- Uncertain funding futures for existing operations, little funding available to expand existing operations

- No coordinated, comprehensive transit network between providers (SAM and Mountain Express coordinate to some extent for connecting in Sandy)
- Loop or service to trailheads popular in the summer
- No “one-seat” ride from Portland to destinations in the forest

Expanding public transit would require:

- Stable and sustainable funding source (taxing district, subsidies/sponsorships from businesses, etc)
- Potentially increasing fares to support expanded service
- Funds for capital investments (stops, buses, etc)
- Address rowdy passengers and attract a range of riders besides underage users to create a more pleasant experience for all riders (previous CAT experience to Mt Hood Meadows)
- Park and ride areas for riders

### Advantages

- Public transit providers adhere to a schedule or route independent of demand. This creates a dependable and reliable service model
- Existing service already has infrastructure in place: buses, routes, websites, stops, etc.
- Public transit is eligible to receive Federal Transit Authority (FTA) grants and other federal funds that private providers are not.
- Public transit fares are much less expensive than the private transit provider ride fees.

### Disadvantages

- There is funding insecurity for long-term operations – Mountain Express relies on BETC funding, which is sunsetting in 2015.
- Would need funding support to continue and expand operations.
- SAM does not have any current plans to expand to Mt Hood, and it is possible that there is not a lot of interest to expand.
- To provide longer trips or trips up the mountain, public transit agencies may need to raise ticket prices (or charge a fee).
- Expanding service to the mountain could potentially limit the ability of public transit providers to serve rural, low-income, elderly, and transit dependant populations due to demand for transit to the ski and recreation areas.

## Existing Parking Areas for Park and Rides

Existing Parking includes lots that would not require environmental analysis to build and start using as they are already paved, and in most cases plowed (if necessary). These park and ride locations could be used immediately, and some of these lots are already being used as park and rides (the Bi-Mart lot in Sandy is a Fusion Shuttle pick-up location). Additionally, some of the private providers (Sea to Summit, Fusion Bus, and the Mt Hood Meadows charter buses) already use park and rides in Portland and Sandy to pick up riders.

## Potential Recommendation

Expand use, advertising and locations for park and ride lots both in Portland and along the US 26 or OR 35 corridors using some existing parking lots described in Tables 1 and 2.

Potential park and ride locations are broken into two different areas: ones on the US 26 or OR 35 corridor, and park and ride locations in the Portland Metro area. Park and rides could be utilized by both ridesharing/ carpooling travelers or by travelers switching from a private vehicle to a transit vehicle. Most literature suggests that users who carpool and meet at park and rides are more likely to do so when the trip is longer, so recommending park and rides in Portland for carpool/vanpools may be more effective than park and rides in Sandy or closer to the mountain.

Any park and ride would need to be coordinated with the landowner (either TriMet or private), and could require additional user agreements in order to be advertised as park and rides for mountain recreational users.

Table 1 shows the location, approximate number of spaces and amenities associated with each of the potential park and ride locations along the US 26 and OR 35 corridors.

TABLE 1  
Park and Ride Location Information on US 26 and OR 35 Corridors

Location	Number of spots	Ease of Access	Nearby Commercial	Facilities nearby?	Below snow line?
<b>Public Schools</b>					
Sandy High School, behind Safeway near Bluff Road north of US 26.	~200	Right turn into PM rush hour westbound traffic on US 26 (relatively easy)	None	No	Yes
Firwood Elementary School, east of Sandy, south of US 26	~120	Left turn into PM rush hour westbound traffic on US 26 (difficult)	None	No	Yes
Welches Elementary School, off of Woodsey Way or Salmon River Road, south of US 26	~50	Left turn into PM rush hour westbound traffic on US 26 (difficult)	One – Barlow Trail Roadhouse	No	Not most years
<b>Churches and other organizations</b>					
Sandy Assembly of God Church, East of Sandy just east of where the US 26 couplet comes together, south of US 26	~120	Left turn into PM rush hour westbound traffic on US 26 (difficult), also near US 26 couplet merge east of Sandy	Downtown Sandy	Yes	Yes
Kiwanis Camp, just west of the Mirror Lake Curves on Kiwanis Camp Road/NF 2639, north of US 26	~50	Right turn into PM rush hour westbound traffic on US 26 (relatively easy)	None	Some at the camp	No
Clackamas County Information Center, off of Camino Rio Road between Brightwood and Welches, south of US 26	~100	Left turn into PM rush hour westbound traffic on US 26 (difficult)	None	Mt Hood Village Resort	Not most years

TABLE 1  
Park and Ride Location Information on US 26 and OR 35 Corridors

Location	Number of spots	Ease of Access	Nearby Commercial	Facilities nearby?	Below snow line?
Near existing Services (Commercial Parking lots)					
Safeway Parking Lot in Sandy, north of US 26	~300	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes
Bi-Mart Parking Lot in Sandy, north of US 26. (Already used by Fusion Shuttle)	~300	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes
Fred Meyer and other strip commercial development in Sandy, south of US 26	~700	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes
Thriftway in Welches, south of US 26	~50	Intersection is signalized- easy access	Yes – strip mall development	Yes	Not most years
Zig Zag Ranger Station, east of Salmon River Road, Zig Zag. South of US 26	~40	Left turn into PM rush hour westbound traffic on US 26 (difficult)	One – Zig Zag Inn	No	Not most years
Wal-Mart Parking Lot in Hood River, (CAT has a bus stop already). North of OR 30.	~500	Right turn into PM rush hour westbound traffic on OR 30 (relatively easy)	One – Wal-Mart	Yes	Yes
Safeway Parking Lot in Hood River, south of OR 30	~400	Left turn into PM rush hour westbound traffic on OR 30 (potentially difficult)	Yes – strip mall development	Yes	Yes

Table 2 shows existing park and ride locations in the Portland Metro area owned by TriMet, and the approximate travel time between the lot and Government Camp. Additional park and ride locations in the Portland Metro area may also be appropriate, for example, sporting goods stores (such as REI, already in use by Sea to Summit). These locations are not indicated in this table due to the large number of applicable parking lots in Portland. Such locations exist throughout the metro region and would be most effective when paired with private or public transit and implemented as a cohesive strategy.

TABLE 2  
Park and Rides in the Portland Metro Area

Location	Number of spots	Travel time* (to Government Camp)	Owner
Sunset TC Parking Garage – 10470 SW Barnes Rd, Beaverton	630	1 hour, 30 minutes	TriMet
Elmonica/SW 170 <sup>th</sup> Ave – 1200 SW 170 <sup>th</sup> Ave, Beaverton	435	1 hour, 40 minutes	TriMet
Clackamas Town Center Parking Garage – 9225 SE Sunnyside Rd, Portland	750	1 hour, 10 minutes	TriMet
SE Fuller Rd Park and Ride – 9608 SE Fuller Rd, Clackamas	610	1 hour, 10 minutes	TriMet
E 181 <sup>st</sup> Ave Park and ride - 18324 E Burnside St, Gresham	247	1 hour	TriMet
Cleveland Ave Park and Ride - 1200 NE 8th Ave, Gresham	392	50 minutes	TriMet
Gresham City Hall - 1297 NW Eastman Pkwy, Gresham	305	55 minutes	TriMet
Gresham Parking Garage – 523 NE 8 <sup>th</sup> St, Gresham	540	50 minutes	TriMet
Quatama/NW 205 <sup>th</sup> Ave Park and Ride – 350 NW 205 <sup>th</sup> Ave, Hillsboro	310	1 hour, 30 minutes	TriMet
Willow Creek/SW 185 <sup>th</sup> Ave TC Park and Ride, SW 185 <sup>th</sup> Ave, Hillsboro	595	1 hour, 40 minutes	TriMet
Milwaukie Park and Ride – 9600 SE Main, Milwaukie	329	1 hour, 10 minutes	TriMet
E 122/Menlo Park Park and Ride – 12202 E Burnside, Portland	612	1 hour	TriMet
Barbur Blvd Park and Ride – 9712 SW Barbur Blvd, Portland	368	1 hour, 20 minutes	TriMet
Delta Park/Vanport - 1940 N Victory Blvd., Portland	304	1 hour, 20 minutes	TriMet
Gateway/NE 99 <sup>th</sup> Ave TC Park and Ride - 1321 NE 99 <sup>th</sup> Ave, Portland	690	1 hour, 10 minutes	TriMet
Parkrose/Sumner TC Park and Ride - 9625 NE Sandy Blvd, Portland	193	1 hour, 10 minutes	TriMet
Tigard Transit Center Park and Ride – 8960 SW Commercial, Tigard	103	1 hour, 30 minutes	TriMet
Tualatin Park and Ride – SW 72 <sup>nd</sup> Ave and SW Bridgeport Rd	466	1 hour, 20 minutes	TriMet
Wilsonville Park and Ride – 9699 SW Barber, Wilsonville	399	1 hour, 30 minutes	TriMet

\*In non-winter conditions according to Google Maps directions, using US 26. This travel time could take much longer during winter or congested conditions.

### Advantages

- Using existing lots reduces the need to construct new lots.
- Existing lots are likely to be near infrastructure and services (restrooms, shops, etc).
- These lots are likely already maintained by a third party, and adding transit would simply require signage and a location to load/unload passengers.

- Existing businesses could benefit from increased traffic in the parking lots as riders make purchases or visit shops while waiting for the bus or carpool.
- These lots can be selected in conjunction with public or private transit service for optimal locations.
- Advertise to potential users with the benefits of park and rides:
  - Could reduce pressure to find a parking spot in limited parking lots at ski areas and snow-parks
  - Could avoid driving in snowy conditions
  - Avoid paying potential future or existing Sno-Park fees.

### Disadvantages

- Businesses may object to parking lot spaces being used for park and rides, especially during holiday and other peak business days/hours.
- Depending on the location of the park and ride, it could be difficult to turn into/out of during peak hours for both riders and transit vehicles. Specifically Park and rides on the south side of US 26 would be difficult for vehicles to turn onto westbound US 26 after getting dropped off. Park and rides on the north side of the highway may be better suited – they make a left turn across westbound traffic when there is little oncoming traffic, and then a right turn into the more congested lane when leaving. This is less of a concern for the Portland-area park and rides.
- Disadvantages for the traveling public is the increased time needed to park and wait for a transit vehicle or carpool/vanpool, the need to transfer gear and people from a personal vehicle to a transit vehicle, and the length of trip they have already made to get to the park and ride.
- The longer the trip in a private vehicle, the less likely travelers are to switch vehicles at a park and ride nearer to their destination as there is little benefit (time, gas consumption, etc) to changing vehicles.

## Potential Future Areas for Park and Rides

There is one potential site for a future park and ride along the US 26 corridor: the four acres east of Thriftway in Welches, on the south side of US 26. This land is privately owned, and the owner has expressed willingness to develop a park and ride on the property. Depending on design, 400-600 spots could be accommodated on 4 acres. This area is below the chain-up areas on US 26.

### Potential Recommendation

Explore developing a park and ride in Welches east of the Thriftway.

### Advantages

- A new park and ride could be designed and set up in a way that makes it easy to access and with the amenities important to riders.
- The area is below the first chain-up area on US 26, and could be advertised as a way to avoid using chains
- Could be serviced with a loop-type service with more frequent headways than existing private or public transit
- Welches is in the Mountain Express service area

**Disadvantages**

- Would require design and construction support and funding
- Would require on-going maintenance and operations including snow removal at times
- Park and rides closer to destinations are less likely to be effective, especially if travelers have already driven themselves a significant distance

Criteria Category	Description	Rating		Strategies			
				Expand Private Transit	Expand Public Transit	Existing Parking areas	Future Parking Areas
<b>Evaluation Criteria</b>							
<b>Increased transportation options</b>	Does the strategy provide additional transportation options or expand existing transportation options?	●	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	●	●	●	●
		◐	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)				
		○	Minimally or does not increase alternative options for transportation or expand existing transportation options				
<b>Leverages Existing Transit</b>	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	●	Greatly utilizes, expands, or integrates with existing transit	●	●	●	●
		◐	Moderately utilizes, expands, or integrates with existing transit				
		○	Minimally or does not utilize, expand, or integrate with existing transit				
<b>Leverages Existing or Creates New Transportation Demand Management (TDM) programs</b>	To what extent would the strategy leverage existing or create new TDM programs?	●	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	○	○	◐	◐
		◐	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program				
		○	Minimally or does not utilize, expand, or integrate existing programs				
<b>Improves Safety</b>	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	●	Addresses multiple known safety issue(s), and does not add new operational safety concerns	◐	◐	◐	◐
		◐	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues				
		○	Does not address known safety issue(s)				
<b>Considers Unique Needs of Seasonal Recreation Markets throughout the Year</b>	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	●	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	●	●	●	◐
		◐	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.				
		○	Does not provide a solution that considers seasonal changes in recreational user's needs				
<b>Considers Unique Needs of Employees</b>	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	●	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	○	●	●	◐
		◐	Provides a solution that somewhat considers the unique needs of employees.				
		○	Does not provide a solution that considers seasonal changes in employees user's needs				
<b>Considers Unique Needs of Residents</b>	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	●	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	○	○	○	○
		◐	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.				
		○	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.				

Criteria Category	Description	Rating	Strategies			
			Expand Private Transit	Expand Public Transit	Existing Parking areas	Future Parking Areas
<b>Evaluation Criteria</b>						
<b>Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors</b>	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	●	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode			
		◐	Provides a solution that somewhat shifts freight or traffic demand			
		○	Provides a solution that does not shift freight or through traffic demand			
<b>Increases Economic Opportunities for Commercial Enterprises</b>	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	●	Yields a substantial increase in multiple existing business and promotes new business			
		◐	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place			
		○	Yields minimal increase in existing business and promotes minimal new business			
<b>Provides Financial or Travel Time Incentives for Alternative Modes of Transportation</b>	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	●	Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system			
		◐	Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system			
		○	Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system			
<b>Provides Implementable and Financially Sustainable Solutions</b>	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	●	Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)			
		◐	Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program			
		○	Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program			
<b>Benefits from Support of Multiple Entities/Partnerships</b>	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	●	More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.			
		◐	Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified			
		○	The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it			
<b>Higher Magnitude of Benefits</b>	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	●	Benefits accrue to many users/markets or over a greater number of user days.			
		◐	Benefits accrue to fewer users/markets or over fewer number of user days			
		○	Benefits accrue to the least number of users/markets or over the least number of user days			

Criteria Category	Description	Rating		Strategies			
Evaluation Criteria				Expand Private Transit	Expand Public Transit	Existing Parking areas	Future Parking Areas
<b>Equity</b>	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	●	Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	○	●	◐	◐
		◐	Strategy partially distributes benefits and impacts among a wide range of populations and user groups				
		○	Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children				
<b>Capital Costs</b>	What is the order of magnitude capital cost for the strategy?	●	Capital costs are relatively low (\$100,000 or less)	◐	◐	●	◐
		◐	Capital costs are moderate (\$100,001 to \$1,000,000)				
		○	Capital costs are high (\$1,000,001 or more)				
<b>Operating Costs</b>	What is the order of magnitude operating cost for the strategy?	●	Operational costs are relatively low (\$100,000 or less)	◐	◐	●	●
		◐	Operational costs are moderate (\$100,001 to \$1,000,000)				
		○	Operational costs are high (\$1,000,001 or more)				
<b>Outcome Criterion: Affected Parties Support</b>	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able to be overcome in the near term?	Yes/No	If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria.	Yes - depends on details	Yes - depends on details	Yes	Yes
			If No, the strategy will no longer be considered.				

# Traveler and Carpool Information

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All of the traveler information assumes an online forum, limiting the information to travelers with internet access. Additional ideas could be text information, where users text a question or a desired piece of information and receive an answer via text (similar to TriMet's stop information system). There are equity concerns with a web or text-based information system.

## Drive Less. Connect.

Drive Less. Connect. ([www.drivelessconnect.com](http://www.drivelessconnect.com)) is a program run by Metro which allows users to register and log their trips, find carpool matches, and has the opportunity to offer rewards for carpooling. It is region-wide and available for all types of trips and times. Currently all ski areas include a link to Drive Less. Connect.

### Potential Recommendation

This concept would increase advertising and further encourage visitors to Mt Hood to use the website. Currently, Drive Less. Connect. does not have a link on the Forest Service website, though Timberline and Mt Hood Meadows have links on their web pages.

#### Advantages

- This is an existing statewide program, run and funded by Metro in the Portland area. No additional funding or staff support would be needed to increase usage in the Mt Hood National Forest
- Some users may already be familiar with the program for work or other trips
- Could have a promotion for a rocket box or gear box to ensure that more people can fit in a car with ski/snowboard or other gear to help increase vehicle occupancy to the mountain for recreational trips. Other promotions are also possible to help increase carpooling
- This program has the ability to share trips via Facebook to access friend networks

#### Disadvantages

- Requires users to log in and log their trips – some planning ahead is required by both the driver and the rider.
- Would need more promotion, as this program already exists and is not widely used to Mt Hood.
- Drivers are not compensated for using their car or driving, which may lower the number of drivers willing to carpool with this tool.

## Zimride

Zimride ([www.zimride.com](http://www.zimride.com)) is a private carpooling matching service that organizes rides and passengers pay the driver (via pay pal) for the ride. Rides are world-wide, but Zimride can and does work with ski areas to provide a specific "landing page", and helps provide carpool-specific benefits such as priority parking and raffles. Riders can link Zimride with Facebook, Twitter, and other social media accounts to share with their online social network.

### Potential Recommendation

Use Zimride to encourage carpooling to the Mt Hood Forest, provide ski area-specific "landing pages" on the website.

## Advantages

- This is an existing program used throughout the country, and has had some success in the Lake Tahoe area.
- The driver receives some money for gas and an incentive to continue to provide and share their vehicle with riders.
- Has an avid following in college communities (this is how the business started), and attracts younger, active individuals who are more likely to carpool due to transportation costs.
- Ski areas do not need to pay for Zimride to create a landing page – the agreement is based on promotional pushes by the ski areas on behalf of Zimride
- Zimride offers raffles and other prizes for using Zimride

## Disadvantages

- Currently no ski area on Mt Hood has a Zimride specific landing page, nor are ski areas allowed to provide preferential parking (an added amenity for “Zimriders” to Tahoe-area ski resorts).
- Ski areas would need to enter into an agreement with Zimride, which requires a number of email blasts, website posts, and other online promotions.
- This program would directly compete with Metro’s Drive Less. Connect. program
- This would require promotion by ski areas and a link on the ski area sites, as well as an agreement between ski areas and Zimride.

## Google Maps

Google Maps provides directions to areas throughout the globe. Recent additions to these directions include how to access destination using transit where it is available.

## Potential Recommendation

Integrate transit with Google maps, so when travelers Google directions and choose the “transit” button, it provides information on all of the transit to the mountain including schedules, transfers, and costs. SAM and CAT have this ability (but Mountain Express does not), and of the private providers, only Grease Bus has this function. This could be linked to Ski Area websites providing consistent transit information for all providers on the mountain.

## Advantages

- Provides a more direct way of determining how to get to mountain destinations by transit (either via public or private providers). This would be another tool to promote transit for visitors.
- Google maps could be used in conjunction with existing public and private service showing transfers, ticket prices, travel times, and when transit is scheduled to leave.
- Google maps is a widely used web tool and could be used on smartphones

## Disadvantages

- This would require potential users to have access to the internet and search directions to Mt Hood on Google using the transit option.

- Uncertain about the process and cost of linking private providers to Google Maps (Grease Bus used a private company to help navigate the process, fees and technical expertise could be needed to help make this happen).
- This option may require funding/monetary/staff support to private providers and Mountain Express to add themselves to Google Maps.

## Ski-Resort Sponsored Website

### Potential Recommendation

Create a ski-resort sponsored website to provide up-to-date information for all three ski resorts including road conditions, parking availability, transit and carpooling links, and other information. A one-stop shop website could simplify transportation and amenities for new travelers to Mt Hood and provide information to allow visitors to choose the best mode of transportation that suits their needs based on conditions.

### Advantages

- This would create an easily accessible, consolidated location for information.
- A consolidated site could also provide online ticket sales and local business advertising for economic development.
- Transportation Demand Management could be used on this site including promotions for off-peak travel to the ski areas, information on likely congested times/park-out dates, etc.

### Disadvantages

- Site would need to have up to the minute, accurate information to be useful.
- An entity (yet to be determined) would need to ensure upkeep and maintenance on the site.
- Competing businesses may not agree to share a consolidated site.
- A sponsored website would need a funding and upkeep agreement between the ski areas.

## Traveler Webpage

### Potential Recommendation

Create a one-stop webpage for traveler information, potentially hosted by the Forest Service, similar to the ski-resort sponsored website. Could link all transit providers, carpool resources, traveler information, etc in one place. Could provide route and travel time information (potentially also on VMS) about US 26 vs. OR 35, etc.

WSDOT example for Snoqualmie pass: <http://www.wsdot.com/Traffic/passes/snoqualmie/default.aspx>

### Advantages

- Similar to the ski-resort sponsored website, would create an easily accessible, consolidated location for information
- A Forest-service site could focus on information beyond ski conditions and include general travel information for visitors not going to the ski areas
- The site could also include general information about when the roadways and parking lots are expected to be at capacity, showing charts of peak traffic, etc. to inform visitors

- The site could start with static information (likely congested times, transit and carpool resources, and then transition into a more complex site with more up-to-date information
- A neutral hosting entity would remove the conflict of competing businesses

**Disadvantages**

- Site would be most effective if it had up to the minute, accurate information
- An entity (potentially the Forest Service) would need to ensure upkeep and maintenance on the site
- Funding and staffing would need to be determined to include upkeep on the site, may need support from other agencies (ODOT, TMA) to ensure that the site continues to be useful.
- Cell and data services are not uniform in the Forest – users may have a hard time accessing the website when already on the mountain.

Traveler and Carpool Information Evaluation

Criteria Category	Description	Rating			Strategies				
					Drive Less Connect	Zimride	Google Maps	Ski-resort Sponsored Website	Traveler Webpage
<b>Evaluation Criteria</b>									
<b>Increased transportation options</b>	Does the strategy provide additional transportation options or expand existing transportation options?	<input checked="" type="radio"/>	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		<input type="radio"/>	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)	<input type="radio"/>					
		<input type="radio"/>	Minimally or does not increase alternative options for transportation or expand existing transportation options	<input type="radio"/>					
<b>Leverages Existing Transit</b>	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	<input checked="" type="radio"/>	Greatly utilizes, expands, or integrates with existing transit	<input type="radio"/>					
		<input type="radio"/>	Moderately utilizes, expands, or integrates with existing transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		<input type="radio"/>	Minimally or does not utilize, expand, or integrate with existing transit	<input type="radio"/>					
<b>Leverages Existing or Creates New Transportation Demand Management (TDM) programs</b>	To what extent would the strategy leverage existing or create new TDM programs?	<input checked="" type="radio"/>	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
		<input type="radio"/>	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		<input type="radio"/>	Minimally or does not utilize, expand, or integrate existing programs	<input type="radio"/>					
<b>Improves Safety</b>	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	<input checked="" type="radio"/>	Addresses multiple known safety issue(s), and does not add new operational safety concerns	<input type="radio"/>					
		<input type="radio"/>	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		<input type="radio"/>	Does not address known safety issue(s)	<input type="radio"/>					
<b>Considers Unique Needs of Seasonal Recreation Markets throughout the Year</b>	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	<input checked="" type="radio"/>	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
		<input type="radio"/>	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.	<input type="radio"/>					
		<input type="radio"/>	Does not provide a solution that considers seasonal changes in recreational user's needs	<input type="radio"/>					
<b>Considers Unique Needs of Employees</b>	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	<input checked="" type="radio"/>	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		<input type="radio"/>	Provides a solution that somewhat considers the unique needs of employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		<input type="radio"/>	Does not provide a solution that considers seasonal changes in employees user's needs	<input type="radio"/>					
<b>Considers Unique Needs of Residents</b>	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	<input checked="" type="radio"/>	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	<input type="radio"/>					
		<input type="radio"/>	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		<input type="radio"/>	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.	<input type="radio"/>					
<b>Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors</b>	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	<input checked="" type="radio"/>	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode	<input type="radio"/>					
		<input type="radio"/>	Provides a solution that somewhat shifts freight or traffic demand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		<input type="radio"/>	Provides a solution that does not shift freight or through traffic demand	<input type="radio"/>					
<b>Increases Economic Opportunities for Commercial Enterprises</b>	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	<input checked="" type="radio"/>	Yields a substantial increase in multiple existing business and promotes new business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
		<input type="radio"/>	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place	<input type="radio"/>					
		<input type="radio"/>	Yields minimal increase in existing business and promotes minimal new business	<input type="radio"/>					

Traveler and Carpool Information Evaluation

Criteria Category	Description	Rating		Strategies				
				Drive Less Connect	Zimride	Google Maps	Ski-resort Sponsored Website	Traveler Webpage
<b>Evaluation Criteria</b>								
<b>Provides Financial or Travel Time Incentives for Alternative Modes of Transportation</b>	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	●	Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	☐	☐	○	○	○
		◐	Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system					
		○	Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system					
<b>Provides Implementable and Financially Sustainable Solutions</b>	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	●	Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)	●	●	●	◐	◐
		◐	Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program					
		○	Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program					
<b>Benefits from Support of Multiple Entities/Partnerships</b>	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	●	More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.	●	●	●	●	●
		◐	Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified					
		○	The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it					
<b>Higher Magnitude of Benefits</b>	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	●	Benefits accrue to many users/markets or over a greater number of user days.	◐	◐	◐	◐	●
		◐	Benefits accrue to fewer users/markets or over fewer number of user days					
		○	Benefits accrue to the least number of users/markets or over the least number of user days					
<b>Equity</b>	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	●	Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	◐	◐	◐	◐	●
		◐	Strategy partially distributes benefits and impacts among a wide range of populations and user groups					
		○	Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children					
<b>Capital Costs</b>	What is the order of magnitude capital cost for the strategy?	●	Capital costs are relatively low (\$100,000 or less)	●	●	●	●	●
		◐	Capital costs are moderate (\$100,001 to \$1,000,000)					
		○	Capital costs are high (\$1,000,001 or more)					
<b>Operating Costs</b>	What is the order of magnitude operating cost for the strategy?	●	Operational costs are relatively low (\$100,000 or less)	●	●	●	●	●
		◐	Operational costs are moderate (\$100,001 to \$1,000,000)					
		○	Operational costs are high (\$1,000,001 or more)					
<b>Outcome Criterion: Affected Parties Support</b>	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able to be overcome in the near term?	Yes/No	If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria.					
			If No, the strategy will no longer be considered.	Yes	Yes	Yes	Yes	Yes

# Transportation System Management (TSM) and Intelligent Transportation Systems (ITS)

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## Incident Communication and ODOT Dispatch

Crashes on US 26 and OR 35 can cause periods of congestion or exacerbate already congested conditions. Crashes are also a safety hazard because vehicles may block part of or the entire width of the roadway and other drivers do not expect the roadway to be blocked, potentially resulting in additional crashes. ODOT Maintenance comes to crash scenes as a secondary responder, after the local fire department and Emergency Medical Services have responded. ODOT Maintenance's role is to secure the scene, set up traffic control to safely divert traffic, and clear the travel lanes.

Most incidents are reported to 911, which then notifies the local fire department. Hoodland Fire Department covers US 26, and Parkdale Fire Department covers OR 35. Fire departments then determine if ODOT Maintenance is needed and contact ODOT Region 1 dispatch. ODOT Region 1 dispatch will then notify ODOT Maintenance in the Mt. Hood area. During off-hours, ODOT maintenance personnel carry a pager to respond to calls. Sometimes, there is an hour delay between the time an incident is reported and the time ODOT Maintenance is notified. During off-hours, this time lag can be longer.

### Potential Recommendation

Evaluate the potential of Computer-Aided Dispatch (CAD) Software to field 911 calls. CAD incident dispatch software could be integrated with 911, record information about incidents and units, and dispatch an incident to one or more field units, which essentially assigns the units to the incident. Most CAD software will provide a recommendation of which units should respond, based on pre-determined tables or a unit's actual location. Based on pre-determined tables, CAD also takes into account the type of incident (high danger, low danger), and type of unit (patrol, supervisor, canine, etc.) when making the recommendation. An FHWA forest service grant could help pay for CAD software. The software could also be linked to Variable Message Signs (VMS) that would alert drivers to an "accident ahead."

### Advantages

ODOT Maintenance could be dispatched sooner and potentially more effectively if CAD software is sophisticated enough to determine whether or not ODOT maintenance is needed. Faster response times could speed the amount of delay and reduce potential congestion associated with incidents on US 26 and OR 35.

### Disadvantages

Many calls into 911 do not need the assistance of ODOT Maintenance. An automated system could overwhelm ODOT maintenance with high volumes of unnecessary calls, and calls which require their assistance could be temporarily lost in the calls not requiring assistance.

## Incident Response Vehicle Enhancements

ODOT Maintenance responds using pick-up trucks that have a hitch on them. They contact a tow company if the roadway needs to be cleared of vehicles or in some cases they are able to clear the roadway with a hitch. Vehicles have amber lights and no siren.

## **Potential Recommendation**

Equip vehicles with towing capabilities and/or a push bumper so they may clear a greater number of vehicles blocking the road. Tow companies would still need to be called to remove vehicles from the mountain. Equip vehicles with a red flashing lights and a siren similar to other emergency response vehicles so they could more safely take the other lane if needed.

### **Advantages**

In some cases, travel lanes would be cleared more immediately, which would reduce safety hazards caused by vehicles blocking the road and congestion. Red flashing lights and a siren would enable ODOT maintenance to reach a response site more quickly.

### **Disadvantages**

Tow companies have insurance to cover the liability of towing vehicles. ODOT would have to either purchase liability insurance or self insure. ODOT Maintenance's ability to assess multiple crash scenes may be affected if they are involved in towing vehicles.

## **Install More Traffic Cameras**

ODOT has installed cameras at accident prone locations, which helps Dispatch and Maintenance assess situations remotely. ODOT Maintenance is better able to respond appropriately and clear crashes more quickly.

## **Potential Recommendation**

Install more cameras at accident prone sites.

### **Advantages**

In some cases, travel lanes would be cleared more immediately, which would reduce safety hazards caused by vehicles blocking the road and congestion. Camera instillation has been done and the process is known.

### **Disadvantages**

Capital and maintenance costs are involved.

## **Chain Up Areas**

ODOT Maintenance is aware that some chain-up areas can be a safety hazard, largely due to drivers who do not know how to properly use the chain up area. For example, at the chain up area on US 26 between mile point 47.5 and 48.5 when drivers see a sign that chains are required, they sometimes will stop in the travel lane and chain up or when they drive to the chain up area, they stop at the back end and subsequent drivers assume no room is up ahead, causing vehicles to bottleneck the last 200 feet of the chain up area.

## **Potential Recommendation**

Recommend brochures, web-links, variable message signs and signage that educate drivers about the use of chain up areas. In the chain up areas, post signs that say "move to front of chain up area," to help relieve bottlenecks at the back-end of chain up areas. Within the driver's education manual publication, have a section related to winter driving conditions that includes a section on how to chain-up tires and use chain-up areas.

### **Advantages**

Better usage of chain up areas can reduce downstream safety hazards from vehicles stopping in travel lanes and creating dangerous conditions.

### **Disadvantages**

Signage within the chain up areas may not be seen by drivers when visibility is limited due to snowy conditions.

## **Variable Message Signs**

Variable message signs that alert drivers about weather conditions, accidents ahead, and appropriate speeds have been helpful to ODOT Maintenance throughout the state. In addition to the traditional information displays, variable message signs could also inform drivers of parking conditions, as a secondary priority to safety. More of these signs along US 26 and OR 35 would be helpful.

### **Potential Recommendation**

Install more variable message signs, possibly in two sets. One set would be focused on safety conditions, such as alerting drivers of accidents or weather conditions. A second set would be focused on parking information, reporting for instance if parking is full and the location of additional parking.

### **Advantages**

Drivers would be more aware of location specific travel conditions. Drivers would not need to circulate as much to find parking.

### **Disadvantages**

Variable message signs are costly and the placement of them would need to be managed. The signs would need to be placed so as not to create visual clutter and additional distractions for drivers.

Transportation System Management and Intelligent Transportation Systems

Criteria Category	Description	Rating	Strategies					
Evaluation Criteria			Incident Communication and ODOT Dispatch	Incident Response Vehicle Enhancements	Install more cameras	Chain up areas	VMS	
Increased transportation options	Does the strategy provide additional transportation options or expand existing transportation options?	●	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	○	○	○	○	○
		◐	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)					
		○	Minimally or does not increase alternative options for transportation or expand existing transportation options					
Leverages Existing Transit	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	●	Greatly utilizes, expands, or integrates with existing transit	○	○	○	○	○
		◐	Moderately utilizes, expands, or integrates with existing transit					
		○	Minimally or does not utilize, expand, or integrate with existing transit					
Leverages Existing or Creates New Transportation Demand Management (TDM) programs	To what extent would the strategy leverage existing or create new TDM programs?	●	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	○	○	○	○	○
		◐	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program					
		○	Minimally or does not utilize, expand, or integrate existing programs					
Improves Safety	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	●	Addresses multiple known safety issue(s), and does not add new operational safety concerns	●	●	●	●	●
		◐	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues					
		○	Does not address known safety issue(s)					
Considers Unique Needs of Seasonal Recreation Markets throughout the Year	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	●	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	●	●	●	●	●
		◐	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.					
		○	Does not provide a solution that considers seasonal changes in recreational user's needs					
Considers Unique Needs of Employees	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	●	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	○	○	○	○	◐
		◐	Provides a solution that somewhat considers the unique needs of employees.					
		○	Does not provide a solution that considers seasonal changes in employees user's needs					
Considers Unique Needs of Residents	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	●	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	◐	◐	◐	◐	◐
		◐	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.					
		○	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.					
Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	●	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode	○	○	○	○	◐
		◐	Provides a solution that somewhat shifts freight or traffic demand					
		○	Provides a solution that does not shift freight or through traffic demand					
Increases Economic Opportunities for Commercial Enterprises	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	●	Yields a substantial increase in multiple existing business and promotes new business	○	○	○	○	○
		◐	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place					
		○	Yields minimal increase in existing business and promotes minimal new business					

Transportation System Management and Intelligent Transportation Systems

Criteria Category	Description	Rating	Strategies					
Evaluation Criteria			Incident Communication and ODOT Dispatch	Incident Response Vehicle Enhancements	Install more cameras	Chain up areas	VMS	
<b>Provides Financial or Travel Time Incentives for Alternative Modes of Transportation</b>	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	● Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	○	○	○	○	●	
		◐ Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system						
		○ Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system						
<b>Provides Implementable and Financially Sustainable Solutions</b>	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	● Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)	◐	◐	●	●	●	
		◐ Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program						
		○ Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program						
<b>Benefits from Support of Multiple Entities/Partnerships</b>	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	● More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.	?	?	●	●	●	
		◐ Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified						
		○ The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it						
<b>Higher Magnitude of Benefits</b>	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	● Benefits accrue to many users/markets or over a greater number of user days.	●	●	●	●	●	
		◐ Benefits accrue to fewer users/markets or over fewer number of user days						
		○ Benefits accrue to the least number of users/markets or over the least number of user days						
<b>Equity</b>	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	● Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	●	●	●	●	●	
		◐ Strategy partially distributes benefits and impacts among a wide range of populations and user groups						
		○ Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children						
<b>Capital Costs</b>	What is the order of magnitude capital cost for the strategy?	● Capital costs are relatively low (\$100,000 or less)	◐	◐	●	◐	●	
		◐ Capital costs are moderate (\$100,001 to \$1,000,000)						
		○ Capital costs are high (\$1,000,001 or more)						
<b>Operating Costs</b>	What is the order of magnitude operating cost for the strategy?	● Operational costs are relatively low (\$100,000 or less)	◐	◐	◐	◐	◐	
		◐ Operational costs are moderate (\$100,001 to \$1,000,000)						
		○ Operational costs are high (\$1,000,001 or more)						
<b>Outcome Criterion: Affected Parties Support</b>	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy?	Yes/No	If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria. If No, the strategy will no longer be considered.	? - need to check with ODOT	? - need to check with ODOT	Yes	Yes	Yes

## Partners Group Meeting #3 Summary

**ATTENDEES:** Rithy Bein, Mt Hood National Forest  
Karen Buehrig, Clackamas County  
Teresa Christopherson, Clackamas County Social Services  
George Fekaris, FHWA  
Jae Heidenreich, Clackamas County Tourism  
Woody Hoyer, Mt Hood Meadows  
Les Johnson, Luxury Accommodations (Fusion Bus)  
Sonya Kazen, ODOT  
Sumi Malik, CH2M Hill

Susan Law, FHWA  
Chris Mulcahy, Grease Bus  
Julie Stephens, City of Sandy Transit  
Tom Torres, Mt Hood National Forest  
Jon Tullis, Timberline  
Scott Turnoy, Mid-Columbia Economic Development District  
Caleb Winter, Metro  
Hans Wipper, Collins Lake Resort/Skibowl

**COPY TO:**

**PREPARED BY:** Terra Lingley, CH2M Hill

**DATE:** September 21, 2012

**PROJECT NUMBER:**

The third Partners Group meeting of the Mt Hood Alternative Transit Opportunities and Transportation Demand Management within the Mt Hood National Forest was held on June 26<sup>th</sup>, from 1:30 – 3:30 p.m. at the Mt. Hood National Forest Offices in Sandy. The purpose of the meeting was to review the draft strategies that could be included into the pilot program.

### Welcome

Sumi Malik welcomed the group, and reviewed the agenda. She reminded the group of what was accomplished at the last meeting, and what the project team has done since the meeting to start creating the strategies that will make up the pilot Program

### Updated Evaluation Framework

Sumi talked through the major changes to the evaluation framework based on comments received at the last Partners Group Meeting. These changes include:

- Included language for near-term transit strategies, and providing access to TDM programs
- Included language about resident quality of life and sensitivity to travel pricing
- Added a criterion that measures that ability of a strategy to reduce freight and through traffic on US 26 and OR 35
- Included language to consider negative impacts to economic and commercial enterprises
- Added travel time to incentives to take alternate forms of transportation
- Added a criterion for Higher Magnitude of benefits – how are the benefits distributed across time, different markets, and number of user days
- Added an equity criterion to consider the distribution of benefits and impacts over different population groups
- Added a timeframe to capital and operating costs

- Changed the Threshold Criterion into an Outcome Criterion, but kept the theme of the affected/implementing parties generally supporting the strategy.

## Review Strategies

The team presented strategies in four topic areas: Transportation System Management (TSM) and Intelligent Transportation Systems (ITS), Parking policies, Transit and Park and Rides, and Transportation Demand Management (TDM). Each topic area was introduced by either Sumi or Terra, and then the group asked clarifying questions or held discussion on the potential strategies.

### Transportation System Management/Intelligent Transportation Solutions

Sumi walked through the projects, and the group discussed.

Woody mentioned that there are no dedicated police officers, county officers, or state patrol staff dedicated to US 26 or OR 35 corridors, so it takes longer to get those responders to any incidents on those corridors. The suggestion was to add OR State Patrol on Saturdays and Sundays in the winter when they are likely to be in more demand.

Members of the group suggested staffing the chain-up areas to direct traffic to move up and use the areas more efficiently, or have a person offering chain-up services for a small fee to streamline the process. One member suggested that a system similar to the Tahoe area, where motorists are stopped and checked for chains.

For Variable Message Signs (VMS), the group discussed the possibility of combining all of the appropriate information on one sign. Sonya talked about the limited amount of space and message length restrictions that ODOT currently has. Another suggestion was for the Forest Service to own a second set of signs that operate only during the congested seasons (similar to the Grand Canyon National Forest), that provide parking status information.

### Parking Policies

Sumi presented the parking policy strategy, and the discussion was about the implications if the ski areas pulled out of the Sno-Park system, or the regulatory hurdles associated with instituting an additional fee on top of the Sno-Park program. The existing Sno-Park system provides for snow removal and enforcement. The concern with adding a fee or changing the program is that it would make it hard for areas around the state to function, especially if the ski areas were to remove themselves from the program.

One suggestion was to increase the fees on peak days, but having the Sno-Park pass for non-peak. Another suggestion was to have the ski areas have an additional pass where proceeds could go to transit service. Additional suggestions included getting a discount (to be determined) with a transit ticket.

### Transit and Park and Rides

Terra then presented the Transit and Park and Ride strategies, focusing on the need to find sustainable funding for both public and private transit to be able to expand services. Jon Tullis asked why Mountain Express didn't extend up to Government Camp. Teresa informed the group about the original charter of the service, the funding constraints, and needed support to make a future expansion possible. SAM is not interested in expanding to the mountain due to the potential costs associated with special weather-able vehicles. CAT had service in the past, and had enforcement and issues with rowdy passengers. These issues would need to be addressed before CAT extends service to the mountain again. A number of people suggested that the ski areas and other recreational businesses could support transit with Public Private Partnerships, funding, and advertising.

### Traveler and Carpool Information

Terra talked about the various carpool and information options. Caleb mentioned that the Drive Less Connect site had a commute calculator so users could calculate how much money they were saving by carpooling. The group talked about the gaps in cell phone service on the mountain, and how real-time information would be more effective if those gaps were closed. There are two sections – Rhododendron to the Runaway Truck Ramp near Mirror Lake, and the east side of the mountain, near the HRM parking lot at Mt Hood Meadows.

## Small Group Discussions

The meeting then broke into small group discussions where those interested in one of the four topics talked through the presented strategies, added any of their own suggestions, and talked through the preliminary evaluation scoring. Sumi and Terra requested any changes or edits to the materials to be sent by July 13<sup>th</sup> to be incorporated. Materials were emailed to the entire group on June 27<sup>th</sup>. Meeting notes from each group are included below:

### Transit and Park and Rides

- Expand Mountain Express
- Look at partnerships with ski areas (funding support)
- CAT has taxing district (for the local match)
- Create a taxing district (payroll tax) to fund transit
- Coordinate public and private transit
- Expand Grease Bus into summer
- Look at the Discovery Pass model (in Washington)
- Open source web information – park and rides, transit routes could all be on there
- “Snow district” – ski areas and associated businesses to help fund transit
- Build on partial service – already have buses structure and routes
- Need: Park and rides, sustainable funding sources, leverage Forest Service funds (especially to buy vehicles), and public-private partnerships
- Coordinate service between counties – Hood river and Clackamas County
- Need an ACT in the next year or two to determine which transportation projects will be funded
- Leverage federal funding to help purchase vehicles (EPA, transit in the parks)
- Break down barriers to public transit funding for private partners
- PARTNERSHIPS!
- Maintain the viability of Mountain Express – look to expand – needs a sustainable funding source(s)

### Parking Policies

- SnoPass Program – needs to be self-sustainable
- Plowing is the first priority
- Incentives – bundling discount on lift ticket with transit tickets

### TDM

- Open source applications
- Drive Less Connect
  - Award “ski lift ticket” based on destination
  - Have employees sign up
- Zimride
  - Money incentive
  - Security is an issue

- Reliability?
- Competition increases carpooling overall
- Could cater to different markets
- Could be the private carpooling match
- Ski Resort website
  - Compare existing sites
  - All other information can be found already except for parking availability
- Conclusions
  - Traveler information website scores the best
  - Less control over Drive Less.Connect and Zimride – ski area website should score higher than these options
  - Research tourism/byways for a blend of private/public information

## **Next Steps**

The project team will be pulling together the draft Pilot Program based on the input received from the Partners Group. Materials will be sent out in advance of the next Partner's Group meeting to allow members to read through the materials and come prepared to discuss. Sumi and Terra thanked the group for their participation, and the meeting adjourned at 3:30 pm.



**ALTERNATIVE TRANSIT OPPORTUNITIES AND  
TRANSPORTATION DEMAND MANAGEMENT WITHIN THE MT.  
HOOD NATIONAL FOREST**

**Partner's Group Meeting #4**

Wednesday, August 8, 2012  
1:00 p.m. – 4:00 p.m.

Mt. Hood National Forest  
(16400 Champion Way) Sandy, OR

**Agenda**

**Purpose:** To review and provide feedback on draft pilot program recommendations and identify implementing next steps.

TIME	AGENDA TOPIC AND GOAL
1:00 – 1:10	<b>Welcome/Agenda Review</b>
1:10 – 2:45	<p><b>Review Draft Pilot Program and Updated Strategies Documents</b></p> <ul style="list-style-type: none"> <li>• <b>Parking policies</b></li> <li>• <b>Transportation System Management, Intelligent Transportation Solutions</b></li> <li>• <b>Transit and Park and Rides</b></li> <li>• <b>Transportation Demand Management</b></li> <li>• <b>Transportation Management Association</b></li> </ul> <p><u>Key Questions:</u></p> <ol style="list-style-type: none"> <li>1. Can we make any of these recommendations more specific?</li> <li>2. Which are those that are not able to be implemented in 1-5 years?</li> <li>3. What resources, partnerships, and organizational support is needed to implement these recommendations?</li> <li>4. Who is willing to commit to being a champion to help implement this recommendation? Who is a supporter?</li> </ol>
2:45 – 3:00	<b>Break</b>

<b>3:00 – 3:30</b>	<b>Focus on Funding</b> Sherrin Coleman, ODOT Public Transit – State of funding through Federal Transit Authority  George Fekaris, Federal Highway Administration (FHWA)—State of funding through FHWA <u>Key Questions:</u> <ol style="list-style-type: none"><li>1. Are there other funding sources?</li><li>2. What funding sources should we seek?</li></ol>
<b>3:30-4:00</b>	<b>Meeting Wrap-up and Next Steps</b> <ul style="list-style-type: none"><li>• <b>Draft pilot program and reports for Partners Group review and other next steps</b></li><li>• <b>Upcoming Mt. Hood Multimodal project</b></li><li>• <b>Adjourn</b></li></ul>

# Mt. Hood National Forest – Alternative Transit Opportunities and Travel Demand Management

## Parking Policies

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Between November 1<sup>st</sup> and April 30<sup>th</sup>, valid Sno-Park permits are required to park in designated winter recreation areas, including at the ski resorts. There are a number of Sno-Park areas adjacent to Mt Hood Recreational areas (including the parking lots of all three major ski areas), and the Sno-Park program helps maintain and plow parking at these areas. Users purchase a transferrable parking permit and are required to display the permit when parked at any areas with signs identifying them as Winter Recreation Areas statewide. Permit holders can park in any recreation area where a permit is required. Permits can be purchased at DMV offices and permit agents in resorts, sporting goods stores, and other retail outlets, which are allowed to charge an additional service fee for each permit they sell. The cost of the annual permit provides a discount to frequent Sno-Park users over the three day and daily permits. Funds from the Sno-Park program provide for snow removal and parking enforcement. In recent years enforcement has been increased due to the high number of visitors who fail to purchase a permit. The table below includes Sno-Park Fees including the fine for parking without a permit.

TABLE 1  
Sno-Park Fees and Fines

Type of permit	Fee <sup>1</sup>
Annual	\$20
3-day (Consecutive)	\$7
Daily	\$3
Fine for Parking without a permit	\$30

<sup>1</sup> [Agents](#) (resorts, sporting goods stores, and other retail outlets ) are allowed to charge an additional service fee for each permit they sell.

Source: [http://www.oregon.gov/ODOT/DMV/vehicle/sno\\_park\\_permits.shtml](http://www.oregon.gov/ODOT/DMV/vehicle/sno_park_permits.shtml)

### Potential Recommendation

Explore the potential for a Mt. Hood surcharge for Sno-Park permits, with the surcharge to be used to fund increased transit and TDM measures. The surcharge could be purchased as an add-on sticker to the annual, 3-day or daily Sno-Park permits for use within the Zig Zag and Hood River Ranger Districts (the areas with the highest winter recreation use and parking demand, and that experience highway congestion and high crash rates). Work with both ODOT and Mt. Hood National Forest to fully understand the regulatory environment.

A key question is how the revenue would be used. Those who pay the fee will want to know what benefit the fee provides. Revenues could be used to subsidize transit and traveler information and other pilot program strategies. Economic analysis would need to be conducted to better determine revenue potential.

Some questions would need to be resolved before an additional fee is implemented, and these include:

- How high would the additional cost to park need to be to begin to shift some travelers to carpools and transit?
- What is the risk of some travelers simply not taking the trip because parking prices are high or if they think carpooling and transit is an inconvenient alternative?

The goal is not to reduce the number of people who take a trip to the mountain; the goal is to encourage higher vehicle occupancy and expanded transit usage for winter recreation trips.

In addition to a surcharge on the Sno-Park program, explore opportunities to provide preferential parking, parking that is closer to lifts, for carpools of 3 or 4 or more passengers.

Alternatives could include creating a special district for winter recreation areas, or using different pricing based on peak or non-peak times. Also, creating a special taxing district (potentially in conjunction with creating an Area Commission on Transportation [ACT] could help define where these limits are).

### **Advantages**

If a visitor takes transit to a ski resort, they would avoid the additional parking fee; creating a modest incentive for transit usage (the visitor would still have the cost of travel time and the transit fare). Revenues from the additional parking fee could be used to pay for snow removal and to subsidize transit service to the mountain. If a carpool (3 or 4 + passengers) goes to a ski resort, they could have preferential parking closer to the lodge or lifts, or a reduced parking fee.

### **Disadvantages**

The regulatory environment is complex, and more research needs to be done to understand what is possible. The Sno-Park Program is a State program administered by ODOT. In this case, likely through an intergovernmental agreement, the Forest Service cannot charge an additional fee above the State's Sno-Park fee. Any agreement, the terms of the agreement, and the regulations that apply to parking must be researched. Revenues may also be required to be spent on-site, and may possibly not be allowed to be spent on transit.

Average vehicle occupancy rates are already high, around 2.4-2.6 persons per vehicle. This potential policy may reward existing carpools instead of being an incentive for visitors to change their travel behavior. Preferential parking, such as closer spots for carpools, is currently not allowed. Research must be done to understand this regulation better. Some logistic questions would need to be resolved:

- Would a separate queue need to be developed for carpool parking?
- How would a carpool of 3 or 4 or more be determined in whiteout conditions?
- Would the ski areas be amenable to potential additional staffing required to manage the carpool determination?

# Mt. Hood National Forest – Alternative Transit Opportunities and Travel Demand Management

## Expand Transit and Park and Rides

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### Expand Private Transit Services

Private transit service already exists on Mt Hood, and there are a number of providers including:

- Fusion Shuttle (Luxury Accommodation) - weekends and holidays only, end of November to end of February, Sandy to SkiBowl and Timberline
- Grease Bus - 6 days a week (Tuesday through Sunday), Portland to Mt Hood Meadows
- Sea to Summit – dependent upon ridership, year round, Downtown Portland to all three ski areas. Also provides trips to summer destinations.
- Ski package shuttles run by Mt Hood Meadows – every day during the ski season, Portland to Mt Hood Meadows
- Shuttle run by Mt Hood Meadows – December through February, weekends and holidays only, Collins Lake Resort to Mt Hood Meadows
- Other charter services (Aspen Limo Tours, Hood River B.R.T., Blue Star Airporter, Raz Transportation, Martin’s Tours, Shuttles & Charters, Eco Shuttle) – year round, Portland to Mt Hood, based on demand

Currently private transit services operate mainly during the ski season, and some providers only operate on the weekends and holidays, when demand is highest to the ski areas. Some providers operate year round.

### Potential Recommendation

Expand private transit services to provide more transit options.

Gaps in existing private service include:

- Lack of trips between Hood River and the ski areas
- A season-long circulator bus “on the mountain” between Government Camp and all three major ski areas
- Regular summer private transit (outside charters), particularly to popular destinations such as Timberline Lodge. The service could be a guided tour.

Expanding private transit services would require:

- Funding support to expand existing services.
- Consider advertising and marketing through local businesses to help support transit service, and as a way of attracting riders could include complimentary food and beverage through local providers in exchange for marketing.
- Coordination and cooperation between the various private service providers could help simplify and provide full transit service coverage to the Mountain.

- Additional vehicles with winter driving condition capabilities (4 wheel drive, studded tires, chains, etc)
- Potentially more park and ride areas for users in Portland or along US 26 or OR 35

Look into ways to break down barriers to public transit funds for private parties. Leverage Federal funding to help purchase vehicles (EPA, transit in the parks funds).

## Advantages

- This idea would continue existing service, and increase access to transit.
- Providers already have infrastructure (websites and mailing lists) for customer outreach.
- Providers already have some vehicles, gear, and trained drivers for driving conditions on the mountain.
- Private transit providers are flexible and can adapt to demand, for example, only making the trip if there are riders for the trip, creating a cost-effective model for transit service.
- Done right, transit stops could support local businesses, potentially creating economic development in the study area. Could partner with recreation and other local businesses for sponsorship (similar to the Grease Bus model).

## Disadvantages

- Private providers are not as accountable to public, and could therefore stop service at any time.
- Providers need to cover all costs either through fare collection or sponsorships.
- All providers would need monetary support (grants or partnerships) to expand existing services and buy additional vehicles to meet demand.
- Private providers do not have infrastructure such as stops (shelters, signs) or vehicle depots in the study area.

## Expand Public Transit Services

There are three public service providers in the study area:

- Mountain Express (Sandy to Rhododendron), supported through Clackamas County. Deviated fixed route. \$2 per trip. Expanding Mountain Express makes the most sense – as the County is interested in expanding to Government Camp along US 26.
- Sandy Area Metro (SAM), local loop routes in Sandy, connecting to Gresham and Estacada. Free for riders. SAM is not interested in expanding service to Government Camp
- Columbia Area Transit (CAT) run by Hood River County Transportation District. Hood River to The Dalles loop, The Dalles to Clackamas Town Center in Portland, Hood River to White Salmon/Bingen, dial-a-ride service. Depending on the route, \$1.50-\$8 per trip. CAT may be interested in expanding service along OR 35, but would need to overcome obstacles and concerns from the last time they provided service from Hood River.

## Potential Recommendation

Expand public transit to provide more transit options.

Current public transit gaps include:

- No service between Rhododendron and Government Camp
- No service between Hood River and Government Camp
- No service to any of the ski areas, snow play areas or summer recreation areas
- Limited hours and routes
- Uncertain funding futures for existing operations, little funding available to expand existing operations
- No coordinated, comprehensive transit network between providers (SAM and Mountain Express coordinate to some extent for connecting in Sandy)
- Loop or service to trailheads popular in the summer
- No “one-seat” public transit ride from Portland to destinations in the forest

Expanding public transit would require:

- Stable and sustainable funding source (taxing district, subsidies/sponsorships from businesses, etc) – potential opportunity for Public Private Partnerships, especially for operations and maintenance costs.
- Potentially increasing fares to support expanded service
- Funds for capital investments (stops, buses, etc). Explore Federal funding sources to buy buses or bus stops through the Access Program.
- Address rowdy passengers and attract a range of riders besides underage users to create a more pleasant experience for all riders (previous CAT experience to Mt Hood Meadows)
- Park and ride areas for riders
- Coordination of transit service between Counties (Hood River and Clackamas).

### Advantages

- Public transit providers adhere to a schedule or route independent of demand. This creates a dependable and reliable service model
- Existing service already has infrastructure in place: buses, routes, websites, stops, etc.
- Public transit is eligible to receive Federal Transit Authority (FTA) grants and other federal funds that private providers are not.
- Public transit fares are much less expensive than the private transit provider ride fees.

### Disadvantages

- There is funding insecurity for long-term operations – Mountain Express relies on BETC funding, which is sunsetting in 2015.
- Would need funding support to continue and expand operations.
- SAM does not have any current plans to expand to Mt Hood, and it is possible that there is not a lot of interest to expand.
- To provide longer trips or trips up the mountain, public transit agencies may need to raise ticket prices (or charge a fee).

- Expanding service to the mountain could potentially limit the ability of public transit providers to serve rural, low-income, elderly, and transit dependant populations due to demand for transit to the ski and recreation areas.
- CAT provided transit service to the mountain in the past, and had problems with unruly passengers. These issues would need to be addressed before CAT expanded service once again.

## Existing Parking Areas for Park and Rides

Existing Parking includes lots that would not require environmental analysis to build and start using as they are already paved, and in most cases plowed (if necessary). These park and ride locations could be used immediately, and some of these lots are already being used as park and rides (the Bi-Mart lot in Sandy is a Fusion Shuttle pick-up location). Additionally, some of the private providers (Sea to Summit, Fusion Bus, and the Mt Hood Meadows charter buses) already use park and rides in Portland and Sandy to pick up riders.

### Potential Recommendation

Expand use, advertising and locations for park and ride lots both in Portland and along the US 26 or OR 35 corridors using some existing parking lots described in Tables 1 and 2.

Potential park and ride locations are broken into two different areas: ones on the US 26 or OR 35 corridor, and park and ride locations in the Portland Metro area. Park and rides could be utilized by both ridesharing/ carpooling travelers or by travelers switching from a private vehicle to a transit vehicle. Most literature suggests that users who carpool and meet at park and rides are more likely to do so when the trip is longer, so recommending park and rides in Portland for carpool/vanpools may be more effective than park and rides in Sandy or closer to the mountain.

Any park and ride would need to be coordinated with the landowner (either TriMet or private), and could require additional user agreements in order to be advertised as park and rides for mountain recreational users. Table 1 shows the location, approximate number of spaces and amenities associated with each of the potential park and ride locations along the US 26 and OR 35 corridors.

TABLE 1  
Park and Ride Location Information on US 26 and OR 35 Corridors

Location	Number of spots	Ease of Access (Afternoon Peak hour)	Nearby Commercial	Facilities nearby?	Below snow line?
<b>Public Schools</b>					
Sandy High School, behind Safeway near Bluff Road north of US 26.	~200	Would require users to make a right turn into westbound traffic on US 26 (relatively easy) to leave the lot	None	No	Yes
Firwood Elementary School, east of Sandy, south of US 26	~120	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	None	No	Yes
Welches Elementary School, off of Woodsey Way or Salmon River Road, south of US 26	~50	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	One – Barlow Trail Roadhouse	No	Not most years
<b>Churches and other organizations</b>					
Sandy Assembly of God Church, East of Sandy just east of where the US 26 couplet comes together, south of US 26	~120	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot, also near US 26 couplet merge east of Sandy	Downtown Sandy	Yes	Yes
Kiwanis Camp, just west of the Mirror Lake Curves on Kiwanis Camp Road/NF 2639, north of US 26	~50	Would require users to make a right turn into westbound traffic on US 26 (relatively easy) to leave the lot	None	Some at the camp	No
Clackamas County Information Center, off of Camino Rio Road between Brightwood and Welches, south of US 26	~100	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	None	Mt Hood Village Resort	Not most years
Sandy Transit Operations Facility Park and Ride (16610 Champion Way)	30	Intersection of Champion Way and US 26 is signalized. (Relatively easy)	Yes	Yes	Yes
Mt Hood Town Hall	~50	Near OR 35 and Cooper Spur Road (Hwy 281) Relatively easy to access – right turn from the lot onto OR 35 northbound.	No	Yes	Yes
<b>Near existing Services (Commercial Parking lots)</b>					
Safeway Parking Lot in Sandy, north of US 26	~300	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes
Bi-Mart Parking Lot in Sandy, north of US 26. (Already used by Fusion Shuttle)	~300	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes

TABLE 1  
**Park and Ride Location Information on US 26 and OR 35 Corridors**

Location	Number of spots	Ease of Access (Afternoon Peak hour)	Nearby Commercial	Facilities nearby?	Below snow line?
Fred Meyer and other strip commercial development in Sandy, south of US 26	~700	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes
Thriftway in Welches, south of US 26	~50	Intersection is signalized- easy access	Yes – strip mall development	Yes	Not most years
Zig Zag Ranger Station, east of Salmon River Road, Zig Zag. South of US 26	~40	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	One – Zig Zag Inn	No	Not most years
Wal-Mart Parking Lot in Hood River, (CAT has a bus stop already). North of OR 30.	~500	Would require users to make a right turn into westbound traffic on OR 30 (relatively easy) to leave the lot	One – Wal-Mart	Yes	Yes
Safeway Parking Lot in Hood River, south of OR 30	~400	Would require users to make a left turn into westbound traffic on OR 30 (potentially difficult) to leave the lot	Yes – strip mall development	Yes	Yes

Table 2 shows existing park and ride locations in the Portland Metro area owned by TriMet, and the approximate travel time between the lot and Government Camp. Additional park and ride locations in the Portland Metro area may also be appropriate, for example, sporting goods stores (such as REI, already in use by Sea to Summit). These locations are not indicated in this table due to the large number of applicable parking lots in Portland. Such locations exist throughout the metro region and would be most effective when paired with private or public transit and implemented as a cohesive strategy.

TABLE 2  
Park and Rides in the Portland Metro Area

Location	Number of spots	Travel time* (to Government Camp)	Owner
Sunset TC Parking Garage – 10470 SW Barnes Rd, Beaverton	630	1 hour, 30 minutes	TriMet
Elmonica/SW 170 <sup>th</sup> Ave – 1200 SW 170 <sup>th</sup> Ave, Beaverton	435	1 hour, 40 minutes	TriMet
Clackamas Town Center Parking Garage – 9225 SE Sunnyside Rd, Portland	750	1 hour, 10 minutes	TriMet
SE Fuller Rd Park and Ride – 9608 SE Fuller Rd, Clackamas	610	1 hour, 10 minutes	TriMet
E 181 <sup>st</sup> Ave Park and ride - 18324 E Burnside St, Gresham	247	1 hour	TriMet
Cleveland Ave Park and Ride - 1200 NE 8th Ave, Gresham	392	50 minutes	TriMet
Gresham City Hall - 1297 NW Eastman Pkwy, Gresham	305	55 minutes	TriMet
Gresham Parking Garage – 523 NE 8 <sup>th</sup> St, Gresham	540	50 minutes	TriMet
Quatama/NW 205 <sup>th</sup> Ave Park and Ride – 350 NW 205 <sup>th</sup> Ave, Hillsboro	310	1 hour, 30 minutes	TriMet
Willow Creek/SW 185 <sup>th</sup> Ave TC Park and Ride, SW 185 <sup>th</sup> Ave, Hillsboro	595	1 hour, 40 minutes	TriMet
Milwaukie Park and Ride – 9600 SE Main, Milwaukie	329	1 hour, 10 minutes	TriMet
E 122/Menlo Park Park and Ride – 12202 E Burnside, Portland	612	1 hour	TriMet
Barbur Blvd Park and Ride – 9712 SW Barbur Blvd, Portland	368	1 hour, 20 minutes	TriMet
Delta Park/Vanport - 1940 N Victory Blvd., Portland	304	1 hour, 20 minutes	TriMet
Gateway/NE 99 <sup>th</sup> Ave TC Park and Ride - 1321 NE 99 <sup>th</sup> Ave, Portland	690	1 hour, 10 minutes	TriMet
Parkrose/Sumner TC Park and Ride - 9625 NE Sandy Blvd, Portland	193	1 hour, 10 minutes	TriMet
Tigard Transit Center Park and Ride – 8960 SW Commercial, Tigard	103	1 hour, 30 minutes	TriMet
Tualatin Park and Ride – SW 72 <sup>nd</sup> Ave and SW Bridgeport Rd	466	1 hour, 20 minutes	TriMet
Wilsonville Park and Ride – 9699 SW Barber, Wilsonville	399	1 hour, 30 minutes	TriMet

\*In non-winter conditions according to Google Maps directions, using US 26. This travel time could take much longer during winter or congested conditions.

### Advantages

- Using existing lots reduces the need to construct new lots.
- Existing lots are likely to be near infrastructure and services (restrooms, shops, etc).
- These lots are likely already maintained by a third party, and adding transit would simply require signage and a location to load/unload passengers.

- Existing businesses could benefit from increased traffic in the parking lots as riders make purchases or visit shops while waiting for the bus or carpool.
- These lots can be selected in conjunction with public or private transit service for optimal locations.
- Advertise to potential users with the benefits of park and rides:
  - Could reduce pressure to find a parking spot in limited parking lots at ski areas and snow-parks
  - Could avoid driving in snowy conditions
  - Avoid paying potential future or existing Sno-Park fees.

### Disadvantages

- Businesses may object to parking lot spaces being used for park and rides, especially during holiday and other peak business days/hours.
- Depending on the location of the park and ride, it could be difficult to turn into/out of during peak hours for both riders and transit vehicles. Specifically Park and rides on the south side of US 26 would be difficult for vehicles to turn onto westbound US 26 after getting dropped off. Park and rides on the north side of the highway may be better suited – they make a left turn across westbound traffic when there is little oncoming traffic, and then a right turn into the more congested lane when leaving. This is less of a concern for the Portland-area park and rides.
- Disadvantages for the traveling public is the increased time needed to park and wait for a transit vehicle or carpool/vanpool, the need to transfer gear and people from a personal vehicle to a transit vehicle, and the length of trip they have already made to get to the park and ride.
- The longer the trip in a private vehicle, the less likely travelers are to switch vehicles at a park and ride nearer to their destination as there is little benefit (time, gas consumption, etc) to changing vehicles.

## Potential Future Areas for Park and Rides

There are a few potential sites for future park and rides along the US 26 corridor and within the City of Hood River.

### Potential Recommendations

- Explore developing a park and ride in Welches east of the Thriftway. There are four acres east of Thriftway in Welches, on the south side of US 26. This land is privately owned, and the owner has expressed willingness to develop a park and ride on the property. Depending on design, 400-600 spots could be accommodated on 4 acres. This area is below the chain-up areas on US 26.
- Utilize the CAT park and ride being developed in Hood River. The site is located just east of WalMart in Hood River off of Wasco Court, and will be able to accommodate fewer than 50 vehicles. This could be developed within the next year depending upon funding. The lot will have easy access to OR 30 and OR 35.
- Another potential location is a 1.72 acre lot near the interchange of I-84 and OR 35 in Hood River. The lot will be able to accommodate between 170 and 340 cars, depending on design. The lot is currently privately owned and development of a park and ride would require the City or other entity to either purchase or lease the land.

**Advantages**

- New park and rides could be designed and set up in a way that makes it easy to access and with the amenities important to riders.
- The areas are below chain-up areas on US 26 and OR 35, and could be advertised as a way to avoid using chains
- Could be serviced with a loop-type service with more frequent headways than existing private or public transit
- Welches is in the Mountain Express service area, and the Hood River park and rides are in the CAT service area.

**Disadvantages**

- Would require design and construction support and funding for the park and rides not currently planned.
- Would require on-going maintenance and operations including snow removal at times
- Park and rides closer to destinations are less likely to be effective, especially if travelers have already driven themselves a significant distance

# Mt. Hood National Forest – Alternative Transit Opportunities and Travel Demand Management

## Traveler and Carpool Information

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All of the traveler information assumes an online forum, limiting the information to travelers with internet access. Additional ideas could be text information, where users text a question or a desired piece of information and receive an answer via text (similar to TriMet's stop information system). There are equity concerns with a web or text-based information system.

### Drive Less. Connect.

Drive Less. Connect. ([www.drivelessconnect.com](http://www.drivelessconnect.com)) is a program run by Metro which allows users to register and log their trips, helps find carpool matches, and has the opportunity to offer rewards for carpooling. It is region-wide and available for all types of trips and times. Additionally the website includes a "commute calculator" which allows users to calculate how much money they save by carpooling, and allow them to more accurately compare the cost of driving along to carpooling. Currently all ski areas include a link to Drive Less. Connect.

### Potential Recommendation

This concept would increase advertising and further encourage visitors to Mt Hood to use the website. Currently, Drive Less Connect does not have a link on the Forest Service website, though Timberline and Mt Hood Meadows have links on their web pages.

### Advantages

- This is an existing statewide program, run and funded by Metro in the Portland area. No additional funding or staff support would be needed to increase usage in the Mt Hood National Forest
- Some users may already be familiar with the program for work or other trips
- Could have a promotion for a rocket box or gear box to ensure that more people can fit in a car with ski/snowboard or other gear to help increase vehicle occupancy to the mountain for recreational trips. Other promotions are also possible to help increase carpooling
- This program has the ability to share trips via Facebook to access friend networks
- The program could be used year-round

### Disadvantages

- Requires users to log in and log their trips – some planning ahead is required by both the driver and the rider.
- Would need more promotion, as this program already exists and is not widely used to Mt Hood.
- Drivers are not compensated for using their car or driving, which may lower the number of drivers willing to carpool with this tool.

## Private Carpooling Match Websites

There are a number of private carpooling match websites that organize rides. Some entities allow the rider to pay the driver for the ride, others simply match drivers and riders with no money exchanged. Most of these operate throughout the United States, but are not widely used in the Portland Metro Area. Some private websites such as Zimride create a ski-area specific “landing page”, and helps provide carpool-specific benefits such as priority parking and raffles. Private carpool websites also allow riders to link and post their rides with Facebook, Twitter, and other social media accounts to share with their online social network. A few examples of private carpool matching services include:

- Avego ([www.avego.com](http://www.avego.com)) – Realtime ridesharing with an iPhone app that tracks vacant seats and trips in real time – riders pay drivers for the trip.
- eRideShare ([www.erideshare.com](http://www.erideshare.com)) for commuting and carpooling. Currently includes users in Oregon.
- GoLoco ([www.goloco.org](http://www.goloco.org)) – Passengers pay drivers for their fair share of the ride costs divided evenly between the number of passengers and the length of the trip. GoLoco charges a 10 percent transaction fee when drivers and passengers exchange funds.
- Pickup Pal ([www.pickupal.com](http://www.pickupal.com)) – free service connecting drivers and riders, operating mainly in the US, Canada, Australia, New Zealand, and the United Kingdom.
- Zimride ([www.zimride.com](http://www.zimride.com)) already in operation in California between the Bay Area and Tahoe Area ski resorts. Riders are able to “Zimride” throughout the world.

### Potential Recommendation

Use Zimride to encourage carpooling to the Mt Hood Forest, provide ski area-specific “landing pages” on the website.

#### Advantages

- This is an existing program used throughout the country, and has had some success in the Lake Tahoe area.
- The driver receives some money for gas and an incentive to continue to provide and share their vehicle with riders.
- Has an avid following in college communities (this is how the business started), and attracts younger, active individuals who are more likely to carpool due to transportation costs.
- Ski areas do not need to pay for Zimride to create a landing page – the agreement is based on promotional pushes by the ski areas on behalf of Zimride
- Zimride offers raffles and other prizes for using Zimride
- Could be used year-round

#### Disadvantages

- Currently no ski area on Mt Hood has a Zimride specific landing page, nor are ski areas allowed to provide preferential parking (an added amenity for “Zimriders” to Tahoe-area ski resorts).
- Ski areas would need to enter into an agreement with Zimride, which requires a number of email blasts, website posts, and other online promotions.
- This program would directly compete with Metro’s Drive Less. Connect. program

- This would require promotion by ski areas and a link on the ski area sites, as well as an agreement between ski areas and Zimride.

## Google Maps

Google Maps provides directions to areas throughout the globe. Recent additions to these directions include how to access destination using transit where it is available.

### Potential Recommendation

Integrate transit with Google maps, so when travelers Google directions and choose the “transit” button, it provides information on all of the transit to the mountain including schedules, transfers, and costs. SAM and CAT have this ability (but Mountain Express does not), and of the private providers, only Grease Bus has this function. This could be linked to Ski Area websites providing consistent transit information for all providers on the mountain.

### Advantages

- Provides a more direct way of determining how to get to mountain destinations by transit (either via public or private providers). This would be another tool to promote transit for visitors.
- Google maps could be used in conjunction with existing public and private service showing transfers, ticket prices, travel times, and when transit is scheduled to leave.
- Google maps is a widely used web tool and could be used on smartphones
- Service would be available year-round

### Disadvantages

- This would require potential users to have access to the internet and search directions to Mt Hood on Google using the transit option.
- Uncertain about the process and cost of linking private providers to Google Maps (Grease Bus used a private company to help navigate the process, fees and technical expertise could be needed to help make this happen).
- This option may require funding/monetary/staff support to private providers and Mountain Express to add themselves to Google Maps.

## Open-Source Map Tool

Open-source web tools are free web-based programs that allow any user to access and/or manipulate data and information on a website. Currently in use in Seattle, [www.livingcitymap.com](http://www.livingcitymap.com) provides information on events, but information such as transit routes, times, and costs as well as park and rides could be added for the Mt Hood area.

### Potential Recommendation

Create an open-source map tool with park and ride locations, transit routes and stops, and potential commercial areas and local businesses.

### Advantages

- No single entity would be needed to implement this idea: users would be responsible for uploading accurate information

- Would allow competing businesses to upload information important to their companies

### Disadvantages

- Information will only be as reliable as who uploads the information: some minimal oversight would be needed to ensure information is up-to-date or accurate.

## Ski-Resort Sponsored Website

### Potential Recommendation

Create a ski-resort sponsored website to provide up-to-date information for all three ski resorts including road conditions, parking availability, transit and carpooling links, and other information. A one-stop shop website could simplify transportation and amenities for new travelers to Mt Hood and provide information to allow visitors to choose the best mode of transportation that suits their needs based on conditions.

### Advantages

- This would create an easily accessible, consolidated location for information.
- A consolidated site could also provide online ticket sales and local business advertising for economic development.
- Transportation Demand Management could be used on this site including promotions for off-peak travel to the ski areas, information on likely congested times/park-out dates, etc.

### Disadvantages

- Site would need to have up to the minute, accurate information to be useful.
- An entity (yet to be determined) would need to ensure upkeep and maintenance on the site.
- Competing businesses may not agree to share a consolidated site.
- A sponsored website would need a funding and upkeep agreement between the ski areas.

## Traveler Webpage

### Potential Recommendation

Create a one-stop webpage for traveler information, potentially hosted by the Forest Service, similar to the ski-resort sponsored website. The website could link all transit providers, carpool resources, traveler information, etc in one place. Could provide route and travel time information (potentially also on VMS) about US 26 vs. OR 35, etc.

WSDOT example for Snoqualmie pass: <http://www.wsdot.com/Traffic/passes/snoqualmie/default.aspx>

### Advantages

- Similar to the ski-resort sponsored website, would create an easily accessible, consolidated location for information
- A Forest-service site could focus on information beyond ski conditions and include general travel information for visitors not going to the ski areas
- The site could also include general information about when the roadways and parking lots are expected to be at capacity, showing charts of peak traffic, etc. to inform visitors

- The site could start with static information (likely congested times, transit and carpool resources, and then transition into a more complex site with more up-to-date information
- A neutral hosting entity would remove the conflict of competing businesses

### **Disadvantages**

- Site would be most effective if it had up to the minute, accurate information
- An entity (potentially the Forest Service) would need to ensure upkeep and maintenance on the site
- Funding and staffing would need to be determined to include upkeep on the site, may need support from other agencies (ODOT, TMA) to ensure that the site continues to be useful.
- Cell and data services are not uniform in the Forest – users may have a hard time accessing the website when already on the mountain.

## **Increase Cell Coverage on the Mountain**

There are currently gaps in cell phone coverage along the US 26 and OR 35 corridors and near the Mt Hood Meadows Ski Resort HRM parking lot. This creates delays for incident response as well as barriers to accessing real-time information such as parking and roadway conditions/delay. Two cell phone coverage gaps include the Mirror Lake Curve on US 26 and near the Mt. Hood Meadows HRM parking lot along OR 35.

### **Potential Recommendation**

Increase cell phone coverage (permanently or temporarily based on high-demand days or seasons) to ensure that travelers (but not drivers) can get up-to-date parking, weather, and road conditions information as they travel to their destinations within the National Forest. Adding cell phone coverage will also allow travelers to call for emergency services in the event of an incident.

### **Advantages**

- Would improve information and potentially incident response as travelers are able to contact emergency services and informational websites or texting information capabilities
- Relatively low-cost to increase service.
- Could leverage partnerships with cell phone companies to improve cell coverage.

### **Disadvantages**

- Could create distracted drivers trying to access information as they drive
- Potential environmental concerns for additional permanent cell phone towers (though temporary cell phone towers could be provided during high demand days or seasons)
- Would need to be implemented by cell phone service providers, and multiple providers would potentially need to be involved to ensure all carriers are represented.

## Transportation System Management (TSM) and Intelligent Transportation Systems (ITS)

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### Incident Communication and ODOT Dispatch

Crashes on US 26 and OR 35 can cause periods of congestion or exacerbate already congested conditions. Crashes are also a safety hazard because vehicles may block part of or the entire width of the roadway and other drivers do not expect the roadway to be blocked, potentially resulting in additional crashes. US 26 is designated by ODOT as a safety corridor, in recognition of the high occurrence of crashes. ODOT Maintenance comes to crash scenes as a secondary responder, after the local fire department and Emergency Medical Services have responded. ODOT Maintenance's role is to secure the scene, set up traffic control to safely divert traffic, and clear the travel lanes.

Most incidents are reported to 911, which then notifies the local fire department. Hoodland Fire Department covers US 26, and Parkdale Fire Department covers OR 35. Fire departments then determine if ODOT Maintenance is needed and contact ODOT Region 1 dispatch. ODOT Region 1 dispatch will then notify ODOT Maintenance in the Mt. Hood area. During off-hours, ODOT maintenance personnel carry a pager to respond to calls. Sometimes, there is an hour delay between the time an incident is reported and the time ODOT Maintenance is notified. During off-hours, this time lag can be longer.

### Potential Recommendation

Evaluate the potential of Computer-Aided Dispatch (CAD) Software to field 911 calls. CAD incident dispatch software could be integrated with 911, record information about incidents and units, and dispatch an incident to one or more field units, which essentially assigns the units to the incident. Most CAD software will provide a recommendation of which units should respond, based on pre-determined tables or a unit's actual location. Based on pre-determined tables, CAD also takes into account the type of incident (high danger, low danger), and type of unit (patrol, supervisor, canine, etc.) when making the recommendation. An FHWA forest service grant could help pay for CAD software. The software could also be linked to Variable Message Signs (VMS) that would alert drivers to an "accident ahead." Additionally, there are no locally-stationed Oregon State Patrol officers on the mountain able to respond to incidents. A recommendation would be to staff someone in the vicinity to respond to incidents on high-risk days, namely winter weekends and holidays.

### Advantages

ODOT Maintenance could be dispatched sooner and potentially more effectively if CAD software is sophisticated enough to determine whether or not ODOT maintenance is needed. Faster response times could speed the amount of delay and reduce potential congestion associated with incidents on US 26 and OR 35.

### Disadvantages

Many calls into 911 do not need the assistance of ODOT Maintenance. An automated system could overwhelm ODOT maintenance with high volumes of unnecessary calls, and calls which require their assistance could be temporarily lost in the calls not requiring assistance.

## Incident Response Vehicle Enhancements

ODOT Maintenance responds using pick-up trucks that have a hitch on them. They contact a tow company if the roadway needs to be cleared of vehicles or in some cases they are able to clear the roadway by moving vehicles or debris to the shoulder. Vehicles have amber lights and no siren.

### Potential Recommendation

Equip incident response vehicles with a push bumper so they may clear a greater number of vehicles blocking the road. Tow companies would still need to be called to remove vehicles from the mountain. Equip vehicles, as other incident response vehicles that respond to incidents within the Willamette Valley, with emergency lights or sirens as appropriate so ODOT maintenance could respond to incidents more quickly and safely.

### Advantages

In some cases, travel lanes would be cleared more immediately, which would reduce safety hazards caused by vehicles blocking the road and congestion. Red flashing lights and a siren would enable ODOT maintenance to reach a response site more quickly.

### Disadvantages

Tow companies have insurance to cover the liability of towing vehicles. ODOT would have to either purchase liability insurance or self insure. ODOT Maintenance's ability to assess multiple crash scenes may be affected if they are involved in towing vehicles.

## Install More Traffic Cameras

ODOT has installed cameras at accident prone locations, which helps Dispatch and Maintenance assess situations remotely. ODOT Maintenance is better able to respond appropriately and clear crashes more quickly.

### Potential Recommendation

Install more cameras at high crash rate sites, areas with potential conflicts, and/or places where congestion is typical so drivers can check traffic conditions using the cameras via Trip Check. Place cameras at high-elevation locations so weather conditions can be checked.

### Advantages

In some cases, travel lanes would be cleared more immediately, which would reduce safety hazards caused by vehicles blocking the road and congestion. Camera instillation has been done and the process is known.

### Disadvantages

Capital and maintenance costs are involved.

## Chain Up Areas

ODOT Maintenance is aware that some chain-up areas can be a safety hazard, largely due to drivers who do not know how to properly use the chain up area. For example, at the chain up area on US 26 between mile point 47.5 and 48.5 when drivers see a sign that chains are required, they sometimes will stop in the travel lane and chain up or when they drive to the chain up area, they stop at the back end and subsequent drivers assume no room is up ahead, causing vehicles to bottleneck the last 200 feet of the chain up area.

## Potential Recommendation

Recommend brochures, web-links, variable message signs and signage that educate drivers about the use of chain up areas. In the chain up areas, post signs that say “move to front of chain up area,” to help relieve bottlenecks at the back-end of chain up areas. Within the driver’s education manual publication, have a section related to winter driving conditions that includes a section on how to chain-up tires and use chain-up areas.

Currently, ODOT produces brochures, such as a “Guide to Oregon’s Chain and Traction Law” and a “Truck Tractor Chain-up” guide. Update the existing guide with information on how to use chain-up areas as well. The “Guide to Oregon’s Chain and Traction Law” as it is or an updated version could be distributed at the Forest Service Office in Sandy, Ski Lodges, and at other locations where SnoPark permits are sold. ODOT maintains a list of SnoPark Permit Agents, where SnoPark permits are sold.

Add a staff person to help direct traffic at chain-up areas to ensure that motorists don’t stop at the last 200 feet of the area. Potentially provide tire chain installation staff to install chains and move motorists more quickly out of the chain-up area. Using an example from the Tahoe area, have a mandatory stop to ensure that motorists are using chains or snow tires.

### Advantages

Better usage of chain up areas can reduce downstream safety hazards from vehicles stopping in travel lanes and creating dangerous conditions.

### Disadvantages

Signage within the chain up areas may not be seen by drivers when visibility is limited due to snowy conditions.

## Variable Message Signs

Variable message signs that alert drivers about weather conditions (including forest fires), accidents ahead, lane changes, and appropriate speeds have been helpful to ODOT Maintenance throughout the state. In addition to the traditional information displays, variable message signs could also inform drivers of parking conditions, as a secondary priority to safety. More of these signs along US 26 and OR 35 would be helpful.

## Potential Recommendation

Install more variable message signs, possibly in two sets. One set would be focused on safety conditions, such as alerting drivers of accidents or weather conditions. A second set would be focused on parking information, reporting for instance if parking is full and the location of additional parking.

Alternatively, one sign could contain all the information, though space limitations and requirements could make that difficult. Or, use two signs, but the second sign (potentially owned and operated by the Forest Service) could only operate during the peak season.

ODOT’s traffic division has a prioritized list of future VMS locations. ODOT maintenance and traffic division can continue to work together to identify and prioritize locations, as well as develop additional shoulder area for VMS signs if needed. VMS sign locations require a permit.

### Advantages

Drivers would be more aware of location specific travel conditions. Drivers would not need to circulate as much to find parking.

## **Disadvantages**

Variable message signs are costly and the placement of them would need to be managed. The signs would need to be placed so as not to create visual clutter and additional distractions for drivers.

# PTD Reorganization Project Background

## Public Transit Division

### Objectives of Re-alignment

- Improve PTD's partnership with transit agencies, stakeholders, and public transportation advocacy groups to significantly improve statewide mobility, access and sustainability
  - Improved implementation of integrated transportation solutions
  - More effective and efficient use of State and Federal Funds
- Improve service to PTD's customers
  - Single point of contact
  - Consistent interpretation and application of division policies and procedures
  - Facilitate improved coordination between and among providers
  - Provide for programmatic backup and redundancy
- Position the division to fully support the Agency's Multi-modal reorganization
  - Provide for a regional public transportation resource
  - Provide support, technical assistance and advocacy, at the local level
- **Secondarily:**
  - Address resource need and workload allocation issues  
*Currently managing with 14.7 FTE, 5 LD positions and 3 WOC*

# PTD Reorganization Project Recommendation

## Public Transit Division

### Recommendations:

- Align Program Managers by Highway Region with Centralized Staff for Policy & Procedure Support
  - Customer Benefits:
    - Collaborative partnership with Providers
    - Single Point of Contact
    - Consistent application of policies and procedures
    - Transparency
  - Agency Benefits:
    - Supports Agency's Multimodal Vision
      - Transportation Regions instead of Highway Regions
      - Multimodal Solutions to transportation problems
      - Supports a transportation system-wide view
    - Public Transit advocacy at local level
    - Region management teams will have access to public transportation expertise
    - Proactive leadership, planning and problem solving
  - PTD Benefits:
    - Proactive involvement with providers
    - Improved coordination between and among providers
    - Cross training and improved knowledge
    - Better resource utilization
    - Improved compliance with Federal grant requirements
    - Improved administration of sub-recipient grants
- Move Transit Civil Rights functions to ODOT Office of Civil Rights

**Public Transit Division summary of impacts of  
Chapter 53 of title 49 amended by MAP 21**  
(MAP 21 Section is referenced first)

**Section 1501 – Real time rideshare.** Expands definition of eligible construction activities to include construction of parking spaces for vanpool and rideshare cars that may participate in a electronic tracking, scheduling or payment program that does not make profit from this shared use.

**Section 20002 – Repeals.** All of the following are repealed. Most of those activities have become eligible in retained programs.

**FTA Sec. 5008, clean fuels.** Included in other programs.

**FTA Sec. 5316, Jobs Access Reverse Commute.** Combined into 5311.

**FTA Sec. 5317, New Freedom beyond ADA.** Combined into 5310.

**FTA Sec. 5320, Alternative Transportation in Parks. Moved** into the Sec. 1116 Federal lands transportation program.

**FTA Sec. 5328, Project Review,** redefined in other sections. The requirement for alternatives analysis has been reduced or eliminated for smaller transit projects. Very positive for small urbans who struggled to comply with this requirement and whose projects did not fit analysis criteria.

**FTA Sec. 3038, Authorizations** – old are repealed, new are established.

**Section 20003 = FTA Section 5301** – general purpose statement. Adds standards for state of good repair, adds technical assistance program, and adds workforce development.

**Section 20004 = FTA Section 5302-** definitions. Clarifies capital project, expands definition for bike/ped. and for commercial applications in facility development. All appear good.

**Sec. 20005, Sec. 20006 = FTA Section 5303, 5304** - Planning.

- Requires new work on establishing performance targets for transit programs Sec. 5326 and 5329 and for areas under 200,000 pop. Is unclear how much of this work will be done or implementable before new authorization is needed. Will add workload for reporting requirements.
- Adds FTA sponsored pilot program for TOD projects.
- Adds option of Regional Transportation Planning Organizations. Might be a good long term option for rural transit development. Will take lots of stakeholder and local gov't effort work for ODOT and PTD to go there with our program models!

**Medium impact**

**Sec. 20007 = FTA Sec. Section 5307** – Urban transit formulated support.

- Limited to capital match for 200,000 and above. New allowance for options to use as operations for smaller systems based on fleet size. Good for Small Urbans.
- Gives TriMet, LTD and SAMTD, RVTVD, Corvallis, Bend, responsibility of administering JARC and New Freedom in their areas.

- Reduces admin for ODOT. ODOT does not currently administer any funds under the urban category.

**Low impact**

**Sec. 20008 = FTA Section 5309 – Fixed Guideway capital.**

- Adds Core Capacity and BRT as additional project categories.
- Defines phases of project development and FTA support.
- May help to stabilize federal commitments for large projects. (CRC, Street Car, Light Rail in Oregon)

*(Travis, I didn't have time or expertise to wade through this complex section.... Hopefully someone with both can look through this long and highly marked up section. I could ask Claire Potter at TriMet to send us their write-up?)*

**Sec. 20009 = Section 2010 – Key program for PTD Merges 5310 (Seniors and Individuals with Disabilities) and 5317 (New Freedom)**

Formula grants for the enhanced mobility of seniors and individuals with disabilities. Description - Section defines program that supports public transportation projects that are planned, designed, and carried out to meet the special needs of seniors and individuals with disabilities when public transportation is insufficient, inappropriate or unavailable. Also supports projects benefitting seniors and individuals with disabilities that are beyond the ADA, improve access to fixed route services that result in lessened reliance on complementary paratransit, and provide alternatives to public transit for seniors and individuals with disabilities.

**Impact on Oregon- key transit program for PTD**

- Repeals §5317 New Freedom program and consolidates the purpose and funds into §5310.
- Allocates 60% of the nationally available funds directly to designated recipients in the large urbanized areas (in Oregon TriMet, SAMTD and LTD), and allocates 20% to the states on behalf of the small urban areas (RVTD, Bend and Corvallis) and 20% to the states for the rural area.
- Defines operating assistance as an eligible program expense.
- Repeals sliding scale match.
- May result in establishment of defined performance measures by the FTA, subject to Congressional approval, for the §5310 program.
- There is no apparent loss of funding to the state, although ODOT will receive fewer funds to manage.
- Repeal of the sliding scale match rate may cause financial hardship for local transit agencies: SAFTEA-LU capital match rate for the §5310 appropriation is 89.73% federal share; MAP-21 rate is 80%. For operations, the SAFTEA-LU match rate for the §5310 appropriation is 56.08% federal share; MAP-21 rate is 50%.
- The impact on ODOT program management is moderate: on one hand, program administration is lessened due to program consolidation; on the other hand, ODOT PTD will need to revise the State Management Plan, and revise grant program policies and design to account for the changes.

- Large urban agencies will have increased administration. The inclusion of operations as an eligible project expense is welcome; Oregon was one of six “pilot” states under SAFTEA-LU allowed to use 5310 funds for operations, which PTD used to maximum allowance.
- May involve additional work to administer and report performance. It is important that ODOT be involved in the development of the implementing circulars to be prepared by Federal Transit Administration within the next year; also, we need to be prepared to comment on proposed performance measures. It is the experience of the PTD staff that one-sized national performance measures, while well-intentioned, tend to be difficult to implement in primarily rural states such as Oregon.

**Priority - Medium priority**

**Lead Division/Section - Public Transit Division**

**Implementation Actions**

Action	Responsible Party	Schedule
Revise grant programs and State Management Plan	Public Transit Division	August-December 2012
Monitor and comment on draft circulars	Public Transit Division	(est) Jan-June 2013
Monitor and comment on proposed performance measures	Public Transit Division	(est) Aug-Oct 2013

**Sec. 20010 = Section 5311 – Key area for PTD. Formula grants for rural areas**

**Description**

Section defines program that supports public transportation projects that are for the benefit of general public transit operated in the rural areas, including for capital, operations, transit services purchased from private entities and others, and job access and reverse commute projects.

**Impact on Oregon**

- Repeals §5316 Job Access Reserve Commute program and consolidates the purpose and funds into §5311 and §5307 Urbanized area formula grants.
- Allows planning as an eligible project expense, in addition to planning as an eligible §5311 administrative expense and in addition to §5305 Statewide Planning funds.
- Public transit on Indian reservations will be apportioned directly based on various criteria; amounts to each eligible Indian Tribe not to exceed \$300,000 per year.
- Apportionment methodology is modified to include a factor for vehicle revenue miles (which are reported annually to National Transit Database).
- Reduces state administration from 15% of total apportionment to 10% for program administration, and also for planning, technical assistance, coordination and research.
- Adds an important source of in-kind match from private sector intercity service that may be allowed for public service that connects and coordinates.

- Due to consolidation of programs, there is a risk that certain local projects currently funded with Job Access Reverse Commute program may be defunded pending local project prioritization.
- The inclusion of planning as an eligible project expense is welcome; however, the match rate is not defined. (Assume 80% federal share which would be consistent with other similar programs.)
- Direct allocation of §5311 Tribal Transit funds to Indian Tribes in lieu of the current national competitive grant program is welcome. Currently, five Oregon Tribes receive Tribal Transit funds – unknown as to the Oregon tribes eligible to be included in the apportionment. The formula factors include vehicle miles travels and low-income population on reservation and trust lands. Per Confederated Tribes of Umatilla Indian Reservation, the definition of tribal lands may not benefit Oregon inasmuch as several of the Oregon tribes are “restored”, so that their current populations served by transit do not live on tribal lands. The tribes gave up their reservation lands when they were terminated. These communities still exist as traditional Indian communities. Federal law that restored the terminated tribes defines a “service area” in which services are provided by each tribe, in several cases include multicounty service areas.

Impact on workload. ODOT will evaluate and modify §5311 program policy and design to accommodate inclusion of JARC as an eligible project and to account for the effect of Tribal Transit apportionments to Oregon tribes.

Impact on Oregon related to modified apportionment methodology is unknown.

There will be an impact to Public Transit Division due to the reduction of state administration from 15% to 10% of administrative funds that do not require a match amount. This may reduce the division’s ability to conduct headquarters projects of statewide importance that are currently supported through the administrative share.

It is important that ODOT be involved in the development of the implementing circulars to be prepared by Federal Transit Administration within the next year.

**Priority**-Medium priority  
**Lead Division/Section**- Public Transit Division  
**Implementation Actions**

Action	Responsible Party	Schedule
Revise grant programs and State Management Plan	Public Transit Division	August-Mar 2013
Monitor and comment on draft circulars	Public Transit Division	(est) Mar-Sept 2013

**Sec. 20011 = Section 5312** – Research, demonstration, and deployment projects.

- Adds structure language to the program
- Adds focus to emphasize reduced emissions and technologies projects.

**Low impact**

**Sec. 20012 = Section 5314** – Technical Assistance and standards development

- New emphasis on defining technical assistance to transit program.
- Requires more accountability for the program.

**Low impact**

**Sec. 20013 = Section 5315** – Private Sector participation

- New section. Provide technical assistance to private sector to participate.
- Requires study and report of contracting out opportunities. May impact if states required to report contracting opportunities to Office of Comptroller General so that they can complete required report.

**Low impact**

**Sec. 20014 = Section 5318** – Bus Testing

Changes safety rating to a test score. Includes additional standards for maintainability, reliability, performance, structural integrity, fuel economy, emissions. And noise.

No direct impact. May raise quality of transit vehicles DAS can offer through state price agreement.

**Section 5319** - Bicycle Facilities.

Brings match clarity to development of bike facilities that improve transit access. Bike facilities are 90% funded unless included as 5307 d 1(k) project, then can be 95% funded.

**Section 5321** – no changes

**Sec. 20015 = Section 5322**- Human resources and training programs.

- Adds workforce Development project option for grants. The match cost is 50 percent.

**Sec. 20016 = Section 5323**- General provisions. Adds several new provisions.

- Allows private cost of vanpool capital used in coordinated public service to be used as match for public program rolling stock.
- Allows private provider of public vanpool may use revenues in excess of providing service to acquire rolling stock.
- This will assist our vanpool programs to raise matching funds.
- Requires recipient to provide reasonable access to private intercity or charter operator to federally funded facilities.
- Will help us encourage coordination of access to public, private and intercity transportation at modal hubs.

**Sec. 20017 = FTA Section 5324** – Public transportation emergency relief program

Establishes an emergency relief program. Main activity is to require the two federal agencies to work together within 180 days to define how they would implement responses to assist transit in and after emergency.

Not impact yet.

**Sec. 20018 = Section 5325 –Contract Requirements**

- Increase time allowed from 5 to 7 years for rail purchases.
- Adds hiring preference for veterans.

**Sec. 20019 = Section 5326 – Transit Asset Management**

- New requirement to report transit asset inventory or condition assessment on all federal interest capital
- Impact on PTD will be moderate. We have already set this process in place. There may be additional training and reporting required for sub recipients beyond our original expectations.

**Medium impact.**

**Sec. 20020 = Section 5327 – Project management oversight**

- Requires a formal project oversight plan for major capital projects. May require additional ODOT technical assistance for any rural entity with a large facility project.

**Sec. 20021 = Section 5329 Public Transportation Safety Program**

- Requires a state safety oversight plan. This will require Rail and Transit staff and stakeholder participation. States will be responsible for rural bus and perhaps small urban safety planning.
- States may have to approve the rural and small urban safety plans.
- Requires a safety certification program. Again will affect both rail and transit.
- Has interim effects until formal plans and rules adopted.
- Have to implement within three years.
- Must have approved agency, with staffing level etc. part of approval.
- Restricts states from accepting funds from fixed guideway systems that are overseen.
- Requires separation from oversight and administration of funds.
- Provides for option to join with partner state to provide oversight.
- Provides option to request waiver from some conditions of separation.
- Will make administrative grant to fund this activity but requires 20% local match.

**Major Impacts. High impact.** Will require major work, new administration and effort at state leadership level. Will be important to identify match funding.

Effect on Rail, Transit, and Planning Sections. Needs time for further analysis to understand steps to proceed.

**Sec. 20021 = Section 5330** – State Safety oversight – repealed in three years when 5329 is deployed.

**Sec. 20022 = Section 5331** – Alcohol and controlled substances testing. Minimal change.

**Sec. 20023 = Section 5332** – Nondiscrimination

Adds requirement for Comptroller General report and recommendations for improvements.

**Section 5333** – Labor Standards – no changes.

**Sec. 20024 = Section 5334** – Administrative provisions – **authorizes FTA ability to regulate safety.**

**Sec. 20025 = Section 5335** NTD-

- Adds Safety Data reporting
- Adds Asset Management reporting

These two activities will increase workload and administrative cost for Rail/Transit Division and providers.

Moderate Impact to staffing. Will likely need to add a staff position for all the asset, safety and performance reporting and analysis work.

**Sec. 20026 = Section 5336** Apportionment of appropriation:

- Urban area apportionment methodology with a few slight changes, to include fixed guideway factors in rural areas
- Continues current ability to transfer funds between large and small urban and urban and rural under the authority of the Governor.
- Increases the period of availability of FTA funds from 3 to 5 years.
- Apportionment formula includes low-income population as a factor.

**Sec. 20027 = Section 5337** State of good repair:

- New program, includes the prior program for fixed guideway
- Requires transit asset management plan
- Funds may be used for a broad variety of transit capital purposes, including rolling stock and facilities
- Can't tell if the state is a recipient, appears to be limited to fixed guideway

**Sec. 20028 = Section 5338** Authorizations

- Defines \$ amounts to be allocated to the various programs and for administration

**Sec. 20029 = Section 5339** Bus and bus facilities formula program

- New program for vehicle replacement and related equipment; and construction of bus-related facilities.
- Requirements are defined by §5307.

- ODOT would be apportioned minimum \$1,250,000 per year for rural projects. Funds for urban areas apportioned through formula defined by 5336 (except fixed guideway factors).
- Allows transfers of funds subject to Governor approval.
- Three year period of availability.
- Does not mention administration %
- 80% federal share
- Will require new program to set up

**Medium impact**

Action	Responsible Party	Schedule
Develop grant programs and State Management Plan	Public Transit Division	August-Dec 2012
Monitor and comment on draft circulars	Public Transit Division	(est) Jan-June 2013

**Sec. 20030 Technical and conforming amendments.** Lists changes and corrections to citations.

**Other notes-** per FHWA programs that support TDM activities. It appears that TDM activities are encouraged and eligibility somewhat broadened in Surface Transportation Program. However analysts noted that the combination of TDM with other areas collapsed together all net out to less formulated dollars for these combined efforts.

## Partners Group Meeting #4 Summary

**ATTENDEES:** Rithy Bein, Mt Hood National Forest  
Josh Blaize, Sea to Summit  
Kelly Brooks, ODOT  
Karen Buehrig, Clackamas County  
Teresa Christopherson, Clackamas County Social Services  
Danielle Cowan, Clackamas County Tourism  
Matthew Drake, Mt Hood Meadows  
George Fekaris, FHWA  
Jae Heidenreich, Clackamas County Tourism  
Les Johnson, Luxury  
Sumi Malik, CH2M Hill

Accommodations (Fusion Bus)  
Sonya Kazen, ODOT  
Chris Mulcahy, Grease Bus  
Mike Parziale, Grease Bus  
Bob Reeves, Villages at Mt Hood  
Dan Schwanz, Hood River County Transit  
Tom Torres, Mt Hood National Forest  
Jon Tullis, Timberline  
Mark Vincent, Timberline  
Steve Warila, Mt Hood Meadows  
Caleb Winter, Metro  
Hans Wipper, Collins Lake Resort/Skibowl

**COPY TO:**

**PREPARED BY:** Terra Lingley, CH2M Hill

**DATE:** September 21, 2012

The fourth Partners Group meeting of the Mt Hood Alternative Transit Opportunities and Transportation Demand Management within the Mt Hood National Forest was held on August 8<sup>th</sup>, from 1:00 – 4:00 p.m. at the Mt. Hood National Forest Offices in Sandy. The purpose of the meeting was to review the draft pilot program and discuss potential funding sources.

### Welcome

Sumi Malik welcomed the group, and reviewed the agenda. Members present introduced themselves.

### Review Draft Pilot Program and Updated Strategies Documents

Sumi and Terra presented the draft pilot program by strategy. The following strategies are included in the draft program:

- Parking policies
- Transportation System Management, Intelligent Transportation Solutions
- Transit and Park and Rides
- Transportation Demand Management
- Transportation Management Association

After each strategy, the group discussed specific strategies. Sumi and Terra then asked a few key questions and captured the answers in a document projected at the meeting.

Key Questions included:

1. Can we make any of these recommendations more specific?
2. Which are those that are not able to be implemented in 1-5 years?

3. What resources, partnerships, and organizational support is needed to implement these recommendations?
4. Who is willing to commit to being a champion to help implement this recommendation? Who is a supporter?

The conversation and key questions and answers are included in the specific strategy sections below.

### **Parking Policies**

Sumi presented the recommendation to explore adding a potential additional sticker and fee to parking passes within the Mt Hood National Forest. This would need to be explored with ODOT, the Forest, and the existing Sno-Park Program.

Comments included:

- The Forest Service currently does not allow preferential parking on Forest Land. Changing this would need to be explored
- Tom Torres explained that the Forest Service cannot charge for parking, but they can charge an activity use fee
- Matthew Drake indicated that the current Sno-park program is broke
- Caleb Winter suggested that benefits of the parking policy include reducing congestion, enhancing safety, and reducing the cost of travel for those who take transit
- The next important step is to identify barriers and issues that would need to be addressed in the pilot program
- Make sure that it is obvious that the recommendation is to explore changing the parking policy
- Would need to ensure that the charges are simple – the ski areas don't want to overwhelm visitors with multiple fees
- Another thing to include would be to determine how many visitors would potentially buy the additional pass and the potential for increased revenue to dedicate to transit or other activities
- What are the administrative and enforcement costs?
- Jon Tullis noted that Karen Morrison at ODOT would have the latest statistics from the Sno-Park program since it was presented to the legislature recently
- There are two ways of looking into changing the policy, one is through ODOT looking into the Sno-park Program, and the other is through the Forest Service, looking at charging a use fee for vehicles.
- Add in that there are currently around 28 Sno-Parks in the Forest
- Preferential parking for carpools is not currently allowed and would be a logistical challenge and inconvenience to visitors (either entering a separate queue or being in a longer queue because staff are checking vehicle occupancy).
- The Partners Group recommended further evaluation of parking policies as part of the Mt. Hood Multi-Modal plan.

Responses to the key questions are as follows:

Can we make any of these recommendations more specific?	Implementable in 1-5 years?	Resources, partnerships, and organizational support are needed to implement these recommendations?	Who is willing to commit as Champion?	Who is a supporter?
Define the season. Clarify that the recommendation is to explore	Exploring is implementable in 1-5 years. Resistance (Political to proposal)	ODOT (DMV), Forest Service, Ski Areas, WRAC (All user groups including snowmobiling, Nordic skiers, hiking/climbing, etc.)	ODOT to explore Sno-Park program and administrative and legislative environment. Look at institutional barriers/options. Forest Service - explore potential to charge a use fee specific to areas (year-round? Seasonal?) ODOT and FS to explore two different options for fees	Forest Service, ODOT, CAT, Mt Hood Meadows, Sea to Summit, Grease Bus, Luxury Accommodations

**Transportation System Management, Intelligent Transportation Systems**

Sumi then presented the multiple TSM and ITS recommendations, which mostly include actions for ODOT and local law enforcement to respond to incidences on the mountain more quickly.

Comments included:

- The OSP and/or Sheriffs have a spot at the ODOT maintenance office, and at the Resort at the Mountain, though they are not always staffed
- Need to have officers enforce the chain-up laws and perhaps contract with a private company to staff/flag chain up areas
- Fines from increased enforcement could be a source of revenue
- Need to include reversible lanes on US 26, along with lane indicators, variable speed limit signs, and a sign bridge to indicate where the lanes are in snowy conditions. The \$1.2 million grant ODOT received represents an opportunity to work towards a solution that is bolder than additional VMS signs.<sup>1</sup>
- Explore potential to coordinate among ski areas for VMS

<sup>1</sup> ODOT has received a grant of \$1.2 million and will develop Intelligent Transportation System solutions based on that grant. ODOT can *explore* implementing reversible lanes. Roadway geometry at intersections, for climbing lanes, and other safety considerations are a major component of any reversible lane project and would need to be evaluated.

Responses to the key questions are as follows:

<b>Can we make any of these recommendations more specific?</b>	<b>Implementable in 1-5 years?</b>	<b>Resources, partnerships, and organizational support are needed to implement these recommendations?</b>	<b>Who is willing to commit as Champion?</b>	<b>Who is a supporter?</b>
Explore adding reversible lanes on U.S. 26 <sup>2</sup> Ski resorts recommend looking at reversible lanes and intelligent management of travel lanes as a (the?) solution. Optimize the existing infrastructure within the existing ROW	Yes, this is the most important part of the project – using the existing facilities smarter	Oregon State Police, Sheriff, ODOT, Freight Stakeholders, Affected Communities	Forest Service, ODOT	Mount Hood Meadows, Skibowl, Clackamas County,
Sign bridge to display lane conditions,		ODOT	Forest Service, ODOT	Mount Hood Meadows, Skibowl, Clackamas County,

### Transit and Park and Rides

Terra presented the ideas for expanding public and private transit and associated park and rides.

Comments include:

- Add Skibowl circulator and Mt Hood Meadows (PDX to Mountain) privately provided transit – Mt Hood Meadows.
- Would TriMet or other transit agencies be willing to lease their equipment during weekends when their service isn't as frequent? In the past, TriMet had service to Mt. Hood, but eliminated it, in part, due to damage to their busses.
- Were specific Park and Rides identified?
  - Terra answered that it made more sense to identify general areas so the transit concept isn't tied to a park and ride and fail when it is unsuccessful.
- Sea to Summit would be willing to add an additional trip from Sunset Transit Center
- Need to have conversations with owners of existing lots and private land owners
- Sometimes private landowners feel like they have less liability and like the idea of more visitors to adjacent businesses

<sup>2</sup> ODOT has received a grant of \$1.2 million and will develop Intelligent Transportation System solutions based on that grant. ODOT can *explore* implementing reversible lanes. Roadway geometry at intersections, for climbing lanes, and other safety considerations are a major component of any reversible lane project and would need to be evaluated.

- Like the recommended use of school parking lots for Park and Rides
- Focus on employee service too – not just the recreational trip – particularly for public transit
- What is the difference between a transportation management association (TMA) and a transit authority?
  - A TMA is a non-profit and can include a public-private partnership to manage services, parking, and market for all entities. A transit authority would be an authority (like TriMet) that would only run transit
- Timberline would be willing to explore service from Government Camp to Timberline if there was a good place (Park and Ride) for visitors to park in Government Camp
- Mountain Express extending up to the mountain, especially for the local accessibility for employees and the transit dependant makes a lot of sense with the organizational mission
- The big question was how all of these improvements will be funded

Responses to the key questions are as follows:

Can we make any of these recommendations more specific?	Implementable in 1-5 years?	Resources, partnerships, and organizational support are needed to implement these recommendations?	Who is willing to commit as Champion?	Who is a supporter?
Keep Park and ride locations general.	Yes – as long as money is available soon	Most other places have some organization that can fund and operate.	Grease Bus, Sea to Summit, Luxury Accommodations, Mt. Hood Meadows, Timberline, Skibowl, CAT, Mountain Express	Forest Service, ODOT,

### Transportation Demand Management

Terra walked through the TDM recommendations including carpooling online tools and a traveler webpage.

Comments include:

- Concerned that multiple websites would add complexity when visitors try and find information
- Everyone already uses ODOT’s Tripcheck – is there a way to get everything on there? Focus on improving that website first
- Tom mentioned that he only uses Apps anymore – could there be an app for data on the mountain. Members suggested that the ODOT data are public, so it could be done
- Is there a way to compile all of the information available into one spot so visitors can make informed choices when traveling to the mountain?
- Keep the additional cell coverage on the mountain concept in the pilot program – cell service is spotty on the mountain – there is a proposal to add a cell tower in Welches at Clackamas County on September 6<sup>th</sup>
- During wildfire season, Verizon provides temporary cell service for emergency response
- Not everyone has a smart phone or web access, but it can make a difference on trying to reduce congestion on the mountain

- Websites are only as good as the data that support them
- Don't want visitors to check these websites or tools while driving

Responses to the key questions are as follows:

<b>Can we make any of these recommendations more specific?</b>	<b>Implementable in 1-5 years?</b>	<b>Resources, partnerships, and organizational support are needed to implement these recommendations?</b>	<b>Who is willing to commit as Champion?</b>	<b>Who is a supporter?</b>
Need to identify who will host, what data are included, how to ensure it isn't more clutter on the web	Cell tower needs to be within 1-5 years	Some entity (TMA?), to host up-to-date data	Forest Service, ODOT (trip check coordination)	All partners were in support

### Transportation Management Association

Terra presented the final strategy, the TMA.

Comments include:

- This should be one of the first items in the Pilot Program because it helps pull together all of the pieces. Relate the TMA more explicitly to expanded transit and the other recommendations
- Is the TMA implementable in the next 5 years? Depends on the level of organization – the group could meet informally similar to the Gorge Translink model that Dan from CAT shared with the group
- The TMA could start informal (coordination, no decision-making) and then move into something more formal
- The group agreed they'd like to meet in mid-September.

Responses to the key questions are as follows:

<b>Can we make any of these recommendations more specific?</b>	<b>Implementable in 1-5 years?</b>	<b>Resources, partnerships, and organizational support are needed to implement these recommendations?</b>	<b>Who is willing to commit as Champion?</b>	<b>Who is a supporter?</b>
Create an informal group that continues to meet after this process is done.	Yes – group talked about meeting in September when the Pilot Program is finished	Commitment from all parties to work to support the TMA, continued momentum to keep working towards solutions	ODOT and Forest Service - can champion hosting ongoing meetings as a good segue into the Mt Hood Multimodal Plan	All partners were in support

### Focus on Funding

Sherrin Coleman from ODOT transit distributed two pieces of information for the group on the impacts of the new Federal Transportation Bill (MAP-21: Moving Ahead for Progress in the 21<sup>st</sup> Century), and a powerpoint from ODOT's Public Transit Division reorganization that included funding information. She talked a bit about how some of the "buckets" for funding were going away, though funding was kept at the same level as the previous

transportation bill level. She also talked about how a non-profit organization could receive federal dollars and distribute to private transit providers for operations, but that the organization and other requirements can be a barrier for groups since Federal money is fairly stringent on what it can be used and the reporting practices.

The following sources could potentially be considered in the future:

- Public Private Partnerships
- 5311 Federal Transit Authority (FTA) funds: Rural and Small Cities – requires a local match
- 5310 FTA funds: People with disabilities and older populations – would need to be ADA accessible and requires a local match
- Sponsors (similar to the Grease Bus model)
- Payroll taxes (similar to the SAM or TriMet model)
- Taxing district
- Transit Utility Fee
- Sales tax
- General Funds (Cities, counties)
- Hotel tax

## **Next Steps**

The project team will update the draft Pilot Program based on the input received from the Partners Group. If there are additional comments on the material presented at the Partners Group meeting, please get them to Sumi or Terra by August 17<sup>th</sup>. The final pilot program will be produced in the middle of September. ODOT and the Forest Service will take the lead in convening the group in September to continue to work on these solutions and potentially form the TMA. The Project Leadership team will hear a presentation of the pilot program at the end of September.

**Appendix D**  
**Preliminary Strategies and Evaluation**

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# Mt. Hood National Forest – Alternative Transit Opportunities and Travel Demand Management

## Parking Policies

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Between November 1<sup>st</sup> and April 30<sup>th</sup>, valid Sno-Park permits are required to park in designated winter recreation areas, including at the ski resorts. There are a number of Sno-Park areas adjacent to Mt Hood Recreational areas (including the parking lots of all three major ski areas), and the Sno-Park program helps maintain and plow parking at these areas. Users purchase a transferrable parking permit and are required to display the permit when parked at any areas with signs identifying them as Winter Recreation Areas statewide. Permit holders can park in any recreation area where a permit is required. Permits can be purchased at DMV offices and permit agents in resorts, sporting goods stores, and other retail outlets, which are allowed to charge an additional service fee for each permit they sell. The cost of the annual permit provides a discount to frequent Sno-Park users over the three day and daily permits. Funds from the Sno-Park program provide for snow removal and parking enforcement. In recent years enforcement has been increased due to the high number of visitors who fail to purchase a permit. The table below includes Sno-Park Fees including the fine for parking without a permit.

TABLE 1  
Sno-Park Fees and Fines

Type of permit	Fee <sup>1</sup>
Annual	\$20
3-day (Consecutive)	\$7
Daily	\$3
Fine for Parking without a permit	\$30

<sup>1</sup> [Agents](#) (resorts, sporting goods stores, and other retail outlets ) are allowed to charge an additional service fee for each permit they sell.

Source: [http://www.oregon.gov/ODOT/DMV/vehicle/sno\\_park\\_permits.shtml](http://www.oregon.gov/ODOT/DMV/vehicle/sno_park_permits.shtml)

### Potential Recommendation

Explore the potential for a Mt. Hood surcharge for Sno-Park permits, with the surcharge to be used to fund increased transit and TDM measures. The surcharge could be purchased as an add-on sticker to the annual, 3-day or daily Sno-Park permits for use within the Zig Zag and Hood River Ranger Districts (the areas with the highest winter recreation use and parking demand, and that experience highway congestion and high crash rates). Work with both ODOT and Mt. Hood National Forest to fully understand the regulatory environment.

A key question is how the revenue would be used. Those who pay the fee will want to know what benefit the fee provides. Revenues could be used to subsidize transit and traveler information and other pilot program strategies. Economic analysis would need to be conducted to better determine revenue potential.

Some questions would need to be resolved before an additional fee is implemented, and these include:

- How high would the additional cost to park need to be to begin to shift some travelers to carpools and transit?
- What is the risk of some travelers simply not taking the trip because parking prices are high or if they think carpooling and transit is an inconvenient alternative?

The goal is not to reduce the number of people who take a trip to the mountain; the goal is to encourage higher vehicle occupancy and expanded transit usage for winter recreation trips.

In addition to a surcharge on the Sno-Park program, explore opportunities to provide preferential parking, parking that is closer to lifts, for carpools of 3 or 4 or more passengers.

Alternatives could include creating a special district for winter recreation areas, or using different pricing based on peak or non-peak times. Also, creating a special taxing district (potentially in conjunction with creating an Area Commission on Transportation [ACT] could help define where these limits are).

### **Advantages**

If a visitor takes transit to a ski resort, they would avoid the additional parking fee; creating a modest incentive for transit usage (the visitor would still have the cost of travel time and the transit fare). Revenues from the additional parking fee could be used to pay for snow removal and to subsidize transit service to the mountain. If a carpool (3 or 4 + passengers) goes to a ski resort, they could have preferential parking closer to the lodge or lifts, or a reduced parking fee.

### **Disadvantages**

The regulatory environment is complex, and more research needs to be done to understand what is possible. The Sno-Park Program is a State program administered by ODOT. In this case, likely through an intergovernmental agreement, the Forest Service cannot charge an additional fee above the State's Sno-Park fee. Any agreement, the terms of the agreement, and the regulations that apply to parking must be researched. Revenues may also be required to be spent on-site, and may possibly not be allowed to be spent on transit.

Average vehicle occupancy rates are already high, around 2.4-2.6 persons per vehicle. This potential policy may reward existing carpools instead of being an incentive for visitors to change their travel behavior. Preferential parking, such as closer spots for carpools, is currently not allowed. Research must be done to understand this regulation better. Some logistic questions would need to be resolved:

- Would a separate queue need to be developed for carpool parking?
- How would a carpool of 3 or 4 or more be determined in whiteout conditions?
- Would the ski areas be amenable to potential additional staffing required to manage the carpool determination?

Parking Policies Evaluation

Criteria Category	Description	Rating		Strategies
Evaluation Criteria				Parking Policies
Increased transportation options	Does the strategy provide additional transportation options or expand existing transportation options?	●	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	●
		◐	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)	
		○	Minimally or does not increase alternative options for transportation or expand existing transportation options	
Leverages Existing Transit	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	●	Greatly utilizes, expands, or integrates with existing transit	●
		◐	Moderately utilizes, expands, or integrates with existing transit	
		○	Minimally or does not utilize, expand, or integrate with existing transit	
Leverages Existing or Creates New Transportation Demand Management (TDM) programs	To what extent would the strategy leverage existing or create new TDM programs?	●	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	●
		◐	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program	
		○	Minimally or does not utilize, expand, or integrate existing programs	
Improves Safety	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	●	Addresses multiple known safety issue(s), and does not add new operational safety concerns	●
		◐	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues	
		○	Does not address known safety issue(s)	
Considers Unique Needs of Seasonal Recreation Markets throughout the Year	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	●	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	○
		◐	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.	
		○	Does not provide a solution that considers seasonal changes in recreational user's needs	
Considers Unique Needs of Employees	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	●	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	●
		◐	Provides a solution that somewhat considers the unique needs of employees.	
		○	Does not provide a solution that considers seasonal changes in employees user's needs	
Considers Unique Needs of Residents	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	●	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	○
		◐	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.	
		○	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.	
Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	●	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode	○
		◐	Provides a solution that somewhat shifts freight or traffic demand	
		○	Provides a solution that does not shift freight or through traffic demand	

Parking Policies Evaluation

Criteria Category	Description	Rating		Strategies
Evaluation Criteria				Parking Policies
<b>Increases Economic Opportunities for Commercial Enterprises</b>	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	●	Yields a substantial increase in multiple existing business and promotes new business	○
		◐	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place	
		○	Yields minimal increase in existing business and promotes minimal new business	
<b>Provides Financial or Travel Time Incentives for Alternative Modes of Transportation</b>	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	●	Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	◐
		◐	Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	
		○	Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	
<b>Provides Implementable and Financially Sustainable Solutions</b>	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	●	Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)	●
		◐	Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program	
		○	Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program	
<b>Benefits from Support of Multiple Entities/Partnerships</b>	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	●	More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.	◐
		◐	Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified	
		○	The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it	
<b>Higher Magnitude of Benefits</b>	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	●	Benefits accrue to many users/markets or over a greater number of user days.	◐
		◐	Benefits accrue to fewer users/markets or over fewer number of user days	
		○	Benefits accrue to the least number of users/markets or over the least number of user days	
<b>Equity</b>	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	●	Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	◐
		◐	Strategy partially distributes benefits and impacts among a wide range of populations and user groups	
		○	Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children	
<b>Capital Costs</b>	What is the order of magnitude capital cost for the strategy?	●	Capital costs are relatively low (\$100,000 or less)	●
		◐	Capital costs are moderate (\$100,001 to \$1,000,000)	
		○	Capital costs are high (\$1,000,001 or more)	
<b>Operating Costs</b>	What is the order of magnitude operating cost for the strategy?	●	Operational costs are relatively low (\$100,000 or less)	◐
		◐	Operational costs are moderate (\$100,001 to \$1,000,000)	
		○	Operational costs are high (\$1,000,001 or more)	
<b>Outcome Criterion: Affected Parties Support</b>	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able	Yes/No	If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria.	? - need to check with ODOT
			If No, the strategy will no longer be considered.	

# Mt. Hood National Forest – Alternative Transit Opportunities and Travel Demand Management

## Expand Transit and Park and Rides

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### Expand Private Transit Services

Private transit service already exists on Mt Hood, and there are a number of providers including:

- Fusion Shuttle (Luxury Accommodation) - weekends and holidays only, end of November to end of February, Sandy to SkiBowl and Timberline
- Grease Bus - 6 days a week (Tuesday through Sunday), Portland to Mt Hood Meadows
- Sea to Summit – dependent upon ridership, year round, Downtown Portland to all three ski areas. Also provides trips to summer destinations.
- Ski package shuttles run by Mt Hood Meadows – every day during the ski season, Portland to Mt Hood Meadows
- Shuttle run by Mt Hood Meadows – December through February, weekends and holidays only, Collins Lake Resort to Mt Hood Meadows
- Other charter services (Aspen Limo Tours, Hood River B.R.T., Blue Star Airporter, Raz Transportation, Martin’s Tours, Shuttles & Charters, Eco Shuttle) – year round, Portland to Mt Hood, based on demand

Currently private transit services operate mainly during the ski season, and some providers only operate on the weekends and holidays, when demand is highest to the ski areas. Some providers operate year round.

### Potential Recommendation

Expand private transit services to provide more transit options.

Gaps in existing private service include:

- Lack of trips between Hood River and the ski areas
- A season-long circulator bus “on the mountain” between Government Camp and all three major ski areas
- Regular summer private transit (outside charters), particularly to popular destinations such as Timberline Lodge. The service could be a guided tour.

Expanding private transit services would require:

- Funding support to expand existing services.
- Consider advertising and marketing through local businesses to help support transit service, and as a way of attracting riders could include complimentary food and beverage through local providers in exchange for marketing.
- Coordination and cooperation between the various private service providers could help simplify and provide full transit service coverage to the Mountain.

- Additional vehicles with winter driving condition capabilities (4 wheel drive, studded tires, chains, etc)
- Potentially more park and ride areas for users in Portland or along US 26 or OR 35

Look into ways to break down barriers to public transit funds for private parties. Leverage Federal funding to help purchase vehicles (EPA, transit in the parks funds).

## Advantages

- This idea would continue existing service, and increase access to transit.
- Providers already have infrastructure (websites and mailing lists) for customer outreach.
- Providers already have some vehicles, gear, and trained drivers for driving conditions on the mountain.
- Private transit providers are flexible and can adapt to demand, for example, only making the trip if there are riders for the trip, creating a cost-effective model for transit service.
- Done right, transit stops could support local businesses, potentially creating economic development in the study area. Could partner with recreation and other local businesses for sponsorship (similar to the Grease Bus model).

## Disadvantages

- Private providers are not as accountable to public, and could therefore stop service at any time.
- Providers need to cover all costs either through fare collection or sponsorships.
- All providers would need monetary support (grants or partnerships) to expand existing services and buy additional vehicles to meet demand.
- Private providers do not have infrastructure such as stops (shelters, signs) or vehicle depots in the study area.

## Expand Public Transit Services

There are three public service providers in the study area:

- Mountain Express (Sandy to Rhododendron), supported through Clackamas County. Deviated fixed route. \$2 per trip. Expanding Mountain Express makes the most sense – as the County is interested in expanding to Government Camp along US 26.
- Sandy Area Metro (SAM), local loop routes in Sandy, connecting to Gresham and Estacada. Free for riders. SAM is not interested in expanding service to Government Camp
- Columbia Area Transit (CAT) run by Hood River County Transportation District. Hood River to The Dalles loop, The Dalles to Clackamas Town Center in Portland, Hood River to White Salmon/Bingen, dial-a-ride service. Depending on the route, \$1.50-\$8 per trip. CAT may be interested in expanding service along OR 35, but would need to overcome obstacles and concerns from the last time they provided service from Hood River.

## Potential Recommendation

Expand public transit to provide more transit options.

Current public transit gaps include:

- No service between Rhododendron and Government Camp
- No service between Hood River and Government Camp
- No service to any of the ski areas, snow play areas or summer recreation areas
- Limited hours and routes
- Uncertain funding futures for existing operations, little funding available to expand existing operations
- No coordinated, comprehensive transit network between providers (SAM and Mountain Express coordinate to some extent for connecting in Sandy)
- Loop or service to trailheads popular in the summer
- No “one-seat” public transit ride from Portland to destinations in the forest

Expanding public transit would require:

- Stable and sustainable funding source (taxing district, subsidies/sponsorships from businesses, etc) – potential opportunity for Public Private Partnerships, especially for operations and maintenance costs.
- Potentially increasing fares to support expanded service
- Funds for capital investments (stops, buses, etc). Explore Federal funding sources to buy buses or bus stops through the Access Program.
- Address rowdy passengers and attract a range of riders besides underage users to create a more pleasant experience for all riders (previous CAT experience to Mt Hood Meadows)
- Park and ride areas for riders
- Coordination of transit service between Counties (Hood River and Clackamas).

### Advantages

- Public transit providers adhere to a schedule or route independent of demand. This creates a dependable and reliable service model
- Existing service already has infrastructure in place: buses, routes, websites, stops, etc.
- Public transit is eligible to receive Federal Transit Authority (FTA) grants and other federal funds that private providers are not.
- Public transit fares are much less expensive than the private transit provider ride fees.

### Disadvantages

- There is funding insecurity for long-term operations – Mountain Express relies on BETC funding, which is sunsetting in 2015.
- Would need funding support to continue and expand operations.
- SAM does not have any current plans to expand to Mt Hood, and it is possible that there is not a lot of interest to expand.
- To provide longer trips or trips up the mountain, public transit agencies may need to raise ticket prices (or charge a fee).

- Expanding service to the mountain could potentially limit the ability of public transit providers to serve rural, low-income, elderly, and transit dependant populations due to demand for transit to the ski and recreation areas.
- CAT provided transit service to the mountain in the past, and had problems with unruly passengers. These issues would need to be addressed before CAT expanded service once again.

## Existing Parking Areas for Park and Rides

Existing Parking includes lots that would not require environmental analysis to build and start using as they are already paved, and in most cases plowed (if necessary). These park and ride locations could be used immediately, and some of these lots are already being used as park and rides (the Bi-Mart lot in Sandy is a Fusion Shuttle pick-up location). Additionally, some of the private providers (Sea to Summit, Fusion Bus, and the Mt Hood Meadows charter buses) already use park and rides in Portland and Sandy to pick up riders.

### Potential Recommendation

Expand use, advertising and locations for park and ride lots both in Portland and along the US 26 or OR 35 corridors using some existing parking lots described in Tables 1 and 2.

Potential park and ride locations are broken into two different areas: ones on the US 26 or OR 35 corridor, and park and ride locations in the Portland Metro area. Park and rides could be utilized by both ridesharing/ carpooling travelers or by travelers switching from a private vehicle to a transit vehicle. Most literature suggests that users who carpool and meet at park and rides are more likely to do so when the trip is longer, so recommending park and rides in Portland for carpool/vanpools may be more effective than park and rides in Sandy or closer to the mountain.

Any park and ride would need to be coordinated with the landowner (either TriMet or private), and could require additional user agreements in order to be advertised as park and rides for mountain recreational users. Table 1 shows the location, approximate number of spaces and amenities associated with each of the potential park and ride locations along the US 26 and OR 35 corridors.

TABLE 1  
Park and Ride Location Information on US 26 and OR 35 Corridors

Location	Number of spots	Ease of Access (Afternoon Peak hour)	Nearby Commercial	Facilities nearby?	Below snow line?
<b>Public Schools</b>					
Sandy High School, behind Safeway near Bluff Road north of US 26.	~200	Would require users to make a right turn into westbound traffic on US 26 (relatively easy) to leave the lot	None	No	Yes
Firwood Elementary School, east of Sandy, south of US 26	~120	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	None	No	Yes
Welches Elementary School, off of Woodsey Way or Salmon River Road, south of US 26	~50	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	One – Barlow Trail Roadhouse	No	Not most years
<b>Churches and other organizations</b>					
Sandy Assembly of God Church, East of Sandy just east of where the US 26 couplet comes together, south of US 26	~120	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot, also near US 26 couplet merge east of Sandy	Downtown Sandy	Yes	Yes
Kiwanis Camp, just west of the Mirror Lake Curves on Kiwanis Camp Road/NF 2639, north of US 26	~50	Would require users to make a right turn into westbound traffic on US 26 (relatively easy) to leave the lot	None	Some at the camp	No
Clackamas County Information Center, off of Camino Rio Road between Brightwood and Welches, south of US 26	~100	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	None	Mt Hood Village Resort	Not most years
Sandy Transit Operations Facility Park and Ride (16610 Champion Way)	30	Intersection of Champion Way and US 26 is signalized. (Relatively easy)	Yes	Yes	Yes
Mt Hood Town Hall	~50	Near OR 35 and Cooper Spur Road (Hwy 281) Relatively easy to access – right turn from the lot onto OR 35 northbound.	No	Yes	Yes
<b>Near existing Services (Commercial Parking lots)</b>					
Safeway Parking Lot in Sandy, north of US 26	~300	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes
Bi-Mart Parking Lot in Sandy, north of US 26. (Already used by Fusion Shuttle)	~300	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes

TABLE 1  
**Park and Ride Location Information on US 26 and OR 35 Corridors**

Location	Number of spots	Ease of Access (Afternoon Peak hour)	Nearby Commercial	Facilities nearby?	Below snow line?
Fred Meyer and other strip commercial development in Sandy, south of US 26	~700	Intersection is signalized- easy access	Yes – strip mall development	Yes	Yes
Thriftway in Welches, south of US 26	~50	Intersection is signalized- easy access	Yes – strip mall development	Yes	Not most years
Zig Zag Ranger Station, east of Salmon River Road, Zig Zag. South of US 26	~40	Would require users to make a left turn into westbound traffic on US 26 (difficult) to leave the lot	One – Zig Zag Inn	No	Not most years
Wal-Mart Parking Lot in Hood River, (CAT has a bus stop already). North of OR 30.	~500	Would require users to make a right turn into westbound traffic on OR 30 (relatively easy) to leave the lot	One – Wal-Mart	Yes	Yes
Safeway Parking Lot in Hood River, south of OR 30	~400	Would require users to make a left turn into westbound traffic on OR 30 (potentially difficult) to leave the lot	Yes – strip mall development	Yes	Yes

Table 2 shows existing park and ride locations in the Portland Metro area owned by TriMet, and the approximate travel time between the lot and Government Camp. Additional park and ride locations in the Portland Metro area may also be appropriate, for example, sporting goods stores (such as REI, already in use by Sea to Summit). These locations are not indicated in this table due to the large number of applicable parking lots in Portland. Such locations exist throughout the metro region and would be most effective when paired with private or public transit and implemented as a cohesive strategy.

TABLE 2  
Park and Rides in the Portland Metro Area

Location	Number of spots	Travel time* (to Government Camp)	Owner
Sunset TC Parking Garage – 10470 SW Barnes Rd, Beaverton	630	1 hour, 30 minutes	TriMet
Elmonica/SW 170 <sup>th</sup> Ave – 1200 SW 170 <sup>th</sup> Ave, Beaverton	435	1 hour, 40 minutes	TriMet
Clackamas Town Center Parking Garage – 9225 SE Sunnyside Rd, Portland	750	1 hour, 10 minutes	TriMet
SE Fuller Rd Park and Ride – 9608 SE Fuller Rd, Clackamas	610	1 hour, 10 minutes	TriMet
E 181 <sup>st</sup> Ave Park and ride - 18324 E Burnside St, Gresham	247	1 hour	TriMet
Cleveland Ave Park and Ride - 1200 NE 8th Ave, Gresham	392	50 minutes	TriMet
Gresham City Hall - 1297 NW Eastman Pkwy, Gresham	305	55 minutes	TriMet
Gresham Parking Garage – 523 NE 8 <sup>th</sup> St, Gresham	540	50 minutes	TriMet
Quatama/NW 205 <sup>th</sup> Ave Park and Ride – 350 NW 205 <sup>th</sup> Ave, Hillsboro	310	1 hour, 30 minutes	TriMet
Willow Creek/SW 185 <sup>th</sup> Ave TC Park and Ride, SW 185 <sup>th</sup> Ave, Hillsboro	595	1 hour, 40 minutes	TriMet
Milwaukie Park and Ride – 9600 SE Main, Milwaukie	329	1 hour, 10 minutes	TriMet
E 122/Menlo Park Park and Ride – 12202 E Burnside, Portland	612	1 hour	TriMet
Barbur Blvd Park and Ride – 9712 SW Barbur Blvd, Portland	368	1 hour, 20 minutes	TriMet
Delta Park/Vanport - 1940 N Victory Blvd., Portland	304	1 hour, 20 minutes	TriMet
Gateway/NE 99 <sup>th</sup> Ave TC Park and Ride - 1321 NE 99 <sup>th</sup> Ave, Portland	690	1 hour, 10 minutes	TriMet
Parkrose/Sumner TC Park and Ride - 9625 NE Sandy Blvd, Portland	193	1 hour, 10 minutes	TriMet
Tigard Transit Center Park and Ride – 8960 SW Commercial, Tigard	103	1 hour, 30 minutes	TriMet
Tualatin Park and Ride – SW 72 <sup>nd</sup> Ave and SW Bridgeport Rd	466	1 hour, 20 minutes	TriMet
Wilsonville Park and Ride – 9699 SW Barber, Wilsonville	399	1 hour, 30 minutes	TriMet

\*In non-winter conditions according to Google Maps directions, using US 26. This travel time could take much longer during winter or congested conditions.

### Advantages

- Using existing lots reduces the need to construct new lots.
- Existing lots are likely to be near infrastructure and services (restrooms, shops, etc).
- These lots are likely already maintained by a third party, and adding transit would simply require signage and a location to load/unload passengers.

- Existing businesses could benefit from increased traffic in the parking lots as riders make purchases or visit shops while waiting for the bus or carpool.
- These lots can be selected in conjunction with public or private transit service for optimal locations.
- Advertise to potential users with the benefits of park and rides:
  - Could reduce pressure to find a parking spot in limited parking lots at ski areas and snow-parks
  - Could avoid driving in snowy conditions
  - Avoid paying potential future or existing Sno-Park fees.

### Disadvantages

- Businesses may object to parking lot spaces being used for park and rides, especially during holiday and other peak business days/hours.
- Depending on the location of the park and ride, it could be difficult to turn into/out of during peak hours for both riders and transit vehicles. Specifically Park and rides on the south side of US 26 would be difficult for vehicles to turn onto westbound US 26 after getting dropped off. Park and rides on the north side of the highway may be better suited – they make a left turn across westbound traffic when there is little oncoming traffic, and then a right turn into the more congested lane when leaving. This is less of a concern for the Portland-area park and rides.
- Disadvantages for the traveling public is the increased time needed to park and wait for a transit vehicle or carpool/vanpool, the need to transfer gear and people from a personal vehicle to a transit vehicle, and the length of trip they have already made to get to the park and ride.
- The longer the trip in a private vehicle, the less likely travelers are to switch vehicles at a park and ride nearer to their destination as there is little benefit (time, gas consumption, etc) to changing vehicles.

## Potential Future Areas for Park and Rides

There are a few potential sites for future park and rides along the US 26 corridor and within the City of Hood River.

### Potential Recommendations

- Explore developing a park and ride in Welches east of the Thriftway. There are four acres east of Thriftway in Welches, on the south side of US 26. This land is privately owned, and the owner has expressed willingness to develop a park and ride on the property. Depending on design, 400-600 spots could be accommodated on 4 acres. This area is below the chain-up areas on US 26.
- Utilize the CAT park and ride being developed in Hood River. The site is located just east of WalMart in Hood River off of Wasco Court, and will be able to accommodate fewer than 50 vehicles. This could be developed within the next year depending upon funding. The lot will have easy access to OR 30 and OR 35.
- Another potential location is a 1.72 acre lot near the interchange of I-84 and OR 35 in Hood River. The lot will be able to accommodate between 170 and 340 cars, depending on design. The lot is currently privately owned and development of a park and ride would require the City or other entity to either purchase or lease the land.

**Advantages**

- New park and rides could be designed and set up in a way that makes it easy to access and with the amenities important to riders.
- The areas are below chain-up areas on US 26 and OR 35, and could be advertised as a way to avoid using chains
- Could be serviced with a loop-type service with more frequent headways than existing private or public transit
- Welches is in the Mountain Express service area, and the Hood River park and rides are in the CAT service area.

**Disadvantages**

- Would require design and construction support and funding for the park and rides not currently planned.
- Would require on-going maintenance and operations including snow removal at times
- Park and rides closer to destinations are less likely to be effective, especially if travelers have already driven themselves a significant distance



Criteria Category	Description	Rating	Strategies				
			Expand Private Transit	Expand Public Transit	Existing Parking areas	Future Parking Areas	
<b>Evaluation Criteria</b>							
<b>Increased transportation options</b>	Does the strategy provide additional transportation options or expand existing transportation options?	●	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	●	●	●	●
		◐	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)				
		○	Minimally or does not increase alternative options for transportation or expand existing transportation options				
<b>Leverages Existing Transit</b>	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	●	Greatly utilizes, expands, or integrates with existing transit	●	●	●	●
		◐	Moderately utilizes, expands, or integrates with existing transit				
		○	Minimally or does not utilize, expand, or integrate with existing transit				
<b>Leverages Existing or Creates New Transportation Demand Management (TDM) programs</b>	To what extent would the strategy leverage existing or create new TDM programs?	●	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	◐	◐	◐	◐
		◐	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program				
		○	Minimally or does not utilize, expand, or integrate existing programs				
<b>Improves Safety</b>	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	●	Addresses multiple known safety issue(s), and does not add new operational safety concerns	◐	◐	◐	◐
		◐	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues				
		○	Does not address known safety issue(s)				
<b>Considers Unique Needs of Seasonal Recreation Markets throughout the Year</b>	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	●	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	●	●	●	◐
		◐	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.				
		○	Does not provide a solution that considers seasonal changes in recreational user's needs				
<b>Considers Unique Needs of Employees</b>	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	●	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	◐	●	●	◐
		◐	Provides a solution that somewhat considers the unique needs of employees.				
		○	Does not provide a solution that considers seasonal changes in employees user's needs				
<b>Considers Unique Needs of Residents</b>	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	●	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	◐	●	○	○
		◐	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.				
		○	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.				
<b>Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors</b>	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	●	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode	○	○	○	○
		◐	Provides a solution that somewhat shifts freight or traffic demand				
		○	Provides a solution that does not shift freight or through traffic demand				
<b>Increases Economic Opportunities for Commercial Enterprises</b>	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	●	Yields a substantial increase in multiple existing business and promotes new business	◐	◐	◐	◐
		◐	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place				
		○	Yields minimal increase in existing business and promotes minimal new business				

Criteria Category	Description	Rating	Strategies				
Evaluation Criteria			Expand Private Transit	Expand Public Transit	Existing Parking areas	Future Parking Areas	
Provides Financial or Travel Time Incentives for Alternative Modes of Transportation	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	●	Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	○	●	○	○
		◐	Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system				
		○	Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system				
Provides Implementable and Financially Sustainable Solutions	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	●	Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)	◐	◐	●	○
		◐	Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program				
		○	Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program				
Benefits from Support of Multiple Entities/Partnerships	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	●	More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.	●	●	●	◐
		◐	Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified				
		○	The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it				
Higher Magnitude of Benefits	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	●	Benefits accrue to many users/markets or over a greater number of user days.	◐	●	◐	◐
		◐	Benefits accrue to fewer users/markets or over fewer number of user days				
		○	Benefits accrue to the least number of users/markets or over the least number of user days				
Equity	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	●	Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	○	●	◐	◐
		◐	Strategy partially distributes benefits and impacts among a wide range of populations and user groups				
		○	Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children				
Capital Costs	What is the order of magnitude capital cost for the strategy?	●	Capital costs are relatively low (\$100,000 or less)	◐	◐	●	◐
		◐	Capital costs are moderate (\$100,001 to \$1,000,000)				
		○	Capital costs are high (\$1,000,001 or more)				
Operating Costs	What is the order of magnitude operating cost for the strategy?	●	Operational costs are relatively low (\$100,000 or less)	◐	◐	●	●
		◐	Operational costs are moderate (\$100,001 to \$1,000,000)				
		○	Operational costs are high (\$1,000,001 or more)				
Outcome Criterion: Affected Parties Support	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able to be overcome in the near term?	Yes/No	If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria.	Yes - depends on details	Yes - depends on details	Yes	Yes
			If No, the strategy will no longer be considered.				

# Mt. Hood National Forest – Alternative Transit Opportunities and Travel Demand Management

## Traveler and Carpool Information

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All of the traveler information assumes an online forum, limiting the information to travelers with internet access. Additional ideas could be text information, where users text a question or a desired piece of information and receive an answer via text (similar to TriMet's stop information system). There are equity concerns with a web or text-based information system.

### Drive Less. Connect.

Drive Less. Connect. ([www.drivelessconnect.com](http://www.drivelessconnect.com)) is a program run by Metro which allows users to register and log their trips, helps find carpool matches, and has the opportunity to offer rewards for carpooling. It is region-wide and available for all types of trips and times. Additionally the website includes a "commute calculator" which allows users to calculate how much money they save by carpooling, and allow them to more accurately compare the cost of driving along to carpooling. Currently all ski areas include a link to Drive Less. Connect.

### Potential Recommendation

This concept would increase advertising and further encourage visitors to Mt Hood to use the website. Currently, Drive Less Connect does not have a link on the Forest Service website, though Timberline and Mt Hood Meadows have links on their web pages.

### Advantages

- This is an existing statewide program, run and funded by Metro in the Portland area. No additional funding or staff support would be needed to increase usage in the Mt Hood National Forest
- Some users may already be familiar with the program for work or other trips
- Could have a promotion for a rocket box or gear box to ensure that more people can fit in a car with ski/snowboard or other gear to help increase vehicle occupancy to the mountain for recreational trips. Other promotions are also possible to help increase carpooling
- This program has the ability to share trips via Facebook to access friend networks
- The program could be used year-round

### Disadvantages

- Requires users to log in and log their trips – some planning ahead is required by both the driver and the rider.
- Would need more promotion, as this program already exists and is not widely used to Mt Hood.
- Drivers are not compensated for using their car or driving, which may lower the number of drivers willing to carpool with this tool.

## Private Carpooling Match Websites

There are a number of private carpooling match websites that organize rides. Some entities allow the rider to pay the driver for the ride, others simply match drivers and riders with no money exchanged. Most of these operate throughout the United States, but are not widely used in the Portland Metro Area. Some private websites such as Zimride create a ski-area specific “landing page”, and helps provide carpool-specific benefits such as priority parking and raffles. Private carpool websites also allow riders to link and post their rides with Facebook, Twitter, and other social media accounts to share with their online social network. A few examples of private carpool matching services include:

- Avego ([www.avego.com](http://www.avego.com)) – Realtime ridesharing with an iPhone app that tracks vacant seats and trips in real time – riders pay drivers for the trip.
- eRideShare ([www.erideshare.com](http://www.erideshare.com)) for commuting and carpooling. Currently includes users in Oregon.
- GoLoco ([www.goloco.org](http://www.goloco.org)) – Passengers pay drivers for their fair share of the ride costs divided evenly between the number of passengers and the length of the trip. GoLoco charges a 10 percent transaction fee when drivers and passengers exchange funds.
- Pickup Pal ([www.pickupal.com](http://www.pickupal.com)) – free service connecting drivers and riders, operating mainly in the US, Canada, Australia, New Zealand, and the United Kingdom.
- Zimride ([www.zimride.com](http://www.zimride.com)) already in operation in California between the Bay Area and Tahoe Area ski resorts. Riders are able to “Zimride” throughout the world.

### Potential Recommendation

Use Zimride to encourage carpooling to the Mt Hood Forest, provide ski area-specific “landing pages” on the website.

#### Advantages

- This is an existing program used throughout the country, and has had some success in the Lake Tahoe area.
- The driver receives some money for gas and an incentive to continue to provide and share their vehicle with riders.
- Has an avid following in college communities (this is how the business started), and attracts younger, active individuals who are more likely to carpool due to transportation costs.
- Ski areas do not need to pay for Zimride to create a landing page – the agreement is based on promotional pushes by the ski areas on behalf of Zimride
- Zimride offers raffles and other prizes for using Zimride
- Could be used year-round

#### Disadvantages

- Currently no ski area on Mt Hood has a Zimride specific landing page, nor are ski areas allowed to provide preferential parking (an added amenity for “Zimriders” to Tahoe-area ski resorts).
- Ski areas would need to enter into an agreement with Zimride, which requires a number of email blasts, website posts, and other online promotions.
- This program would directly compete with Metro’s Drive Less. Connect. program

- This would require promotion by ski areas and a link on the ski area sites, as well as an agreement between ski areas and Zimride.

## Google Maps

Google Maps provides directions to areas throughout the globe. Recent additions to these directions include how to access destination using transit where it is available.

### Potential Recommendation

Integrate transit with Google maps, so when travelers Google directions and choose the “transit” button, it provides information on all of the transit to the mountain including schedules, transfers, and costs. SAM and CAT have this ability (but Mountain Express does not), and of the private providers, only Grease Bus has this function. This could be linked to Ski Area websites providing consistent transit information for all providers on the mountain.

### Advantages

- Provides a more direct way of determining how to get to mountain destinations by transit (either via public or private providers). This would be another tool to promote transit for visitors.
- Google maps could be used in conjunction with existing public and private service showing transfers, ticket prices, travel times, and when transit is scheduled to leave.
- Google maps is a widely used web tool and could be used on smartphones
- Service would be available year-round

### Disadvantages

- This would require potential users to have access to the internet and search directions to Mt Hood on Google using the transit option.
- Uncertain about the process and cost of linking private providers to Google Maps (Grease Bus used a private company to help navigate the process, fees and technical expertise could be needed to help make this happen).
- This option may require funding/monetary/staff support to private providers and Mountain Express to add themselves to Google Maps.

## Open-Source Map Tool

Open-source web tools are free web-based programs that allow any user to access and/or manipulate data and information on a website. Currently in use in Seattle, [www.livingcitymap.com](http://www.livingcitymap.com) provides information on events, but information such as transit routes, times, and costs as well as park and rides could be added for the Mt Hood area.

### Potential Recommendation

Create an open-source map tool with park and ride locations, transit routes and stops, and potential commercial areas and local businesses.

### Advantages

- No single entity would be needed to implement this idea: users would be responsible for uploading accurate information

- Would allow competing businesses to upload information important to their companies

### Disadvantages

- Information will only be as reliable as who uploads the information: some minimal oversight would be needed to ensure information is up-to-date or accurate.

## Ski-Resort Sponsored Website

### Potential Recommendation

Create a ski-resort sponsored website to provide up-to-date information for all three ski resorts including road conditions, parking availability, transit and carpooling links, and other information. A one-stop shop website could simplify transportation and amenities for new travelers to Mt Hood and provide information to allow visitors to choose the best mode of transportation that suits their needs based on conditions.

### Advantages

- This would create an easily accessible, consolidated location for information.
- A consolidated site could also provide online ticket sales and local business advertising for economic development.
- Transportation Demand Management could be used on this site including promotions for off-peak travel to the ski areas, information on likely congested times/park-out dates, etc.

### Disadvantages

- Site would need to have up to the minute, accurate information to be useful.
- An entity (yet to be determined) would need to ensure upkeep and maintenance on the site.
- Competing businesses may not agree to share a consolidated site.
- A sponsored website would need a funding and upkeep agreement between the ski areas.

## Traveler Webpage

### Potential Recommendation

Create a one-stop webpage for traveler information, potentially hosted by the Forest Service, similar to the ski-resort sponsored website. The website could link all transit providers, carpool resources, traveler information, etc in one place. Could provide route and travel time information (potentially also on VMS) about US 26 vs. OR 35, etc.

WSDOT example for Snoqualmie pass: <http://www.wsdot.com/Traffic/passes/snoqualmie/default.aspx>

### Advantages

- Similar to the ski-resort sponsored website, would create an easily accessible, consolidated location for information
- A Forest-service site could focus on information beyond ski conditions and include general travel information for visitors not going to the ski areas
- The site could also include general information about when the roadways and parking lots are expected to be at capacity, showing charts of peak traffic, etc. to inform visitors

- The site could start with static information (likely congested times, transit and carpool resources, and then transition into a more complex site with more up-to-date information
- A neutral hosting entity would remove the conflict of competing businesses

### **Disadvantages**

- Site would be most effective if it had up to the minute, accurate information
- An entity (potentially the Forest Service) would need to ensure upkeep and maintenance on the site
- Funding and staffing would need to be determined to include upkeep on the site, may need support from other agencies (ODOT, TMA) to ensure that the site continues to be useful.
- Cell and data services are not uniform in the Forest – users may have a hard time accessing the website when already on the mountain.

## **Increase Cell Coverage on the Mountain**

There are currently gaps in cell phone coverage along the US 26 and OR 35 corridors and near the Mt Hood Meadows Ski Resort HRM parking lot. This creates delays for incident response as well as barriers to accessing real-time information such as parking and roadway conditions/delay. Two cell phone coverage gaps include the Mirror Lake Curve on US 26 and near the Mt. Hood Meadows HRM parking lot along OR 35.

### **Potential Recommendation**

Increase cell phone coverage (permanently or temporarily based on high-demand days or seasons) to ensure that travelers (but not drivers) can get up-to-date parking, weather, and road conditions information as they travel to their destinations within the National Forest. Adding cell phone coverage will also allow travelers to call for emergency services in the event of an incident.

### **Advantages**

- Would improve information and potentially incident response as travelers are able to contact emergency services and informational websites or texting information capabilities
- Relatively low-cost to increase service.
- Could leverage partnerships with cell phone companies to improve cell coverage.

### **Disadvantages**

- Could create distracted drivers trying to access information as they drive
- Potential environmental concerns for additional permanent cell phone towers (though temporary cell phone towers could be provided during high demand days or seasons)
- Would need to be implemented by cell phone service providers, and multiple providers would potentially need to be involved to ensure all carriers are represented.



Traveler and Carpool Information Evaluation

Criteria Category	Description	Rating		Strategies				
				Drive Less Connect	Zimride	Google Maps	Ski-resort Sponsored Website	Traveler Webpage
Evaluation Criteria								
Increased transportation options	Does the strategy provide additional transportation options or expand existing transportation options?	●	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	●	●	●	●	●
		◐	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)					
		○	Minimally or does not increase alternative options for transportation or expand existing transportation options					
Leverages Existing Transit	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	●	Greatly utilizes, expands, or integrates with existing transit	○	○	◐	◐	◐
		◐	Moderately utilizes, expands, or integrates with existing transit					
		○	Minimally or does not utilize, expand, or integrate with existing transit					
Leverages Existing or Creates New Transportation Demand Management (TDM) programs	To what extent would the strategy leverage existing or create new TDM programs?	●	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	●	●	◐	●	●
		◐	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program					
		○	Minimally or does not utilize, expand, or integrate existing programs					
Improves Safety	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	●	Addresses multiple known safety issue(s), and does not add new operational safety concerns	○	○	○	○	◐
		◐	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues					
		○	Does not address known safety issue(s)					
Considers Unique Needs of Seasonal Recreation Markets throughout the Year	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	●	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	◐	◐	◐	●	●
		◐	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.					
		○	Does not provide a solution that considers seasonal changes in recreational user's needs					
Considers Unique Needs of Employees	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	●	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	●	○	○	◐	◐
		◐	Provides a solution that somewhat considers the unique needs of employees.					
		○	Does not provide a solution that considers seasonal changes in employees user's needs					
Considers Unique Needs of Residents	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	●	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	◐	○	○	○	○
		◐	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.					
		○	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.					
Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	●	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode	◐	◐	○	○	◐
		◐	Provides a solution that somewhat shifts freight or traffic demand					
		○	Provides a solution that does not shift freight or through traffic demand					
Increases Economic Opportunities for Commercial Enterprises	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	●	Yields a substantial increase in multiple existing business and promotes new business	○	○	○	●	●
		◐	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place					
		○	Yields minimal increase in existing business and promotes minimal new business					

Traveler and Carpool Information Evaluation

Criteria Category	Description	Rating		Strategies				
				Drive Less Connect	Zimride	Google Maps	Ski-resort Sponsored Website	Traveler Webpage
<b>Evaluation Criteria</b>								
<b>Provides Financial or Travel Time Incentives for Alternative Modes of Transportation</b>	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	●	Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	☐	☐	○	○	○
		◐	Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system					
		○	Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system					
<b>Provides Implementable and Financially Sustainable Solutions</b>	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	●	Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)	●	●	●	◐	◐
		◐	Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program					
		○	Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program					
<b>Benefits from Support of Multiple Entities/Partnerships</b>	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	●	More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.	●	●	●	●	●
		◐	Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified					
		○	The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it					
<b>Higher Magnitude of Benefits</b>	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	●	Benefits accrue to many users/markets or over a greater number of user days.	◐	◐	◐	◐	●
		◐	Benefits accrue to fewer users/markets or over fewer number of user days					
		○	Benefits accrue to the least number of users/markets or over the least number of user days					
<b>Equity</b>	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	●	Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	◐	◐	◐	◐	●
		◐	Strategy partially distributes benefits and impacts among a wide range of populations and user groups					
		○	Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children					
<b>Capital Costs</b>	What is the order of magnitude capital cost for the strategy?	●	Capital costs are relatively low (\$100,000 or less)	●	●	●	●	●
		◐	Capital costs are moderate (\$100,001 to \$1,000,000)					
		○	Capital costs are high (\$1,000,001 or more)					
<b>Operating Costs</b>	What is the order of magnitude operating cost for the strategy?	●	Operational costs are relatively low (\$100,000 or less)	●	●	●	●	●
		◐	Operational costs are moderate (\$100,001 to \$1,000,000)					
		○	Operational costs are high (\$1,000,001 or more)					
<b>Outcome Criterion: Affected Parties Support</b>	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency support the strategy? Does the implementing or affected party have a legal barrier to implement that may not be able to be overcome in the near term?	Yes/No	If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria.					
			If No, the strategy will no longer be considered.	Yes	Yes	Yes	Yes	Yes

## Transportation System Management (TSM) and Intelligent Transportation Systems (ITS)

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### Incident Communication and ODOT Dispatch

Crashes on US 26 and OR 35 can cause periods of congestion or exacerbate already congested conditions. Crashes are also a safety hazard because vehicles may block part of or the entire width of the roadway and other drivers do not expect the roadway to be blocked, potentially resulting in additional crashes. US 26 is designated by ODOT as a safety corridor, in recognition of the high occurrence of crashes. ODOT Maintenance comes to crash scenes as a secondary responder, after the local fire department and Emergency Medical Services have responded. ODOT Maintenance's role is to secure the scene, set up traffic control to safely divert traffic, and clear the travel lanes.

Most incidents are reported to 911, which then notifies the local fire department. Hoodland Fire Department covers US 26, and Parkdale Fire Department covers OR 35. Fire departments then determine if ODOT Maintenance is needed and contact ODOT Region 1 dispatch. ODOT Region 1 dispatch will then notify ODOT Maintenance in the Mt. Hood area. During off-hours, ODOT maintenance personnel carry a pager to respond to calls. Sometimes, there is an hour delay between the time an incident is reported and the time ODOT Maintenance is notified. During off-hours, this time lag can be longer.

### Potential Recommendation

Evaluate the potential of Computer-Aided Dispatch (CAD) Software to field 911 calls. CAD incident dispatch software could be integrated with 911, record information about incidents and units, and dispatch an incident to one or more field units, which essentially assigns the units to the incident. Most CAD software will provide a recommendation of which units should respond, based on pre-determined tables or a unit's actual location. Based on pre-determined tables, CAD also takes into account the type of incident (high danger, low danger), and type of unit (patrol, supervisor, canine, etc.) when making the recommendation. An FHWA forest service grant could help pay for CAD software. The software could also be linked to Variable Message Signs (VMS) that would alert drivers to an "accident ahead." Additionally, there are no locally-stationed Oregon State Patrol officers on the mountain able to respond to incidents. A recommendation would be to staff someone in the vicinity to respond to incidents on high-risk days, namely winter weekends and holidays.

### Advantages

ODOT Maintenance could be dispatched sooner and potentially more effectively if CAD software is sophisticated enough to determine whether or not ODOT maintenance is needed. Faster response times could speed the amount of delay and reduce potential congestion associated with incidents on US 26 and OR 35.

### Disadvantages

Many calls into 911 do not need the assistance of ODOT Maintenance. An automated system could overwhelm ODOT maintenance with high volumes of unnecessary calls, and calls which require their assistance could be temporarily lost in the calls not requiring assistance.

## Incident Response Vehicle Enhancements

ODOT Maintenance responds using pick-up trucks that have a hitch on them. They contact a tow company if the roadway needs to be cleared of vehicles or in some cases they are able to clear the roadway by moving vehicles or debris to the shoulder. Vehicles have amber lights and no siren.

### Potential Recommendation

Equip incident response vehicles with a push bumper so they may clear a greater number of vehicles blocking the road. Tow companies would still need to be called to remove vehicles from the mountain. Equip vehicles, as other incident response vehicles that respond to incidents within the Willamette Valley, with emergency lights or sirens as appropriate so ODOT maintenance could respond to incidents more quickly and safely.

### Advantages

In some cases, travel lanes would be cleared more immediately, which would reduce safety hazards caused by vehicles blocking the road and congestion. Red flashing lights and a siren would enable ODOT maintenance to reach a response site more quickly.

### Disadvantages

Tow companies have insurance to cover the liability of towing vehicles. ODOT would have to either purchase liability insurance or self insure. ODOT Maintenance's ability to assess multiple crash scenes may be affected if they are involved in towing vehicles.

## Install More Traffic Cameras

ODOT has installed cameras at accident prone locations, which helps Dispatch and Maintenance assess situations remotely. ODOT Maintenance is better able to respond appropriately and clear crashes more quickly.

### Potential Recommendation

Install more cameras at high crash rate sites, areas with potential conflicts, and/or places where congestion is typical so drivers can check traffic conditions using the cameras via Trip Check. Place cameras at high-elevation locations so weather conditions can be checked.

### Advantages

In some cases, travel lanes would be cleared more immediately, which would reduce safety hazards caused by vehicles blocking the road and congestion. Camera instillation has been done and the process is known.

### Disadvantages

Capital and maintenance costs are involved.

## Chain Up Areas

ODOT Maintenance is aware that some chain-up areas can be a safety hazard, largely due to drivers who do not know how to properly use the chain up area. For example, at the chain up area on US 26 between mile point 47.5 and 48.5 when drivers see a sign that chains are required, they sometimes will stop in the travel lane and chain up or when they drive to the chain up area, they stop at the back end and subsequent drivers assume no room is up ahead, causing vehicles to bottleneck the last 200 feet of the chain up area.

## Potential Recommendation

Recommend brochures, web-links, variable message signs and signage that educate drivers about the use of chain up areas. In the chain up areas, post signs that say “move to front of chain up area,” to help relieve bottlenecks at the back-end of chain up areas. Within the driver’s education manual publication, have a section related to winter driving conditions that includes a section on how to chain-up tires and use chain-up areas.

Currently, ODOT produces brochures, such as a “Guide to Oregon’s Chain and Traction Law” and a “Truck Tractor Chain-up” guide. Update the existing guide with information on how to use chain-up areas as well. The “Guide to Oregon’s Chain and Traction Law” as it is or an updated version could be distributed at the Forest Service Office in Sandy, Ski Lodges, and at other locations where SnoPark permits are sold. ODOT maintains a list of SnoPark Permit Agents, where SnoPark permits are sold.

Add a staff person to help direct traffic at chain-up areas to ensure that motorists don’t stop at the last 200 feet of the area. Potentially provide tire chain installation staff to install chains and move motorists more quickly out of the chain-up area. Using an example from the Tahoe area, have a mandatory stop to ensure that motorists are using chains or snow tires.

### Advantages

Better usage of chain up areas can reduce downstream safety hazards from vehicles stopping in travel lanes and creating dangerous conditions.

### Disadvantages

Signage within the chain up areas may not be seen by drivers when visibility is limited due to snowy conditions.

## Variable Message Signs

Variable message signs that alert drivers about weather conditions (including forest fires), accidents ahead, lane changes, and appropriate speeds have been helpful to ODOT Maintenance throughout the state. In addition to the traditional information displays, variable message signs could also inform drivers of parking conditions, as a secondary priority to safety. More of these signs along US 26 and OR 35 would be helpful.

## Potential Recommendation

Install more variable message signs, possibly in two sets. One set would be focused on safety conditions, such as alerting drivers of accidents or weather conditions. A second set would be focused on parking information, reporting for instance if parking is full and the location of additional parking.

Alternatively, one sign could contain all the information, though space limitations and requirements could make that difficult. Or, use two signs, but the second sign (potentially owned and operated by the Forest Service) could only operate during the peak season.

ODOT’s traffic division has a prioritized list of future VMS locations. ODOT maintenance and traffic division can continue to work together to identify and prioritize locations, as well as develop additional shoulder area for VMS signs if needed. VMS sign locations require a permit.

### Advantages

Drivers would be more aware of location specific travel conditions. Drivers would not need to circulate as much to find parking.

## **Disadvantages**

Variable message signs are costly and the placement of them would need to be managed. The signs would need to be placed so as not to create visual clutter and additional distractions for drivers.

Criteria Category	Description	Rating	Strategies					
Evaluation Criteria			Incident Communication and ODOT Dispatch Incident Response Vehicle Enhancements Install more cameras Chain up areas VMS					
Increased transportation options	Does the strategy provide additional transportation options or expand existing transportation options?	●	Greatly increases alternative options for transportation or expands existing transportation options (2 or more additional options)	<input type="radio"/>				
		◐	Moderately increases alternative options for transportation or expands existing transportation options (1 additional option)					
		○	Minimally or does not increase alternative options for transportation or expand existing transportation options					
Leverages Existing Transit	To what extent would the strategy utilize, expand or integrate with existing transit services/systems or modes that are in place today?	●	Greatly utilizes, expands, or integrates with existing transit	<input type="radio"/>				
		◐	Moderately utilizes, expands, or integrates with existing transit					
		○	Minimally or does not utilize, expand, or integrate with existing transit					
Leverages Existing or Creates New Transportation Demand Management (TDM) programs	To what extent would the strategy leverage existing or create new TDM programs?	●	Greatly utilizes, expands, or integrates with existing TDM programs, or leverages multiple programs	<input type="radio"/>				
		◐	Moderately utilizes, expands, or integrates with existing programs, or leverages one existing program					
		○	Minimally or does not utilize, expand, or integrate existing programs					
Improves Safety	To what degree would the strategy increase safety or promote safe transportation conditions? Higher ratings will be assigned to strategies that are qualitatively determined to improve safety along US-26/OR-35. Strategies that meet this criterion may indirectly improve safety through reducing congestion on US-26/OR-35, or may meet the criterion directly through a safety-oriented program.	●	Addresses multiple known safety issue(s), and does not add new operational safety concerns	<input checked="" type="radio"/>				
		◐	Addresses one known safety issue, may add some but decrease other operational safety concerns, or indirectly provides benefits to safety issues					
		○	Does not address known safety issue(s)					
Considers Unique Needs of Seasonal Recreation Markets throughout the Year	How well does the strategy address the varying needs of recreational users season to season? For example, does the strategy consider seasonal changes in gear-hauling needs, destinations, and trip durations?	●	Provides a solution that addresses seasonal changes in the recreational user's needs with specific consideration of multiple differences between seasonal travel demands.	<input checked="" type="radio"/>				
		◐	Provides a solution that somewhat considers seasonal changes in recreational user's needs with specific consideration of one difference in seasonal travel demand.					
		○	Does not provide a solution that considers seasonal changes in recreational user's needs					
Considers Unique Needs of Employees	How well does the strategy meet the needs of employees within the study area? Consider the places from which employees commute, such as Sandy, Portland, and Hood River, and the time of day of their commute.	●	Provides a solution that addresses unique needs of employees, considering the places from which they come: Sandy, Portland, and Hood River. Considers typical commute times and differences in seasonality of employee commuting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	◐
		◐	Provides a solution that somewhat considers the unique needs of employees.					
		○	Does not provide a solution that considers seasonal changes in employees user's needs					
Considers Unique Needs of Residents	How well does the strategy meet the needs of area residents, including circulation between mountain communities?	●	Provides a solution that addresses the unique needs of residents and provides for circulation between mountain communities.	◐	◐	◐	◐	◐
		◐	Provides a solution that somewhat addresses the unique needs of residents and provides for circulation between mountain communities.					
		○	Provides a solution that does not address the unique needs of residents and provides for circulation between mountain communities.					
Reduces Freight or through traffic demand in the US 26 and OR 35 Corridors	TDM strategies can be aimed to reduce freight or through traffic demand in the US 26 or OR 35 corridors by suggesting different routes, time of day for travel, and perhaps even mode. Strategies aimed at reducing or shifting demand would receive higher ratings	●	Provides a solution that shifts freight or through traffic demand by route, time of day, or even mode	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	◐
		◐	Provides a solution that somewhat shifts freight or traffic demand					
		○	Provides a solution that does not shift freight or through traffic demand					
Increases Economic Opportunities for Commercial Enterprises	Could the strategy help support and expand existing businesses and promote new business opportunities along US-26/OR-35? Consider full range of winners and losers, for example a strategy that increases economic growth in one area may become a limiting factor for economic growth in another area.	●	Yields a substantial increase in multiple existing business and promotes new business	<input type="radio"/>				
		◐	Yields some increase for one existing business and promotes some new business; economic growth in one place may be a limiting factor for economic growth in a different place					
		○	Yields minimal increase in existing business and promotes minimal new business					

Criteria Category	Description	Rating	Strategies
Evaluation Criteria			Incident Communication and ODOT Dispatch Incident Response Vehicle Enhancements Install more cameras Chain up areas VMS
<b>Provides Financial or Travel Time Incentives for Alternative Modes of Transportation</b>	What financial incentives would users (both forest visitors and employees) receive by using the travel alternative offered by the strategy?	● Provides a substantial incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	○ ○ ○ ○ ●
		◐ Provides a modest incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	
		○ Provides minimal or no incentive to users (both visitors to the forest and employees of the various businesses) of the transportation system	
<b>Provides Implementable and Financially Sustainable Solutions</b>	Is it possible to implement the strategy within the five year window of this pilot program? Could the strategy be financially sustainable for multiple years after the project study period? Is there committed funding for implementation (grants for capital expenditures are more easily obtained than funding for operational costs)?	● Provides a solution that is highly likely to be implemented and that can be sustained financially for longer than the five year window of the pilot program (high likelihood of funding could be exemplified by grant opportunities, leveraging existing funding sources, commitment from partners to provide funding, committed funding, or establishing new charges to create funding)	● ● ● ● ●
		◐ Provides a solution that is somewhat likely to be implemented and that can possibly be sustained financially within the five year window of the pilot program	
		○ Provides a solution that is not likely to be implemented and that cannot be sustained financially within the five year window of the pilot program	
<b>Benefits from Support of Multiple Entities/Partnerships</b>	Does the strategy provide for implementation by multiple entities? And does the strategy form partnerships to support it, financially or otherwise? Does the strategy identify a lead entity to implement, and does that entity support the strategy?	● More than two entities support implementation of the strategy and partnerships are likely to develop. If a lead entity is required, the strategy has the full support of the entity.	? ? ● ● ●
		◐ Two or fewer entities support implementation of the strategy and partnerships are not expected or is uncertain, and/or a lead entity has not been identified	
		○ The strategy would receive little or no support from multiple entities for implementation and does not allow for the formation of partnerships to support it	
<b>Higher Magnitude of Benefits</b>	What is the magnitude of benefits? Do the benefits accrue to many or few users/markets? Do the benefits accrue over a greater number of user days? Strategies that benefit more users, markets, or number of user days receive higher ratings	● Benefits accrue to many users/markets or over a greater number of user days.	● ● ● ● ●
		◐ Benefits accrue to fewer users/markets or over fewer number of user days	
		○ Benefits accrue to the least number of users/markets or over the least number of user days	
<b>Equity</b>	Consider the distribution of benefits and impacts from the strategy, and work towards fair access to transportation options for all users, all ages, and all abilities. Strategies that minimize burdens on different populations and user groups, particularly the transportation disadvantages (low-income, transit dependant, minority, elderly, and children) would receive a higher rating.	● Strategy equitably distributes benefits and impacts among a wide range of populations and user groups	● ● ● ● ●
		◐ Strategy partially distributes benefits and impacts among a wide range of populations and user groups	
		○ Strategy impacts or benefits one group disproportionately, with negative impacts on low-income, transit dependant, minority, elderly, and children	
<b>Capital Costs</b>	What is the order of magnitude capital cost for the strategy?	● Capital costs are relatively low (\$100,000 or less)	● ● ● ● ●
		◐ Capital costs are moderate (\$100,001 to \$1,000,000)	
		○ Capital costs are high (\$1,000,001 or more)	
<b>Operating Costs</b>	What is the order of magnitude operating cost for the strategy?	● Operational costs are relatively low (\$100,000 or less)	● ● ● ● ●
		◐ Operational costs are moderate (\$100,001 to \$1,000,000)	
		○ Operational costs are high (\$1,000,001 or more)	
<b>Outcome Criterion: Affected Parties Support</b>	Does the strategy have the support of affected parties? Affected parties could include agencies or businesses that would be responsible for implementing a strategy. For example, does the implementing agency	Yes/No If Yes, support exists from the affected party, the strategy can be passed along to be considered using other criteria. If No, the strategy will no longer be considered.	? - need to check with ODOT ? - need to check with ODOT Yes Yes Yes