

South Bend Weigh and Safety Station Final Environmental Impact Statement (FEIS)

Bend/Fort Rock Ranger District Deschutes National Forest

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Last Update: 10/29/01

R.A. Jensen

Record of Decision South Bend Weigh and Safety Station

USDA Forest Service Deschutes National Forest Bend/Fort Rock Ranger District

Background

In 1994, the construction of the Baker Road - US Highway 97 interchange at the South end of Bend, Oregon, resulted in the elimination of two important weigh and safety stations established by the Oregon Department of Transportation (ODOT). In 1997, ODOT began a public process to identify suitable sites for replacement of one of those sites. After an extensive process involving Citizens' and Technical Advisory Committees, ODOT narrowed the range of suitable sites to an existing ODOT right-of-way near the former site of one of the Baker Road weigh stations, and several possibly suitable locations on Deschutes National Forest lands. In accordance with National Forest policy, ODOT pursued reasonable alternatives outside of National Forest lands prior to formally applying for a Special Use authorization on National Forest lands. Deschutes County officials notified ODOT that both a variance and a conditional use permit would be required for them to site the weigh station on their fee-owned right of-way along U.S. Highway 97. After numerous public hearings, a decision was made by the Deschutes County Hearing's Officer to allow the variance and conditional use permit. After appeal to the Deschutes County Commissioners by the Oregon High Desert Museum, that authorization was overturned and the requested site use denied while still recognizing the importance of establishing a site in the area. Subsequently, application was made to the Deschutes National Forest to site the weigh station on National Forest lands.

The Deschutes National Forest evaluated site locations that met the Purpose and Need for Action on National Forest lands and the ODOT-owned right-of-way site, in accordance with guidance by the Council on Environmental Quality for implementation of the National Environmental Policy Act (NEPA). All sites considered on National Forest lands would require an amendment to the Deschutes Land and Resource Management Plan as the required site development would not meet the established visual quality standards. A number of alternatives considered, but eliminated from detailed study were also included in the evaluation of potential sites. In November 2000, a Draft Environmental Impact Statement (DEIS) identifying a Preferred Alternative was released for a 60-day public comment period, and a public meeting was held to share information and allow an opportunity for recorded public comment. Public comments received during that time resulted in some supplemental analysis to the DEIS. The comments and analysis are included in the Final Environmental Impact Statement (FEIS),

and were considered as part of this final decision.

Decision

It is my decision to select Alternative 2 as presented in the Proposed Action identified during scoping and the Preferred Alternative identified in the DEIS for the siting of a weigh and safety station on National Forest lands in accordance with 36 CFR 251 (Special Use Authorization). Alternative 2 remains the same between the draft and final stages of the EIS.

This decision will result in the issuance of a Special Use Permit for a period of 20 years subject to the terms and conditions described in Alternative 2. The permit may be extended at that time subject to an evaluation of the continued need for the facility and satisfactory compliance with the conditions of the permit and absent any significant changes in the environment that would establish reasonable cause for this decision to be changed. Minor changes in either the terms or conditions of the authorization may be made throughout the duration of the permit in accordance with changes in site condition, law, policy, or regulation.

Decision Rationale

Alternative 2 was selected because, of those alternatives considered on National Forest lands, it best meets the Purpose and Need for the siting of a weigh and safety station while minimizing the impacts on National Forest and Newberry National Volcanic Monument lands and resources. Both alternatives considered on National Forest lands would have unavoidable adverse impacts on scenic quality, requiring an amendment to lower the visual quality standards of the Deschutes National Forest Plan in the vicinity of the site. Alternative 2, being the closer proximity to development associated with the City of Bend, would have the least overall relative impacts to forest fragmentation and scenic values in considering the uses on adjacent public and private lands. Alternative 2 would locate the impact farthest from Newberry National Volcanic Monument, thus resulting in the least impact of the alternatives considered on National Forest land to that national resource. Of all the sites considered, Alternative 4 would pose the least fire danger, especially so for the High Desert Museum. However, the location of any of the proposed sites pose a low risk of uncontrollable wildfires to adjacent lands due to the high visibility, ease of rapid response, and reduction of natural fuels on the developed site.

This decision was made considering the effects of all of the alternatives on the key issues, comments made during the Deschutes County public hearings process and relevant portions of their decision record, comments made by the public during scoping and the public comment period on the DEIS, and in consideration of the competing interests, opinions, and values of the public including public safety needs. A discussion of the rationale upon which I based this decision considering each of the issues and the public's comments follows.

Scenic Views (Issue #1)

Both of the "action" alternatives considered in detail on National Forest lands would have unavoidable adverse impacts to the scenic views along U.S. Highway 97, and would require an amendment of the Deschutes National Forest Plan to change the visual quality standards. Given the characteristic openness of the vegetation and the relatively flat terrain along this portion of U.S. Highway 97, effective topographic or vegetative screening of the site would have required a substantially greater commitment of National Forest land and resources to the site use than what I considered acceptable or necessary to effectively meet the goal. In addition, effective screening of the site would also have made the operation of the site substantially less effective and less secure, since weigh masters would be unable to readily determine whether trucks were complying with inspection requirements, and the site would be less visible to law enforcement and motorists as they drive by. Criteria were established for the building and site design that would minimize the amount of vegetation removed, restore native vegetation where possible, and, to the extent practicable, blend in with the natural environment. A final design that meets these criteria would be subject to approval by the Forest Service. Of the two Alternatives on National Forest land, Alternative 2 is preferable because of the greater distance of the facility and its associated signs from the Newberry National Volcanic Monument boundary and associated facilities and the greater continuity of unfragmented forest landscape it provides as compared with Alternative 3.

Risk of Wildfire (Issue #2)

Fire danger in the vicinity of the proposed sites is highest where there are large numbers of people in areas of concentrated fuels. This danger is somewhat offset where detection and response are easy and rapid. The weigh station would require most of the high-risk activities to be concentrated in areas either paved or virtually free of flammable materials, thus substantially reducing the potential sources of ignition. Additional criteria established to reduce fuel concentrations adjacent to the use areas further reduce the potential for ignition. The Forest Service would have excellent visibility and wildfire detection capabilities due to nearby Lava Butte Lookout, the proximity to the highway, and passing motorists with cell phones. Also, weigh station personnel would be equipped with required communication devices to ensure speedy reporting of fire starts during operation of the site. A variety of qualified suppression forces are close at hand, and the highway provides for rapid response of those interagency forces. Of all of the action alternatives considered, Alternative 4 would offer the least potential for fire spread to adjacent private structures, including the High Desert Museum, because this alternative is most likely to provide a successful initial attack due to prevailing southwest winds during most fire seasons.

The High Desert Museum, the Deschutes River Subdivision and the vegetation surrounding these areas present the greatest potential for human caused wildfire ignitions to the surrounding forests. Both are considered a wildland/urban interface situation. While both alternatives considered on National Forest lands are considered to be low risk for wildfire, Alternative 2 would offer greater protection to National Forest lands than Alternative 3. If a fire start originates from the Museum, Alternative 2 could provide for an effective staging and protection area for suppressing fires that might threaten the Museum from other sources such as Deschutes River Woods.

National Forest and Private Land Values (Issue #3)

The effect of this weigh and safety station on private and public land values is at the heart of the concern over where this facility is sited. A Deschutes County Hearing Officer's decision to site the station on an existing ODOT-owned right-of-way was overturned by the Board of Commissioners based on unacceptable impacts to adjacent private landowners. To site the weigh station on public lands will also have unavoidable adverse impacts to public land values as well. However, there is a demonstrated need for the station, and the strength of public support is in favor of the facility being constructed on public rather than private lands. Alternative 2 has the least overall impact to public land values by locating those impacts as close to the National Forest boundary as possible while still meeting safety requirements for adjacent landowners. In addition, in response to comments from the Environmental Protection Agency and the Bureau of Land Management concerning the cumulative effects on mule deer migration, Alternative 3 was modified to include additional thinning in the area adjacent to where the future median barriers are proposed near the weigh station. Alternative 2 has slightly greater impacts on the adjacent private land than Alternative 3, but has eliminated the potential for visual impacts to the adjacent private landowners presented by Alternative 4. Several comments were received suggesting that Alternative 2 would present a traffic hazard to visitors entering and exiting the High Desert Museum. Alternative 2 has been found to meet safety criteria, including site distances and spacing of vehicles sufficient to allow room to maneuver to existing access ([see footnote 1](#)). Placement of the weigh station in that location will not alter the volume of traffic in the northbound lane and the speed relationship and traffic pattern of large trucks would not be noticeably different than currently experienced by visitors as they enter or exit the museum. Overall, Alternative 2 presents the best compromise between effects on public and private lands, and will effectively meet the public safety need established by ODOT and reinforced and supported by the Deschutes County Commissioners.

Mule Deer (Issue #4)

Both of the "action" alternatives considered on public lands will have unavoidable effects on mule deer use and populations when considered with existing and probable future development including the proposed traffic separation devices that would begin near the Alternative 3 site. Alternative 3 was modified to include additional thinning adjacent to the area in order to improve motorist's visibility and to reduce the tendency of the animals to concentrate near the road. Although the direct and indirect effects on mule deer are quite minimal from the clearing and use of the weigh and safety station site, the combined effects of development and the presence of a major state highway continue to account for high numbers of deer collisions, and continue to deteriorate the quality of adjacent wildlife habitats. Alternative 2 is likely to have slightly lower additional impacts to the deer movement and use of the area than Alternative 3 because it will concentrate additional areas of clearing and development rather than add new developments in more solid blocks of forest.

Consistency with County and National Forest Land Use Plans (Issue #5)

Deschutes County planning staff provided written comment to the Draft EIS. They made no objections to the selection of Alternative 2 as the Preferred Alternative, and made no indication that selection

would be inconsistent with the Deschutes County Comprehensive Management Plan.

The Deschutes National Forest Land and Resource Management Plan will have a site-specific amendment to change the visual quality standard for the permit area of the South Bend Weigh and Safety Station from Retention to Modification ([see footnote2](#)). The amendment would be applied specifically to the site, the Weigh-in-Motion mechanism, and associated signs. This decision is consistent with that Forest Plan as amended.

Noxious Weed Control (#6)

Noxious weed populations are widespread in Deschutes County. They find entry into forest systems through roads and are transported on vehicles. A large and persistent population providing a source for further invasion exists along most of U.S. Highway 97, and the proposed sites on both private and National Forest lands have existing populations. Measures to eliminate the existing populations along the highway are ongoing, and all of the alternatives considered in detail include prevention measures designed to reduce the potential for spread of those populations into the forest. An aggressive revegetation program that emphasizes use of native seed and transplants was also included in all action alternatives. Given these measures, there is no expected substantial differences between alternatives.

Access (#7)

The recent designation of U.S. Highway 97 as an expressway reflects an emphasis by the State of Oregon to manage limited direct access to the Highway. The weigh and safety station will, for the purposes of the expressway, add another "approach". ODOT has completed a rigorous report to analyze the effect of this in relationship to public safety and the new designation. The findings of the report concludes Alternative 2 meets safety criteria, including site distances and sufficient spacing of vehicles to allow room to maneuver to existing accesses. In addition, the new approach meets standards for the volumes and types of traffic reasonably anticipated for the site.

Both locations considered on National Forest lands have intersecting traffic standards that favor eliminating general access to Forest Road 1801 from U.S. Highway 97. For both alternatives, Forest Road 1801 would be closed to public use and gated for administrative purposes such as access for fire suppression equipment. Closure of this road would have a minor effect on the public access to the forest, as there are other roads such as Forest Road 9710 that access the same area. Road 1801 provides the closest public vehicle access from the highway onto the Windlinx and Kerr properties. Closure of this road could reduce the likelihood of trespass onto those properties.

Operational and Design Characteristics (#8)

Overall, there is little substantive difference between the operation and design characteristics of any of the alternatives considered in detail. All of the alternatives will meet state design and safety standards, and there is virtually no difference in construction costs.

Public Involvement

Public involvement has been instrumental in the identification and clarification of issues for this project. This has been helpful in the formulation of alternatives and contributed to making an informed decision for siting the weigh and safety station. In addition to the mailing list that reached approximately 125 people, there was a public meeting, Federal Register notices, articles in the local newspaper, contacts with interested State and Federal agencies, Citizen Advisory Committee recommendations to ODOT, and group and individual meetings. The project received 9 pieces of correspondence during the comment period. A summary of the comments and the responses are located in Appendix 1 of the FEIS. Public scoping and involvement activities are described on page 7 of the FEIS.

Description of Alternatives Considered but Eliminated

Several people commented on a number of possible alternative sites, especially close to La Pine, Oregon. These alternatives were briefly considered but eliminated from detailed study (FEIS, page 45). A summary of the comments and the responses are located in Appendix I of the FEIS. Groups comprised of local citizens and an ODOT technical team unanimously agreed the acceptable area of consideration would range from Baker Road south of Bend to South Century Drive (main exit from Sunriver) ([see footnote 3](#)). The decision on whether to consider an alternative site in detail was also based upon the following rationale.

Ability to preclude opportunities to circumnavigate the weigh station

There are several routes between National Forest Road 40 (from Sunriver) south to La Pine where motor carriers could easily travel on paved roads, avoid inspection, and not significantly increase their overall travel time. These routes include County Road 43 (Burgess) to Huntington; Prairie, La Pine State Recreation Road, and Spring River/Vandever Road to South Century Drive; and County Road 42 to County Road 45, or through the community of Sunriver. These routes could direct motor carriers through residential areas, a concern that was expressed by the Citizen Advisory Committee.

Ability to weigh and inspect local truck traffic

The purpose and need for the weigh and safety station is to inspect local traffic that is currently not being checked. This traffic generally originates from the Bend area or from the National Forest south to La Pine. If the weigh and safety station were located south of Sunriver on U.S. Highway 97, a large volume of local traffic would remain unchecked. In addition, the predicted haul route for most future timber sales in the next ten years would occur north of La Pine. Alternative 2 presents an ideal location to be able to check the safety of all trucks destined for Bend and points beyond.

Operation and staffing efficiency

Historically, weather-related operational problems are generally more severe the farther south one travels from Bend during the winter driving season. During times of non-stop storms, the highest priority for snow removal is for the safety of vehicle travel and not for weigh and safety station facilities. During

these times, facilities would remain closed. Other possible locations farther south of Alternative 3 may not be as efficiently operated or staffed as those sites considered in detail.

Description of Alternatives Considered in Detail

Alternative 1 - No Action/No Change

Alternative 1 would continue management of the National Forest lands according to the Management Plans for the Deschutes National Forest and the Newberry National Volcanic Monument with an objective of Retention within the scenic corridor. A permanent weigh or safety inspection station would not be constructed or operated on Deschutes National Forest lands. There would be no clearing of trees or shrubs, construction of a building, or application of asphalt on National Forest lands.

Alternative 2 (Site 7) - Proposed Action

Alternative 2 is one of the two sites considered in detail on National Forest lands and was the Proposed Action identified in the scoping notice sent to the public (January 2000). This was the site identified by ODOT on their own land as their first preference for sites on National Forest lands after rejection of Site 8 (Alternative 4) by the County. This alternative would place the weigh station between Mileposts 145.69 and 146.25 (Figure 1), as near as possible to the boundary of National Forest lands and as far as possible from the Newberry National Volcanic Monument, in order to minimize the land use fragmentation associated with non-conforming forest uses. The one-mile advanced warning sign for the High Desert Museum would remain in its current location.

Alternative 3 (Site 6a)

This alternative is the other site considered in detail on National Forest lands and was developed to respond to Issue #5, Consistency With County and National Forest Land Use Plans, by placing the weigh and safety station in a location on the northbound lane of U.S. Highway 97 to be more consistent with the new "Expressway" standard. Also, this alternative was responsive to Issue #8 (Operational and Design Characteristics) by reducing rock excavation, and allowing ramp grades to be more consistent with the highway grade. The location would be between Mileposts 146.16 and 147.75, approximately 1/2 mile south of the proposed site in Alternative 2 ([Figure 1](#)).

Alternative 4 (Site 8)

This alternative was considered in detail and is located on non-Federal lands. Although it is outside the Forest Service's authority to implement, it was identified to respond to issues associated with converting National Forest public lands to exclusive uses. It presents a comparison between key effects of construction and operation of the facility on both Federal and non-Federal lands, by evaluating placement of a weigh and safety inspection station on ODOT's existing lands.

This alternative is the proposal rejected by the Deschutes County Commissioners. More detail was added than when ODOT proposed the site to the County, including aspects of the description of the site development and effects.

Two possible scenarios would allow implementation of this alternative, all outside of the authority of the Forest Service. The first scenario would include condemnation of lands adjacent to the proposed site to meet physical requirements of the Deschutes County ordinance for fuel breaks, as well as a redetermination that the weigh station is considered an outright permitted use in the public highway right-of-way. This would eliminate the need for either a variance or a Conditional Use Permit to be granted by the County for the use of Site 8.

The second possible scenario would be that the County Commissioners could revisit their decision of whether the facility should be granted a variance and Conditional Use requested for Site 8. This would be based upon new or additional information concerning the design and effect of this and other alternatives compared in this analysis.

Under this alternative, ODOT would construct and operate a vehicle weigh and safety inspection station within their right-of-way that was obtained in 1952. The facility would be located adjacent to the northbound lane of U.S. Highway 97 between Mileposts 144.19 and 144.80, approximately 1 mile from the Baker Road interchange and 0.25 miles from the entrance to the High Desert Museum at Milepost 145.05 ([Figure 1](#)).

Environmentally Preferred Alternative

Alternative 1 (No Action) is the environmentally preferred alternative. This alternative would cause the least damage to the biological and physical environment, by not constructing the weigh and safety station. This alternative would not meet the need for a safety check and weigh station in central Oregon.

I weighed the need for a weigh and safety station close to Bend, against social concerns expressed from neighbors on siting the facility north of the High Desert Museum entrance and the amount of environmental disturbance. Both Alternatives 2 and 3 would have unavoidable adverse impacts on scenic quality, and require an amendment to lower the visual quality standards of the Deschutes National Forest Plan in the vicinity of the site. Although Alternative 2 would require blasting of two visible rock outcrops for the construction of the deceleration lane, it is the closest alternative considered on National Forest lands to the development associated with the City of Bend and would have the least overall relative impacts to forest fragmentation and scenic values when also considering the uses on adjacent public and private lands. Of the two alternatives considered on National Forest lands, Alternative 2 is located farthest from Newberry National Volcanic Monument, thus resulting in the least impact of the alternatives considered on National Forest land on that national resource.

All practicable options to avoid or minimize environmental harm described in Alternative 2 have been adopted. As part of the design of the alternative, criteria were established for the building and site design

that would minimize the amount of vegetation removed, restore native vegetation where possible, and, to the extent practicable, blend in with the natural environment. Measures to eliminate the existing noxious weed populations along the highway are ongoing, and this alternative includes prevention measures designed to reduce the potential for spread of those populations into the forest. An aggressive revegetation program that emphasizes use of native seed and transplants was also included.

The weigh station would require most of the high-risk activities with potential to start a human-caused wildfire to be concentrated in areas either paved or virtually free of flammable materials, thus substantially reducing the potential sources of ignition. Additional criteria established to reduce the fuel concentrations adjacent to the use areas further reduce the potential for ignition.

To reduce the likelihood of an animal/vehicle collision resulting from the construction and operation of the weigh and safety station, several requirements were incorporated into the alternative design. These include vegetation treatments around the facility to reduce the likelihood of mule deer making use of the area for hiding and foraging. Treatments such as thinning and pruning that were primarily designed to provide a firebreak and increase site distances for motorists also reduces concentration of deer by lowering the quality of hiding cover (i.e. bedding and travel). Mowing of bitterbrush, planting of non-palatable fire-resistant species, and cut and fill slopes resulting from construction of the facility lowers winter forage in the area and the probability of deer around the weigh and safety operations.

Administrative Record

The Administrative Record for this project includes the 1990 Deschutes National Forest Land and Resource Management Plan as amended; 1994 Newberry National Volcanic Monument Record of Decision, Final Environmental Impact Statement and Monument Plan; ODOT U.S. Highway 97 Corridor Strategy; Final Environmental Impact Statement for the Columbia Basin Ecosystem Management Project; Oregon Transportation Plan; and the 1998 Deschutes National Forest Noxious Weed Control Environmental Assessment.

Required Mitigation

Noxious Weeds

Early prevention, detection and treatment for invasive, non-native species would be required. Prevention methods include careful removal, storage and distribution of topsoil to retain native seedbank, prompt revegetation of disturbed areas, pretreatment of known populations prior to construction activities, and cleaning of vehicles and equipment entering and leaving the area during construction of the facility. If early detection and manual treatments fail, this decision would authorize the application of specific herbicide or biological agents outside of areas identified under the 1998 Deschutes National Forest Noxious Weed Environmental Assessment (Noxious Weed EA) boundary, but with some conditions. The terms and conditions described in the Noxious Weed EA for application of identified herbicides is incorporated by reference in these alternatives until eradication is complete or up to five years. Specific measures to avoid, minimize, or reduce the impacts are listed in the FEIS, Appendix 5.

Trash cleanup

To reduce potential for fire hazard and maintain a clean, cared-for appearance, the permittee would be required to monitor and maintain the site in a trash-free condition on a weekly basis or more frequently upon notification from the Forest Service.

Use and Fire Restrictions

Welding, cutting, or other repair or maintenance operations would be required to meet Forest Service fire requirements, which would be prominently posted at all times and readily visible to drivers or workers. This would include, at a minimum, information about restrictions on smoking, cutting, and welding operations. These or other identified activities would be subject to restriction or elimination during periods of high fire risk. The entrance ramp would be signed to inform drivers that the use of unmuffled hydraulic "Jake" brakes is prohibited and illegal.

Wildlife

To protect nesting raptors, blasting activities would only be permitted between September 1 and March 1. Construction operations would be required to observe Deschutes National Forest Plan requirements for restrictions on site-disturbing operations near raptor nests that may become established between the time a decision authorizing this activity occurs and the actual activity itself. A listing of all affected species and time frames for restrictions of activities are listed in the FEIS, Appendix 6 (Wildlife Report). The Forest Service would review sites for nest establishment prior to the beginning of construction activities.

Approximately 4-5 acres of trees and shrubs would be removed for construction of a building, bypass lanes and ramps for vehicle acceleration and deceleration, and related areas for employee access, parking, and inspections. To provide roosting habitat for western big-eared bats, as well as other cavity nesting species, snags would be created on adjacent land for each acre of forested habitat removed. Snag creation activities would be subject to the seasonal operating restrictions for raptors.

To protect habitat or reduce disturbance of the western big-eared bat if a cave or lava tube containing the species is located during project construction, it should be immediately reported to the Deschutes National Forest. Upon discovery, the project would be reassessed, dependent upon the effect to the bats considering the timing and extent of activities near the newly discovered cave.

Cultural Resources

If evidence of a cultural site were found during construction or clearing work, the permittee would be responsible for immediately stopping all work and notifying the Forest Service. This would include both historic and prehistoric site evidence.

Findings Required by Law

The National Forest Management Act (NFMA) requires specific determinations in this Record of

Decision including consistency with existing Forest Plans. The following provides the determinations for the various plans and laws.

National Forest Management Act

This decision is consistent with the Deschutes National Forest Land and Resource Management Plan as amended to change the visual quality standard of the Visual Management System from Retention (High Scenic Integrity) to Modification (Low Scenic Integrity). The amendment would be applied specifically to the weigh and safety station site, the Weigh-in-Motion mechanism, and associated signs. I have reviewed the management direction, standard and guidelines in relationship to the Selected Alternative and find it to be consistent with these elements.

This amendment to the Forest Plan would not significantly change the forest-wide impacts disclosed in the 1990 Environmental Impact Statement for the Deschutes National Forest. Pursuant to 36 C. F. R. 219.10(f), Forest Service Manual 1922.5, and Forest Service Handbook 1909.12, Chapter 5.32, the Forest Plan amendment is not significant based on the following:

Timing

This amendment would take place before the next revision of the Forest Plan. The Forest Service Planning Handbook (1909.12, 5.32) indicates that a change is less likely to result in a significant plan amendment if the change is likely to take place later in the Forest planning cycle. This plan amendment is occurring in the 11th year of the Forest Plan.

Location and Size

The smaller the area affected, the less likely the change is to be a significant change to the Forest Plan. The Deschutes National Forest is comprised of 1.6 million acres, 126,500 allocated to Scenic Views "Retention". This amendment affects approximately 5 acres, less than 0.004% percent of these designations on the Forest. The size and the relationship of this area along U.S. Highway 97 to the remaining Deschutes National Forest lands would be considered insignificant.

Goals, Objectives, and Outputs

An action is more likely to be a significant Forest Plan amendment if it alters the long-term relationship between the levels of goods and services projected by the Forest Plan. There would be no significant changes to the total level of goods and services projected by the Forest Plan under implementation of any of the action alternatives. Alternatives 2 and 3 are located within a management area identified as suitable for timber harvest. Implementation of these alternatives would not have a measurable effect on the Allowable Sale Quantity, as the 1990 Plan lists approximately 841,100 acres suitable for harvest and removal of approximately 5 acres (associated with the construction of the facility) would reduce this acre figure by .00059 percent.

Management Prescription

A change is more likely to require a significant amendment if it would apply to future decisions throughout the planning area. This amendment applies only to the South Bend Weigh and Safety Station,

Weigh-in-Motion equipment, and associated signs. It would not affect future decisions in the planning area.

Federal Land Management Policy Act

The Selected Alternative would issue a 20-year Special Use Permit under the Federal Land Policy and Management Act of 1976. Clauses would be added or subtracted to the General Form (FS 2700-4) to fit the site-specific circumstances.

American Indian Religious Freedom Act

This action does not affect the inherent right of American Indians to believe, express and exercise their traditional religions. It is therefore consistent with this act.

National Historic Preservation Act

An appropriate inventory has been conducted for this undertaking and no properties eligible for the National Register for Historic Places (NHRP) have been located; therefore, the undertaking meets the criteria given in Stipulation III.B.1 of the Programmatic Agreement among the USDA Forest Service, the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer. There would be no known direct, indirect, or cumulative effects to these resources.

Endangered Species Act

The Selected Alternative would have No Effect/No Impact to any species listed as Protected, Endangered, Threatened, and Sensitive or their habitats under the Endangered Species Act.

In November of 2000, the western big-eared bat was not included in the R-6 Regional Forester's list of sensitive species. This is a change of status between the Draft and this Final Environmental Impact Statement.

Biological Evaluations can be found in Appendices 5 and 6 of the FEIS.

Clean Water Act

The Selected Alternative would have no adverse effect to water quality and may afford some added protection.

The closest surface water is the Deschutes River, more than three miles away. The truck inspection and parking area would be designed to control leaks of hazardous materials, should one occur while being inspected. The parking and inspection area at the facility would be paved and surrounded by gravel to facilitate containment. In the event of a spill, emergency services (911) would be contacted prompting notification of the Area 4 Maintenance Manager for ODOT and a response from the nearest Hazmat team in Redmond, Oregon.

Normal oil leakage from trucks that stop at the weigh and safety station is expected to be no greater than found on the highway from everyday vehicle use. Drainage for all sites is anticipated to be minimal.

Standard roadside ditching would carry water away from the site. The scale pit would have a sump drain to remove collected water.

The Selected Alternative would allow greater opportunity to check an unsafe truck or driver traveling through Central Oregon, lowering the risk of a spill of hazardous materials into a water body.

Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands)

Executive Orders 11988 and 11990 direct Federal agencies to avoid, to the extent possible, both short-term and long-term adverse impacts associated with the modifications of floodplains and wetlands. There are no areas adjacent to the proposed weigh and safety station locations that would be considered a wetland or within a mapped floodplain. The Selected Alternative has no specific actions that would affect these resources. Proposed activities are compliant with the orders and USDA Departmental Regulation 9500-3.

Air Quality

While emissions from on-road vehicles have been studied for many years, differences of opinion still exist for the best approach to quantify these emissions. No practical direct method exists for estimating mobile emissions (e.g. the increase in release of hydrocarbons and particulate matter from diesel engines while idling versus operating at peak performance). The information would be too costly to obtain because there are no current models that can give reliable estimates given the range of variables, such as locality-specific information including weather and topography, engine model and efficiency, and even the differences in the fuels.

While in operation, the proposed weigh and safety station is expected to have between 50-60 trucks per hour using it, ranging from 32-40 hours per week. The average wait would be less than one minute while the truck is idling. Given the current number of trucks and the length of time that they idle at stoplights and patronize businesses in Bend, the increase in hydrocarbon and particulate matter from trucks idling while waiting to be inspected at the facility is expected to be relatively minor. Weigh-in-Motion technology is expected to reduce the number of trucks required to visit the facility in the future.

Civil Rights / Environmental Justice

Civil Rights legislation and Executive Order 12898 (Environmental Justice) direct an analysis of the alternatives as they relate to specific subsets of the American population. The subsets of the general population include ethnic minorities, disabled people, and low-income groups. The purpose of the analysis is to determine whether adverse civil rights impacts are anticipated on an underrepresented population. The analysis is to determine also whether disparate or disproportionate impacts associated with the alternatives are anticipated. A primary purpose of the alternative is to provide for the health and safety of all members of the public by insuring safe operation of commercial carriers. Provision of these benefits does not discriminate between subsets of the general population. Inspection of commercial carriers could disproportionately affect individuals in low-income groups if they cannot afford transponders to use Weigh-in-Motion facilities. These carriers may incur longer inspections and weighing times at the stations. The average length of time a carrier spends in the weigh and safety

station while it is in inspection mode is estimated to be 30 minutes. Therefore, these potential disparate effects are small. For these reasons, The Selected Alternative would not pose disproportionately high or adverse effects to minority communities or to low income groups.

Prime Lands

There are no lands within the project area that are classified as prime timber, farm or rangelands. Proposed activities in Alternatives 2, 3 and 4 would not change areas classified as prime forestland. There would be no direct, indirect, or cumulative adverse effect to these resources and thus are in compliance with the Farmland Protection Act and Departmental Regulation 9500-3, "Land Use Policy".

Energy

All of the action alternatives would result in increased energy use. This increase is primarily associated with fuel consumption required for acceleration upon leaving the weigh and safety station. The average number of vehicles leaving the station is estimated to be 50-60 per hour during the hours of operation as a weigh station. This amount may decline as more operators use Weigh-in-Motion. The fuel consumption will vary by action alternative with Alternatives 2 and 4 having the least impact with steeper descending grades to the highway, allowing gravity-based fuel reduction to thus be employed. Other energy uses include lighting and heating of the facility.

Implementation Process

Implementation of this decision may occur no sooner than the 45 days plus 5 business days after the date of publication of a notice of decision and availability of the Final Environmental Impact Statement in the Bulletin (Newspaper of Record), Bend, Oregon. Additionally, a decision documented in a ROD can be implemented no sooner than 30 days following the date the Environmental Protection Agency publishes the Notice of Availability (NOA) of the Final EIS in the Federal Register.

Right To Appeal

This decision is subject to administrative appeal. Organizations or members of the general public may appeal this decision according to Title 36 Code of Federal Regulations (CFR) Part 215. This appeal must be filed within 45 days of the date that legal notification of this decision is published in the Bend Bulletin, the official newspaper of record. The Notice of Appeal must be filed with:

Regional Forester
Attn: Appeals
USDA Forest Service
P.O. Box 3623
Portland, OR 97208-3623

It is the responsibility of those who appeal a decision to provide the Regional Forester sufficient written evidence and rationale to show why the decision by the Forest Supervisor should be changed or

reversed. The written notice of appeal must:

1. State that the document is a Notice of Appeal filed pursuant to 36 CFR part 215;
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3. Identify the decision document by title and subject, date of decision, and the name and title of the Responsible Official;
4. Identify the specific change(s) in the decision that the appellant seeks or portion of the decision to which the appellant objects;
5. State how the responsible Official's decision fails to consider comments previously provided, either before or during the comment period, and, if applicable, how the appellant believes the decision violates law, regulation, or policy.

Contact Person

For additional information concerning the specific activities authorized under this decision, contact:

Chris Mickle or Mollie Chaudet
Environmental Coordinator
Bend-Ft. Rock Ranger District
1230 NE 3rd St., STE A-262
Bend, OR 97701
541 383-4769

/s/Rebecca Heath for
LESLIE A.C. WELDON
Forest Supervisor
Deschutes National Forest

5/2/01
Date

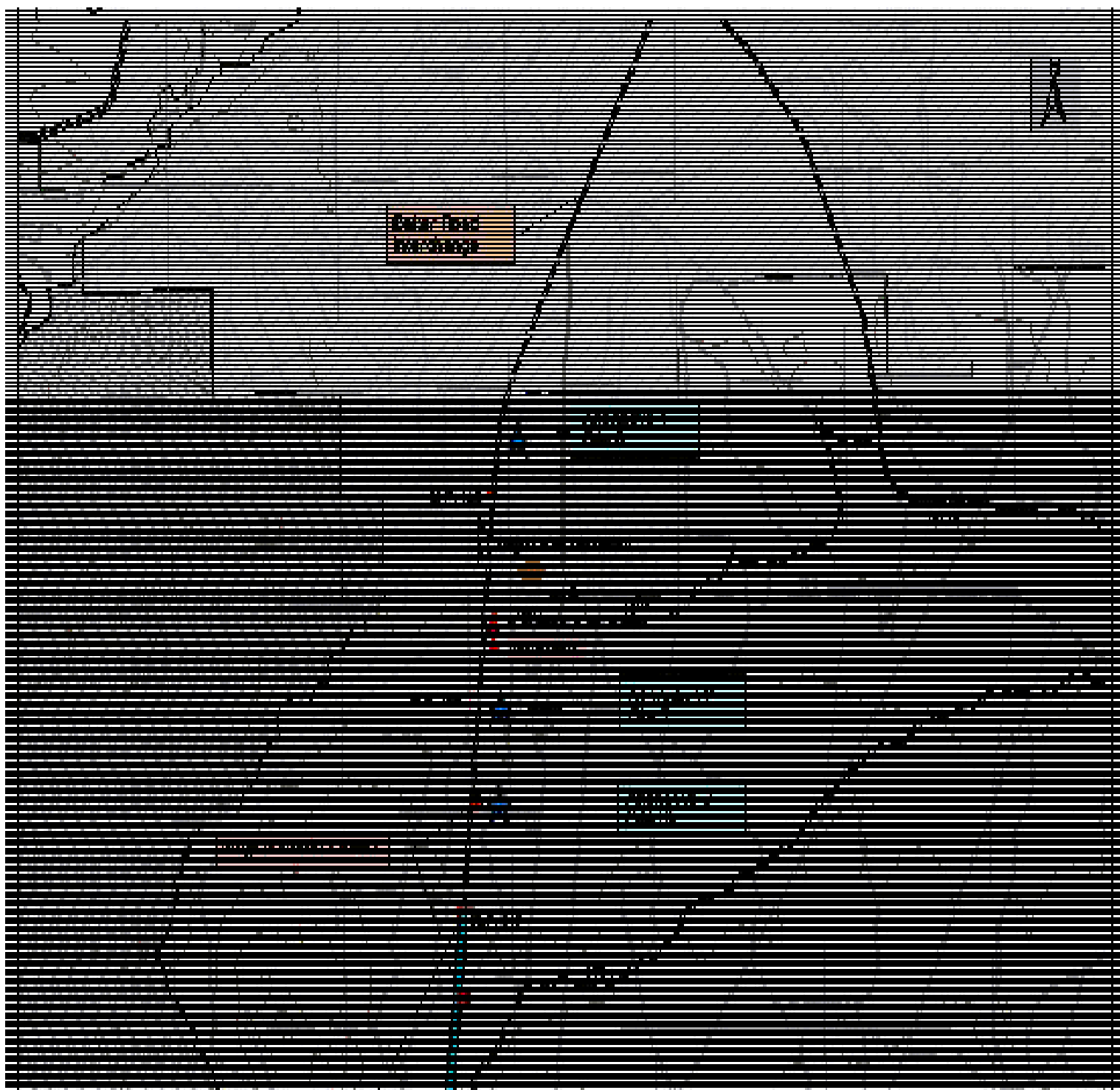
Footnotes

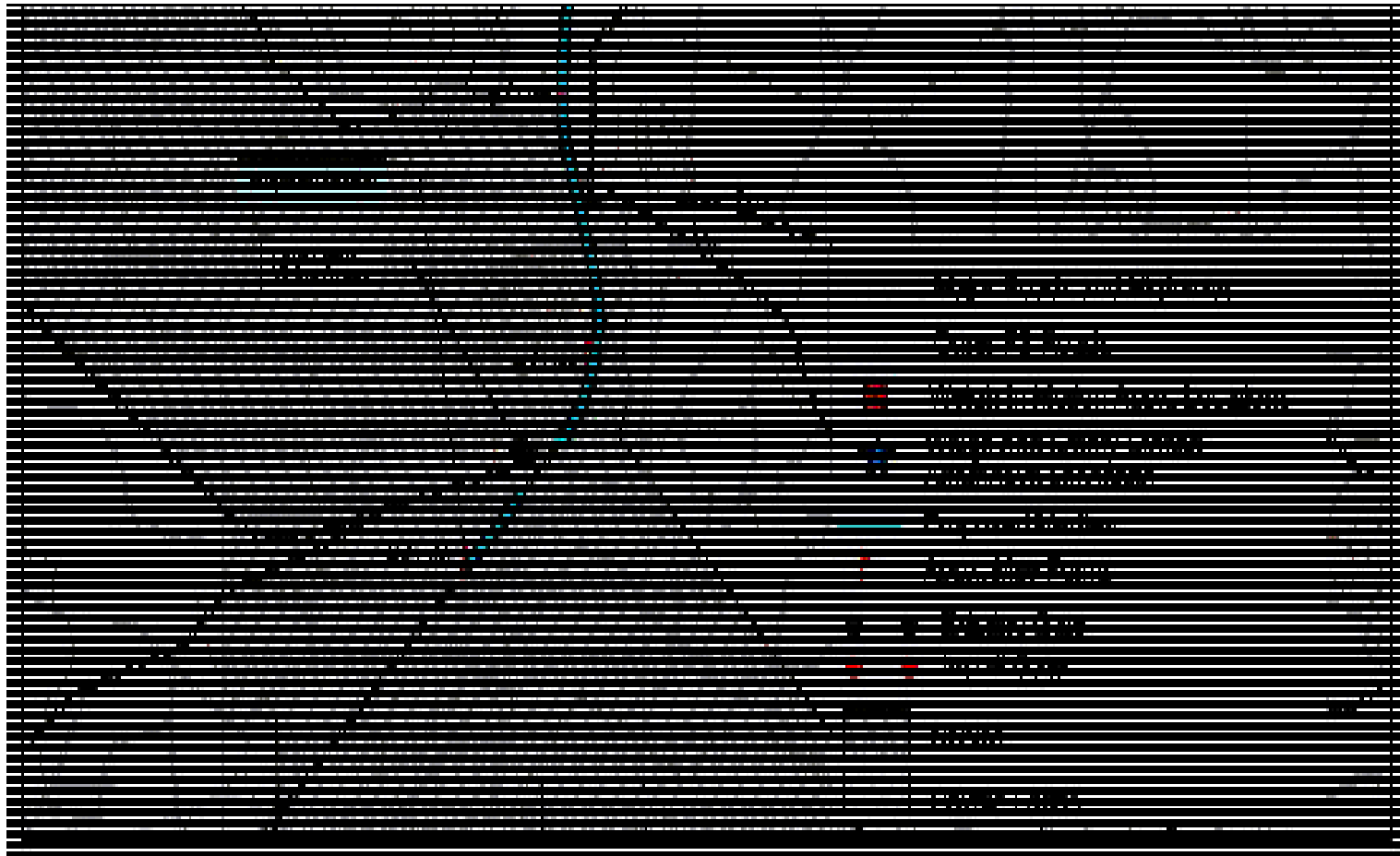
1. South Bend Scale Relocation Report, ODOT, February 2001.
2. In October 1996, the Forest Service adopted a new national policy for describing relative visual quality impacts and objectives. The visual descriptions in the new terminology replace the Visual Quality Objectives with descriptions of the relative scenic integrity of a piece of land. While

exact comparisons have not been developed, Retention is roughly equivalent to "Very High or High" Scenic Integrity, while "Modification" will be roughly equivalent to "low or very low" Scenic Integrity. Until a more comprehensive comparison of the elements of each system has been completed, the Forest Plan will not reflect amendments to these new descriptions.

3. Citizen Advisory Committee meeting, July, 1997

Figure 1
Alternative 2 (Site 7) and Other Locations





[Deschutes and Ochoco National Forests Website](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/rodweighsta.html)

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Last Update: 10/30/01

R.A. Jensen

South Bend Weigh and Safety Station

USDA Forest Service Deschutes National Forest Bend/Fort Rock Ranger District

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Last Update: 10/30/01

R.A. Jensen

South Bend Weigh and Safety Station

USDA Forest Service Deschutes National Forest Bend/Fort Rock Ranger District

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Last Update: 10/30/01

R.A. Jensen

South Bend Weigh and Safety Station Final Environmental Impact Statement

USDA Forest Service Deschutes National Forest Bend/Fort Rock Ranger District

May, 2001

Abstract

This Final Environmental Impact Statement (FEIS) has been prepared in response to a request by the Oregon Department of Transportation to establish a weigh and safety station on Deschutes National Forest lands along Oregon U.S. Highway 97 near the Newberry National Volcanic Monument. The Final EIS analyzes the proposed action identified in the Federal Register notice of January 14, 2000 (Alternative 2), and three alternative courses of action, including not authorizing the use (no action alternative) and an alternative on non-Federal lands outside of the agency's authority to implement. Alternatives 2 and 3 would require a site-specific amendment to the Deschutes National Forest Land and Resource Management Plan to change the Visual Quality Objective in the Scenic Views Management Area from Retention to Modification.

The Final EIS identifies Alternative 2 (Site 7) as the Preferred Alternative and presents an analysis of the environmental consequences of implementing each of the alternatives. The Deschutes National Forest Supervisor is the Responsible Official.

Right to Appeal

This decision is subject to administrative appeal. Organizations or members of the general public may appeal this decision according to Title 36 Code of Federal Regulations (CFR) Part 215. This appeal must be filed within 45 days of the date that legal notification of this decision is published in the Bend Bulletin, the official newspaper of record. The Notice of Appeal must be filed with:

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Last Update: 10/30/01

R.A. Jensen

South Bend Weigh and Safety Station Final Environmental Impact Statement

USDA Forest Service Deschutes National Forest Bend/Fort Rock Ranger District

Chapter 1 Purpose and Need for Action

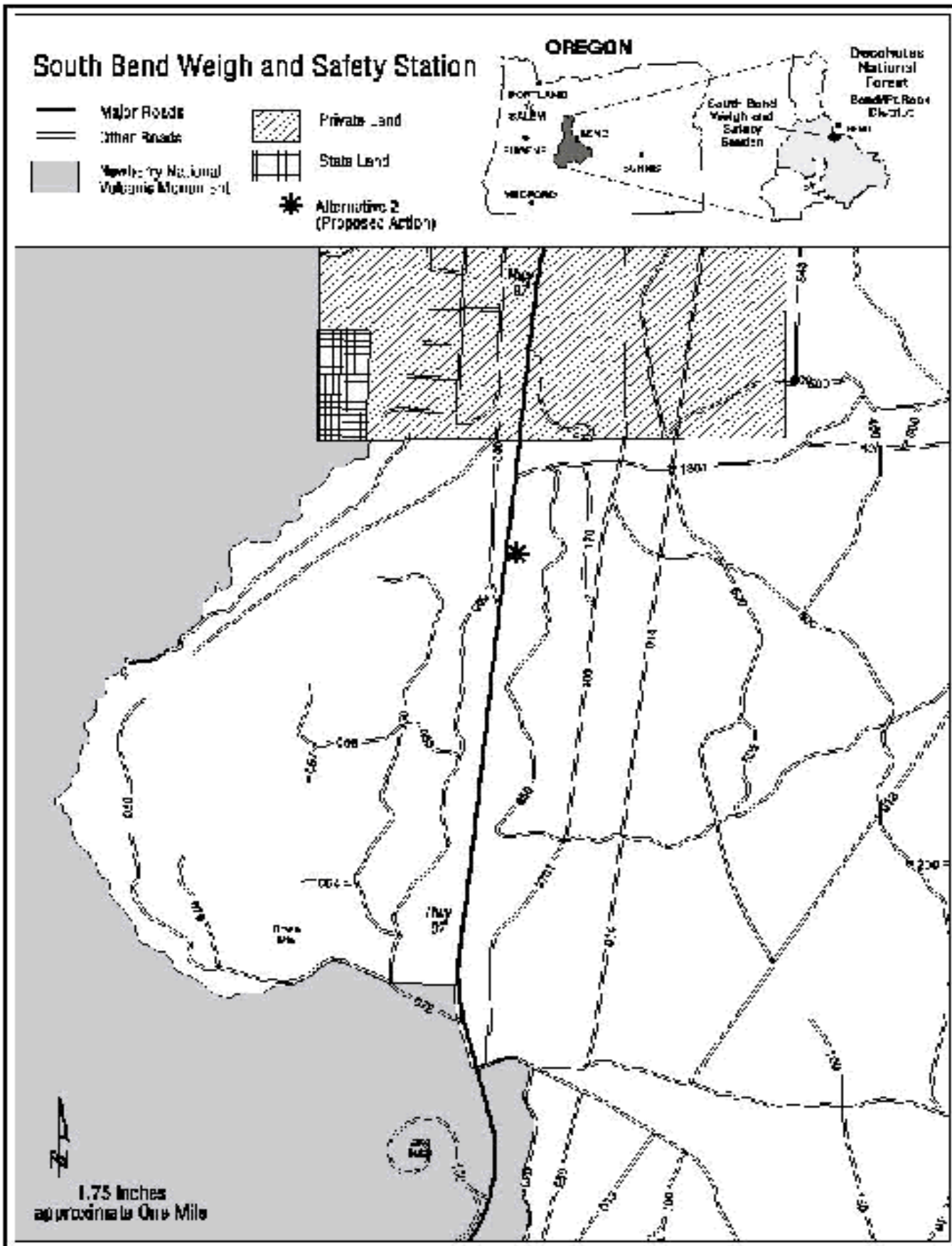
Introduction

This chapter describes the purpose of the preparation of this document, the nature of the decisions to be made, and the significant issues that were identified concerning the analysis of construction and operation of the South Bend Weigh and Safety Station.

Location

The South Bend Weigh and Safety Station would be located on lands within Deschutes County, Oregon (Figure 1, Vicinity Map). The proposed area is located on the northbound lane of U.S. Highway 97, south of Bend, Oregon, between Mileposts 145 and 148 and is adjacent to the boundary of the Newberry National Volcanic Monument. The legal location is Township 19 South, Range 11 East, Section 1, Northeast 1/4, Willamette Meridian. The *Deschutes National Forest Land and Resource Management Plan* presently allocates the location to a Management Area for Scenic Views.

Figure 1 - Vicinity Map



Purpose and Need of Proposed Action

U.S. Highway 97 is used as a major truck route for the Western United States ([see footnote 1](#)). The route's relatively

flat terrain and access to markets in the Willamette Valley, Northern California, the Puget Sound, and the Tri-Cities (Kennewick, Pasco, Richland) all contribute to the heavy volume of truck traffic ([see footnote 2](#)). Oregon Department of Transportation (ODOT), through its Motor Carrier Enforcement (MCE) Branch, weighs, measures, and inspects trucks to protect the motoring public and to ensure state highways do not prematurely deteriorate due to overweight vehicles. Permanent weigh stations are vital to this role. Additionally, the Pavement Management System of the Federal Highway Administration requires ODOT to manage the design life of the pavement by maintaining a comprehensive size, weight, and safety program. A safety check and weigh station in Central Oregon is needed to satisfy this requirement.

Presently in Central Oregon, there is no permanent weigh station on U.S. Highway 97 for the stretch of highway that extends from Klamath Falls 170 miles to the next station south of Madras. There were two previous scales south of Bend on U.S. Highway 97; one each in the northbound and southbound lanes. Due to safety restrictions, the construction of the Baker/Knott Road interchange necessitated their removal in 1994. ODOT attempted to replace the northbound lane station at a site very close to the previous location and north of the High Desert Museum, within State of Oregon administered land. The Conditional Use application for this site failed to win approval by the Board of Deschutes County Commissioners in 1999, necessitating ODOT's search for a suitable alternate site.

Weigh stations operate in two overlapping modes; the first is the weighing of commercial vehicles and the second is the inspection of vehicles and their drivers for operating violations. As a broad overview, personnel inspect trucks to make sure they are within the allowed weight limits or that they possess a valid overweight permit. Also, personnel look for everything from incorrect logbooks to minor problems to major violations.

The State of Oregon has identified U.S. Highway 97 between Bend and Sunriver as an area with a high rate of truck-related accidents. According to ODOT data from the previous Bend safety and weigh station, the average percentage of vehicles placed out of service after inspection in 1989 through 1994 was 40.4% ([see footnote 3](#)). The statewide average during the same period was 32.7%. Since then, the volume of truck traffic on U.S. Highway 97 from automatic daily vehicle counts performed on Lava Butte, traffic has increased an average of 3.1% per year. It is assumed violation rates have increased proportionally. Violation rates can be an indicator for accident potential. The truck-at-fault accident rate for the last three years has been slightly reduced due to increased law enforcement efforts ([see footnote 4](#)). Furthermore, although there have been no documented environmental spills due to unsafe trucks near Bend, the potential exists. A permanent weigh and safety station could intercept potentially unsafe trucks before they proceed through town. It would also increase the probability of a local carrier eventually being inspected.

Typically, when a highway such as U.S. 97 is constructed, assumptions in the expected vehicle traffic are used to design the pavement to last approximately 20 years before replacement. If traffic volumes are greater than expected, or truck overloading becomes unchecked, maintenance activities can easily be ill timed. This potentially leads to premature deterioration and early highway replacement ([see footnote 5](#)), which can increase the costs to the taxpayer.

Over-weight and over-sized vehicles are unsafe and contribute towards accelerated rates of pavement deterioration. More than 95% of motor carrier operations are conducted in a safe and legal manner. According to ODOT, the previous weigh and inspection site at the northbound lane of U.S. Highway 97 had an average violation rate ([see footnote 6](#)) for over-weight and over-sized vehicles of 3% for the northbound site and 1% for the southbound site. Compared to the statewide average of 0.75% for similar sites statewide, and a national average on the Interstate System of 1.0%, the violation rate was considered high. Where there is no enforcement, the violation rate can be much higher ([see footnote 7](#)). Current research indicates where there was very little visible enforcement, overweight and out of compliance vehicles comprise 13% (Florida) to 34% (Maryland) of the truck traffic.

Analysis indicated the high violation rate in this area was tied to three variables. First, many trucks with a Bend and/or Redmond destination also originate locally. Unlike long distance through traffic, such locally oriented trucks have a reduced likelihood of traveling far enough to use the weigh stations at Klamath Falls or Madras. Second, trucks loaded with forest products (logs, chips, or aggregate) often leave the forest unweighed ([see footnote 8](#)). Third, trucks coming up from Christmas Valley, Silver Lake, Paisley, Lakeview, or even portions of northern Nevada do not reach a permanent station until they reach the Juniper Butte Weigh Station near Madras.

Site selection as it relates to safety is an important consideration. The design should not interfere with the turning movements of vehicles leaving or entering the highway at forest roads or intersections. Ideally, the site should have a slight upgrade as trucks exit the highway and enter the site, enabling a gentle climb to assist in slowing the trucks. As the trucks exit the site, the goal is to have a slight downgrade, which will aid the trucks in getting back up to speed as they reenter the highway after passing through the scale and inspection site. There is the necessity to maintain a 0.0% grade for 220' feet at the actual location of the static scale itself in order to properly weigh all variations of heavy highway vehicles. Also, there must be adequate room for vehicles to safely wait their turn to approach the scale, as well as room for a small building to house the necessary equipment and office space for the enforcement officers, a bypass lane, and minimum parking areas for vehicles being inspected. In addition to parking areas for highway vehicles, a small parking area should be located behind the building for enforcement officers' vehicles.

Finally, for a weigh station to be effective, it must be located in a place that is difficult for trucks to bypass, as well as in a site with the least restrictive winter weather conditions for the area. In Central Oregon, weigh stations days of operation can be limited by snow and black ice. These winter weather conditions are often more severe to the south, towards Sunriver or La Pine, while fewer weather-related problems exist closer to Bend.

ODOT has chosen new technology to help manage truck traffic. The number of trucks traveling through the state has steadily been increasing for years and straining capacity at weigh stations ([see footnote 9](#)). ODOT has opted for a mainline preclearance system of Weigh-in-Motion and Automatic Vehicle Identification. This system, as part of the "Green Light Project" has improved the safety and efficiency of the commercial trucking industry while at the same time increased the performance of the roadside facilities without physically expanding them, and protecting the public investment of the infrastructure ([see footnote 10](#)). Weigh-in-Motion systems check the vehicle's weight and height as the vehicles approach highway speeds while the Automatic Vehicle Identification Systems check for registration, tax status, and safety inspection standing. The driver is signaled with an in-cab device to either "report to the station" or "bypass." During 1999 more than 200,000 mainline bypasses have occurred at sites already completed in Oregon. This number will grow substantially as more carriers enroll and as the remaining sites are completed. This frees weigh and safety station personnel and facilities to process only those trucks that need their attention and saving considerable time and money for trucks that bypass.

For this system to succeed, a dynamic scale and sensors must be located in a relatively flat and straight section of highway before the entrance for the weigh station. Signing is also needed as far as 1.5 miles prior to the device to alert truckers of the upcoming scales.

Management Direction

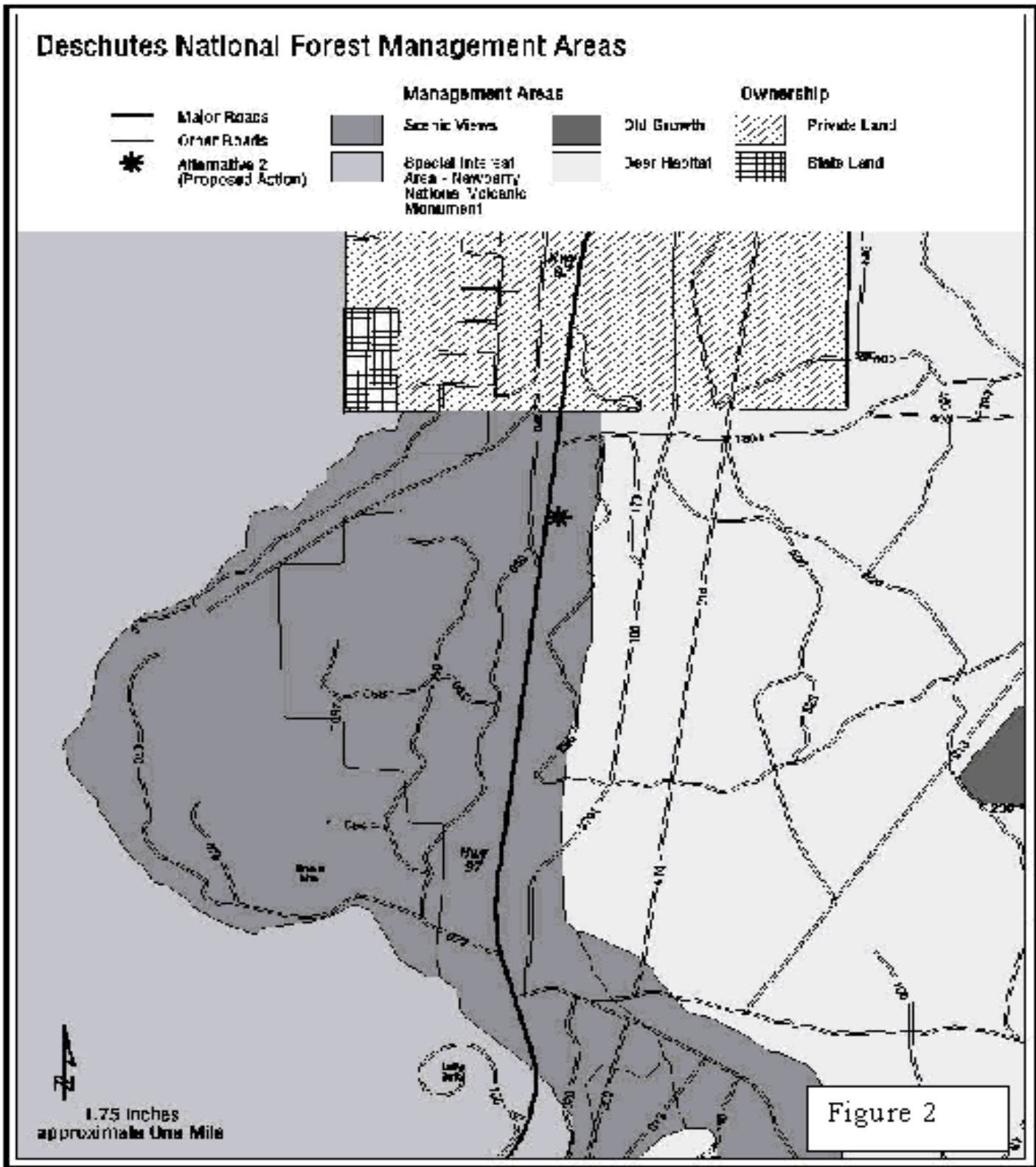
There are a variety of laws, regulations, and policies that govern the management of National Forest lands and the state and federal highway system. The *Deschutes National Forest Land and Resource Management Plan*, the *Newberry National Volcanic Monument Plan*, and the *ODOT U.S. Highway 97 Corridor Strategy* establish broad goals and direction for proposed activities within the project area.

The 1990 *Deschutes National Forest Land and Resource Management Plan* (Forest Plan) provides for certain kinds of uses of National Forest lands. These are called "Special Uses" and the goal is to "*provide for the use and occupancy of the National Forest system by individuals or Federal, State, and local Governments when such use will not detract from specific management area direction, are within the public interest, and cannot reasonably be served by development on non-National Forest System lands* (page 4-74)." Should an alternative be selected on National Forest lands, a Special Use Permit would be issued. Clauses would be added or subtracted to the General Form (FS 2700-4) to fit the site-specific circumstances.

The Newberry National Volcanic Monument was established by Congress in 1990, "*to provide for conservation, protection, interpretation, and enhancement of its ecological, botanical, scientific, scenic, recreational, cultural, and fish and wildlife resources.*" U.S. Highway 97 intersects the Monument from Mileposts 148 to 150. Along this stretch of highway as viewed from an automobile or from Lava Butte, unaltered lava flows and large ponderosa pines are characteristic of the scenic values for which the monument was created. The remaining corridor within the Deschutes National Forest boundary is presently allocated to the Scenic Views Management Area (Figure 2) with a visual quality standard of Retention (High Scenic Integrity), meaning human activities are not visually evident. The overall goal of this allocation is to "*. . . provide high quality scenery representative of the natural character of Central Oregon.*" Facilities and associated improvements must be maintained and designed to blend with the characteristic landscape (Forest Plan page 4-121).

ODOT developed a U.S. Highway 97 Corridor Strategy, which is the first step in the planning process for projects from Madras to the California border. This document establishes objectives for the operation, preservation, and improvement of transportation facilities within the corridor. The goal for the U.S. 97 Corridor Strategy is "*to promote commerce by efficiently distributing goods and services, while enhancing travel safety, maintaining environmental integrity, and preserving regional quality of life* (page 5)." All facilities must be consistent with these corridor strategy objectives and goals.

Figure 2 - Deschutes National Forest Management Area



Public Involvement

A description of the Proposed Action was published in the Federal Register January 14, 2000. The Proposed Action identified in the Federal Register was refined during the analysis process and became Alternative 2 in this document ([see Chapter 2](#)).

A concerted effort was made to involve everyone interested in or affected by the South Bend Weigh and Safety

Station process. A scoping letter was mailed to approximately 125 people on January 12, 2000. Names of interested and affected people were obtained using mailing lists from the Deschutes National Forest, the Deschutes County Planning Department, and from Oregon Department of Transportation Citizen Advisory Committee member records. Additional names were added to the list as information was disseminated to the public through the local newspaper. Approximately 10 people responded with comments supporting the proposed location between Mileposts 145 and 148. One person supported the proposed location, but suggested a site near La Pine, Oregon, be evaluated. A site near La Pine was considered and eliminated from further study.

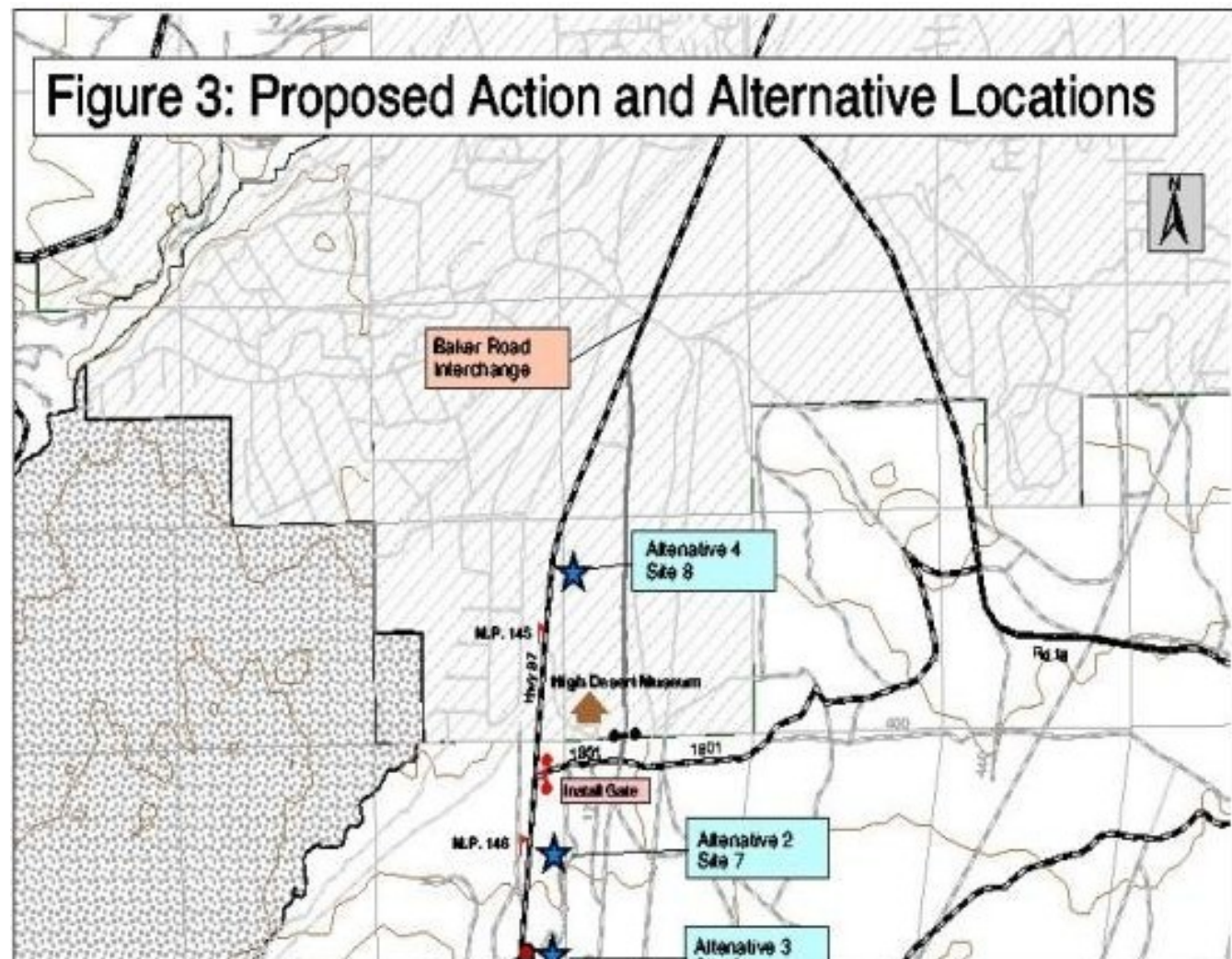
Proposed Action

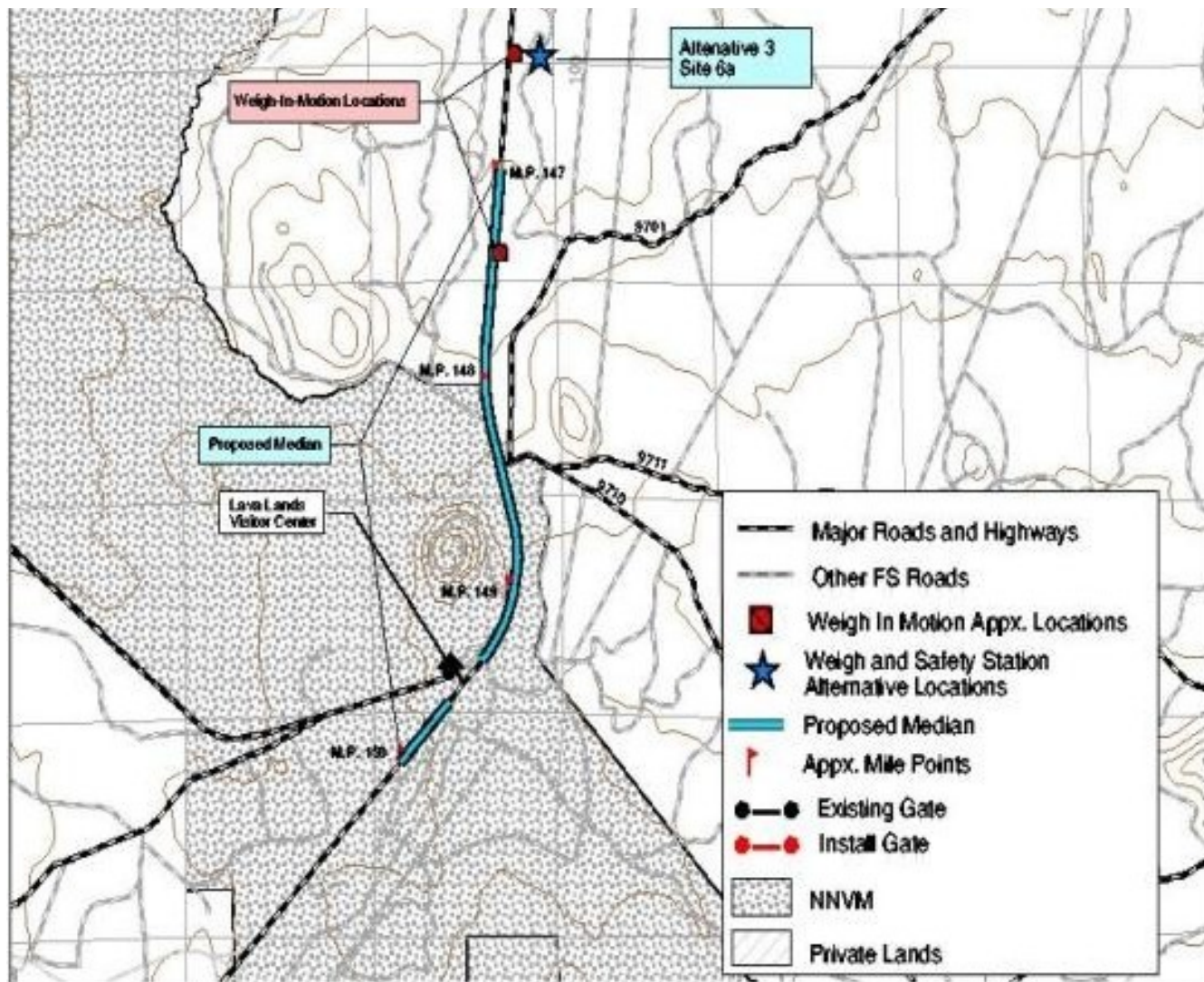
The Forest Service proposes to authorize a Special Use permit for construction, maintenance and operation of a vehicle weigh and safety inspection station between Mileposts 145 and 148 in the northbound lane of U.S. Highway 97, south of Bend, Oregon (Figure 3, Proposed Action and Alternative Site Locations).

The Proposed Action would require a project-specific amendment to the *Deschutes National Forest Land and Resource Management Plan* to change the visual quality standard of the Visual Management System from Retention (High Scenic Integrity) to the Modification (Low Scenic Integrity). The amendment would be applied specifically to the weigh and safety station site, the Weigh-in-Motion mechanism, and associated signs.

Chapter 2 provides a more detailed, site-specific description of the Proposed Action, (page 34).

Figure 3 - Proposed Action and Alternative Locations





Decisions

As a Federal Agency designated to administer the Deschutes National Forest, the Forest Service is required to apply resource management as directed by the Forest Plan. The Deschutes National Forest Supervisor is the Responsible Official and will decide whether or not to authorize the construction and operation of a weigh and safety station on National Forest lands and if so, under what terms and conditions.

Identification of Issues

An issue is a point of discussion, debate, or dispute about environmental effects. Issues were developed through a public process that gathered comments from concerned citizens and from interdisciplinary team members who identified where to focus the analysis. These comments form the basis for the significant issues that are considered throughout the analysis and decision process. Eight significant issues concerning the Proposed Action or alternatives to the Proposed Action were identified.

- Issue 1 - Effects on Scenic Views
- Issue 2 - Risk of Wildfire
- Issue 3 - National Forest and Private Land Values
- Issue 4 - Effects to Mule Deer
- Issue 5 - Consistency with County and National Forest Land Use Plans

- Issue 6 - Noxious Weed Control
- Issue 7 - Access
- Issue 8 - Operational Characteristics

The following issue descriptions are divided into two parts. The first section is a brief *summary* in terms of the existing condition and what would be changed or affected by the Proposed Action and/or the Alternatives to the Proposed Action. The second part is the **description**, which provides the reader more context and detail about the issue.

Issue #1 - Effects on Scenic Views

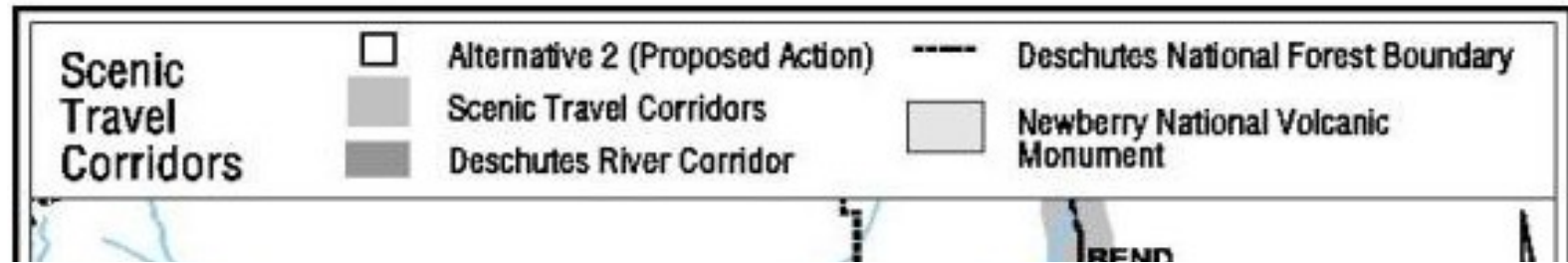
Summary

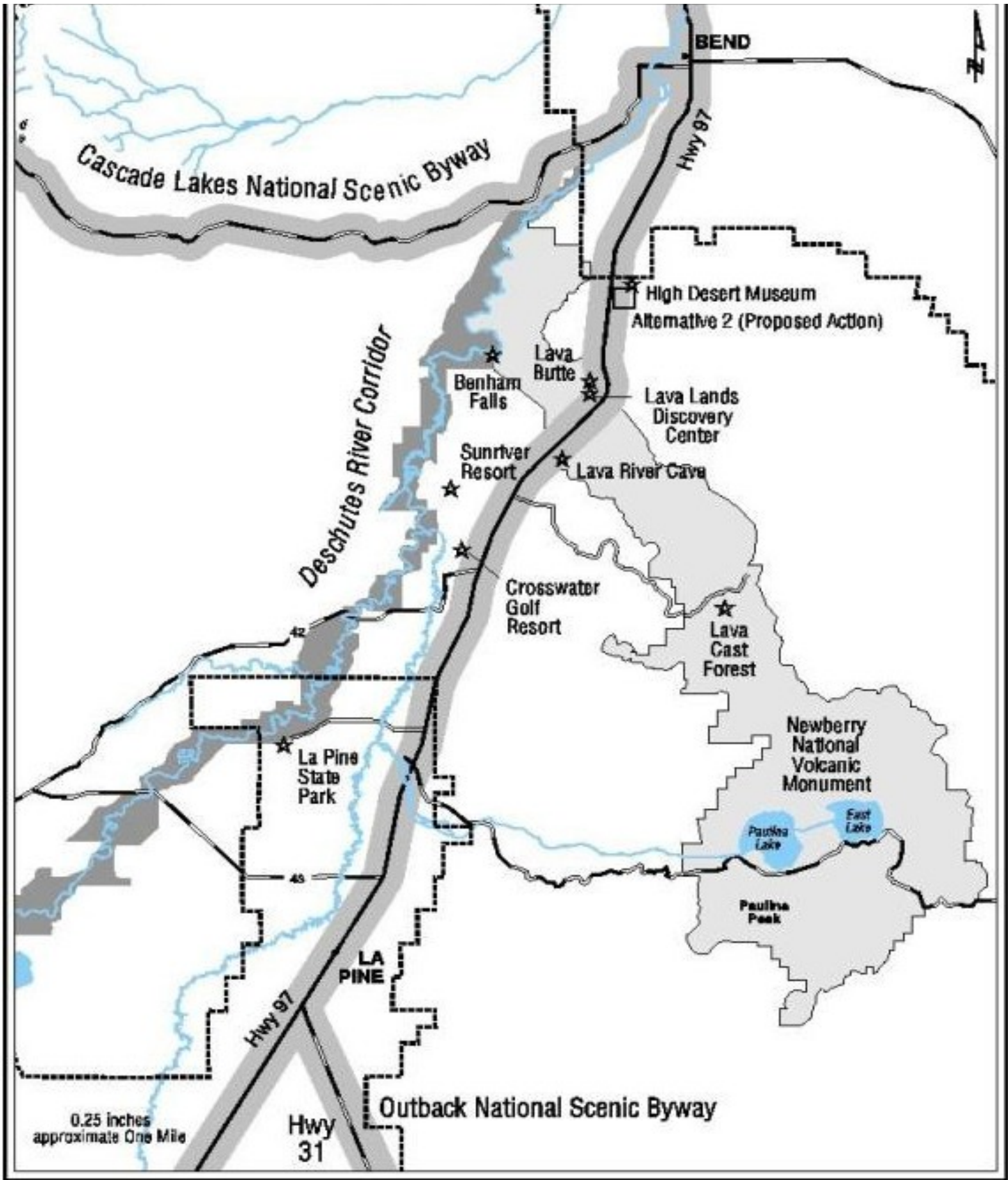
As directed by the Standards and Guidelines of the Deschutes National Forest, an objective of "**Retention**" ([see footnote 11](#)) is to be met. The equivalent objective in the newer Scenery Management System is **High Scenic Integrity** ([see footnote 12](#)).

The Proposed Action would allow construction of a weigh and safety station within a Scenic Views Management Area. The scenic travel corridor encompasses much of the area visible from U.S. Highway 97. For the purpose of this analysis, the corridor is defined as the travelway viewed by the public where the main objective for management along the road may not be for scenery, but scenic views are an important component. The land ownership in a travel corridor can be mixed. Within this scenic corridor, National Forest lands are specifically managed to perpetuate the characteristic natural landscape of the Forest and Newberry National Volcanic Monument. Standards and Guidelines for the Scenic Views Management Area establish a visual quality standard of "Retention" for the area adjacent to U.S. Highway 97. As previously stated, under the newer Scenery Management System, "Retention" is equivalent to High Scenic Integrity ([see footnote 13](#)). In order to maintain a visual quality standard of "Retention" management must design activities/changes that are undetectable to the forest visitor (Forest Plan, M9-4). In foregrounds, opening sizes would range from 1/4 acre to 2 acres (M9-10). The proposed action would not meet these standards, and would require an amendment to the Deschutes National Forest Land and Resource Management Plan to change the visual quality standard to "Modification," which is equivalent to Low Scenic Integrity under the newer Scenery Management System.

This stretch of U.S. Highway 97 serves as a link between regional and national recreational areas and accesses two National Scenic Byways. Located at the northern edge of the Deschutes National Forest and the Newberry National Volcanic Monument (Figure 4), the proposed site is covered mostly with ponderosa pine, bitterbrush, manzanita, and grasses, with some lava rock outcrops typical of flows found throughout the Newberry National Volcanic Monument. It has relatively few developments and is approximately 4 miles south of the city limits of Bend. The proposed project site is at the northern end of a 30-mile scenic corridor between visible highway development (a Recreational Vehicle Park to the south) and Bend. The "sea of green" as viewed from the top of Lava Butte is characteristic of the forests found throughout the area.

Figure 4 - Scenic Travel Corridors





Issue #1 - Effects on Scenic Views

Description

The proposed project would be conspicuously visible on a forested stretch of highway that currently has very few signs of development. U.S. Highway 97 is a 4-lane highway with traffic traveling in both directions at speeds of 60 mph or greater. The amount of area seen from the road would be approximately 9 acres. This includes approach and exit lanes, a building, a scale platform, an inspection area, a parking area and gravel shoulder, and an area where brush would be mechanically treated and trees would be thinned to reduce the risk of wildfire. Other visible elements added along the highway would be Weigh-in-Motion/Automatic Vehicle Identification equipment including metal poles overhanging the highway and lighted metal highway signs.

U.S. Highway 97 is a highly traveled scenic corridor providing access through Central Oregon from California to Washington. Several premier visitor activity centers in Bend and on the Deschutes National Forest are located along this route. Views to the south of the proposed site are mostly of volcanic landscapes rolling through ponderosa pine forests. Traveling towards the proposed site from the south, the Outback National Scenic Byway on State Highway 31 is approximately 20 miles away, the entrance to Newberry Crater is 15 miles away, the entrance to Sunriver Resort is about 7 miles away, Lava River Cave is 5 miles away, Lava Butte and Lava Lands Discovery Center are 3 miles away, and the High Desert Museum is just to the north.

The Newberry National Volcanic Monument begins with Newberry Crater and continues towards the northwest to the Deschutes River. The area along U.S. Highway 97 within the Newberry National Volcanic Monument, which includes Lava Butte, Lava Lands Discovery Center, and Lava River Cave, is managed as the Lava Butte Zone. The purpose of this zone is to serve as the primary interpretive day-use and information hub for the Monument. Vegetation is to be managed to provide high quality scenery with an emphasis on preserving and sustaining large, old growth ponderosa pine, and to provide some habitat that allows for deer migration.

Because of the proximity of the Monument to the alternative weigh station sites; there may be effects to the visual and aesthetic setting of the Lava Butte Zone.

Issue #2 - Risk of Wildfire

Summary

The Deschutes National Forest and Deschutes County share a concern over the increasing risk of fire ignitions resulting from specific kinds of uses at the weigh station, and the ability to control a fire without affecting neighboring properties. This issue was raised during the County hearing process concerning Site 8 (see Issue #5), and the County Commissioner's Findings that a weigh station located on Site 8 would pose a "significant increase in the fire danger," was an important factor in the design of the Proposed Action.

Issue #2 - Risk of Wildfire

Description

Fire danger within an area is largely a function of variables such as fuels, topography, weather, resources at risk, ignition sources, and suppression response time. Although every wildfire is a random event, the relationship of these variables contributes to the fire behavior and ultimately the success of an initial attack.

Fuel models are characterized by components that burn with different characteristics: grasses, shrubs, and trees. Vegetation surrounding the proposed sites in the project area is comprised of a relatively young and thinned stand of ponderosa pine with an understory shrub component of bitterbrush and manzanita. Under certain extreme weather conditions, shrubs can provide an opportunity for less severe ground fires to become more severe in the crowns of

trees. Periodic mechanical brush manipulation can lessen the likelihood of this event to occur.

The topography of the area is generally flat with rolling terrain, containing areas where lava has created small outcroppings. Access is considered good, with U.S. Highway 97, Forest Road 1801 and Forest Road 9710-014 surrounding the most important resources at risk including the High Desert Museum and adjacent private lands. Fire detection and response time is considered excellent with Lava Butte Lookout and shared suppression resources in the City of Bend being minutes away.

Prevailing winds are from the south/southwest direction. Ignition sources could include lightning, or human-caused fires that may or may not be set intentionally.

Issue #3 - National Forest and Private Land Values

Summary

A Special Use authorization to convert open public lands to a weigh and safety facility would alter the amount of National Forest lands available for other multiple uses for a minimum of ten years, and possibly for twenty to fifty years ([see footnote 14](#)). It would change the landscape character and public use of the land, potentially affect the enjoyment and use of adjoining public lands due to visual and noise impacts, and contribute to the cumulative effects of reduced public lands available for multiple uses in southern Deschutes County.

Construction of a weigh and safety station may also affect neighboring private land values and uses. Visual alterations in the landscape, noise, and other infringements on private landowners may lower the perceived or actual current value of their lands as well as potential future values of those lands, affect the costs of managing their lands, and potentially affect the quality-of-life owners gain from using their land.

Losses in public and private land values and uses as well as financial expense to the public tax payer and trucking businesses must be weighed against benefits to the public in terms of safety to motorists and the environment resulting from siting a weigh and safety station. Potential costs and benefits include:

- Cumulative effect of moving land from general public use into other public or exclusive uses
- Visual and noise impacts on public use and private land landowners
- Cost of facility construction and maintenance
- Savings in maintenance costs due to reduced overweight truck traffic
- Cost to trucking businesses in time and fuel expenses while complying with weigh and safety station checks.
- Benefits of public and environmental safety
- Current and potential future change in private property values

Issue #3 - National Forest and Private Land Values

Description

Weigh and safety stations play a vital role in providing for public and environmental safety, and reducing premature damage to transportation systems. Although the Deschutes County Commissioners denied ODOT's request for a conditional use permit and variance to build a weigh station on their existing right-of-way (Site 8), the need for a weigh and safety station to be operated near Bend was affirmed ([see footnote 15](#)). The County Commissioners determined Site 8 was not compatible, or would otherwise have an unacceptable effect on adjacent private lands, and therefore denied the use (See also Issue #5).

In Central Oregon, there are very few areas that are suitable to locate a facility where local vehicles can be checked while also monitoring U.S. Highway 97. For this reason, Oregon Department of Transportation requested a weigh and safety station site on National Forest land. This situation is due to a lack of suitable and available private land, existing rights-of-way, roads that allow opportunities for a checkpoint to be bypassed, and the need to locate facilities where they are consistent with surrounding uses.

Under the Deschutes Forest Plan, a Special Use Permit may be considered if the use "*provides for the use and occupancy of the National Forest system by individuals or Federal, State, and local Governments when such use will not detract from specific management area direction, is in the public interest, and cannot reasonably be served by development on non-National Forest System land* (page 4-74)."

As Bend and the surrounding communities and rural residential areas grow, the recreational uses of the residents and the infrastructure needs of those communities continue to become increasingly dependent upon adjacent public land. Many people, especially those whose residences border public lands, view these lands as an integral part of their community and are concerned about the cumulative effect of public lands being placed into exclusive or different uses. These concerns have been noted in southern Deschutes County, particularly where sales or exchanges of Federal lands have occurred over the last five years.

The Proposed Action would change public uses, opportunities, and experiences on approximately nine acres of public lands. Local residents, as well as visitors from other regions in Oregon and the United States may be affected by the loss of use or changes to their experience from the noise and visual effects of the weigh and safety station.

Private landowners in the area include the Kerr and Windlinx families and the High Desert Museum. The residents of existing and planned developments -- Deschutes River Woods, River Bend Estates and Sunset View Estates -- are also potentially affected. Dependent on proximity, the construction and operation of a weigh and safety station may affect the owners' use and enjoyment of their lands. Noise, visual changes to the landscape, trespass, changes in the costs of managing their lands, and changes in current and future private property value are all potential effects. Construction and operation of the station also may affect the quality of experience enjoyed by visitors to the High Desert Museum due to traffic congestion as well as visual, noise and air pollution.

Issue #4 - Effects to Mule Deer

Summary

The cumulative result of the South Bend Weigh and Safety Station, the proposed traffic separation project, high volumes of traffic on U.S. Highway 97, and rural developments are expected to affect mule deer. They would be further limited in their movement in an important migration corridor, contributing towards a heightened risk of a deer and motor vehicle collision.

The Oregon Department of Fish and Wildlife classifies the proposed project area (including all alternatives) as mule deer winter range. The adjacent area is a Deer Habitat Management Area under the *Deschutes National Forest Land and Resource Management Plan*. This area receives moderate to heavy use by mule deer during the winter months in late November through mid April. Deer migrate into and out of this area in an east-west direction, crossing U.S. Highway 97 during migration and winter periods. The highway and the proposed weigh and safety station bisect this portion of the winter range in a north-south direction, affecting the east-west movement.

Issue #4 - Effects to Mule Deer

Description

U.S. Highway 97 is a major 4-lane highway with high volumes of traffic and vehicle/deer collisions are frequent. The weigh and safety station would add another lane of pavement with intermittent traffic approximately 1/2 mile long, increasing the distance that mule deer would have to cross. This effectively increases their exposure to traffic and the risk of collision. Compounding this effect would be a proposed traffic separation project by ODOT that would involve the placement of median barriers between the northbound and southbound lanes of the highway. It is also likely that additional development would occur on adjacent private lands in the future.

The proposed weigh and safety station would create additional disturbance adjacent to the highway on approximately 9 acres during construction and operation of the station, and by eliminating or reducing habitat. Movement through the migration corridor would be affected primarily by that disturbance. Cumulatively, the effects of the presence of U.S. Highway 97, the proposed weigh and safety station, the proposed traffic separation project, and the reasonable foreseeable future development of private lands near Bend are expected to affect deer mobility (including east to west migration patterns) and increase the risk of motor vehicle and deer collisions in the area.

Issue #5 - Consistency with County and National Forest Land Use Plans**Summary - County Consistency**

Between November 1998 and June of 1999, ODOT actively sought approval from Deschutes County to construct a weigh and safety inspection station on their fee-owned 200' right-of-way along U.S. Highway 97. This location was called "Site 8" in previous planning documents. In March 1999, after several public hearings, a Deschutes County Hearings Officer granted approval ([see footnote 16](#)) The Hearings Officer's decision was overturned on appeal to the Deschutes County Board of Commissioners ([see footnote 17](#)). The Board made several findings related to the appropriateness of the site in the requested location with regards to county ordinances and compatibility with adjacent private uses. Because the proposed site on National Forest lands (Alternative 2) is within two miles of the site the County had earlier rejected, it may indicate that the County Commissioners will find that the construction and maintenance of a weigh station at this site will also not be appropriate or consistent with County ordinances. Commission findings concerning fire danger, scenic quality, and compatibility with adjacent uses may be similar to effects of the Proposed Action on National Forest lands.

The site of the Proposed Action, also known as "Site 7," lies within a Forest (F1) Use and Landscape Management combining zone as described by Deschutes County. The proposed site is under federal ownership. However, State and County land use goals receive substantial consideration by the Forest Service in land use decisions. An earlier agreement called a "Memorandum of Understanding" between the Deschutes National Forest and the Deschutes County Planning Department agrees (to the extent practicable) in meeting separate responsibilities. It also states that "it is desirable to reduce conflicts and promote compatibility between land uses."

Summary - National Forest Consistency

Operation and maintenance of the South Bend Scale and Safety Station would not meet current visual quality standards for the U.S. Highway 97 Corridor, would require the removal of some trees 21" in diameter at 4.5 feet within an area that is below an historic range of variability for late and old structure ponderosa pine within that watershed, and limit the standing and down wood within 100 feet of the proposed site. Authorization for this activity would require amending the Deschutes National Forest Land and Resource Management Plan to a lower visual quality standard of Modification or a Low Scenic Integrity Standard, to allow for sale of the cleared timber over 21" in diameter at 4.5 feet, and to modify the requirements for standing and down wood within 100' of the site.

Issue #5 - Consistency with County and National Forest Land Use Plans

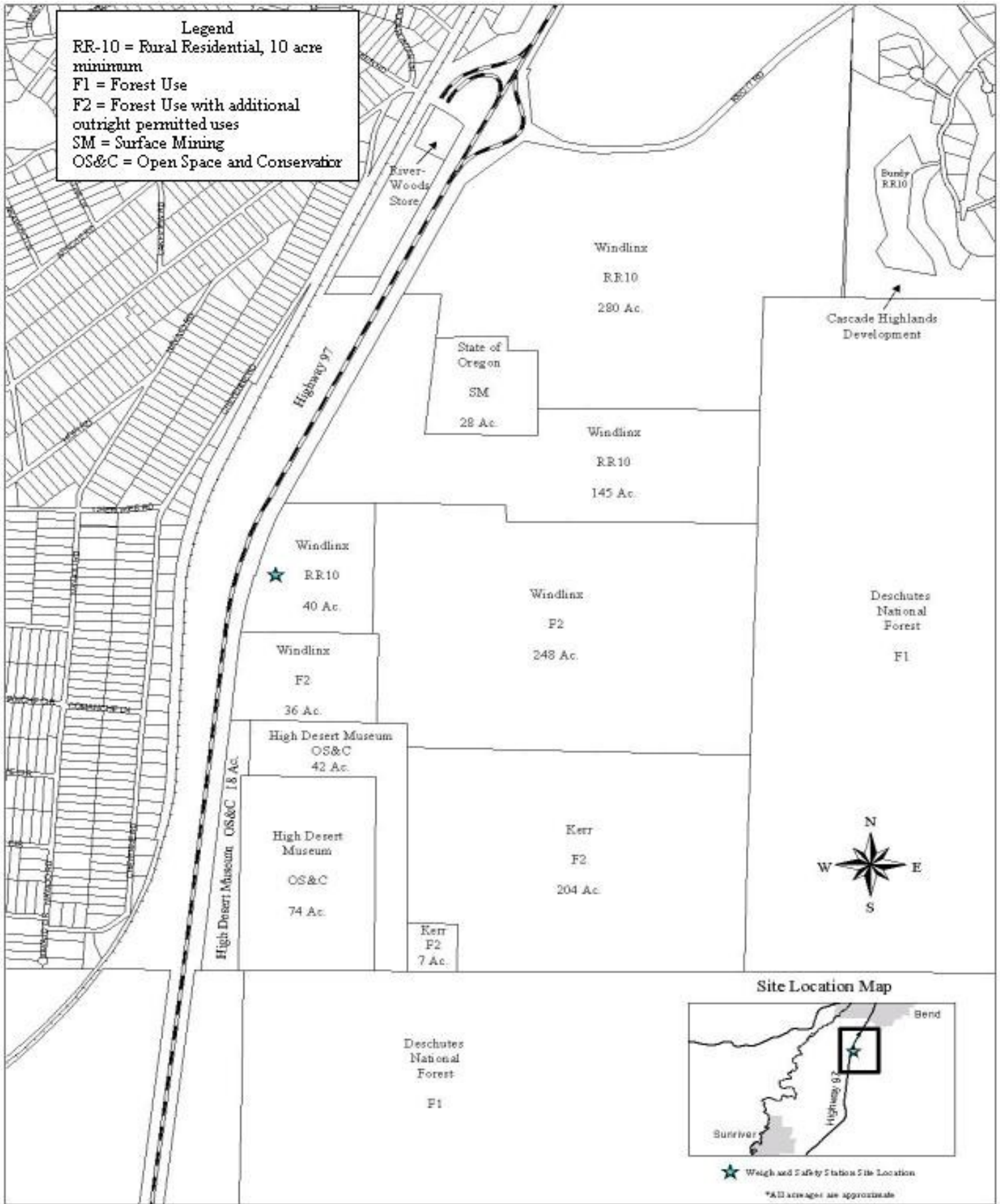
Description - Country Consistency

The Oregon Department of Transportation's fee-title right of way (Site 8) is approximately 200 feet wide and traverses north and south between the High Desert Museum lands and the Baker Road interchange. If constructed here, the center of the facility would lay 0.4 miles north and approximately one mile south, respectively. The site lies within several land use zones as defined by Deschutes County - F2 Forest Use; RR10, Rural Residential, and includes a Landscape Management and Surface Mining Impact Area combining zone (Figure 5). Directly east is private property, which has forest and surface mining uses, and dwellings on three separate properties (18-12, tax lots 4412, 4418 and 4419 - Kerr and Windlinx-owned properties). The High Desert Museum building exists to the southeast of Site 8. To the northeast is vacant land zoned RR-10 owned by the Windlinx family.

The right of way is of insufficient width to accommodate fuel breaks in a Forest Zone as required by county ordinances, and so required a variance to approve a lesser area. Deschutes County determined that permits for "Conditional Use" and "Landscape Management" would be required for siting and operating a weigh station for U.S. Highway 97 located in the Forest Use and Rural Residential zones.

The following summaries and excerpts are from the "Board of County Commissioners for Deschutes County Findings and Decision," in the matter of the application of the Oregon Department of Transportation for a Conditional Use Permit and Variance for a weigh station in the F2 Zone (CU-98-109, V-98-15). Summaries from the part of the document titled "Conclusions of Law" are displayed in bold, while excerpts are shown in italics. The Findings and Decisions documented Preliminary Findings, Procedural Backgrounds and Issues, Applicable Criteria, Applicant's Submittal, Findings of Fact, Conclusions of Law, and Decision made by the Board in response to an appeal by the High Desert Museum to the Deschutes County Hearings Officer's Decision to approve a variance and conditional use for the siting of the weigh station at "Site 8." The following summaries and excerpts are described here to briefly establish the context and a rationale for the issues concerning the development of the proposed weigh and safety station on the Oregon Department of Transportation's existing easement (Site 8), and provides much of the rationale for consideration of the Proposed Action on National Forest lands. The excerpts cover the Commissioners' Findings concerning applicable zoning and uses, fuel break variance, conditional uses, and uses and siting of a structure within a Forest Zone. A full copy of the Findings and Decision is available in Appendix 2.

Figure 5 - County Land Use Zones



Applicable zoning and described uses:

The Board determined that the weigh station proposal (Site 8) falls within both an F-2, Forest Use Zone, and that a portion of the proposed entrance ramp to the highway falls within an RR10, Rural Residential Zone. They determined the proposed facility met the definition of a "public use" in an RR10 zone, thereby requiring a conditional use permit for the portion of the facility falling within that zone. They also determined that such use falling within a Surface Mining Impact Area (SMIA) combining zone is not considered a noise or dust sensitive use, and therefore is not subject to SMIA review.

Variance:

The proposed weigh station was unable to meet the County standards for primary and secondary fire breaks or fuel breaks, and Oregon Department of Transportation was therefore seeking a variance to that standard. The Board must make supportive findings concerning four criteria in order to allow the variance.

1. That the literal application of the ordinance would create practical difficulties resulting in greater private expense than public benefit.
2. That the condition creating the difficulty is not general throughout the surrounding area, but is unique to the applicant's site.
3. That the condition was not created by the applicant. A self-created difficulty will be found if the applicant knew or should have known of the restriction at the time the site was purchased.
4. That the variance conforms to the comprehensive Plan and the intent of the ordinance being varied.

The Board found the applicant could not meet the criteria because:

- It is a public agency, and can therefore not incur private expense,
- The Record did not demonstrate a practical difficulty why the scalehouse could not be situated to accommodate the fuel break without the variance,
- Safety setback requirements were not specified or alternative methods of meeting safety requirements demonstrated that would clearly support the "practical difficulty" of meeting the requirements was not self-created.

Conditional Uses:

The proposed weigh station included siting of structures and roads within the F-2, Forest Use Zone that are Conditional Uses under County ordinances. The Board must make supportive findings concerning criteria for forest zone conditional use requirements, including general uses and particular restrictions related to structures.

Forest Zone Criteria:

1. The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;
2. The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase fire risks to fire suppression personnel
3. Prior to final approval of any use listed in section 18.40.030, the land owner shall sign and record in the County Clerk's Office a written statement recognizing the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules.

The Board found that the proposed use would significantly increase fire hazard due to "...unauthorized, unpoliced use that often takes place at such facilities, from smoking activities that are likely to take place at such facilities, either by unauthorized users or by truckers stopping awaiting completion of repairs and from the amount of trash that accumulates at such facilities...The Board finds that the fire breaks required by the County's ordinance do not necessarily protect against accumulations of trash at these sites, since deposits of trash will not necessarily occur within the distance of the proposed fuel breaks surrounding the scalehouse."

Structure siting standards:

18.40.060 Siting of dwellings and structures.

A. All new dwellings and structures approved pursuant to section 18.40.030 or permitted under section 18.40.020 shall be sited in accordance with this section and section 18.40.070. Relevant physical and locational factors including, but not limited to, topography, prevailing winds, access, surrounding land use and source of domestic water shall be used to identify a site which:

1. Has the least impact on nearby or adjacent lands zoned for forest or agricultural use;
2. Ensures that forest operations and accepted farming practices will not be curtailed or impeded;
3. Minimizes the amount of forest land used for the building site, road access and service corridors; and
4. Consistent with the applicable provisions of section 18.40.070, minimizes the risks associated with wildfire.

The Board found the applicant "did not meet this criterion in two respects. First, applicant relies upon a variance to meet the criteria...concerning required fire and fuel breaks." Since the applicant did not meet the criteria for the variance, they could not meet these criteria. The Board also determined that, because of a lack of a specific site or landscaping plan, it was unable to determine the extent to which the project would meet the criteria; especially the effectiveness of the primary and secondary fuel breaks in meeting criteria #4.

General conditional use criteria:

A. The site under consideration shall be determined to be suitable for the proposed use based on the following factors:

1. Site, design and operating characteristics.
2. Adequacy of transportation access to the site; and
3. The natural and physical features of the site, including, but not limited to, general topography, natural hazards and natural resource values.

B. The proposed use shall be compatible with existing and projected uses on surrounding properties based on the factors listed in (A) above.

The Board found their ability to evaluate the site design to be hampered by the lack of a specific site plan. The Board found Oregon Department of Transportation's proposal for the mitigation of trash accumulation to be inadequate, due to the fire hazard to adjacent forest lands represented by trash accumulation. The Board disagreed with expert testimony offered by Oregon Department of Transportation concerning traffic safety related to the proximity of the entrance and exit ramps to the High Desert Museum entrance road and the Baker Road interchange.

The Board found that "the record indicates that weigh stations attract unauthorized use and are accumulators of

trash...The Board finds that without a plan in place to regularly monitor or close the weigh station when it is untended the weigh station presents an incompatible use with the Windlinx property to the east, particularly in relation to the danger of fire. Furthermore, this is not the kind of site that visitors to the nationally renowned High Desert Museum should be greeted with as they approach the entrance to that facility. While the Museum did locate near the previous weigh stations after they were already constructed, this was before the Museum became what it is today."

Governmental structures and uses:

In considering the above, the Planning Director or Hearings Body may authorize the conditional use after it has been determined that the following will be provided.

- 1. Access from principal streets subject to Deschutes County Public Works Department standards.*
- 2. Off-street parking subject to section 18.116.030*
- 3. Building and site design provisions, including landscaping that will effectively screen neighboring uses from noise, glare, odor and other adverse impacts.*

The Board found they could not evaluate these criteria because of the lack of a specific site plan, and therefore denied the conditional use.

Description - National Forest Consistency

Standards and Guidelines for the Scenic Views Management Area establish a visual quality standard of "Retention" for the area adjacent to U.S. Highway 97. Under the newer Scenery Management System, "Retention" is equivalent to High Scenic Integrity. A visual quality standard of Retention requires management actions that create visible changes to be undetectable to the forest visitor (Forest Plan, M9-4). In foregrounds, opening sizes would range from 1/4 acre to 2 acres to meet "Retention" standards (M9-10). The proposed action would not meet these standards, and would require an amendment to the Deschutes National Forest Land and Resource Management Plan to change the visual quality standard to "Modification," which is equivalent to Low Scenic Integrity under the newer Scenery Management System.

Issue #6 - Noxious Weed Control

Summary

Aggressive, non-native plants, or noxious weeds, can invade or displace native plant communities causing long-lasting management problems. The U.S. Highway 97 segment between the Baker Road interchange and La Pine has a large noxious weed population of knapweed, toadflax, and Russian thistle in addition to non-native invaders such as cheat grass and mullein. Activities associated with the Proposed Action cause a new potential for introducing or spreading populations of weeds into the forest or the adjacent Newberry National Volcanic Monument.

Issue #6 - Noxious Weed Control

Description

Noxious weeds can move into complex, native and rare plant communities and replace habitat. However, weeds can do much more damage than displacement of native vegetation. They also can cause lands to have a much greater risk from wildfire, reduce forage for dependent wildlife, introduce species that are toxic to livestock, and change recreational areas into places less desirable to visit.

Over the last several years, populations of weeds have migrated out of Bend, especially along travel corridors such as

U.S. Highway 97. In 1998, the Deschutes National Forest decided education, prevention and hand pulling were not strong enough tools to slow the spread into the forest. Herbicides were approved to help eradicate some of the worst populations, including those in proposed locations for the safety and weigh station.

The concern is that activities associated with construction and operation of the safety and weigh station could amplify the problem or even introduce a new kind of weed from a truck passing from a distant location. The risk would be greatest as ground is cleared, disturbed, and fill materials are brought in from other locations. After revegetation, the area would still be vulnerable due to seeds that could germinate years later.

Forest Service direction requires prevention and early detection of noxious weeds. All projects that have a high risk, such as this one, must identify control measures that would be undertaken. Prevention of the introduction of new invaders is identified as the first priority.

Issue #7 - Access

Summary

The proposed location of the weigh and safety station would change public access to National Forest lands. Currently, the public can access National Forest land via Forest Road 1801. The Proposed Action would eliminate this public access to remove hazards associated with competing traffic merging in the same lane as accelerating motor carriers and to meet highway interchange spacing safety standards (the distance between roads that intersect a highway). The construction of the station may also remove existing natural barriers to access, contributing towards an increase of unintended uses on National Forest lands or trespass onto adjacent private lands.

The recent designation of U.S. Highway 97 as an "Expressway," will establish new safety spacing standards that the Proposed Action and Alternatives would not meet. ODOT would require a "Deviation" from expressway interchange spacing standards before authorizing the construction and operation of the site. Construction of the weigh and safety station would limit the ability to provide access to public and private lands in the future by establishing an "interchange" spacing standard requirement for the weigh and safety station. This standard can affect potential future access to lands surrounding the station site or increase the cost of access.

Issue #7 - Access

Description

Access off of U.S. Highway 97 to adjacent forested lands within the area of influence is limited to the entrance road for the High Desert Museum and Roads 1801 and 9710. Under Alternatives 2 and 3 Forest Road 1801 will be closed using a gate that allows administrative and/or emergency (e.g. fire suppression) access.

The Oregon Transportation Commission, upon consultation with affected local governments, has classified this section of U.S. Highway 97 as an "Expressway." Expressways are complete routes or segments of existing two-lane and multi-lane highways and planned multi-lane highways that provide for safe and efficient high speed and high volume traffic movements. Their primary function is to provide for travel and connections to ports and major recreation areas with minimal interruptions.

This classification establishes the kind and number of accesses allowed on a highway segment. Public road connections are highly controlled and there is a long-range plan to eliminate, as much as possible, existing intersecting forest roads as opportunities occur or alternate access becomes available ([see footnote 18](#)). Within the classification of Expressway, a variety of different standards apply to intersection spacing and traffic control requirements based on the

nature and volume of traffic associated with a particular road.

When the existing network of forest roads was established, there were very few standards for separation distances between highway approaches. According to ODOT ([see footnote 19](#)) traffic engineers, the weigh and safety station would be considered an "interchange" for the purposes of spacing and other standards. These standards require at least a 2-mile separation from the beginning of an exit ramp to the facility or the end of an entrance ramp to the highway to an intersecting road. All sites considered within this EIS would include an intersecting road closer than 2 miles and would require a deviation from the expressway interchange spacing standards. Deviations are granted by ODOT following evaluation of the traffic patterns and volumes to determine whether a reduced spacing would pose an undue safety risk.

Issue #8: Operational and Design Characteristics

Summary

A truck weigh and safety inspection station can be located on almost any piece of open ground. However, from an operation and design standpoint, the costs associated with the design, construction, and operation are, to a great extent, affected by the location of the site. Factors such as ramp grades, rock excavation, amount of fill material, visibility of the site, relationship of the elevation of the highway to the site, setback from the highway, spacing between intersecting roads, and the distance from power sources are all factors that can affect the cost, design and operational desirability of a site.

Issue #8: Operational and Design Characteristics

Description

Entrance and exit ramps are of critical importance for the safe operation of the site. Ideally, the site should have an ascending grade from the highway to the static scale site and a descending grade from the static scale site back to the highway. This allows the force of gravity to not only help decelerate the vehicle as it enters the scale site, but also to help accelerate the vehicle back to highway speeds as it returns to the highway after passing inspection. By utilizing ascending grades into and descending grades out of the site, exit and entrance ramps can be kept to a minimum length. Shorter ramp lengths can reduce overall costs and lessen the footprint on the ground.

The proposed alignment of Alternative 2 (Proposed Action) traverses through several large rock formations, which are visible from the highway. Alternative 2 would require blasting of rock outcrops and approximately 11,280 cubic yards of fill to match up with the existing roadway, contributing to construction costs.

Visibility of the facility is also an important site design consideration. A site level with, and visible from the highway provides easier driver coordination for traffic merging maneuvers, and for weigh and safety station personnel to view the highway and detect trucks attempting to avoid inspection. Similarly, the distance a site is set back from the highway can reduce its effectiveness and the ability of law enforcement officers patrolling the area to be able to check the site from the highway when the scale is closed.

Spacing standards are established to reduce the potential for conflict between traffic on and entering U.S. Highway 97. New Expressway spacing standards also factor into the consideration of where to locate a facility (Issue 5).

Costs for trench excavation, wire, conduit, and backfilling for installation of power and communication lines can be very expensive. The farther a site is from a source, the greater the expense. Costs are expected to be approximately \$78,000 per mile ([see footnote 20](#)).

[Deschutes and Ochoco National Forests Website](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/chap1weighsta.html)

<http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/chap1weighsta.html>

Last Update: 10/30/01

R.A. Jensen

South Bend Weigh and Safety Station Final Environmental Impact Statement

USDA Forest Service Deschutes National Forest Bend/Fort Rock Ranger District

Chapter 2 Alternatives

Introduction

A range of alternatives was developed in accordance with the National Environmental Policy Act (NEPA) to represent different management actions to address the purpose and need for action and the issues described in [Chapter 1](#). Besides the "No Action" alternative (Alternative 1), two action alternatives (Alternatives 2 and 3) on National Forest lands were identified in this process. An additional "Action" alternative (Alternative 4) is considered on lands that are not located on National Forest. This alternative compares the initial site on the right of way owned by ODOT and previously identified as "Site 8" that was considered and rejected by Deschutes County Commissioners. This alternative is considered in detail, in accordance with advice from the Council on Environmental Quality ([see footnote 21](#)) because it presents a technically feasible location for the weigh station that meets the purpose and need for action. The No Action alternative describes conditions as they would be if no weigh station were operated within the analysis area and provides a basis for comparing the effects of the other alternatives. Also included in this chapter is a brief discussion of alternatives that were considered but were eliminated from detailed study.

The following process was used by ODOT to narrow the areas to consider in siting a weigh and safety station:

In 1997, ODOT formed a Citizen Advisory Committee (CAC). The CAC was a group of non-technical stakeholders formed to advise ODOT on non-technical issues related to siting the weigh station. These issues were political, environmental, "community sensitive," or other local issues the group felt should be considered in siting or design of the station. On May 13, 1997, the CAC met to define goals and

objectives of the project, to establish criteria for selecting a site, and to raise issues and concerns. In response to the CAC meeting in May, a technical advisory committee (Appendix 3, Citizen Advisory Committee) decided to focus on sites located north of South Century Drive. Each potential site was rated using criteria such as "safety," "environmental," and other factors that pertain to construction and operation of the facility. The focus was narrowed to three sites that rated the highest: U.S. Highway 97 at the main exit from Sunriver (Site 1), the northern Deschutes National Forest boundary (Site 7), and on ODOT lands near the Baker Road interchange (Site 8).

On July 17, 1997, members of the ODOT project team met with the CAC to explain the process used to narrow the focus to three potential sites. The CAC developed issues and another list of criteria with which to rate the remaining sites (Appendix 3). ODOT also met with Deschutes County Planning, the Forest Service, and an adjacent property owner to assess potential land use issues surrounding the three potential sites. At that time ODOT and the Forest Service agreed that, given the fact that Site 8 met all of the criteria and was already owned by ODOT, they would pursue the feasibility of placing the station on private lands before applying for any of the National Forest sites.

Alternatives Considered in Detail

Alternative 1 - No Action/No Change

Alternative 1 would continue management of the National Forest lands according to the Management Plans for the Deschutes National Forest and the Newberry National Volcanic Monument with an objective of Retention within the scenic corridor. A permanent weigh or safety inspection station would not be constructed or operated on Deschutes National Forest lands. There would be no clearing of trees or shrubs, construction of a building, or application of asphalt on National Forest Lands. Currently, the ODOT right-of-way has been cleared of vegetation for a distance of 30 feet from the edge of the pavement for safety. ODOT's lands (Site 8) have been cleared for greater distances due to the topography of the area and previous highway construction.

Past, present, and reasonably foreseeable future actions likely to affect this area include continued spraying for noxious weeds in accordance with the Noxious Weed EA (Deschutes National Forest 1999) ([see footnote 22](#)); new pavement overlays scheduled for 2002; construction of an additional median barrier from Mileposts 147 to 150; and vegetation treatments including other fuels reduction adjacent to the analysis area in the Kelsey and Fuzzy Vegetation Management Projects (2000 - 2010). Other potential long-term actions resulting from the Expressway designation such as additional frontage roads, or changes in public access beyond what is identified in the action alternatives are too speculative at this time to include in a meaningful analysis.

U.S. Highway 97 would continue as the third-most important freight route in Oregon and an average of more than 2,000 trucks per day would not be checked on a consistent basis as they pass through the area. Vehicles that would otherwise be inspected and taken out of service ([see footnote 23](#)) would remain on the road. The current rate of premature highway deterioration would continue.

The Oregon State Police and the Deschutes County sheriffs would continue with their limited resources to focus patrols on commercial vehicles within this segment of U.S. Highway 97 ([see footnote 24](#)). Currently, law enforcement personnel stop trucks only if a violation is apparent or likely ("probable cause"). Complete inspections of the stopped truck would occur only if one of the two qualified sheriffs were on duty on that particular day, and the truck was pulled over on one of the limited areas on the highway where a truck can safely be inspected. The State of Oregon Motor Carrier Enforcement Division would continue to randomly deploy portable truck scales during daylight hours in the summer at a frequency of three days per month divided among several adjacent counties.

Alternatives Located on National Forest Lands

Two possible site locations were identified for analysis on National Forest lands. These include Alternative 2 (Site 7), which is identified as the Preferred Alternative, and Alternative 3 (Site 6A). While these sites differ in location (Figure 3), and therefore environmental effects, many of the design elements and requirements of the alternatives are the same. For instance, the vegetation management prescriptions, access and footprint, and facility design are substantially the same for both alternatives considered on National Forest lands. These common elements are summarized below to reduce repetition between the alternatives. A detailed description of the implementation requirements is included in Appendix 4.

Actions Common To Alternatives 2 and 3

The Forest Service would authorize the construction and operation of a vehicle weigh and safety inspection station and Weigh-in-Motion dynamic scale adjacent to the northbound lane of U.S. Highway 97, south of Bend, Oregon. A Special Use Permit would be issued, which would include an abandonment plan if the facility were not sufficiently used for its intended purposes within one year [Figure 3, Alternative 2 (Proposed Action); Figure 6, General Site Layout].

Amendments

A site-specific amendment to the Forest Plan would change the objective in the Scenic Views Management Area from "Retention" (High Scenic Integrity) to "Modification" (Low Scenic Integrity). The amendment would be applied specifically to the site, the Weigh-in-Motion mechanism, and associated signs.

Vegetation

Clearing and Construction Activities

Clearing of vegetation in the area would be needed for construction and operation of the primary facility. Clearing would not be needed to install communication and power because they are all in an existing cleared zone maintained for the highway.

Depending on the alternative, between 4-5 acres of trees and shrubs would be removed for construction of a building, bypass lanes and ramps for vehicle acceleration and deceleration, and related areas for employee access, parking, and inspections. The trees to be removed would be 50 to 90 year old ponderosa pine, averaging 14 inches diameter at 4.5 feet. Existing topsoil would be removed and stored to aid in revegetation of native plant species after construction activities are completed. To promote rapid revegetation and to prevent the spread of noxious weeds, the area of ground disturbance would be confined to clearly identified areas pre-approved by the Forest Service, and revegetated promptly following completion of construction activities. Where possible, while still allowing for efficient construction, trees and shrubs would be maintained.

Revegetation Activities

A combination of native and short-lived non-native plants would be used to revegetate the area around and between the station and the highway. Preferred species would not be highly flammable and have low palatability for mule deer. A complete listing of suitable species is listed in Appendix 6, or would be approved upon review by the Forest Service. In many cases, local seed would need to be gathered by the permittee or his/her agent to meet the requirements of the permit.

Revegetation activities would be required to be substantially finished within one month of the completion of construction activities. The permittee would be responsible for successful establishment of prescribed vegetation cover within one year of completing construction. This could include irrigation of planted vegetation if necessary during the early period of establishment, but would not include long-term irrigation needs.

Noxious Weed Prevention And Treatment

Early prevention, detection and treatment for invasive, non-native species would be required. Prevention methods include: careful removal, storage and distribution of topsoil to retain native seedbank, pretreatment of known populations prior to construction activities, prompt revegetation of disturbed areas, and cleaning of vehicles and equipment entering and leaving the area during construction of the facility. If early detection and manual treatments fail, this decision would authorize the application of specific herbicide or biological agents outside of areas identified under the 1998 Deschutes National Forest Noxious Weed Environmental Assessment (Noxious Weed EA) boundary, but with some conditions. The terms and conditions described in the noxious Weed EA for application of identified herbicides is incorporated by reference in these alternatives until eradication is complete or up to five years. Specific measures to avoid, minimize, or reduce the impacts are listed in Appendix 5.

Fuels Management

For both action alternatives, a fuel reduction area of approximately 100 feet would be required to reduce the risk of an uncontrollable wildfire spreading from the facility. Trees would be thinned to a 12-15 foot spacing to provide a clear space between crowns for a radius of 100 feet immediately adjacent to the parking and inspection areas, and shrubs and grasses would be mechanically cut to a height of 8-10 inches. Also, lower limbs of trees would be removed up to eighteen feet high or one-half the live crown height to reduce the potential for ground fire ignition sources from the facility to spread into adjacent tree crowns. A shrub height not exceeding 2 feet would be maintained by the permittee within the fuel

reduction area.

Public Access

With Alternatives 2, the proximity of Forest Road 1801 to the entrance ramp of the facilities to the highway causes a traffic hazard with accelerating, merging trucks and vehicles attempting to access the highway. Under Alternative 3, Road 1801 is inconsistent with the designation of Highway 97 as an expressway. Therefore, under both alternatives, public access to National Forest lands by using Forest Road 1801 would be eliminated. The junctions of Forest Roads 1801-850 and 9701-100 would be signed to deter uncontrolled access onto the entrance ramp to U.S. Highway 97. Installation of the gate and signs, barriers, monitoring, and maintenance would be the responsibility of the permittee. Actions to reinforce closures including blocking mechanisms such as boulders or other barriers placed adjacent to the road would be approved by the Forest Service.

Highway Access and Footprint

Paved exit and entrance ramps would be constructed 16 feet wide with a 4-6 foot gravel shoulder. Also, a bypass lane would be installed in order for additional vehicles to safely maneuver around trucks waiting to be inspected. An inspection area, scale platform, and a small parking area for inspectors would be adjacent to the building. The maximum width of the facility at the widest point would be approximately 60 feet. The total "footprint" of the site including fuels treatments would be approximately 9 acres.

Facility Design

Building

The building would be constructed to facilitate traffic views and would measure approximately 240 square feet (16.5x14.7) and 12 feet tall (Figures 7 and 8). The building and barriers protecting the facility would be constructed, designed and maintained in muted earth tones to blend with the characteristic landscape. Non-reflecting roofing would be constructed of fire-resistant materials and colors that blend into the natural landscape. To reflect the character of the adjacent Newberry National Volcanic Monument, the lower portion of the building below the windows would be sided with rock or similar-appearing materials to blend in with the surrounding area. Included within the building would be an incinerating restroom facility for weigh station employees that would not require a septic system, a storage area for inspection equipment, a telephone that could be used by the motor carriers to call for service, and an area for personnel to complete paperwork and observe operations. A final design that meets these criteria would be subject to approval by the Forest Service without further analysis.



Figure 7. Typical Building



Figure 8. Typical Facility

Parking and Work Areas

The parking and work areas would be constructed to minimize risk of ignition sources coming in contact with forested areas outside of the primary facility. Design characteristics would include a designated work area with a paved surface and gravel border maintained free of vegetation for any trucks placed temporarily out of service. Physical barriers such as boulders would be placed as needed to preclude vehicle travel into the forest in the area surrounding the scale and building.

Lighting, Electricity, and Communications

While the weigh station is in operation, illumination similar to light standards found at interchanges would be provided as minimum coverage at the exit ramp, entrance ramp, and at the inspection area around the scale house. There would be approximately 9 standards consisting of metal poles comprised of materials in neutral colors, measuring 30 feet in height with flat glass cut-off style, high-pressure sodium lights. These would be shielded and directed downward. While the station is not in operation, photosensitive lighting would remain on for building security. Power and communication to the site and the Weigh-in-Motion scale would be supplied by extending and burying the line from inside the existing ODOT right-of-way along the east side of U.S. Highway 97.

Weigh-in-Motion

Dynamic scales for the Weigh-in-Motion (WIM)/Automatic Vehicle Identification (AVI) system would be located south of the exit ramp to the facility (Figures 9 and 10). Equipment typically includes in-road sensors, a roadside computer cabinet (77 inches x 44 inches x 26 inches), two overhead detectors (10 inches x 10 inches x 10 inches) mounted on two overhead metal detector poles (14 feet 2 inches high x 4 inches diameter)

comprised of materials in neutral colors, an AVI cabinet (24 inches x 2 inches x 10 inches) mounted on a 5 foot tall AVI cabinet pole (10 inches diameter), and two AVI poles that overhang the highway spaced 600 feet apart from each other ([see footnote 25](#)).



Figure 9. Weigh-in-Motion Overhead Detector

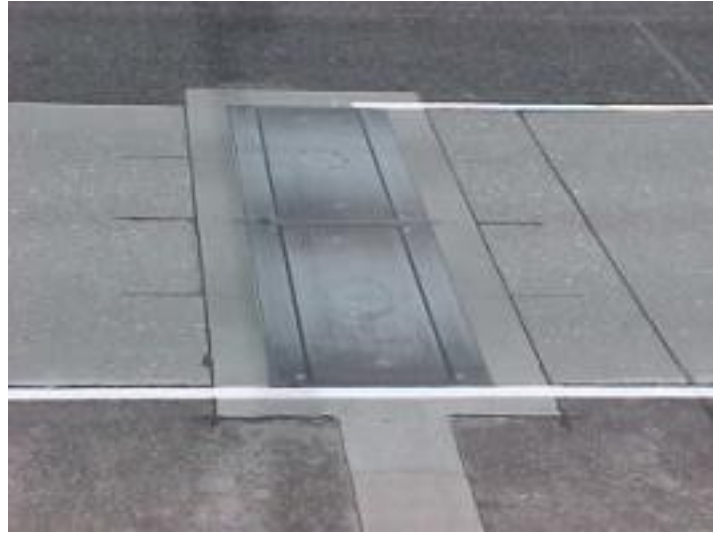


Figure 10. Weigh-in-Motion Inroad Sensor

Signing

There would be six signs associated with the primary facility and the Weigh-in-Motion/Automatic Vehicle System installed within the existing ODOT right-of-way (Figures 11-14). The farthest sign would be located 1.5 miles from the Weigh-in-Motion dynamic scale and would measure 14 feet 6 inches wide by 7 feet tall. The lettering would be black on a white base and would read "Trucks Use Right Lane Next 1 1/2 miles" (Figure 11). A second, smaller sign with the same colorings would be located between the Weigh-in-Motion scale and the first sign, would measure 10 feet wide by 5 feet tall and would read "Trucks Right Lane Only Weigh-in-Motion." The next sign as you approach the weigh and safety station would be located from 0.5 to 1.0 miles from the facility, would measure 9 feet wide by 6 feet tall, would have white lettering on a green base and would read "Weigh Station" and the distance (Figure 12). The fourth sign would be located between 1 mile and the open/closed sign for the facility, would measure 12 feet wide by 4 feet 6 inches tall, would have lettering of black on a white base and would read "All Trucks Over 20,000 GVW Next Right". The fifth sign would be located at least 500 feet from the entrance to the weigh and safety facility, would measure 9 feet wide by 7 feet 6 inches wide, would have white lettering on a green base and would read "Weigh Station Next Right" (Figure 13). On the bottom of this sign would be an illuminated neon "Open/Closed" sign measuring 4 feet 8 inches wide and 1 foot 8 inches tall. The sixth and last sign would be right at the entrance to the facility, would measure 7 feet wide by 6 feet 6 inches tall, would have white on green lettering, and

would read "Weigh Station" with a directional arrow (Figure 14).



Figure 11. Picture of Typical Sign



Figure 12. Picture of Typical Sign



Figure 13. Picture of Typical Sign



Figure 14. Picture of Typical Sign

Construction and Operational Schedule

Construction of the weigh and safety station would occur in the summer of 2003. The Weigh-in-Motion devices would be installed dependent upon separate funding sources and may not be constructed for up to 5 years. The weigh station would operate between 32 and 40 hours per week, based upon ODOT estimates and the schedule utilized by the previous weigh station near the Baker Road interchange. Nighttime operation would occur approximately 20% of the time, or 6-8 hours per week.

Operational Requirements

Trash cleanup

To reduce potential for fire hazard and maintain a clean, cared-for

appearance, the permittee would be required to monitor and maintain the site in a trash-free condition on a weekly basis or more frequently upon notification from the Forest Service.

Use and Fire Restrictions

Welding, cutting, or other repair or maintenance operations would be required to meet Forest Service fire requirements, which would be prominently posted at all times and readily visible to drivers or workers. This would include, at a minimum, information about restrictions on smoking, cutting, and welding operations. These or other identified activities would be subject to restriction or elimination during periods of high fire risk. The entrance ramp would be signed to inform drivers that the use of unmuffled hydraulic "Jake" brakes is prohibited and illegal.

Wildlife

To protect nesting raptors, blasting activities would only be permitted between September 1 and March 1. Construction operations would be required to observe Deschutes National Forest Plan requirements for restrictions on site-disturbing operations near raptor nests that may become established between the time a decision authorizing this activity occurs and the actual activity itself. A listing of all affected species and time frames for restrictions of activities are listed in Appendix 6 (Wildlife Report). The Forest Service would review sites for nest establishment prior to the beginning of construction activities.

Approximately 4-5 acres of trees and shrubs would be removed for construction of a building, bypass lanes and ramps for vehicle acceleration and deceleration, and related areas for employee access, parking, and inspections. To provide roosting habitat for western big-eared bats, as well as other cavity nesting species, snags would be created on adjacent land for each acre of forested habitat removed. Snag creation activities would be subject to the seasonal operating restrictions for raptors.

To protect habitat or reduce disturbance of the western big-eared bat if a cave or lava tube containing the species is located during project construction, it should be immediately reported to the Deschutes National Forest. Upon discovery, the project would be reassessed, dependent upon the effect to the bats considering the timing and extent of activities near the newly discovered cave.

Cultural Resources

If evidence of a cultural site were found during construction or clearing work, the permittee would be responsible for immediately stopping all work and notifying the Forest Service. This would include both historic and

prehistoric site evidence.

Alternative 2 (Site 7) - The Preferred Alternative

Alternative 2 is the Proposed Action identified in the scoping notice sent to the public (January 2000), and was the site identified by ODOT as their first preference for sites on National Forest lands after rejection of Site 8 (Alternative 4) by the County on their own land. This alternative would place the weigh station between Mileposts 145.69 and 146.25 (Figures 3, 15 - General Site Layout), as near as possible to the boundary of National Forest lands and as far as possible from the Newberry National Volcanic Monument, in order to minimize the land use fragmentation associated with non-forest uses. The one-mile advanced warning sign for the High Desert Museum would remain in its current location.



Figure 16 - Alternative 2 (Site 7) Vegetation



Figure 17 - Alternative 2 As Viewed From Highway

In addition to activities listed on pages 28-33, the following are site-specific to Alternative 2:

Construction and Clearing

Alternative 2 would require clearing of about 4.8 acres of trees and shrubs for the primary site (Figures 16, 17). Currently, less than three acres of the area is included in a roadway easement to ODOT that has mostly been cleared of vegetation. This easement does not include authorization of the proposed facility. Around 450 trees would be removed for construction of the primary site. Of this total, 14 trees are over 21" diameter at 4.5 feet. This alternative would also require blasting of two visible rock outcrops for the construction of the deceleration lane (exit ramp from the highway), and would require removal of material from higher areas and fill

in low areas to bring the ramps and facility relatively level with the roadway within the bounds of the site. Approximately 8,860 cubic yards of material would be excavated and 11,280 would be needed for fill. This alternative would require approximately 2,400 cubic yards of fill material to be brought in from outside sources. The paved exit and entrance ramps would be about 2,953 feet.

The Weigh-in-Motion system would be sited close to Milepost 146.50. Signing for the system would be located at Milepost 148.0 and closer to the facility. No signs for the facility would be located within the portion of the highway within the Newberry National Volcanic Monument.

Operation and Design Characteristics

The building and scale site would be relatively level with the highway. The back of the site would be approximately 154 feet from the fog line of the highway. The exit ramp grade from the highway to the scale would be -2.90% and the entrance ramp from the scale to the highway would be -5.00%. Excavation of rock formations at the exit ramp is anticipated, which may include blasting (Figure 18). Approximately 2.7 miles of trenching would be associated with extending power from the source to the main facility and the Weigh-in-Motion devices within the existing ODOT right-of-way. Forest Road 1801 would be near the entrance ramp from the facility to the highway. The site would be visible from the highway for motorists, including truck drivers and law enforcement vehicles.



Figure 18. Alternative 2 Rock Outcropping

Alternative 3 (Site 6a)

This alternative was developed to respond to Issues #5 and #8 by placing the weigh and safety station in a location on the northbound lane of U.S. Highway 97 to be more consistent with the new "Expressway" standard, to reduce rock excavation, and to allow ramp grades to be more consistent with the highway grade. The location would be between Mileposts 146.16 and 147.75, approximately 1/2 mile south of the proposed site in Alternative 2 (Figure 3, Figure 19 - General Site Layout).



Figure 20. Alternative 3 (Site 6a) Vegetation



Figure 21. Alternative 3 As Viewed From Highway

Construction and Clearing

Alternative 3 would require clearing of about 4.6 acres of trees and shrubs for the primary site (Figures 20, 21). Currently, approximately three acres of the area is included in a roadway easement to ODOT that has an existing zone cleared of vegetation for most of that area. This easement does not include authorization of the proposed facility. Around 400 trees would be removed for construction of the primary site. Of this total, 22 trees are over 21" diameter at 4.5 feet. This alternative would require removal of material from higher areas and fill in low areas to bring to level with the roadway areas adjacent to the roadway within the bounds of the site. Blasting for rock would not be expected, but could be encountered during construction. Approximately 4,500 cubic yards of material would be excavated and 11,900 would be needed for fill. This alternative would require approximately 7,500 cubic yards of fill material to be brought in from outside sources. The paved exit and entrance ramps would be about 3,117 feet long.

The Weigh-in-Motion system would be sited close to Milepost 147.35. Signing for the system would be located at Milepost 148.85 and closer to the facility. The Weigh-in-Motion sign would be established outside of the Newberry National Volcanic Monument, requiring a deviation from the standard 1.5 miles of prewarning to 0.75 miles of prewarning ([see footnote 26](#)).

Operation and Design Characteristics

The building and scale site would be relatively level with the highway. The back (east side) of the site would be approximately 123 feet from the fog

line of the highway. The exit ramp grade from the highway to the scale would be -1.60% and the entrance ramp from the scale to the highway would be -2.00%. There are no visible rock formations to excavate on site, although they may be encountered in the subsurface. Approximately 3.2 miles of trenching would be associated with extending power from the source to the main facility and the Weigh-in-Motion devices within the existing ODOT right-of-way. The closest road to the site would be Forest Road 1801 at approximately 2600 from the end of the entrance ramp to the highway. The site would be visible from the highway for motorists, including truck drivers and law enforcement vehicles.

Public Safety

To reduce the likelihood of increased animal/vehicle collisions resulting from the construction of the facility and a possible future action that would install barriers between lanes of traffic nearby, a mitigation measure was developed.

In addition to the fuel reduction area common to all action alternatives, dense stands providing hiding cover would be thinned to 12-15 foot spacing. Thinning would occur in all stands that provide hiding cover within 600 feet of entrance and exit lanes and the weigh and safety station building. This measure would increase site distances for motorists and reduce the quality of hiding cover and likelihood of deer utilizing areas immediately around the weigh and safety station,

Alternatives Considered Which Are Not Located On Forest Service Lands

Alternative 4 (Site 8)

This alternative is outside the Forest Service's authority to implement and was identified to respond to issues associated with converting National Forest public lands to exclusive uses. It presents a comparison between key effects of construction and operation of the facility on both Federal and non-Federal lands, by evaluating placement of a weigh and safety inspection station on ODOT's existing lands.

This alternative is the proposal rejected by the Deschutes County Commissioners. More detail has been added, including aspects of the description of the site development and effects. This updated information is included to facilitate comparison between the alternatives and in some cases is beyond what was presented to the Commissioners.

Two possible scenarios would allow implementation of this alternative, all outside of the authority of the Forest Service. The first scenario would

include condemnation of lands adjacent to the proposed site to meet physical requirements of the Deschutes County ordinance for fuel breaks, as well as a redetermination that the weigh station is considered an outright permitted use in the public highway right-of-way. This would eliminate the need for either a variance or a Conditional Use Permit to be granted by the county to use of Site 8.

The second possible scenario would be that the County Commissioners could revisit their decision of whether the facility should be granted a variance and Conditional Use requested for Site 8. This would be based upon new or additional information concerning the design and effect of this and other alternatives compared in this analysis.

Under this alternative, ODOT would construct and operate a vehicle weigh and safety inspection station within their right-of-way that was obtained in 1952. The facility would be located adjacent to the northbound lane of U. S. Highway 97 between Mileposts 144.19 and 144.80, approximately 1 mile from the Baker Road interchange and 0.25 miles from the entrance to the High Desert Museum at Milepost 145.05 (Figure 3, Figure 22 - General Site Layout).



Figure 23. Alternative 4 (Site 8) Vegetation



Figure 24. Alternative 4 From Highway

Vegetation

Clearing and Construction Activities

Alternative 4 would require clearing of about 5.1 acres of trees and shrubs for the primary site. Currently, just over three acres of the area are included in ODOT right-of-way that has an existing zone cleared of vegetation for most of that area. Less than 400 trees would be removed for construction of the primary site. This alternative would require removal of

material from higher areas to place the level of the building and scale facility approximately 6 vertical feet above the elevation of the highway within the bounds of the site. Approximately 27,480 cubic yards of material would be excavated and 6,860 would be needed for fill. This alternative would require approximately 20,620 cubic yards of excavated material to be hauled off to outside sources. The paved exit and entrance ramps would be about 3,210 feet long and 16 feet wide with a 4-6 foot wide gravel shoulder for most of that length.

Noxious Weed Prevention and Treatment

For the sake of comparison of the alternatives, it is assumed that actions to prevent noxious weed spread and establishment within Site 8 would be similar to the actions required by the Forest Service in Alternatives 2 and 3.

Short-lived non-native plants would be used to revegetate the area around and between the station and the highway until native vegetation is established. Native vegetation would not be seeded or transplanted as in Alternatives 2 and 3. Preferred species would not be highly flammable and have low palatability for mule deer. A complete listing of suitable species that could be used is in Appendix 5.

Revegetation activities would be required to be substantially complete within one month of the completion of construction activities. Successful establishment of prescribed vegetation cover would be within one year of completing construction. This could include irrigation of planted vegetation if necessary during the early period of establishment, but would not include long-term irrigation needs.

Fuels Management

Under both possible scenarios described earlier, a primary fuelbreak around the facility would be installed consisting of non-flammable materials and would measure at least 10 feet wide. For the sake of comparison of the alternatives, it is assumed the actions to create and maintain a secondary fuel break to retard the spread of wildfire from the facility within Site 8 would be similar to the actions required by the Forest Service in Alternatives 2 and 3.

Under each possible scenario, the distance of the secondary fuelbreak would vary. If granted a variance, the secondary fuelbreak would measure 120 feet wide, except adjacent to the facility where it would be 50-foot wide. Under the condemnation scenario, the secondary fuelbreak would be consistently 120 feet wide.

Public Access

Under this alternative, there would be no public or private roads closed.

Highway Access and Footprint

Exit and entrance ramps are estimated to measure 3,210 feet. All other aspects of the facility including gravel shoulders, bypass lanes, inspection areas, scale platforms, and footprint of the site would be similar as discussed in Alternatives 2 and 3 (page 30).

Facility Design

Building

Aspects of building design are similar as those discussed in Alternatives 2 and 3 (page 30) except the building siding would not be sided with rock or similar-appearing materials. The siding and roofing would be constructed of materials and colors that blend into the landscape.

Parking and Work Areas

Parking and work areas are designed similarly as described in Alternatives 2 and 3 (page 30) except fencing would be required between the facility and private land to reduce the potential for trespass onto adjacent private lands.

Weigh-in-Motion

The Weigh-in-Motion system would be sited close to Milepost 146.50. Signing for the system would be located at Milepost 148.0 and closer to the facility. No signs for the facility would be located within the portion of the highway within the Newberry National Volcanic Monument.

Signing, Construction, Operational Schedule and Requirements

Signing, construction, and operation would be as described on page 31 for Alternatives 2 and 3 except there would be no restrictions for blasting activities.

Design Characteristics

The proposed site would be about 6 feet above the level of the highway. The back of the site would be approximately 175 feet from the fogline of the highway. The exit ramp grade from the highway to the scale would be +1.78% and the entrance ramp from the scale to the highway would be split between -4.66% and -2.88% due to terrain. Excavation of rock is anticipated to be considerable, which may include blasting. Approximately 2.7 miles of trenching would be associated with extending power from the source to the main facility and the Weigh-in-Motion devices within the existing ODOT right-of-way. The closest road to the site would be the entrance road to the High Desert Museum at approximately 1,200 feet from the beginning of the exit ramp to the facility. The site would be visible from the highway

for motorists, including truck drivers and law enforcement vehicles.

Comparison of the Alternatives

Introduction

The physical, biological, and socio-economic effects of the alternatives are examined in detail in Chapter 3, Affected Environment and Environmental Consequences. Table 1 provides a quick comparison of the alternatives as they relate to the issues identified earlier.

Table 1. Comparison of the Alternatives

Issue	Alternative 1	Alternative 2	Alternative 3	Alternative 4
#1 - Effects on Scenic Views				
	No change	Most noticeable to visitors who are familiar with the topography and would perceive the removal of the rock outcrops for the exit lane.	Greatest amount of fragmentation of National Forest and closest distance to the Monument	Least amount of fragmentation of National Forest, farthest distance from the Monument, and most visible from the highway.
#2 - Fire Risk				
	No change	Low risk but greatest wildfire threat is to the High Desert Museum	Low risk but greatest wildfire threat is to the High Desert Museum	Low risk but greatest wildfire threat is to adjacent Windlinx and Kerr properties
#3 - National Forest and Private Land Values				
Private Lands	N/A	Neutral	Neutral	Potential noise and illumination to adjacent landowners
Public Lands	N/A	Dedicates public lands to an exclusive use	Dedicates public lands to an exclusive use	Neutral

#4 - Effects to Mule Deer

	No change	Effect to mule deer movement across the highway is not as great as in Alternative 3 and greater than Alternative 4.	Greatest effect on mule deer movement and risk of motor vehicle/ deer collisions. Greatest amount of deer movement across highway.	Least effect on mule deer movement and risk of motor vehicle/ deer collisions. Least amount of deer movement across highway.
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#5 - Consistency With County and National Forest Land Use Plans

Fire Danger	No change	Consistent	Consistent	Insufficient fuelbreak (see footnote 27)
Scenic Views	No change	Requires an amendment to the Forest Plan	Requires an amendment to the Forest Plan	Inconsistent; could not be evaluated due to the lack of a site plan.

#6 - Noxious Weed Control

	N/A	Intermediate risk from adjacent population	Highest risk from largest adjacent population	Least risk because of small existing population
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#7 - Access

	No change to access onto public lands	Forest Road 1801 would be closed to future access. Future new access may be restricted within 2 miles of the facility.	Forest Road 1801 would be closed to future access. Future new access may be restricted within 2 miles of the facility.	No change to existing public access. Future new access may be restricted within 2 miles of the facility.
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#8 - Operational Characteristics

Setback (see footnote 28)	N/A	154'	123'	175'
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Ramp Lengths (Approx. Total)	N/A	2,953'	3,117'	3,210'
Exit Grade to Facility	N/A	-2.90%	-1.60%	+1.78%
Entrance Grade to Facility	N/A	-5.00%	-2.00%	-4.66% & -2.88% (see footnote 29)
Footprint	N/A	4.8 acres	4.6 acres	5.1 acres
Vertical Distance of Building Above Roadway	N/A	Even	Even	6'
Fill	N/A	11,280 cu. yd.	11,910 cu. yd.	6,860 cu. yd.
Excavation	N/A	8,860 cu. yd.	4,490 cu. yd.	27,480 cu. yd.

Alternatives Considered but Eliminated from Further Study

A number of possible alternatives were identified in the analysis process, but were not examined in detail for a variety of reasons. The following section describes those alternatives briefly considered but eliminated from detailed study, and the rationale for those decisions.

Other Possible Locations

Several alternative sites for placing the weigh and safety station were considered, in particular, south of Lava Butte or between Bend and Prineville, Redmond, Sisters or Madras. Groups comprised of local citizens and an ODOT technical team unanimously agreed the acceptable area of consideration would range from Baker Road south of Bend to South Century Drive (main exit from Sunriver) ([see footnote 30](#)). Any site farther south would not meet the Purpose and Need (page 2) for the following reasons:

Ability to preclude opportunities to circumnavigate the weigh station

Potential sites were evaluated by the ease in which they could be bypassed. Surrounding roads such as Huntington Road (County Road 4203) and paved roads further west facilitate an effective bypass, especially from carriers who are likely to have local knowledge of the secondary road system.

Inspection of locally originating trucks is one of the needs for construction and operation of the station (page 4) and trucks originating in Bend with a Sunriver destination would be missed entirely. Also, these secondary roads were not designed to accommodate truck traffic. The citizen group expressed strong concern that more trucks would be encouraged to travel through neighborhood communities, including the possibility of travel through Sunriver.

According to Deschutes County Sheriff personnel, the most effective method of detection is to strategically place the facility in a vantage point where law enforcement personnel can observe violators from the weigh station. There were no available sites in the La Pine area that could meet this criterion. La Pine has many alternative routes where motor carriers can circumvent the weigh and safety station in such a manner that law enforcement personnel would not be able to detect the violators.

In order to mitigate a weigh and safety station that would not allow law enforcement officials to observe violators, the County Sheriff was contacted to gauge the feasibility of a permanent designation on secondary road systems so law enforcement personnel could patrol and enforce motor carriers avoiding the facility. The secondary roads surrounding the facility would restrict vehicles of a certain size, weight and number of axels. The Sheriff determined the restriction was feasible, but would not be enforced consistently due to lack of available law enforcement personnel and funding ([see footnote 31](#)).

Ability to weigh and inspect local truck traffic

One of the primary reasons for a weigh and safety station is to check vehicle traffic originating from the Bend, Redmond, Prineville, and Madras areas. Many of these vehicles travel regionally and rarely encounter inspections unless they venture outside of the area. In addition, placement of a facility between Bend and Prineville, or Bend and Sisters would not fulfill the Purpose and Need (page 2) because non-local vehicles using U.S. Highway 97 would not be checked. A facility placed between Bend and Redmond would be too easily bypassed. Motor carrier enforcement records verify the effectiveness of a south Bend location.

Research is available to support the theory that trucks will bypass weigh stations if an alternate route is accessible. One study in Virginia and another in Idaho found that up to 14 percent of the regular traffic avoided an open weigh station by taking alternate routes ([see footnote 32](#)). These studies also found that operators would travel up to 160 miles to avoid a weigh station.

Operation and staffing efficiency

Operation and staffing efficiency is difficult during winter months when snow removal precludes operation of a weigh station. Historically, snow and ice accumulation has been greater as one traveled south from Bend, particularly past Lava Butte. During times of non-stop storms, the highest priority for snow removal is for the safety of vehicle travel and not for weigh and safety station facilities. During these times, facilities would remain closed. Other possible locations farther south of Alternative 3 may not be as efficiently operated or staffed as those sites considered in detail.

Identification of the Preferred Alternative

Alternative 2, the Proposed Action, is the Forest Service Preferred Alternative.

[Deschutes and Ochoco National Forests Website](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/abstractweighsta.html)

[http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/
abstractweighsta.html](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/abstractweighsta.html)

Last Update: 10/30/01

R.A. Jensen

South Bend Weigh and Safety Station Final Environmental Impact Statement

USDA Forest Service Deschutes National Forest Bend/Fort Rock Ranger District

Chapters 3-4 Affected Environment and Environmental Consequences

Introduction

This chapter includes a description of the physical, biological, and socio-economic environment affected by the alternatives and the environmental consequences of implementing the different alternatives.

The descriptions include direct, indirect, and cumulative effects, effects on other ecosystem components, and a focus on the effects related to the significant issues. Each section contains a brief description of the environment addressed in the analysis, and then an analysis of the effects of each alternative.

In order to complete a reasonable analysis of the effects of the alternatives, the Forest Service interdisciplinary team relied on some assumptions. These are listed as part of the description for each resource.

Discussion of Reasonably Foreseeable Future Actions

1998 Noxious Weed EA Implementation

Implementation of herbicide and hand pulling treatments would continue for three more growing seasons to reduce or eliminate noxious weeds along the U.S. Highway 97 corridor. After 2003, treatments would be evaluated for effectiveness.

Projects Proposed Adjacent to the Project Area (all acres and miles are approximate)

Kelsey - Proposes treatments to improve forest health such as thinning and dwarf mistletoe reduction on 3,700 acres; use prescribed fire on 6,400 acres; mechanically treat shrubs to reduce risk of wildfire on 2,600 acres, decompact soil on 100 acres; close 47 miles of unneeded roads while reconstructing 24 miles for improved access, improve Swamp Wells Campground, and improve 20 miles of horse trails. Management activities would occur in the summer of 2002.

U.S. Highway 97 Median Barrier Project EA

Proposes to install cement and post barriers to reduce fatalities from vehicles crossing over to oncoming lanes from Milepost 147 through 150. The construction would occur after the asphalt overlay project during the summer of 2002.

U.S. Highway 97 Asphalt Overlay Project

Proposes to overlay asphalt on the existing road between Murphy Road and Lava Butte. Construction would occur in the summer of 2002.

Scenic Views

Affected Environment

The affected environment for Scenic Views is briefly described under the following attributes: Scenic Viewsheds, Aesthetic Values, and Scenic Integrity Levels.

Scenic Viewsheds

The proposed project is located within a scenic corridor at the northern edge of the Deschutes National Forest and the Newberry National Volcanic Monument. It is approximately 4 miles south of the city limits of Bend, Oregon and is a relatively undeveloped area with the exception of the High Desert Museum, the Deschutes River Woods and the River Bend Estates subdivisions which are all within a one-mile radius of the proposed project.

U.S. Highway 97 provides access to several premier recreation areas and resorts within close proximity of the site as well as a connection between California and Washington. These are the High Desert Museum (less than 1 mile), Newberry National Volcanic Monument (1 mile), Lava Butte and Lava Lands Discovery Center (3 miles), Lava Cast Forest and Lava River Cave (5 miles), Sunriver Resort and Crosswater Golf Resort (7 miles), the Wild and Scenic Upper Deschutes River and Benham Falls (8 miles), and La Pine State Park (15 miles). See Figure 4 - Scenic Travel Corridors.

This portion of U.S. Highway 97 is also the gateway to the Outback National Scenic Byway on State Highway 31, the Cascade Lakes National Scenic Byway from both Forest Roads 42 and 43, and the Volcanic Legacy National Scenic Byway and All-American Road at Crater Lake. These scenic byways are all within a one-hour drive to the south of the proposed project. Within twenty miles south of the proposed project, the views from the highway are of a volcanic landscape rolling through young and old growth ponderosa pine forests. The most noticeable features are Newberry Crater, Paulina Peak, the Cascade Mountains, and Lava Butte. Lava Butte raises out of surrounding lava flows to an elevation of 5,000 feet.

Most of the lands currently in ODOT's right-of-way along the highway have been cleared of vegetation to provide a zone that allows a motorist a chance to recover the control of their vehicle if it accidentally leaves the pavement. In Alternative 2 (Site 7) and Alternative 3 (Site 6a), this distance is approximately 30 feet from the edge of the pavement. In Alternative 4 (Site 8), clearing from past highway construction is approximately 60 feet.

Aesthetic Values

In addition to physical and biological aspects of landscape character, there are cultural and social aspects, which often communicate the values instilled upon a place by those who are either part of the surrounding community or are visitors. Those visiting the area usually have some expectations of the scenic views and other sensory experiences. These expectations are often based upon aesthetics that have value and meaning to both residents and visitors. Aesthetic values can be reflected in the way people relate to a particular landscape through their memory of experiences. The anticipation of viewing these landscapes can also trigger emotional responses that not only enhance the experience but also provide a stronger connection to a place. These values and meanings can be reflected in their reactions to changes in the landscape and to patterns of land use that have become or are becoming traditions over time. The knowledge of an area's cultural heritage and history is an important way to understand the connections to a place over time.

The reactions that people have to changes within a scenic viewshed are often tied to the connections developed over time from either visiting or viewing these places from their vehicles. Visible and perceptible changes in noise levels, presence of illumination at night, additional structures such as buildings, utilities, and signs, and site development such as paving, concrete, and gravel, and the removal of native vegetation are especially noticeable in areas that are relatively undeveloped. In an environment that is mostly volcanic and forested, lava rock and native vegetation are the materials that are most commonly visible in areas adjacent to and surrounding the site.

All three action alternatives are located near three major interpretive day-use and information sites, the High Desert Museum, Lava River Cave and the Lava Lands Discovery Center. Most visitors to these places have expectations for a quality experience that is enhanced by the natural setting that provides an escape and a contrast to the more developed urban areas found just to the north in Bend and in other larger cities. Maintaining the natural appearance of the lava features and the surrounding forest in this

area is highly desirable.

The area along U.S. Highway 97 within the Newberry National Volcanic Monument (the Monument), which includes Lava Lands Discovery Center as well as Lava Butte and Lava River Cave, is managed as the Lava Butte Zone. U.S. Highway 97 traverses through a 2-mile stretch of the Monument between approximately mileposts 148 and 150. Currently there are several highway signs located within this zone that are not related to the Monument and are comprised of various colors and dimensions.

Vegetation within the Monument is to be managed to provide high quality scenery with an emphasis on preserving and sustaining large and old growth ponderosa pine, and to provide some habitat that allows for deer migration.

Scenic Integrity Levels

Affected Federal lands are classified as **Retention** ([see footnote 33](#)) under the previous visual Management System and **High Scenic Integrity** (Landscape Appears Unaltered) under the newer Objectives for the Scenery Management System. **High Scenic Integrity** refers to landscapes where the valued landscape character "appears" intact. Noticeable deviations must remain visually subordinate to the landscape character being viewed.

Objectives for the Scenery Management System are defined in terms of Scenic Integrity Levels which are used to describe the existing conditions and whether the landscape is visually perceived to be "complete" or not. The most complete or highest rating for Scenic Integrity means having little or no deviation from the landscape character that makes it appealing and attractive to visitors and local residents. In addition to describing existing conditions, Scenic Integrity Levels also describe the standard of management or desired future condition.

Usually the most effective way to meet Scenic Integrity Levels is to repeat visual form, line, color, texture, pattern, and scale common to the scenic values of the landscape character being viewed. For example, in natural and natural-appearing landscapes, deviations such as created openings can sometimes be added by repeating size, shape, edge effect, surface color, and pattern of natural openings common to the landscape character. Adding structures to the cultural landscapes can sometimes be accomplished by repeating architectural form, line, color, texture, pattern, and scale. If repetition is accurate and well designed, the deviation may blend so well that change is not evident.

Alternative 1 - No Action

Overall scenic views from U.S. Highway 97 and from Lava Butte to the proposed project would gradually change over time due to the growth and life cycle of the vegetation present on the site. Natural processes such as wind, fire, and insects would make any changes to the vegetation more noticeable as would management activities such as mechanical manipulation of brush or road maintenance. In general, there would be no significant changes to the proposed project site and it would remain an integral part of

the recreation experience that visitors traveling to Bend and Central Oregon enjoy while traveling along U.S. Highway 97 to visit recreation sites, destination resorts, national monuments, and National Scenic Byways. It is likely the growth of the City of Bend would continue to expand beyond its current Urban Growth Boundary to the south.

Common Effects for the Action Alternatives

Overall scenic views from the highway to the proposed project for each of the action alternatives would have similar effects because of the proximity of each site to each other and to the highway. The effects of the scenic views vary slightly from each other and are based on the variation in size of the footprint of the site and the amount of setback from the highway. The variations are slight enough to be considered inconsequential when evaluated separately. The primary effects are from the development of the facility, which includes the clearing and removal of vegetation, changes in grade and the addition of surface materials such as gravel and asphalt, buildings, equipment, and trucks. Secondary effects are site construction operations and effects associated with the operation of the site such as lighting at night, increased number, size, and appearance of signs, and increased truck traffic and noise. For ease of comparison, the effects that are unique to each alternative are described on pages 49-50.

This portion of U.S. Highway 97 has a width of four lanes and traffic travels in both directions at average speeds of 60 mph and greater. The sites would be noticeable and visible on a stretch of highway that currently has very few signs of development fronting the highway. There would be very little vegetative screening provided along the highway.

The construction staging area is estimated to be half an acre and would be within the weigh and safety station clearing limits or the existing cleared right-of-way. Although the weigh and safety station clearing is approximately 5 acres, the total area visibly impacted is much greater. This includes the bypass, approach and exit lanes, building, scale platform, gravel shoulder, signs and posts, lighting on metal poles approximately 30 feet in height, and the fuels treatment area for a total of approximately 9 acres. The Weigh-in-Motion/Automatic Vehicle Identification system including metal poles overhanging the highway (Figure 9) and highway signing (Figures 11-14), would also add to the visual impact for those who would rather see a forest instead of development.

There would be six signs located on U.S. Highway 97 that are associated with the facility. A complete description, color, and dimension can be found on page 30.

The lower portion of the building below the windows and the barriers protecting the structure would be sided with rock or similar-appearing materials to blend in with the surrounding area. Roofing materials should not be slick, shiny, or reflective and composition roofing or tile-like material that has texture would be selected. Neutral tones would be used on metal poles such as light, signs, and the Weigh-in-Motion/AVI system. The Forest Service would have final approval of the building design and materials.

Lava Butte is approximately 3 miles away from the site. The views from the top of Lava Butte are in

every direction. Both U.S. Highway 97 and the proposed development on the site are very visible. Alternatives 2, 3, and 4 would most likely appear as a widened spot on the highway especially with the removal and clearing of existing vegetation. Thinning activities associated with the fuel management zone would reduce the density of the trees adjacent to the site, but is not likely to be noticeable from the top of the butte to the average forest visitor.

The proposed sites would be very visible from both the northbound and southbound lanes of U.S. Highway 97. Two of the area's most highly visited centers, the High Desert Museum and Lava Lands Visitor Center are located nearby. Together, they offer interpretation on the cultural heritage and natural history of the High Desert and geology of the Cascade Range. There are also numerous forest roads off of U.S. Highway 97 that access popular recreation areas. The proposed project would not be consistent with the aesthetic values and scenic integrity levels normally associated with these sites.

The Visual Management System objective of "Retention" would not be met. Although Alternative 4 is on State-owned lands and not subject to Federal standards, the effects are similar to Alternatives 2 and 3 where Visual Management System objectives of Retention (High Scenic Integrity) would not be met.

All of the sites affect the natural appearance of scenery as viewed by visitors approaching the High Desert Museum and the Lava Lands Discovery Center within the Newberry National Volcanic Monument, dependent upon which alternative is selected and whether the visitors arrive from the north or south. The sites, when in use, would have a concentration of large trucks. When not in use, the sites would appear developed in contrast to the natural setting. Given the required permit conditions, the sites would be maintained through mowing, garbage removal, and building maintenance.

Although the change in scenery along the approach and exit to the Newberry National Monument, Lava Lands Discovery Center, and the High Desert Museum is not likely to change the number of visitors to those places, it is the visitor's experience that would change over time as more development takes place within the corridor. Foreseeable future developments within the next five years within the corridor include a proposed median barrier project from Mileposts 147-150. No other construction activities are planned at this time. However, an average increase of 3.1% in vehicle traffic per year ([see footnote 34](#)) since 1995 would be the basis to reasonably assume more changes would occur in the future.

Unique Effects Associated With Alternative 2 (Site 7)

This site is located between Mileposts 145.69 and 146.25 along the northbound travel lane. The WIM/AVI site is located close to Mileposts 146.50.

The total length of the ramps would equal approximately 2,953 feet, which is over 200 feet shorter than the longest ramp in Alternative 4 (Site 8). The setback distance of the development footprint from the edge of the traveled way to the back of the site would be 154 feet. The building would be very close to the same grade as the highway.

Existing vegetation and terrain provides screening between the facility and the High Desert Museum located to the north of the site. The end of the entrance ramp to the highway where trucks would complete with merging onto the highway at Forest Road 1801 is visible from the overflow parking lot at the museum, but it would not be discernable from existing traffic flows. This alternative and Alternative 4 would change the natural topography the greatest. In this alternative, large basalt outcroppings would be removed or altered to accommodate the exit ramp for the facility.

Alternative 4 (Site 8) would have the least effect on fragmentation of National Forest lands. In comparison to Alternative 3, Alternative 2 would have the least effect to the natural appearance as visitors approach or depart from the Newberry National Volcanic Monument and Lava Lands Discovery Center. Alternative 2 would place the new development the closest to other existing or future areas of potential development, thus reducing the "fragmentation" of the forest, or the degree to which visitors become acclimated to a more natural setting, and then see a new development or a new discordant element in the natural landscape.

Alternative 2 would alter the natural appearance of the approach to the High Desert Museum from the south, but generally not from the north.

Unique Effects Associated With Alternative 3 (Site 6a)

This alternative is located between Mileposts 146.16 and 146.75 along the northbound lane of U.S. Highway 97 and to the south of Alternative 2 (Site 7). ODOT would alter the standard placement of their advanced directional signs for the facility in order to be outside of the Newberry National Volcanic Monument boundary. The Weigh-in-Motion devices would be located close to Milepost 147.35.

The total length of the ramp would equal approximately 3,117 feet, which is about midway between the longest ramp in Alternative 4 and the shortest ramp in Alternative 2. The setback distance of the development footprint from the edge of the travel way would be the shortest of 123 feet, although the facility would not be the most visible. The building would be very close to the same grade as the highway.

Although Alternative 3 is near the location of Alternative 2, it would cause the greatest fragmentation of National Forest lands because of its distance from the National Forest boundary. Also, Alternative 3 would provide the least distance between the Newberry National Volcanic Monument boundary and visible development. As visitors leave the Newberry National Volcanic Monument boundary at Milepost 148 heading north, they immediately would encounter a sign for the Weigh-in-Motion dynamic scale. This sign would measure 14 feet 6 inches wide by 7 feet tall, the lettering would be black on a white base (in contrast to the white on brown base Monument signs) and would read "Trucks Use Right Lane Next 1 1/2 miles" (Figure 11).

Additional selective thinning requirements for the purpose of increasing site distances for motorists are to result in areas that are more open and natural appearing rather than abrupt or visually disruptive in all

hiding cover stands within 600 feet of entrance and exit lanes and the weigh and safety station building.

Unique Effects Associated With Alternative 4 (Site 8)

This site is located between Mileposts 144.19 and 144.80 along the northbound lane of U.S. Highway 97 and to the north of Alternative 2 (Site 7). The WIM/AVI site is located close to Milepost 146.50. This alternative would fragment the National Forest the least, and is the greatest distance from the Newberry National Volcanic Monument boundary. This alternative would be visible to some residents in the Deschutes River Woods subdivision, but not to the High Desert Museum.

The total length of the ramp would be approximately 3,210 feet, which is the longest distance. The setback distance of the development footprint from the edge of the traveled way would be 175 feet, which is the farthest. The maximum vertical distance of the proposed project's road surface above the highway would be 6 feet. This alternative would require extensive grading of a topographical feature adjacent to the highway to accommodate a level site for the facility. This results in Alternative 4 being the most dominant/discordant view from the highway because of the site elevation above the highway, the amount of excavation required, and the lack of vegetation surrounding the site.

Alternative 4 would have the least effect of the action alternatives on the approach and departure to the Newberry National Volcanic Monument and the Lava Lands Discovery center because of its distance from those sites. Its relative proximity to other evidence of development such as the High Desert Museum and the Baker Road interchange would place it in the context of other non-forest land development. There would be no fragmentation of National Forest lands.

Fire/Fuels

Affected Environment

Along the corridor near the proposed sites for the facilities are three key public attractions in forested settings that draw up to 1,000 visitors daily during peak season. These are Lava Lands Visitor Center, Lava River Cave, and the High Desert Museum.

The primary fuel component surrounding the proposed sites and the Museum, Visitor Center, and Cave consists of bitterbrush and healthy, second growth (relatively young) ponderosa pine that has been previously thinned. Shrubs on and around the proposed site, as well as on the High Desert Museum lands, were mechanically treated in 1996 to a height of two to four inches. Some prescribed burning as part of an outdoor education program in conjunction with the High Desert Museum Learning Center has occurred as well. Since treatment, most of the treated brush has grown to a height of approximately one foot. Current fuel loadings in the area average 5 to 10 tons per acre (Appendix 7, Fire/Fuels Report).

The Lava Lands Visitor Center is on the west side of the highway and is bordered to the north and east by a lava flow, an all-weather surfaced road to Benham Falls Campground to the south, and U.S.

Highway 97 to the east. The Center has also reduced the fire hazard surrounding the facility by removing the decadent and dead limbs of bitterbrush plants and by pruning limbs of live trees. The Lava River Cave has a paved parking lot adjacent to a building that fronts a walkway that leads down to the cave. The entrance to the cave would be considered a very low risk for wildfire due to the humid and temperate climate and very little combustible material that could be ignited by a careless visitor.

Human caused fires present the greatest risk of fire starts in this area. Roads with a high volume of traffic, such as U.S. Highway 97, present a greater risk of a human-caused fire than roads with less traffic.

Using Behave, a fire behavior fire prediction model, the perimeter growth of a wildfire in the analysis area during a typical summer day is expected to be 3 acres before containment. This is not a worst-case scenario, but a conservative estimate.

Although there have been no wildfires larger than 100 acres in similar terrain and fuel models within the highway corridor between Lava Lands and Bend in the last 90 years, the High Desert Museum presents the greatest potential for human caused wildfire ignitions in the area. The Museum is designed to educate visitors about the surrounding forest and environment, encouraging exploration of their property and adjoining forested lands for educational and recreational opportunities. The large number of people who visit the Museum and surrounding forested lands produce a high risk for human caused wildfire ignitions. Averaging approximately 950 visitors per day in the summer, the Museum and the surrounding area are considered a wildland/urban interface situation. This classification (as well as surrounding private residences) causes the fire suppression priority to be assessed as "High" when allocating suppression resources. Signing and fire safety emphasis by the High Desert Museum staff helps mitigate the risk of a visitor carelessly starting a wildfire, but the potential still exists.

Other adjacent properties with an urban interface situation would be the Deschutes River Woods subdivision. This development does not pose the same level of risk to the surrounding forest because U. S. Highway 97 borders it to the east, the Deschutes River to the west, and some lava/basalt formations to the north. The Deschutes River Woods Subdivision, however, has an elevated risk when fire enters the area as evidenced by the Awbrey Hall Fire in 1990, which spread from across the Deschutes River.

Detection

Lava Butte lookout is located less than five miles south of the site, providing fire detection from mid-May to mid-October. Visibility into the site is excellent from the lookout. When the lookout is not in operation, fire detection would continue to be very good, due to the proximity to Bend, Oregon and U.S. Highway 97. As with similar fire starts in the area, highway vehicle traffic passing the site would observe and report ignitions quickly. During the times that the weigh and safety station is in operation, employees can use radio or telephone to report fire starts.

Suppression Resources

The proximity of the site to Bend, Oregon also facilitates dispatching of fire resources from various agencies, using the "Closest Forces" policy. These include the Forest Service, Bend Fire Department, Sunriver Fire Department, the Oregon Department of Forestry and local private contractors. Response times would be relatively quick and from various directions, ranging from 5 to 20 minutes depending upon the location of available resources at the time the fire is reported.

Airtankers that apply retardant, when available, would have a 10 to 30 minute response time from Redmond, Oregon. Aerial retardant can be very effective in this area, aiding in the success of ground forces during the initial attack of a fire.

Access

Access to the area is considered excellent. U. S. Highway 97 is designed to accommodate large truck traffic, permitting large fire suppression equipment such as engines and water tenders room to access the site quickly. Forest Road 1801 also provides direct access to the Forest Service lands surrounding the High Desert Museum. Quick response times for fire suppression equipment and personnel is essential to keep wildfires small and controlled before they become large, high intensity wildfires that threaten visitors and firefighter safety. It also provides an evacuation route for the museum, should the primary access be blocked.

Alternative 1 (No Action)

In this alternative, a weigh and safety station would not be constructed or operated within the foreseeable future within this portion of the highway. Risk of human-caused ignitions would remain the same along the corridor.

Action Alternatives

In these alternatives, a weigh and safety facility would be constructed and operated between Mileposts 144 and 147. The risk of human-caused wildfires resulting from use at any of the alternative locations is considered low and a successful initial attack would be likely. Information provided by Oregon Department of Transportation (ODOT), Oregon Department of Forestry (ODF) and the Oregon State Police provides no data or anecdotal evidence to indicate that a weigh station increases fire risks in or around the facility.

The amount and type of use of a weigh and safety facility does not measurably increase the potential for human-caused wildfires. During times of operation, the weigh station may concentrate some of the risk in the facility itself, as does the High Desert Museum to the north. Users of the weigh station are generally in the facility for only a short time before returning to U.S. Highway 97. Most of this time is spent in the "fuel free" pavement or gravel. If a truck is required to wait for repairs before continuing on, the driver is not encouraged to explore the surrounding forest. It is assumed the level of risk associated

with the operation of a weigh and safety station in any of the three locations would be considerably less than that found in high use recreation areas or subdivisions that border National Forest lands also termed the "wildland/urban interface." This is due to the different uses that occur at each site: the weigh and safety station uses would be concentrated and short-term, while recreation and urban interface uses are long-term, dispersed, and quite variable.

If an ignition occurred in the immediate area surrounding the facility, a 100-foot radius fuelbreak would allow time for a successful fire suppression effort. Fire mitigation measures were incorporated into the alternative descriptions under the fuels management section on page 29.

The closest residences would be the Windlinx property located on the east side of the highway, and the Deschutes River Woods subdivision on the west side. Due to prevailing winds from the west/southwest and the highway that usually functions as a limit to fire spread, none of the action alternatives pose a measurable risk to the subdivision.

Potential development of private lands on the east side of the highway would increase the urban interface situation and future risk from fire on that side of the highway.

Access Effects Unique to Alternative 2 (Site 7) and Alternative 3 (Site 6a)

The closest structures that could be threatened from a wildfire originating from Alternatives 2 (Site 7) or 3 (Site 6a) would be those at the High Desert Museum located approximately 0.50 and 0.75 miles (respectively) to the northeast. While distance is one factor for evaluating protection, the probable fire spread distance and direction is critical to evaluating the ability to protect a facility from wildfire. Although the risk would be considered as low, prevailing west/southwest winds during fire season would pose a greater threat to the High Desert Museum and adjacent private residences than if a weigh and safety station was placed at Alternative 4 (Site 8).

Access Effects Unique to Alternative 4 (Site 8)

If a wildfire occurred adjacent to one of the three locations proposed for citing a weigh and safety station and burned towards the High Desert Museum or private residences, this alternative would be the most likely for a successful initial attack. This is due to the site having the most favorable location for prevailing winds in relationship to of structures.

Effects on Costs and Values Associated with Private Lands

Affected Environment

Private land owners in the area primarily include the Kerr and Windlinx families, the High Desert Museum, and the residents of existing and planned developments in Deschutes River Woods, River Bend Estates and Sunset View Estates. The Windlinx family operates three separate tree farms zoned F2

Forest Use located northeast and north of the High Desert Museum. The family owns additional lands zoned as RR10 Rural Residential to the northeast. Rural residential lands can be subdivided for residential development with a density of one dwelling per 10 acres. The Kerr family owns lands east of the High Desert Museum zoned as F2 Forest Use. Over the next several years, lots in the existing and planned residential subdivisions can be expected to see continued development. Dependent upon proximity to private land, the construction and operation of a weigh and safety station may affect an owner's use and enjoyment of their land. Noise, changes in scenery, trespass, changes in the costs of managing their land primarily related to fire and fuels management, and changes in current and future private property value are all potential effects.

The High Desert Museum attracts about 160,000 visitors annually and is nationally respected and could continue expanding as in the past. Construction and operation of the station may affect the quality of experience enjoyed by visitors to the High Desert Museum due to traffic congestion, and changes in scenery, perceptions of incompatibility, and noise pollution.

Alternative 1 (No Action)

Under the no action alternative, weigh and safety station sites would not be developed and operated in this area. Requests for special uses on National Forest lands and land exchanges on Federal lands would be expected to continue, including but not limited to proposed land exchanges. There would be no changes in the public use, opportunity, or experience of the proposed site locations.

Action Alternatives

All of the action alternatives have the same general design and will have a similar visual footprint (see also the Scenic Views section on page 45). Line of sight to the weigh and safety station alternative locations varies based on distance, landform and vegetative screening. Alternative 3 (Site 6a) is located furthest south and cannot be seen from the High Desert Museum nor from Deschutes River Woods. In Alternative 2, although the end of the entrance ramp to the highway at Forest Road 1801 would be visible from the overflow parking lot at the High Desert Museum (as is the highway), the difference between existing noise and traffic on the highway would not be noticeable. There would be adequate vegetation and topography to screen the facility and remaining portions of ramps. Also, the views from Deschutes River Woods would remain unchanged in this alternative. The exit ramp from the highway to the facility in Alternative 4 (Site 8) would be visually evident from the entrance to the High Desert Museum. Alternative 4 would also be visible from Deschutes River Woods due to elevation of the site. The Windlinx property is zoned as RR10 to the north and is closest to the site of Alternative 4. It is between 800 and 1,000 feet with a direct line of sight of that alternative although shielded by vegetative screening. Illumination at night would be visible to the Windlinx property.

The noise contribution from operating a weigh and safety station will be similar across the action alternatives but the distance from private property to the sites varies (see the Noise section for additional discussion on effects on page 79). The potential for noise to affect landowners in Deschutes River

Woods is greatest for Alternative 4, less under Alternative 2, and least under Alternative 3 due to terrain and vegetation that provides a shield. Noise impacts to visitors of the High Desert Museum would be similar under Alternatives 2 and 4, but less under Alternative 3. Potential noise effects to the Windlinx property, zoned as RR10 to the north, is greatest under Alternative 4, and likely to be negligible under Alternatives 2 and 3.

Weigh and safety stations can make adjoining lands more accessible especially during hours when the station is not in operation because it can provide additional vehicle access off the highway. This can result in potential trespass onto private lands either from those vehicles that use adjoining roads or ramps from the weigh and safety station, or from people that park their cars at the site and walk. Based on the amount of private land potentially accessed by a public road or through the construction of a weigh and safety station, Alternatives 2 and 3 would result in the least potential for trespass among all alternatives, including Alternative 1 (No Action). Under implementation of these alternatives, Forest Road 1801, which provides the most direct public access to these lands by motor vehicle, would be closed and monitored by ODOT and law enforcement personnel. As part of the alternative design, physical barriers such as boulders would be placed as needed to preclude travel into the adjacent forest. Alternative 4 would provide the closest access to adjacent private residences. Fencing would be installed between the facility and private land to discourage trespass. No additional access to the Deschutes River Woods would result from any of the action alternatives since these properties lie west of U.S. Highway 97.

Operating a weigh and safety station can change the costs of managing adjoining private lands. The risk of human-caused fires from operating a weigh and safety station identified in the action alternatives is low and a successful initial attack would be likely (see the Fuel/Fire section for additional discussion on page 51). Fuelbreaks are designed for successful fire suppression of any unplanned fires caused by operating the weigh and safety station. Under Alternative 4 (Site 8), it is difficult to differentiate the success of an initial attack of a wildfire modeling various widths of fuelbreaks. Other factors such as weather (wind direction and cumulative fuel moisture levels), response times and availability of resources have a much a greater influence on the outcome of the model. In Alternative 4, the success of an initial attack on a wildfire originating from the site was determined to be similar to the outcome for Alternatives 2 and 3. Randy Windlinx identified potential increases in costs related to fuels management in his April of 1999 rebuttal to the Deschutes County Hearings Officer Findings. Alternatives 2, 3, and 4 are not likely to incur additional costs for adjacent landowners by lowering the risk of damage to their forest resources, as many property owners maintain a lower risk of wildfire within their property as part of a comprehensive timber management program.

The operation of a weigh and safety station has the potential to change current and future private property value. This value is mostly associated with the assessment valuation and sale of property. Scenic views, noise and perceptions of the compatibility of adjoining uses can affect the appraised value of properties. Alternative 4 would be the closest alternative to adjacent private properties including Deschutes River Woods to the west, the Kerr and Windlinx properties zoned RR10 to the northeast, and the High Desert Museum entrance to the south. According to the Deschutes County Tax Assessor office, the operation of a weigh and safety station would not likely have any effect on the assessed value of adjacent private property, although there have been no marketing studies specific to properties adjacent

to a weigh and safety station ([see footnote 35](#)). This is especially true for properties zoned F2 where the primary purpose of the land is to produce forest products.

For Alternatives 2 and 3, it is less likely that adjacent property values would be lowered due to construction and operation of a weigh and safety station because the facility would not be noticeable to Deschutes River Woods and the Kerr and Windlinx properties. Also, there would be no expected change in value associated with the High Desert Museum properties because the location of a weigh and safety station is not expected to affect the current use and it is likely to operate as a museum in the future.

Effects on Values Associated with Public Lands

Affected Environment

Bend and the surrounding communities and rural residential areas have experienced significant population and economic growth during the last decade. This growth has been fueled in part by the backdrop of a rural lifestyle among the open spaces and scenic vistas afforded by the National Forest and other undeveloped lands. Many people living in the communities surrounding the National Forest view these lands as an integral part of their community.

Local residents and visitors from outside Central Oregon may be affected by the loss of use or changes to their experience from noise and visual effects of the weigh and safety station. The anticipation of viewing a certain landscape can trigger reactions to changes in the landscape and to patterns of land use that have become or are becoming traditions over time (see also the discussions in the Scenic Views and Access sections, page 45 and 73, respectively).

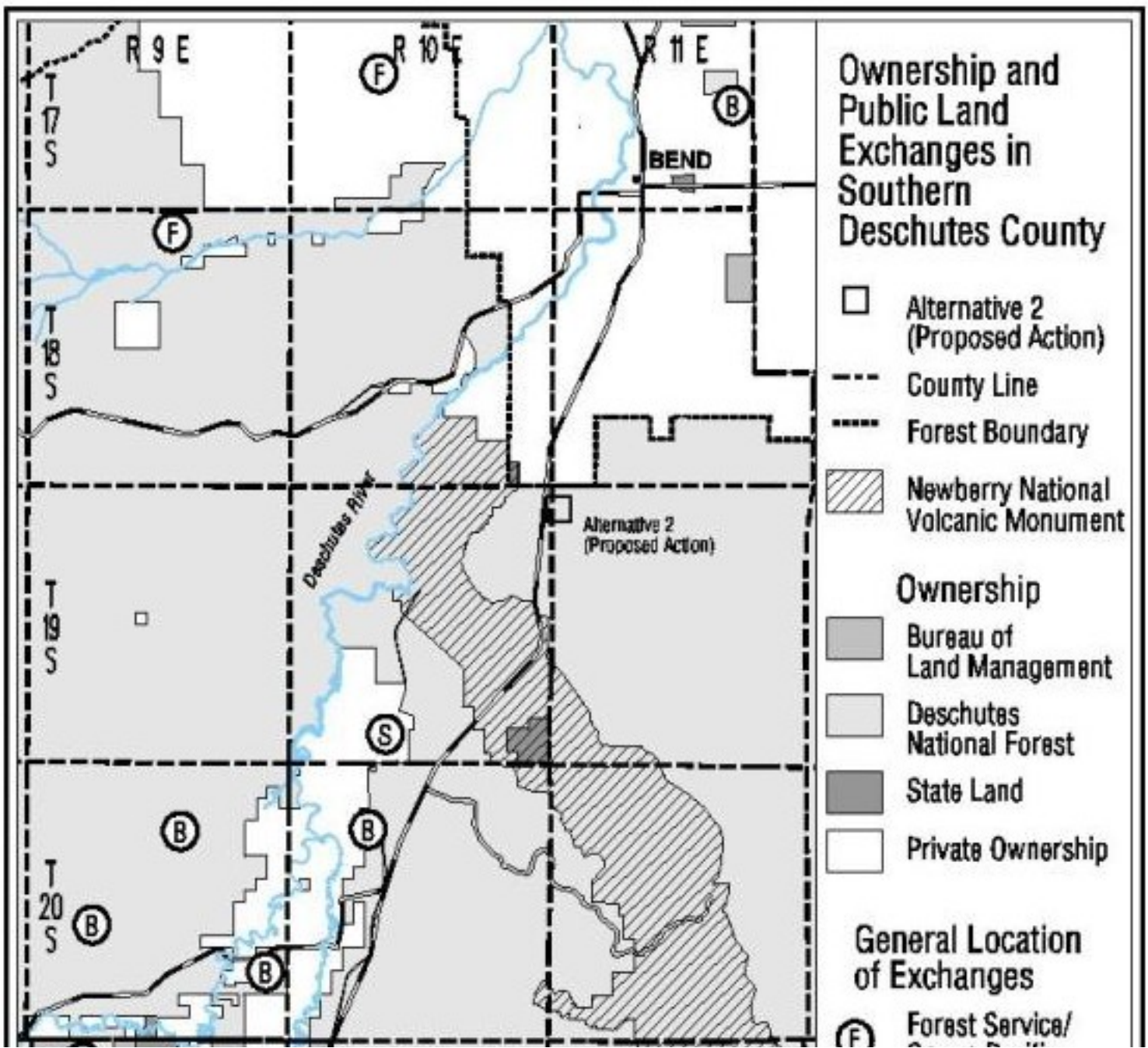
Other public lands have been recently converted to private uses or exchanged between public agencies in southern Deschutes County (Figure 24). The Sunriver ([see footnote 36](#)) and USDA Forest Service/ Crown Pacific ([see footnote 37](#)) Land Exchanges documented the effects on public benefits and costs, both social and economic. The Sunriver Land exchange was determined to be in the public interest, providing a long term environmental benefit by providing a suitable and permanent site for waste management. Although there was a cost to the public in terms of a loss of public recreation on approximately 375 acres, the use was considered very low and the exchange brought some desirable properties in the Tumalo and Mt. Hood area into public ownership.

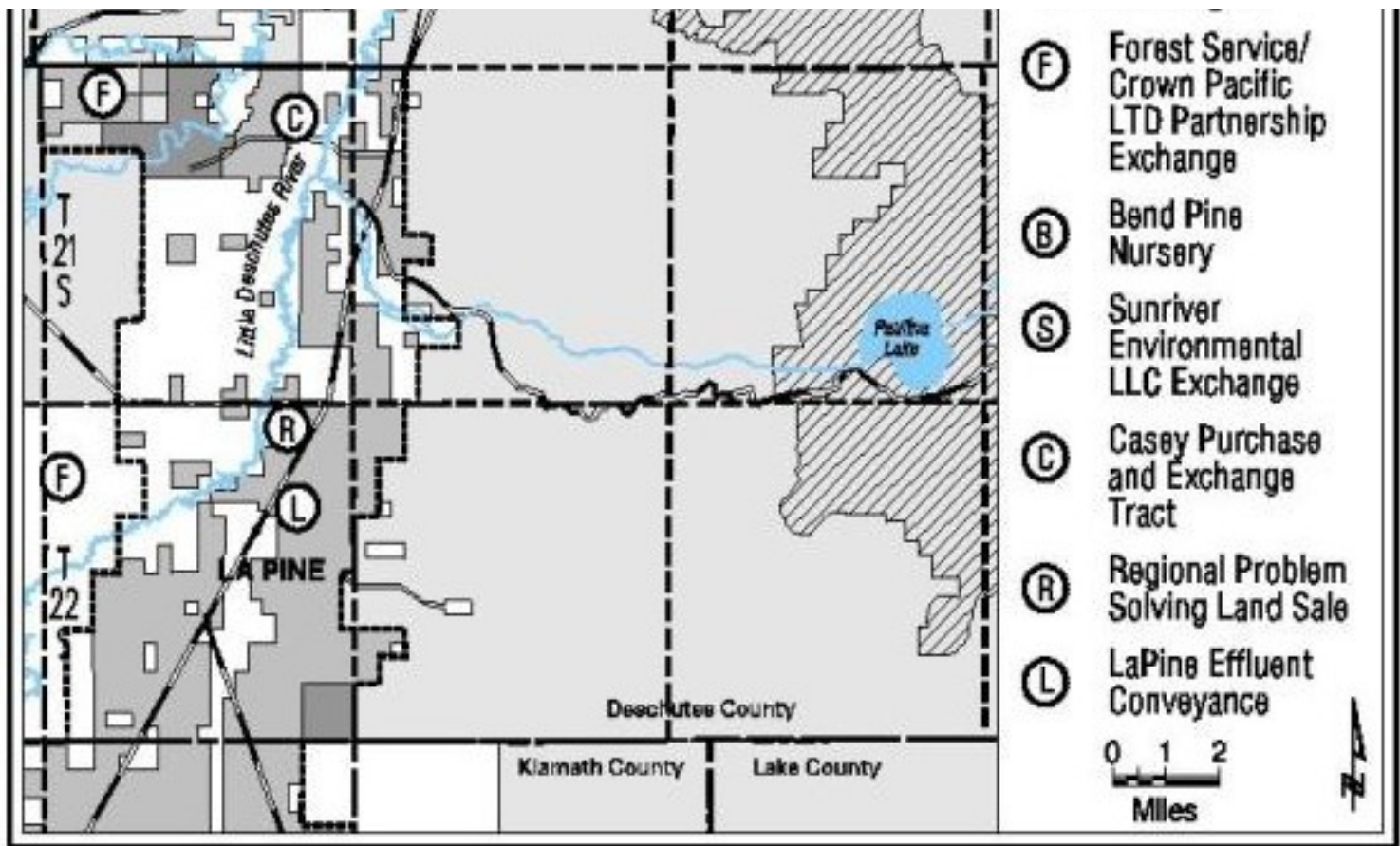
The Crown Land Exchange traded 32,936 acres of National Forest System lands for approximately 38,745 acres of Crown Pacific lands in Deschutes, Klamath, and Lake counties. In Deschutes County, National Forest System lands acquired 10,378 acres and exchanged 5,796. Of greatest concern to the public from an economic and social aspect was the issue of adjacent property values and the likelihood of development. It was determined that the degree in which property values would be affected was not expected to be significant due to negotiated agreements with Crown Pacific and no changes to county zoning. The benefits to the public included consolidation of lands providing efficiency from a landscape scale, and acquisition of desirable lands for inclusion into the National Forest System.

Other potential exchanges of National Forest System lands in southern Deschutes County include a proposed sale of the 210-acre Bend Pine nursery and 1,260 acres of landlocked National Forest system lands south of Sunriver, Oregon (Figure 25).

Exchanges of Bureau of Land Management lands within southern Deschutes County over the past five years include selling of 518 acres in La Pine for protection of groundwater, a purchase/exchange of 840 acres with the Casey Tract to block up public lands and to acquire wetlands along the Little Deschutes River with approximately 289 acres of public lands being considered in the acquisition, and a proposed conveyance with the town of La Pine to increase their capacity to dispose of their treated wastewater (160 acres).

Figure 25 - Ownership and Public Land Exchanges in S. Deschutes County.





Alternative 1 (No Action)

The rapid population growth and resulting effect on open space is changing the use and appearance of southern Deschutes County. This change can affect the existing sense of place, such as the expectation and anticipation of viewing a certain landscape (see also the Scenic Views discussion, page 45).

Under the no action alternative, weigh and safety station sites would not be developed and operated in this area. There would be no impacts on values associated with public lands.

Action Alternatives

Alternatives 2 and 3 would change public uses, opportunities, and experiences on approximately nine acres of Federal lands. Authorizing the construction and operation of a weigh and safety station on National Forest land creates an exclusive use for the next 10 to 50 years. This changes the amount of land available for other multiple uses. The addition of this area when considered with the other changes to public lands in the area does not constitute a significant cumulative impact to the public due to its relatively small size, and proximity to U.S. Highway 97.

Alternatives 2 and 3 would alter management direction for Federal lands that otherwise would not take place by changing the standards for scenery and interim management direction for timber sales. The greatest effect to the public would include a significant reduction in scenic and aesthetic values that the public would experience along the roadside, due primarily to the degree of change (from "retention" to

"modification") for the duration.

Also, construction and operation of a weigh and safety station under Alternatives 2 and 3 may also be seen as inappropriate use of National Forest land. Exclusive uses that offset or eliminate other uses of public land, such as microwave sites, pipelines, and other utility corridors are increasingly being challenged.

Alternatives 2 and 3 would also result in the gating of the Forest Road 1801 eliminating public access to the Deschutes National Forest at that point (see also the Access section discussion, page 73). Forest Road 1801 would remain open under Alternative 4. Gating 1801 could shift access to the area by Forest Road 1910 located three mile to the south. The current use on 1801 is very low and shifted use would not result in crowding on Forest Road 1910, a road that provides access to the Newberry National Volcanic Monument.

Alternative 4 (Site 8) would construct a weigh and safety station on existing ODOT property and would not affect the current management or use of Federal lands in the area. Changes in scenic and aesthetic values that the public would experience along the roadside would not be as great as in Alternatives 2 or 3 because the weigh and safety station would be sited closer to visible development.

Wildlife

Affected Environment

A variety of wildlife species and habitats are considered when evaluating the effects of proposed management activities on National Forest lands. These species are often categorized according to their habitat needs or their population status. These categories of species include Management Indicator Species, Species of Concern, and Proposed, Threatened, Endangered, or Sensitive species.

Management Indicator Species (MIS) are those species with special habitat needs that may be influenced significantly by planned management activities; threatened or endangered species on State or Federal lists; species that are hunted fished or trapped; non-game species of special interest; or species that indicate the effects of management for other species within major biological communities.

Species of Concern (SOC) is an informal term that refers to the species the US Fish and Wildlife Service believes might be in need of concentrated conservation acts. The status provides no legal protection.

The Regional Forester for the Forest Service created a sensitive species classification (S) to help prevent species from potentially qualifying for listing as threatened or endangered.

A key indicator of appropriate habitat conditions for many of these species is the northern goshawk. Connectivity between late and old structural stands and northern goshawk designated habitat is provided inside the Kelsey Butte watershed and adjacent watersheds. Although the closest stand classified with

late and old structure is located approximately five miles away and separated by a lava field, a network of connectivity has been maintained between stands that exhibit potential late and old characteristics (Figure 26).

Most of the trees within the project area were harvested and removed in the 1930's before the Forest Service acquired the land. This has resulted in the area being currently deficient in snags and down logs for dependent species.

The following species are known to inhabit or have potential habitat within or immediately adjacent to areas proposed for site location:

Mule Deer: (MIS):

The locations being considered for the South Bend Weigh and Safety Station are in mule deer winter range as defined by the Oregon Department of Fish and Wildlife ([see footnote 38](#)). This area receives moderate to heavy use by mule deer during the winter months (late November through mid April). Deer migrate into and out of this area in an east-west direction moving between higher elevation and precipitation (mainly snow) summering areas south and west of the project area to lower elevation wintering areas, which generally have less snow. Migration movements are constrained to an area approximating four miles in length within the project area between the Lava Butte lava flow in the southern portion of the project area, urban developments including Deschutes River Woods and the High Desert Museum to the north, and the Burlington Northern Railroad and U.S. Highway 97 to the west.

U.S. Highway 97 and the proposed weigh and safety station bisect this portion of the winter range in a north-south direction. U.S. Highway 97 is a major 4-lane highway with high volumes of traffic. Motor vehicle and deer collisions are frequent ([see footnote 39](#)).

ODOT maintenance crews during the period of 1972-1998 indicate that the greatest amount of deer movement across the highway occurs in the southernmost portion of the project area near Lava Butte and the least amount occurs in the northern portion of the project area in proximity of the High Desert Museum and Alternative 4 (Site 8). Considering the area in a south to north direction, 1972-1998 records show there have been 58 recorded mule deer mortalities from motor vehicles around Milepost 149 (Lava Butte), 40 mortalities around Milepost 148, 26 mortalities around Milepost 147 (Alternative 3), 25 mortalities around Milepost 146 (Alternative 3), and 8 mortalities around Milepost 145 (High Desert Museum and Alternative 4). Estimates of deer mortality and motor vehicle and deer collisions are thought to be low due to incomplete and inconsistent reporting and that mortally wounded deer wander away from the roadway.

ODOT is proposing a traffic separation project that would involve the placement of a median barrier. The barrier would begin at Milepost 147, approximately 1/4 mile south of the southernmost site being considered for the weigh and safety station, and end at Milepost 150. Proposed materials for construction are a combination of solid cement barriers that are approximately 36 inches high and a box

beam, which has a design similar to a guardrail.

Raptors: *Northern goshawk (MIS, SOC, S)*, *Cooper's hawk (MIS)*, *red-tailed hawk (MIS)*, *sharp-shinned hawk (MIS)*:

There are no known active goshawk nest sites within 7 miles of any of the areas under consideration for the weigh and safety station. There is a known Cooper's hawk nest site near the proposed location of Alternative 3 (6a) with the potential for disturbance from construction activities. There are no other known raptor nest sites near the project area.

Cavity Nesters: *white-headed woodpecker (S)*, *black-backed woodpecker (S)*, *Williamson's sapsucker (S)*, *pygmy nuthatch (S)*:

Habitat for cavity nesters varies by the amount, location, size, and condition of snags and decaying trees. Much of the area affected by the alternatives is located adjacent to a busy highway and has relatively few snags and therefore does not represent especially high quality habitat. Alternative 3 (Site 6a) has the highest quality habitat for cavity nesters and Alternative 4 has the lowest. This is due to the number and size of trees present on the site that could potentially become future snags.

Bats: *small-footed myotis (SOC, S)*, *long-eared myotis (SOC, S)*, *long-legged myotis (SOC, S)*, *fringed myotis (SOC,S)*, *pale western big-eared bat (SOC, S)*, *pallid bat (S)*, and *silver-haired bat (S)*:

Habitat used by bats for day roosting, hibernation, and as maternity sites is very limited in the project area. There are no known caves, mines or buildings in the immediate vicinity (within 1/4 mile) of any of the action alternatives. Large rock outcroppings throughout the area provide potential roosting habitat. The proposed location for Alternative 2 has some of these outcroppings near the planned exit ramp for the facility. To determine the presence of roosting bats in this area, a nighttime survey was conducted July 27, 2000. The survey involved observation at dusk looking for emergence of bats from the rock outcroppings and/or foraging in the immediate area. The AnaBat II bat detector, a device used to detect the ultrasonic echolocation signals of bats was used after dusk to determine the presence of bats. No bats were observed emerging from the rock outcroppings. A single bat was detected with the AnaBat II foraging in the area.

Note: In November of 2000, the western big-eared bat was not included in the R-6 Regional Forester's list of sensitive species. This is a change of status between the Draft and this Final Environmental Impact Statement.

Other species: *olive-sided flycatcher (SOC, S)*, *western gray squirrel (S)*:

The quality of habitat for the western gray squirrel is low due to low levels of snag habitat, down logs, and woody debris used by the western gray squirrel for nesting, hibernation, and food storage (middens).

Alternative 1 - No Action

Implementation of Alternative 1 would have no direct, indirect or cumulative effects to any of the wildlife species listed above. The general use of the area would continue to provide a forested environment for raptors, cavity nesters, bats and mule deer. The amount of habitat provided would not change as a result of this action. Habitat quality ([see footnote 40](#)) for all species would continue to be low due to the proximity to U.S. Highway 97. Over time, habitat quality for bats and cavity nesters would improve as snag habitat is developed by tree mortality caused by wind and snow damage, insects, disease and fire. The rock outcroppings located at Alternative 2 (Site 7) would continue to provide potential habitat for bat species. Migration and movement of mule deer in the area would continue to be affected by traffic on U.S. Highway 97 and rural and residential developments. Mortality from motor vehicle/deer collisions is expected to increase over time as traffic increases on U.S. Highway 97. Overall, mule deer winter range habitat quantity and quality in the area is expected to decrease over time as the population of Bend and rural and residential developments increase.

A proposed traffic separation project including cement barriers between mileposts 147 and 150 would present an obstacle that would make it difficult for drivers to see mule deer crossing the highway and for mule deer to see oncoming traffic. The risk of deer jumping the barriers and into the path of oncoming vehicles would be high.

There are also rural developments, including the residential development of Deschutes River Woods, the High Desert Museum, the Burlington Northern Railroad, and the Lost Tracks golf course that reduce the amount and quality of winter range habitat and constrain areas of deer movement.

Action Alternatives

Although future down logs would be removed adjacent to the proposed sites to maintain a fuel break, an operational requirement (Appendix 6, Wildlife Report) was developed to offset the loss of forested habitat and the deficiency of snags by creating two snags per acre of clearing in adjacent stands.

Mule Deer - Construction of a facility would further fragment habitat in a key migration corridor between the rural developments south of Bend and the lava flow at Lava Butte. Also, construction and operation of the weigh and safety station would increase the distance that mule deer would have to cross, their exposure to traffic, and the risk of a motor vehicle/deer collision. The weigh and safety station would add another lane of asphalt approximately 1/2 mile long by 16 feet wide and create an opening that would have a maximum width that ranges from approximately 123 feet to 175 feet (depending on the alternative). The lane of asphalt and associated clearing would parallel U.S. Highway 97. It would affect mule deer movement by shifting areas of movement across the highway away from the scale building to either end of the weigh and safety scale site. Activities associated with operation of the facility, as well as vehicles entering and exiting the weigh and safety station increase the risk of startling deer across the highway into the path of oncoming vehicles.

The cumulative effects of high volumes of traffic on U.S. Highway 97, residential and rural developments, the proposed weigh and safety station locations, and the proposed median barrier project are expected to result in increased numbers of motor vehicle/deer collisions and deer mortalities between Mileposts 144.5 and 150. The exit lane from the highway to the facility would begin approximately 1/4 mile north of the traffic separation project. In the Utah study, *Mule Deer-Highway Mortality in Northeastern Utah: Causes, Patterns, and a New Mitigative Technique*, deer did not immediately cross the highway at the point they entered the road right-of-way (ROW) but moved parallel to the road while foraging within the ROW (Lehnert et al. 1996). The median barrier proposed in the traffic separation project may affect deer movement by "funneling" them towards the location of the weigh and safety station. The weigh and safety station may have a similar effect, "funneling" deer towards the traffic separation project. The two projects in close proximity increase the number of variables and complexity of mule deer movement across the highway, thereby increasing the risk of motor vehicle/deer collisions.

The amount of mortality resulting from the implementation of one of the action alternatives is not predicted or known, but could not be expected to increase significantly due to the relatively small area of influence by siting a facility. The degree to which siting a facility contributes to the cumulative effect of a median barrier and the highway on deer mortality is unknown.

Raptors, Cavity Nesters and Other Species - Implementation of any of the action alternatives would have negligible effects to these species. The amount of habitat affected by any of the action alternatives is small, less than 9 acres (including the fuels treatments), with roughly a quarter of that acreage in the clear zone along U.S. Highway 97. Habitat quality including the amount and distribution of snags as well as disturbance from the highway does not provide for a great deal of utilization by these species.

The proposed locations of the action alternatives would have no effect to the northern goshawk or stands that currently or potentially display attributes classified as favorable habitat. For other raptor species, the potential for disturbance is low. Activity associated with the operation of the weigh and safety station would occur directly around the scale building and is expected to have minimal effects on adjacent forested habitat. Noise levels associated with operation of the weigh and safety station and trucks entering and exiting the scale site are not expected to be much greater than current noise levels from U. S. Highway 97. The greatest potential for adverse effects to raptors is disturbance of the Cooper's hawk nest during construction activities. Disturbance associated with construction could cause nest abandonment and failure. A seasonal operating restriction in place would mitigate any adverse effects caused by construction (Appendix 6, Wildlife Report).

For cavity nesters, snag habitat and nesting opportunities are limited, as stands affected are comprised of relatively young (50-80 year old) ponderosa pine that are growing vigorously. The majority of stands have been pre-commercially or commercially thinned, reducing their susceptibility to insects and disease and the recruitment of snag habitat. To offset the loss of potential nesting habitat for cavity nesting species caused by the clearing of the site, operational requirements would create two snags per acre of forested habitat removed. Snags would be located adjacent to the site, away from the highway.

For other species such as the olive-sided flycatcher, the proposed activities would have minor effects to the prey base (flying insects).

All potential effects would be local and not affect populations or population viability of any wildlife species.

Bats - Implementation of any of the action alternatives would have negligible effects to bats, as roosting habitat in the project area is very limited.

All potential effects would be local and not affect populations or population viability of any bat species. An operational requirement (page 33) was developed to offset the loss of forested habitat by creating two snags per acre of clearing. Results of surveys for bats are listed under the effects unique to Alternative 2 (Site 7).

Effects Unique to Alternative 2 (Site 7)

Bats - Based on the survey, it is not believed that the rock outcroppings at Alternative 2 are extensively used for roosting. Incidental or occasional use of the rock outcroppings may occur and foraging in the area is likely.

Alternative 2 has the potential for slightly greater effects on bats than either of the other alternatives, as it would affect potential bat roosting habitat found in rock outcroppings. Removal of the rock outcroppings would permanently remove potential roosting habitat and may result in mortality of roosting bats. Alternative 2 would also remove the greatest number of trees and affect the greatest amount of forested habitat, reducing the amount of potential habitat for prey species and future roost sites. These losses would be considered irretrievable.

All potential effects would be local and not affect populations or population viability of any bat species.

Mule Deer - The amount of deer movement across the highway and collisions with motor vehicles within the project area is greater than Alternative 4 (Site 8) and lower than Alternative 3 (Site 6a). This alternative, poses a slightly lower risk than Alternative 3 due to the decreased quality of hiding and thermal cover present at the site.

Studies have shown that increased vegetative cover may lead to greater use of the area by mule deer and result in higher risk of motor vehicle/deer collisions. In a Utah study ([see footnote 41](#)), percent vegetative cover was higher in "kill zones" compared to "non-kill zones."

This alternative would cause further fragmentation of mule deer habitat between Lava Butte and the museum. Currently, the closest source of disturbance would be from the High Desert Museum, located approximately 0.7 miles away from the center of the site, and the highway.

Effects Unique to Alternative 3 (Site 6a)

Mule Deer - Alternative 3 is expected to have the greatest effect on mule deer movement across U.S. Highway 97 and to the risk of motor vehicle/deer collisions. Alternative 3 is located in an area of the greatest amount of deer movement indicated by ODOT records of deer mortality. A mitigation measure was developed to increase sight distances for motorists (page ***).

The effects of Alternative 3 are expected to be greater due to an increase in vegetative cover and higher quality hiding and thermal cover in and adjacent to the site. Also, currently, the closest source of disturbance would be from the High Desert Museum, located approximately 1.7 miles away from the center of the site, and the highway. This alternative would cause the greatest fragmentation of mule deer habitat between Lava Butte and the museum since it is the greatest distance from the boundary of National Forest of the action alternatives.

Raptors - Alternative 3 would have slightly greater effects than either of the other two action alternatives. Alternative 3 provides higher quality habitat for the Northern goshawk, Cooper's hawk and sharp-shinned hawk (collectively referred to as accipiters) due to higher tree densities and canopy closure. It is also the closest to the known Cooper's hawk nest and has the greatest potential for disturbance during construction activities. Mitigation measures for accipiters are listed in Appendix 6 (Wildlife Report).

Cavity Nesters - This alternative would remove the greatest number of trees and thus would remove the greatest amount of suitable habitat. All potential effects would be local and not affect populations or population viability of any cavity nesting species.

Effects Unique to Alternative 4 (Site 8)

Mule Deer - Alternative 4 would have the least effect on mule deer movement and risk of motor vehicle/deer collisions. Based on deer mortality data collected by ODOT, motor vehicle/deer collisions and mule deer movement across U.S. Highway 97 are less frequent at this site than at either of the other action alternatives. The reduced amount of deer movement and motor vehicle/deer collisions can be attributed to a lower habitat quality at this site. Habitat in this area is heavily impacted by human development including the highway, the Burlington Northern Railroad, the residential development of Deschutes River Woods, the Lost Tracks golf course and the High Desert Museum. The closest residence in Deschutes River Woods to Alternative 4 is approximately 800 feet west of the proposed entrance ramp to the weigh and safety station. The Burlington Northern Railroad is approximately 500 feet from the proposed exit ramp to the facility, parallels the highway, and is bordered by the Deschutes River Woods subdivision to the west. The High Desert Museum is located approximately 0.7 miles to the south of the center of the site, the Baker Road interchange is approximately one mile to the north, and the Lost Tracks Golf Course is located less than 1 mile to the northeast. The private land immediately adjacent to the weigh and safety scale is currently undeveloped but is zoned by the county as Rural Residential 10 (RR10). It is possible that this property would be subdivided into 10-acre parcels and developed in the

near future, further reducing the quality of deer habitat near the site.

Proposed, Threatened, Endangered and Sensitive Species

Affected Environment for Plants

The nearest known populations of PETS plants to the proposed locations of the weigh and safety facility are populations of the green-tinged paintbrush (*Castilleja chlorotica*), which are located 8-9 miles east and 6-7 miles west of the project area. Another rare plant, Estes' Artemisia (*Artemisia ludoviciana ssp. estesii*) is found 3 miles west along the Deschutes River. The project area contains potential habitat for the green-tinged paintbrush (*Castilleja chlorotica*).

Alternative 1 (No Action)

There would be no weigh or safety station constructed in the foreseeable future on National Forest lands between Bend and Sunriver, Oregon. There would be no change to available forested habitat for these species.

Action Alternatives

A Biological Evaluation to document consideration of Proposed, Threatened, Endangered and Sensitive plants related to the South Bend Weigh and Safety Station project was completed. It is prepared in compliance with the Forest Service Manual (FSM) 2672.4 and the Endangered Species Act of 1973 (Subpart B; 402.12, section 7 consultation). Effects of this activity are evaluated for those species on the current Regional Forester's Sensitive Species List (FSM 2670.44, May 13, 1999) that are documented or suspected to occur on the Deschutes National Forest. Surveys have been conducted and no plant or animal species listed under State or Federal guidelines as Threatened, Endangered, or Sensitive were found.

There are no expected direct, indirect, or cumulative effects to PETS plants or their habitats by implementation of this project.

Affected Environment for Animals

The pre-field review determined that potential habitat of the western big-eared bat (*Corynorhinus townsendii*) is found within the project area. Potential habitat is provided by several rock outcroppings. No other Protected, Endangered, Threatened, or Sensitive species or their habitat are known or suspected to occur within or adjacent to the project area.

Bolded terms such as No Effect and No impact/May Impact are specific findings as a result of consultation Between the Forest Service and the US Fish and Wildlife Service regarding the Endangered Species Act. **No Effect** applies to candidate species including Proposed, Endangered, and Threatened.

No impact/May Impact applies to species listed as sensitive by the Regional Forester for the Forest Service.

Alternative 1 (No Action)

Alternative 1 would continue management of the National Forest lands according to the Management Plans for the Deschutes National Forest and the adjacent Newberry National Volcanic Monument. A permanent weigh or safety inspection station would not be constructed or operated on Deschutes National Forest lands at this time. There would be no clearing of trees or shrubs, rock outcroppings, or construction of a building, or application of asphalt on National Forest Lands.

Action Alternatives

Except for those effects to bats listed under Alternative 2, all action alternatives would have **No Effect/No Impact** to the remaining Protected, Endangered, Threatened, and Sensitive wildlife species.

The project area is outside the range of the Northern spotted owl, is not within a bald eagle management area (BEMA) or near a bald eagle nest or territory, is not within a lynx analysis unit (LAU) or lynx key linkage area (KLA), and does not contain aquatic habitat utilized by the bull trout, mid-Columbia river steelhead trout, or Oregon spotted frog.

The application of herbicide to control noxious weeds may indirectly affect the western big-eared bat by reducing shrub and herbaceous habitat which may in turn reduce the number of flying insects such as moths, beetles, and flies which are prey species of the western big-eared bat. This effect is expected to be negligible, as herbicides would be applied to approximately 1.8 acres in Alternative 2 and 1.5 acres in Alternative 3 in addition to the existing weed populations being treated in the easement under the 1998 Deschutes National Forest Noxious Weed Control EA. The area is similar to that originally analyzed and the environmental effects are expected to be within the range of those discussed within the document. No indirect effects are expected as a result of herbicides accumulating in the tissues of prey species. The herbicides identified for use have a low potential for bioaccumulation and low potential for negative impacts to vertebrate species when used under prescribed application rates. There are no expected cumulative effects.

Effects Unique to Alternative 2 (Site 7)

This alternative **May Impact** the western big-eared bat and/or its habitat but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. A small amount of potential roosting habitat provided by rock outcroppings would be removed and it may result in mortality of individual bats. The amount of potential habitat removed is small (3 outcroppings totaling approximately 1/4 acre) and based on survey does not receive extensive use.

Alternative 2 would have **No Effect/No Impact** to all other Protected, Endangered, Threatened, and

species listed as Sensitive wildlife.

Consistency with County and National Forest Land Use

Affected Environment

Land uses on private lands are subject to the ordinances and zoning regulations established under the Deschutes County Comprehensive Plan and Zoning Ordinances. County Commissioners found Site 8, as submitted, to be not consistent with the County land use ordinances as described in Chapter 2, Issue 5. The proposed activities on National Forest lands, with the exception of a building permit for the site, would not require either a variance or conditional use permit to be issued by the County. However, the sites would all fall within the F1 zone established by the Deschutes County Comprehensive Plan. If the land were private, similar requirements to those governing the F2 zone would apply.

Deschutes National Forest lands are governed by the *Deschutes National Forest Land and Resource Management Plan* that establishes Management Areas similar to county zones; and Standards and Guidelines for activities within those areas that are similar to County zoning ordinances. Land within the proposed project area falls within the Scenic Views Management Area and has a visual Quality Standard of Retention (Landscape Appears Unaltered).

Action Alternatives

The Action Alternatives do not vary significantly in their effects, except in their proximity to private or public lands. The County Commission determined that in the F2 zone, a Conditional Use permit would be required for siting a weigh station. They subsequently ruled on the incompatibility of the use with adjacent private lands because of fire danger, trash accumulation, unmonitored use by the public, and the scenic effect on visitors approaching the High Desert Museum. It can be expected then, that the impacts to public lands zoned F1 located less than two miles of that site would be similar. Given the Commissioner's criteria established in the record, alternatives closer to private lands would be less compatible with land use goals than those farther away from private lands. Under that assumption, Alternative 4 would be the least compatible alternative, with Alternatives 2 and 3 ranked respectively.

Under the Deschutes National Forest Plan, only the land area included in Alternatives 2 and 3 are regulated by Standards and Guidelines of the Forest Plan. Denial by the county commission of the original site proposal established the need to analyze National Forest lands for locating the project. Either alternative on National Forest lands would require a site-specific amendment to the Forest Plan to reduce the scenic quality standard. Although the level of impacts identified on lands adjacent to the proposed sites in this analysis differs from that identified by the County, similar effects on adjacent public lands to those on private lands can be expected by the operation of the weigh station. Consequently, the greatest impact to National Forest land use consistency occurs where that use most fragments the forest landscape, and where that use is likely to have the greatest impacts on the visitor experience to the NNVM. Under that assumption, Alternative 3 would be ranked as the least compatible

alternative, with alternatives 2 and 4 ranked respectively.

Vegetation

Affected Environment

Forest vegetation is dominated by ponderosa pine (*Pinus ponderosa*). Common shrubs include bitterbrush (*Purshia tridentata*) and manzanita (*Arctostaphylos patula*). Understory plants include grasses such as Idaho fescue (*Festuca idahoensis*), needlegrass (*Stipa occidentalis*), and various herbaceous plants.

Early descriptions of the area in 1800 era land survey notes describe large open grown "park-like" ponderosa pine with an understory dominated by grasses. An Historic Range of Variation analysis for the Kelsey Butte watershed determined that 65-90 percent of the area was dominated by large-sized trees. Prior to the forest Service acquiring the land in the 1930's, the area experienced a period of intensive timber harvest that removed most of the large trees by railroad and conventional logging methods. The Forest structure is now primarily single-storied with medium sized trees ranging from 9" to 20.9" in diameter at 4.5 feet, 40' to 70' feet high. A lesser component of small pole-sized trees range from 5" to 9" in diameter at 4.5 feet. Exclusion of low intensity fires, that historically occurred every 4 to 20 years, has also changed forest structure. Currently, the project area stands of trees do not display characteristics of late and old structure (LOS) ([see footnote 42](#)). Figure 26 displays current abundance and potential for late- and old-stand characteristics in the area.

There are no areas classified as riparian within the project area. The closest stream, pond, lake, reservoir, seep, spring, or bog is the Deschutes River approximately three miles to the west.

No rare plants have been found in the project area. Noxious weed populations including spotted knapweed and dalmation toadflax are common along the U.S. Highway 97 corridor and threaten native plant habitats. The U.S. Highway 97 roadside was previously analyzed under the Deschutes National Forest Noxious Weed Control Environmental Assessment, September 1998. The relative site to this analysis was identified as Site #6130001, Map #214. Weed control efforts are currently reducing existing noxious weed populations.

In Central Oregon, there are presently biological control agents (insects) that have been introduced in accordance with the Oregon Department of Agriculture to control weed populations and in some cases are widespread. They were introduced where they were the most effective treatment for selected species, and in places where herbicides either could not be used, or were not prudent to apply.

Effects on Vegetation

Alternative 1 (No Action)

Forest vegetation would experience no changes due to Safety and Weigh Station construction. Noxious weeds would continue to be spread by vehicles traveling U.S. Highway 97. The roadside in the project area would continue to be sprayed annually with herbicides under the direction of the Deschutes National Forest Noxious Weed Control assessment until 2003 when it will be reevaluated to determine if further treatments are needed.

Action Alternatives

All action alternatives would result in the removal and an irretrievable loss of forest vegetation and native plant habitat. Approximately 450 trees would be removed in Alternative 2 (Site 7) and 400 or less in Alternatives 3 (Site 6a) and 4 (See Table 2). A limited number of larger trees (over 21" in diameter at 4.5 feet) would be removed because few exist in the project area (Table 2). The action alternatives would have no measurable effect to current late- and old-structure (LOS) or future attainment because the stands currently do not display those attributes and because of the relatively small size and location of the clearing activities.

Most of the trees removed would be medium sized trees (9-20.9" in diameter at 4.5 feet) and pole and small sized trees (5-9" in diameter at 4.5 feet). Alternatives vary slightly in how much area would be impacted by the station footprint (habitat lost to paving or gravel such as ramps, parking areas, and the building). Alternative 4 (Site 8) has the largest footprint (5.6 acres), followed by Alternative 2 (Site 7) at 5.3 acres and Alternative 3 (Site 6a) at 5.1 acres. This includes an additional 0.5 acres for the staging of construction equipment and materials outside the station footprint.

Table 2. Approximate Number and Size of Trees to be Removed in the Action Alternatives

	Alternative 2	Alternative 3	Alternative 4
8-20.9" Diameter	430	360	386
21" or Greater	14	22	14
Total	444	382	400

All action alternatives have a high risk of spreading or enhancing existing noxious weed populations that exist in the immediate area through ground disturbance in the construction footprint, staging areas, and associated impacts such as power and communication line installation. Alternative 3 (Site 6a) has the greatest potential because it would have the most roadside disturbance for power and communication line installation, as well as the largest existing weed population. The potential is lessened in

Alternative 2 (Site 7), with Alternative 4 (Site 8) the least. Weed risk can be partially mitigated by construction practices, replanting competing vegetation, and early weed detection and control (Appendix 5, Revegetation Plan; Noxious Weed Assessment).

Risk of spreading or introducing new populations of weeds can also be elevated by thinning and mechanical shrub treatment activities related to fuels reduction.

Indirect effects of the action alternatives include the potential for noxious weed introduction by trucks that stop or park in the completed weigh station area and dislodge and leave seeds. New weeds from other areas could be introduced and spread as vehicles travel through the weigh station. This effect can be partially mitigated by monitoring for new weed starts. It is possible the station could become a new source and vector for the spread of weeds, despite all efforts.

There is a potential need for application of herbicides or biological controls at the site, if prevention and early detection methods fail. Alternatives 2 and 3, since they are located on National Forest lands, could potentially be sprayed coincident with, and adjacent to, the site analyzed in the 1998 Deschutes National Forest Noxious Weed Control Environmental Assessment (Noxious Weed EA). The additional treatment area would extend farther back into the forest beyond the road prism area that was originally analyzed. Assuming the road prism extends 20 feet from the pavement, in Alternative 2, it would extend back 134 feet (or approximately 1.8 acres) beyond the original analysis in the Noxious Weed EA. The area is similar to that originally analyzed and the environmental effects are expected to be within the range of those discussed within the document.

The Noxious Weed EA found that there would be no significant environmental effects to water quality, visual resources, recreation, and threatened, endangered, or sensitive wildlife, fish, invertebrate, or plant species if applicable mitigation measures were followed. For a list of approved herbicides, biological controls, and mitigation measures see Appendix 5.

There was a potential for short-term disturbance from manual treatments to Management Indicator Wildlife species, especially nesting raptors, which would be mitigated (Appendix 6, Wildlife Report). A slight direct risk was identified to wildlife species from the application of herbicides. Herbicide treatments were identified to have some minimal effects on the soil resource and manual treatments were identified to have generally beneficial effects to soil by contributing biomass for decay and eliminating competition for native plant species.

Other effects for control measures with herbicides are discussed in further detail in the Noxious Weed EA. This analysis incorporates all the analysis and applicable mitigation measures found in the document.

Table 3. Summary of Effects to Vegetation Under Implementation of the Action Alternatives

ATTRIBUTE/ MEASURE	Alternative 2	Alternative 3	Alternative 4
Forest and Plant Habitat			
Irretrievable loss of forest and plant habitat /Footprint size	4.8 acres	4.6 acres	5.1 acres
Number of trees cut/ Estimated from aerial photos	Approximately 450	Less than 400	Less than 400
Number of large trees cut (greater than 21" DBH)	14	22	<14
Volume of timber removed (Thousand Board Feet)	25	25	25
Noxious Weeds			
Existing adjacent weed populations (Approximate)	Intermediate population (1,000-2,000 spotted knapweed plants)	Largest population (5,000-10,000 spotted knapweed and dalmation toadflax plants)	Smallest population (100 or less knapweed plants)
Distance of trenching to install power and communication	2.7 miles	3.2 miles	1.2 Miles
Amount of fill dirt from outside the project area	2,420 cubic yards	7,425 cubic yards	0 cubic yards

Noxious weed potential for establishment/enhancement	Intermediate risk	Most risk	Least risk
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The cumulative effects of the action alternatives would include the irretrievable loss of approximately 5 acres of forest vegetation and plant habitat in the subwatershed (Lava Butte) on public lands in conjunction with past actions. These include the construction and paving of the highway, widening of the turning lane off of U.S. Highway 97 onto County Road 40 (Sunriver exit) and approximately 5 acres of paving and construction of Lava Lands Visitor Center. There are no other reasonable foreseeable future actions on Public lands that would permanently remove plant habitat in the watershed.

None of the sites exhibit the attributes of an old growth forest (e.g., medium/large trees, large woody debris, and canopy layers). Alternatives 2-4 could remove a few trees (22 or less) over 21' in diameter at 4.5 feet. There would be no direct or cumulative loss of stands that currently exhibit potential old growth characteristics on lands within the subwatershed. Table 3 displays a summary of effects to trees, plant habitat, and risk to the spread of noxious weeds under implementation of the action alternatives.

Access

Affected Environment

Three roads currently are open to the public and access the forest from U. S. Highway 97 within the area of influence of a weigh and safety station:

1. The entrance road to the High Desert Museum at Milepost 145.05
2. Forest Road 1801 at Milepost 145.25. This road receives very low use and serves primarily as defensible access for fire suppression.
3. Forest Road 9710 at Milepost 148.40. This road is designed for passenger vehicles and its primary function is to provide access into the Newberry National Volcanic Monument.

Baker Road provides access to the Deschutes River Woods subdivision and Knott Road and is located at Milepost 143.45.

In June 2000, the Oregon Transportation Commission classified this section of U.S. Highway 97 as an "Expressway" with intersecting roads classified as "interchanges." This means, from a public safety perspective, that this

designation provides spacing standards to " . . . provide for safe and efficient high speed and high volume traffic movements." Under this designation, standards for projects that create new highway access require a separation distance of 2 miles between intersecting roads. If projects cannot meet the separation requirements, a study by ODOT that considers vehicle safety, among other criteria, must be completed before a deviation of the standards is allowed. Within the area of consideration, four intersecting roads with U.S. Highway 97 would be of primary concern: Forest Road 9710, Forest Road 1801, the High Desert Museum entrance, and Baker Road interchange.

Alternative 1 (No Action)

Under the implementation of this alternative, no new access would be created on U.S. Highway 97 between Baker Road and Lava Butte in the foreseeable future. Also, forest roads that access the forest from the highway (Forest Road 1801) would not be closed to public entry.

In the foreseeable future, ODOT is proposing a highway median project from Milepost 147 through Milepost 150, which would restrict access onto Forest Road 9710 from the southbound lane on U.S. Highway 97.

The designation of U.S. Highway 97 as an Expressway would not affect existing access, however additional future access would be limited by criteria for approval of an application to ODOT for a new approach. These include standards for spacing consisting of a 2 mile separation between intersecting roads; whether the new approach can meet safety criteria including sight distances, volumes and type of traffic reasonably anticipated for the site, and spacing of vehicles which allow sufficient room to maneuver to existing accesses.

Action Alternatives

Upon implementation of these alternatives, a new access would be created on U.S. Highway 97 between Baker Road and Lava Butte. This would increase the aggregate number of accesses and would limit future proposals for new approaches within two miles of the weigh and safety station.

Alternative 2 (Site 7) would need a deviation from the standard for roads that do not meet the 2-mile separation. This would include the entrance road to the High Desert Museum, which would be approximately 0.7 miles from the end of the closest ramp to the site. Forest Road 1801 would be closed to public use and gated for administrative purposes such as access for fire suppression equipment. Closure of this road would have a minor effect on the public access to the forest, as other roads such as Forest Road 9701

access the area. This road provides the closest public vehicle access from the highway onto the Windlinx and Kerr properties. Closure of this road could reduce the likelihood of trespass onto those properties. Also, the closest ramp in this alternative would be 2.1 miles from Forest Road 9710 and 2.3 miles from the Baker Road interchange.

Alternative 3 (Site 6a) would need a deviation from the standard for the entrance to the High Desert Museum and Forest Road 9710, which are approximately 1.2 miles and 1.6 miles from the site's closest ramp, respectively. Forest Road 1801 would also be closed under this alternative with the same public access and trespass effects as discussed in Alternative 2. The Baker Road interchange would be 2.8 miles from the closest ramp.

Alternative 4 (Site 8) would need a deviation from the standard for the entrance to the High Desert Museum, the Baker Road interchange, and Forest Road 1801 which are approximately 0.2 miles, 0.8 miles, and 0.3 miles from the site's closest ramp, respectively. Forest Road 1801 would remain open under this alternative. Forest Road 9710 would be 3.5 miles from the closest ramp.

Public and Environmental Safety

Affected Environment

More than 95% of motor carrier operations statewide are conducted in a safe and legal manner ([see footnote 43](#)). The non-complying motor carriers who do not keep their equipment or loads in safe conditions increase the risk to public and environmental safety and tend to operate in areas where they know they are less likely to be checked.

U.S. Highway 97 is a well-traveled road. Besides being the third-most important freight route in Oregon, the average number of vehicles per day using U.S. Highway between La Pine and Bend was 14,665 ([see footnote 44](#)) with an average yearly increase of 3.1% since 1995. An average of 1,100 to 1,200 trucks use U.S. Highway 97 daily between La Pine and Bend, Oregon.

Prior to 1996, this portion of U.S. Highway 97 was identified as having one of the highest fatality rates in the State of Oregon ([see footnote 45](#)). The State of Oregon initiated a program called AIM 12 as part of the state safety plan to focus on areas (such as this one) with high truck-related accidents. These are usually in fixed locations where law enforcement can be dispatched.

In Deschutes County, including portions of Highways 20, 26, 31, and 97, there were a total of 181 reported motor vehicle accidents from 1997-1999. Of the 181 accidents, 101 or 56% were attributable to trucks. Approximately one-third of these truck-at-fault accidents occurred on U.S. Highway 97 around Bend. Violations of motor carrier laws have been identified as a primary cause for serious collisions in Central Oregon ([see footnote 46](#)), especially between Bend and Sunriver.

Since 1996, accident rates statewide have remained fairly static due to stepped up enforcement efforts. This has also occurred locally, where the accident rates have been static or slightly reduced. These figures should be considered a success because the number of vehicles using U.S. Highway 97 is steadily increasing.

ODOT maintains a comprehensive computer database for each trucking company in Oregon. From this system, each company can be rated for safety. When a motor carrier receives a violation, it is entered into the database and ultimately affects their safety rating. This can have a monetary effect on insurance premiums and for obtaining bonding. Also, this rating affects the company's ability to obtain a Weigh-in-Motion/Automatic Vehicle Identification transponder, which allows carriers to save time and bypass weigh stations around the State.

The State of Oregon Motor Carrier Enforcement Division randomly deploys portable scales during daylight hours. Currently, the Bend staff uses the scales three days per month divided between Deschutes and several adjacent counties. This equipment is not used on U.S. Highway 97 during the winter due to safety requirements.

Currently, the Deschutes County Sheriff's office has five deputies assigned to check motor carriers on a part time basis, although only two can perform comprehensive inspections. A cooperative agreement with the City of Bend and the State of Oregon allows their costs to be reimbursed. Also, the Bend patrol office of the Oregon State Police has developed a tactical plan that addresses vehicle collisions between Bend and Sunriver to address the high accident rate. Patrols, at times with the aid of aircraft, focus enforcement efforts on commercial vehicles in the area. This is done on a probable cause basis, or where a law officer has reason to believe the truck is operating unsafe equipment. These inspections have probably contributed to a reduction in accidents, but they are performed in a random and incomplete basis due to the lack of a facility.

Alternative 1 (No Action)

Under implementation of this alternative, a weigh and safety station would

not be constructed or operated near this location. Random daylight inspections with portable scales by State Motor Carrier Enforcement Personnel and occasional safety checks by local law enforcement officers when a violator is suspected would continue. Lack of facilities to more consistently check truck safety would result in most violations going unnoticed.

Random inspections are not likely to change the unsafe behavior of some motor carriers, because the financial gain for driving an overweight truck may outweigh the risk of being caught. Many violators enter the Bend area and continue to other locations. It is assumed Central Oregon would continue to have one of the highest violation rates of motor carrier laws in the State ([see footnote 47](#)), resulting in a higher percentage of truck-related motor vehicle accidents placing public and environmental safety at risk.

Action Alternatives

With a comprehensive enforcement program afforded by a weigh and safety station, the expected rate of truck-related traffic accidents should remain at current levels or be slightly reduced ([see footnote 48](#)), given a 3.1% per year increase of traffic. Anecdotal evidence indicates that a highly visible enforcement facility is likely to reduce violation rates. Concentrated enforcement efforts on Horse Ridge (U.S. Highway 20 east of Bend) and Cline Falls Highway (U.S. Highway 126 between Sisters and Redmond, Oregon) have helped contribute towards a decline in violation rates ([see footnote 49](#)).

The Deschutes County Sheriffs office has indicated the department would likely hire two additional traffic team members to staff the weigh and safety station and to aid in truck inspections ([see footnote 50](#)). Chronic violators of motor carrier laws would be caught more consistently ([see footnote 48](#)), providing a financial incentive to maintain a good safety rating with the State of Oregon.

The facilities (including ramps) under each alternative are designed to meet all applicable safety requirements contained in the American Association of State Highway and Transportation Officials (ASHTO) standards. If an ascending grade from the highway into the site cannot be accomplished, then it is desirable to keep the subsequent descending grade into the site at a 3% downgrade (-3.0%) or less. If the descending grade must be more than 3%, then highway exit ramp length must be increased proportionally to safely decelerate all heavy highway vehicles prior to the actual static scale itself. Also, The closest intersecting road relative to the end of the ramps for each action alternative can be used to rate one

alternative as more desirable than another. The differences in ramp designs are highlighted in the following alternative descriptions.

In all action alternatives, good sight visibility from the highway allows sufficient driver coordination for traffic merging maneuvers.

Alternative 2 (Site 7)

The exit ramp from the highway to the facility is the least favorable of the action alternatives. It must be constructed with a -2.9% downgrade, which does not take advantage of an ascending grade to slow trucks with the force of gravity. A vehicle pulling into the station during inclement weather would experience a greater hazard than a ramp with less grade as in Alternative 3 or an uphill grade as in Alternative 4.

In order to meet the highway grade, the entrance ramp from the scale to the highway would be at a -5% descending grade. This is the second most favorable entrance grade of the action alternatives.

In this alternative, the closest intersecting road to each ramp would be Forest Road 9710 to the south, which is 2.1 miles from the end of the exit ramp from the highway to the scale, and the road to the High Desert Museum to the north, which is 0.7 miles from the end of the entrance ramp from the facility to the highway. Forest Road 1810 would be closed in this alternative.

Alternative 3 (Site 6a)

The exit ramp from the highway to the facility must be constructed with a -1.6% downgrade. Although this alternative's exit ramp is less steep than the ramp in Alternative 2 and would be more desirable, neither alternative's exit ramps would be able to take advantage of an ascending grade to use the force of gravity.

In order to meet the highway grade, the exit ramp from the scale to the highway would be a -2% descending grade. This is not as beneficial in utilizing gravity to aid in the vehicle's acceleration as the other action alternatives.

In this alternative, the closest intersecting road to each ramp would be Forest Road 9710 to the south, which is 1.6 miles from the end of the exit ramp from the highway to the scale, and the road to the High Desert Museum to the north, which is 1.2 miles from the end of the entrance ramp from the facility to the highway. Forest Road 1810 would be closed in this alternative.

Alternative 4 (Site 8)

This alternative provides the most favorable topography for trucks exiting off the highway and breaking for the scale. The exit ramp would be constructed with a +1.78% ascending grade and the entrance ramp would initially be a -4.66% descending grade to about a grade of -2.88%.

In this alternative, the closest intersecting road to each ramp would be the entrance road to the High Desert Museum to the south, which is 0.2 miles from the end of the exit ramp from the highway to the scale, and the Baker Road interchange to the north, which is 0.8 miles from the end of the entrance ramp from the facility to the highway.

Costs of Construction

Alternative 1 (No Action)

Funding for construction and operation of a weigh station in Central Oregon would not be needed in the foreseeable future.

Action Alternatives

Construction for the weigh and safety station would begin the summer of 2003. The Weigh-in-Motion devices may not be built on the same timeframe as the facility due to funding priorities. Deschutes County would receive a greater amount of revenue generated by citations issued for motor carrier violations. An indirect effect would be a greater number of vehicles would be placed out of service for violations, requiring drivers to patronize local mechanics and parts supply stores for repairs in order to be allowed back in service.

Two additional deputy sheriffs could be hired for traffic safety and to assist in operation of the weigh and safety station. Federal funds would be used to reimburse these costs.

Cost for construction of the weigh and safety station range from 1.2 million to 1.4 million dollars. All costs displayed are estimates.

Estimated costs for revegetation and noxious weed monitoring/removal until year 2008 totals approximately \$6,000 for all action alternatives.

- Total costs associated with Alternative 2 (Site 7) are estimated to be \$1,200,000.

- Total costs associated with Alternative 3 (Site 6a) are estimated to be \$1,200,000.
- Total costs associated with Alternative 4 (Site 8) are estimated to be \$1,400,000.

Noise

Affected Environment

The closest housing development to the project area is the Deschutes River Woods Subdivision, west of U.S. Highway 97. A measurement of noise was taken in the east yard of a home on Cheyenne Road (within the subdivision) on July 8, 1998 at approximately 1 pm. The measured noise level at this location was 50 decibels (energy averaged decibel level). An example of this level of noise would be a dishwasher running in the next room or average daytime noises in a daytime setting. The sounds consisted of birds, crickets, wind in the trees, and traffic noise from U.S. Highway 97 and Cheyenne Road. The prime noise contributor is the highway traffic noise. U. S. Highway 97 is less than 800 feet from the measured location. Incidental unmuffled engine braking (hydraulic "Jake" brakes) can also contribute to noise levels. This braking is punishable by a \$500 fine (ORS chapter 811, section 9).

A prediction of traffic noise associated with the proposed weigh and safety station at the closest site to houses (Alternative 4, Site 8) based on current peak hour traffic conditions indicates an increase of 1 decibel, which is a level considered not perceptible. An increase of up to 3 decibels is considered not noticeable, while an increase of 10 decibels is considered a doubling of the noise. According to Federal Highway Administration guidelines, normal speech three feet away measures approximately 62 decibels. The acoustics predicted for the weigh and safety scale would be far below the noise level of 65 decibels, which is typically the level where noise begins to interfere with speech. Also present is the Burlington/Northern Railroad tracks on which trains run 3-4 times a day. During times the train passes by, it would be the prime noise contributor ranging from 65-80 decibels or greater from the measured location.

Highway traffic is expected to increase at a rate of 3.1% per year. A prediction of the peak noise hour traffic data for the year 2017 indicates an increase of 4 decibels, which is considered noticeable in an outdoor environment but still below levels considered a noise impact.

The measured location was chosen because it is nearer to the proposed sites and the highway can be seen. While traffic noise is evident at this location, it is considered relatively quiet by Federal Highway

Administration guidelines for an area with the presence of a major highway. Adjacent homes with greater topographic shielding from the highway would experience less traffic noise from the measured location.

Alternative 1 (No Action)

In this alternative, a weigh station would not be constructed or operated near this location. Existing levels and trends in traffic-related noise as described in the affected environment would continue.

Action Alternatives

The weigh and safety station is expected to have between 50-60 trucks per hour using it while in operation ([see footnote 51](#)). The closest site to the measured location would be the exit ramp associated with Alternative 4 (Site 8), which is located 800 feet from the measured location. A Department of Transportation study indicates vehicles accelerating from a dead stop to 35 miles per hour in 100 feet generated 5 decibels higher than the same vehicles operating at highway speeds. To predict the traffic noise contribution from the ramps, a speed of 55 mph was used and an additional 5 decibels was added to the traffic noise contribution at the ramp. Based on the exposure to the roadway at the measured location and a distance of 800 feet to the ramp, the noise level contribution is expected to be 1 decibel. This additional noise added to the expected increase of 4 decibels by the year 2017 would cumulatively total 55 decibels, a level below the noise impact criteria of 65 decibels. The ramps for the other alternative sites are located at distances further from the measurement location than that of Alternative 4, so the noise effects associated with Alternatives 2 and 3 would be less.

Since the use of unmuffled engine braking (hydraulic "Jake" brakes) is illegal, the operation of the safety and weigh station is not expected to contribute to this potential activity. The operation of the station may have the opposite affect and reduce current incidental unmuffled engine braking.

Other houses and the High Desert Museum are located further from the roadway centerline and the exit/on ramps of the proposed weigh and safety stations than the measurement site. Field observations indicate they also have greater topographic shielding. Noise levels at these areas are expected to be lower.

Hazardous Materials

Affected Environment

Currently, there is a daily average of between 1,100 and 1,200 trucks using the U.S. Highway 97 corridor between La Pine and Bend. It is estimated that 2%, or a daily total of 23 of these trucks carry materials classified as hazardous ([see footnote 52](#)).

Alternative 1 (No Action)

A permanent weigh and safety station south of Bend and north of La Pine, Oregon would not be constructed in the foreseeable future. A truck carrying hazardous materials and traveling in an unsafe condition would not be checked on a consistent basis and would be stopped by law enforcement officers if a motor carrier violation was observed or probable. This alternative would allow greater opportunity for an unsafe truck or driver to travel through Central Oregon unchecked, posing a greater risk of a spill of hazardous materials.

Action Alternatives

Implementation of any of the action alternatives would construct a permanent weigh and safety station to consistently check a percentage of trucks between 32 and 40 hours per week on a random basis. It is more likely that unsafe drivers passing through Central Oregon would know about the possibility of being checked and would either remedy their violations before reaching the check point, or would select an alternative route.

The truck inspection and parking area would be designed to control leaks of hazardous materials, should one occur while being inspected. The parking and inspection area at the facility would be paved and surrounded by gravel to facilitate containment. In the event of a spill, emergency services (911) would be contacted prompting notification of the Area 4 Maintenance Manager for ODOT and a response from the nearest Hazmat team in Redmond, Oregon.

Normal leakage of oils from trucks that stop at the weigh and safety station is expected to be no greater than found on the highway from everyday vehicle use. Drainage for all sites is anticipated to be minimal. Standard roadside ditching would carry water away from the site. The scale pit would have a sump drain to remove collected water.

Geology/Soils/Unique Land Forms

This area is a geologically young volcanic region consisting of numerous outcroppings of basalt rock. These outcroppings represent a geologically

significant feeder channel for a lava flow from the Newberry Caldera. Construction of the facility for Alternative 2 (Site 7) would remove approximately less than 1/4 acre of these outcroppings.

The action alternatives would detrimentally compact and pave with asphalt approximately 5 acres of this soil. Loss of soil would be an irretrievable commitment for the time period the asphalt remains in place.

Construction activities would create an unknown amount of short-term dust. This would be an irreversible commitment and would last the duration of construction activities (approximately four to six months) dependent upon soil moisture conditions.

Currently, there are no claims or expressed interest for minerals or rock within one mile of the area surrounding the action alternatives.

Cultural Resources

An appropriate inventory has been conducted for this undertaking and no properties eligible for the National Register for Historic Places (NHRP) have been located; therefore, the undertaking meets the criteria given in Stipulation III.B.1 of the Programmatic Agreement among the USDA Forest Service, the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer. There would be no known direct, indirect, or cumulative effects to these resources.

Air Quality

Bend, Oregon is currently in attainment of State of Oregon air quality standards. Construction or operation of the proposed weigh and safety station is not expected to adversely affect air quality. Some dust associated with construction activities would be considered short-term for approximately four to six months in the summer of 2003. Slash and cleared vegetation would either be chipped and utilized on site, or removed to another site where it would be disposed of under air quality guidelines implemented by the State of Oregon. See the heading "Incomplete and Unavailable Information" on page 96 for a discussion on the effects of mobile emissions.

Civil Rights / Environmental Justice

Civil Rights legislation and Executive Order 12898 (Environmental Justice) direct an analysis of the alternatives as they relate to specific subsets of the American population. The subsets of the general population include

ethnic minorities, disabled people, and low-income groups. The purpose of the analysis is to determine whether adverse civil rights impacts are anticipated on an underrepresented population. The analysis is to determine also whether disparate or disproportionate impacts associated with the alternatives are anticipated. A primary purpose of the alternatives is to provide for the health and safety of all members of the public by insuring safe operation of commercial carriers. Provision of these benefits does not discriminate between subsets of the general population. Inspection of commercial carriers could disproportionately affect individuals in low-income groups if they cannot afford transponders to use Weigh-in-Motion facilities. These carriers may incur longer inspections and weighing times at the stations. The average length of time a carrier spends in the weigh and safety station while in inspection mode is estimated to be 30 minutes. Therefore, these potential disparate effects are small. For these reasons, Alternatives 2, 3 and 4 would not pose disproportionately high or adverse effects to minority communities or to low income groups.

Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands)

Executive Orders 11988 and 11990 direct Federal agencies to avoid, to the extent possible, both short-term and long-term adverse impacts associated with the modifications of floodplains and wetlands. There are no areas adjacent to the proposed weigh and safety station locations that would be considered a wetland or within a mapped floodplain. All alternatives have no specific actions that would affect these resources. Proposed activities in Alternatives 2, 3 and 4 are compliant with the orders and USDA Departmental Regulation 9500-3.

Prime Lands

There are no lands within the project area that are classified as prime timber, farm or rangelands. Proposed activities in Alternatives 2, 3 and 4 would not change areas classified as prime forestland. There would be no direct, indirect, or cumulative adverse effect to these resources and thus are in compliance with the Farmland Protection Act and Departmental Regulation 9500-3, "Land Use Policy."

Energy

All of the action alternatives would result in increased energy use. This increase is primarily associated with fuel consumption required for acceleration upon leaving the weigh and safety station. The average number of vehicles leaving the station is estimated to be 50-60 per hour during

the hours of operation as a weigh station. This amount may decline as more operators use Weigh-in-Motion. The fuel consumption will vary by action alternative with Alternatives 2 and 4 having the least impact with steeper descending grades to the highway, allowing gravity-based fuel reduction to thus be employed. Other energy uses include lighting and heating of the facility.

Incomplete and Unavailable Information

Predictions of effects were made with the most current information available. The following information is either unavailable or incomplete.

Air Quality

While emissions from on-road vehicles have been studied for many years, differences of opinion still exist for the best approach to quantify these emissions. No practical direct method exists for estimating mobile emissions (e.g. the increase in release of hydrocarbons and particulate matter from diesel engines while idling versus operating at peak performance). The information would be too costly to obtain because there are no current models that can give reliable estimates given the range of variables, such as locality-specific information including weather and topography, engine model and efficiency, and even the differences in the fuels.

While in operation, the proposed weigh and safety station is expected to have between 50-60 trucks per hour using it, ranging from 32-40 hours per week. The average wait would be less than one minute while the truck is idling. Given the current number of trucks and the length of time that they idle at stoplights and patronize businesses in Bend, the increase in hydrocarbon and particulate matter from trucks idling while waiting to be inspected at the facility is expected to be relatively minor. Weigh-in-Motion technology is expected to reduce the number of trucks required to visit the facility in the future.

Pavement Deterioration Rates

A measure of the rate of pavement damage attributed to overweight vehicles was not obtainable for this portion of U.S. Highway 97. Although there are reliable estimates on the number of trucks using the roadway, there are no estimates available on the number of overweight trucks now using the highway. The former truck scale in Bend near Baker Road in the northbound lane of U.S. Highway 97 had an overall citation rate of 2.9 percent from 1989-1993. It is assumed that rates of overloaded trucks increase when there is no likely chance of being weighed, especially when local traffic

is a factor.

Another unknown is the weight distribution on a vehicle. All vehicles, including passenger cars, contribute to the deterioration of the roadway. The rate of road damage is largely due to the number of axles on a vehicle, and this factor can vary. A Federal Highway Administration memo dated February 9, 1998, cites the difference of damage between single axle and tandem axle loads. One each 30,000 pound single axle is equivalent to eight 18,000 pound axles passing over the same surface of road. The relationship between weight and pavement damage follows a geometric relationship. This means that overloading at a rate of 10% generates approximately 40% in additional pavement damage.

A common pattern is evident in all the studies on overloading conducted to date ([see footnote 53](#)). As the number of trucks overloading increases, the amount by which these trucks overload increases as well. This causes far greater road damage than predicted.

During the 1977-1978 congressional hearings on the impact of overloads on the Highway Trust Fund, it was reported that the Interstate system was wearing out 50 percent faster than it could be replaced due to a number of factors, one of which was overloaded trucks. Strict weight enforcement was deemed essential to preserve the roads, and the Surface Transportation Assistance Act of 1978 followed, which allowed penalties to be imposed on states that did not comply with weight enforcement programs. A Federally funded study in 1990 indicated that overloaded truck axles costs between \$160,000,000 and \$670,000,000 per year in pavement damage nation-wide ([see footnote 54](#)).

In a model developed by researchers in Idaho, the benefit in prevented pavement damage can be estimated for a Port of Entry weigh station in a typical interstate application ([see footnote 55](#)). This study indicated that a single weigh station, with an area of coverage of 160 miles would prevent approximately \$46,000,000 in pavement damage over the average lifespan of 10 years. Unfortunately, some of this damage is transferred to secondary roads surrounding the weigh station by evading trucks.

Mule Deer Mortality

The amount of mule deer mortality is not predicted or known, but could not be expected to increase significantly due to the relatively small area of influence by siting a facility. The degree to which siting a facility contributes to the cumulative effect of a median barrier and the highway on deer mortality is unknown.

Unavoidable Adverse Impacts

Scenic Quality

The sites, including the Weigh-in-Motion/Automatic Vehicle Identification system and the associated six signs would be noticeable and visible on a stretch of highway that currently has very few signs of development fronting the highway. There would be very little vegetative screening provided along the highway.

The Visual Management System objective of "Retention" would not be met. Although Alternative 4 is on State-owned lands and not subject to Federal standards, the effects are similar to Alternatives 2 and 3 where Visual Management System objectives of Retention (High Scenic Integrity) would not be met.

Topographic Features

Alternative 2 and Alternative 4 would change the natural topography the greatest. In Alternative 2, large basalt outcroppings would be removed or altered to accommodate the exit ramp for the facility. In Alternative 4, extensive grading of a topographical feature adjacent to the highway to accommodate a level site for the facility would result in being the most dominant/discordant view from the highway of the action alternatives. This is due to the site elevation above the highway, the amount of excavation required, and the lack of vegetation surrounding the site.

Wildlife Habitat

Construction of a facility would further fragment habitat in a key migration corridor between the rural developments south of Bend and the lava flow at Lava Butte. Also, construction and operation of the weigh and safety station would increase the distance that mule deer would have to cross, their exposure to traffic, and the risk of a motor vehicle/deer collision. Activities associated with operation of the facility, as well as vehicles entering and exiting the weigh and safety station, coupled with their unpredictable nature, increases the risk of startling deer across the highway into the path of oncoming vehicles.

The cumulative effects of high volumes of traffic on U.S. Highway 97, residential and rural developments, the proposed weigh and safety station locations, and the proposed median barrier project are expected to result in increased numbers of motor vehicle/deer collisions and deer mortalities between Mileposts 144.5 and 150.

Alternative 2 has the potential for slightly greater effects on bats than either of the other alternatives, as it would affect potential bat roosting habitat found in rock outcroppings. Removal of the rock outcroppings would permanently remove potential roosting habitat and may result in mortality of roosting bats. Alternative 2 would also remove the greatest number of trees and affect the greatest amount of forested habitat, reducing the amount of habitat for prey species and future roost sites. An operational requirement (Appendix 6, Wildlife Report) was developed to create snags in adjacent stands to provide additional habitat immediately to offset the loss of forested habitat in the long-term.

Effects On Other Plans

Deschutes National Forest Land and Resource Management Plan Amendment

Alternatives 2 and 3 propose a site-specific amendment to change the visual quality standard of the Visual Management System from Retention (High Scenic Integrity) to Modification (Low Scenic Integrity). The amendment would be applied specifically to the site, the Weigh-in-Motion mechanism, and associated signs.

A visual quality standard of Retention requires management actions that create visible changes to be undetectable to the forest visitor (Forest Plan, M9-4). In foregrounds, opening sizes would range from 1/4 acre to 2 acres (M9-10). A visual quality standard for "modification" would allow management activities to be visually apparent to the casual observer and to become dominant in the landscape ([see footnote 56](#)).

This amendment to the Forest Plan would not significantly change the forest-wide impacts disclosed in the 1990 Environmental Impact Statement for the Deschutes National Forest. Pursuant to 36 C. F. R. 219.10(f), Forest Service Manual 1922.5, and Forest Service Handbook 1909.12, Chapter 5.32, the Forest Plan amendment is not significant based on the following:

Timing

This amendment would take place before the next revision of the Forest Plan. The Forest Service Planning Handbook (1909.12, 5.32) indicates that a change is less likely to result in a significant plan amendment if the change is likely to take place later in the Forest planning cycle. This plan amendment is occurring in the 10th year of the Forest Plan.

Location and Size

The smaller the area affected, the less likely the change is to be a significant change to the Forest Plan. The Deschutes National Forest is comprised of 1.6 million acres, 126,500 allocated to Scenic Views "Retention." This amendment affects approximately 5 acres, less than 0.004% percent of these designations on the Forest. The size and the relationship of this area along U.S. Highway 97 to the remaining Deschutes National Forest lands would be considered insignificant

Goals, Objectives, and Outputs

An action is more likely to be a significant Forest Plan amendment if it alters the long-term relationship between the levels of goods and services projected by the Forest Plan. There would be no significant changes to the total level of goods and services projected by the Forest Plan under implementation of any of the action alternatives. Alternatives 2 and 3 are located within a management area identified as suitable for timber harvest. Implementation of these alternatives would not have a measurable effect on the Allowable Sale Quantity, as the 1990 Plan lists approximately 841,100 acres suitable for harvest and removal of approximately 5 acres (associated with the construction of the facility) would reduce this acre figure by .00059 percent.

Management Prescription

A change is more likely to require a significant amendment if it would apply to future decisions throughout the planning area. This amendment applies only to the South Bend Weigh and Safety Station, Weigh-in-Motion equipment, and associated signs. It would not affect future decisions in the planning area.

Newberry National Volcanic Monument comprehensive Management Plan

All alternatives considered would be consistent with this plan.

Interior Columbia Basin Ecosystem Management Project (ICBEMP)

The ICBEMP Draft, Supplemental Draft, and Final EIS have completed a public comment period. Those documents present a range of alternative approaches to management of public lands that emphasize protection of late and old forests, fisheries and riparian habitats, and connectivity of wildlife habitats between strongholds of late and old forests. Currently, management direction under the Deschutes National Forest Plan as amended by the Regional Forester Amendment #2 for the Revised Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales also establishes this emphasis on Deschutes National Forest lands. The Final Environmental Impact Statement for the South Bend Weigh and Safety Station has identified the effect of the

alternatives on those environmental components. None of the alternatives considered within this analysis would preclude implementation any of the alternatives being considered within the scope of the ICBEMP.

[Deschutes and Ochoco National Forests Website](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/chap34weighsta.html)

[http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/
chap34weighsta.html](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/chap34weighsta.html)

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List of Preparers

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Experience: Twenty years of experience with the Forest Service. Environmental Coordinator and National Environmental Analysis Instructor, 1990-2000. Project Planner, 1982-1989. Timber Sale Preparation 1978-1981.
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B.A., Studio Art (Sculpture), Mount Holyoke College
Experience: Licensed Landscape Architect. Twenty years experience in master planning and design for urban/rural communities, watershed restoration, scenic byways, recreation facilities, and interpretive sites. Chairman, State Board of Architects. Bend Development Board.
- Richard Phillips** Economist
Education: B.S., Forest Science, 1975, Colorado State University.
Graduate studies in Forest Economics, 1977-79, Colorado State University.
Experience: Twenty years experience with USDA Forest Service. Eight years as Operations Research Analyst/Economist on National Forest and regional planning teams and 12 years as Regional Economist, Pacific Northwest Region.
- Bruce Ward** Motor Carrier Enforcement District Manager
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- Neal Chavre, PE** ODOT Project Coordinator

- Education:** B.S. Civil Engineering, 1994- WA St. University
- Experience:** Six years with the Department of Transportation as a construction inspector, designer, and project coordinator. Registered as a professional engineer in the State of Oregon.
- Don Zettel** Archaeologist
- Education:** AA, Fullerton College, Social Sciences 1983.
BA in Anthropology, UCLA, 1985,
2 years graduate work, University of Montana, (no degree).
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- Peter Russell** Senior Development and Review Planner
- Education:** B.S., Journalism, 1981, Arizona State University;
M.A. 1986, Geography, Arizona State University
- Experience:** Six years experience in transportation and land use planning with Oregon Department of Transportation, 1994-2000. Assistant Professor of Geography, Eastern Oregon State College, 1990-1994. Several published articles. Reporter and chief copy editor for Mesa Tribune, Tempe Daily News, Scottsdale Daily Progress, 1981-1984
- Rich Crossler-Laird** Senior Roadway Design Engineer
- Education:** B.S., Civil Engineering, Oregon State University, 1993
B.S., Art Education, Edinboro State College, 1975
- Experience:** Registered Professional Engineer
Eleven years experience in roadway engineering and design with the Oregon Department of Transportation encompassing a variety of rural and urban projects.
Six years experience as a licensed, professional truck driver.
- Jason E. Neil** Senior Project Manager, Oregon Department of Transportation, Environmental Services Section.
- Education:** B.S. Natural Resource Management, Minor Economics 1996 Colorado State University.
- Experience:** Natural Resource Management experience since 1989. Colorado Division of Wildlife 1989-1991, USFS Redfeather Ranger District 1992-1996, Oregon Department of Transportation 1996 - Present.
- Gini Stoddard** GIS Analyst
- Education:** B.S. Natural Science 1986, Western Oregon State College
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Chris Mickle Team Leader, Currently the Environmental and Special Projects Coordinator for the Bend-Ft. Rock Ranger District on the Deschutes National Forest

Education: Forestry, Bakersfield Community College 1973-75
Engineering, Oregon State University 1977
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Experience: Twenty years with the USDA Forest Service in Fire/Fuels Management, Reforestation/Timber Sale Improvement and Environmental Coordination from 1994-Present.

Kevin Keown Wildlife Biologist

Education: B.S., Wildlife Science, 1991, Oregon State University
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Experience: 10 years experience with the Forest Service on two National Forests: Wildlife Biologist, Deschutes National Forest 1995 - present; Wildlife Biologist, Deschutes National Forest, 1991-1994; Biological Technician, Malheur National Forest, 1989-1991. Work has included project planning, habitat improvement and restoration, wildlife habitat inventory, wildlife survey and monitoring. Other experience includes Research Assistant, Humboldt State University, 1995 and Wildlife Biologist, private consulting firm, 1994.

Lisa Clark Writer/Editor

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Experience: 11 years with USDOJ Bureau of Land Management, Prineville District, in Fire Suppression/Prescribed Burning, Wildlife, Recreation, and Writing/Editing. Two years experience with the USDA Forest Service in Wildlife, Deschutes National Forest, 1999- present. Other experience includes Instructor, Central Oregon Community College, General Science Program (2000 - present).

[Deschutes and Ochoco National Forests Website](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/preparersweighsta.html)

<http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/preparersweighsta.html>

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Glossary

Canopy - The more or less continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth. Layers of canopy may be called stories.

Cavity nesters - Wildlife species, most frequently birds, requiring cavities (holes) in trees for nesting and reproduction.

Conditional Use Permit - An approval process in which Deschutes County reviews projects within their jurisdiction to ensure consistency with County and State land use laws.

Contiguous habitat - Habitat suitable to support life needs of species that is distributed continuously or nearly continuously across the landscape.

Core area - That area of habitat essential in the breeding, nesting and rearing of young, up to the point of dispersal of the young.

Corridor - A defined tract of land, usually linear, through which a species must travel to reach habitat suitable for reproduction and other life-sustaining needs.

Cover - Vegetation used by wildlife for protection from predators, or to ameliorate conditions of weather, or in which to reproduce. May also refer to the protection of the soil and the shading provided to herbs and forbs by vegetation.

Cultural Resources - The remains of sites, structures, or objects used by people in the past; this can be historic or prehistoric.

Cumulative effects - Those effects on the environment that result from the incremental effect of the

action when added to the past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

dbh - diameter at breast height; the diameter of a tree measured 4.5 feet above the ground on the uphill side.

Dead and down woody material - All woody material, from whatever source, that is dead and lying on the forest floor.

Developed site - An area with facilities specifically constructed for public recreation purposes.

Developed recreation - Recreation that requires facilities (buildings, parking, picnic tables, etc.) which, in turn, results in concentrated use of the area.

Dispersal - The movement, usually one way and on any time scale, of plants or animals from their point of origin to another location where they subsequently produce offspring.

Dispersed recreation - Recreation that does not occur in a developed site.

Dispersed site - A user-created recreation site with no facilities.

Diversity - The variety, distribution, and abundance of different plant and animal communities and species within an area.

Ecosystem diversity - The variety of species and ecological processes that occur in different physical settings.

Ecosystem - A unit comprising interacting organisms considered together with their environment (e.g., marsh, watershed, and lake ecosystems).

Endangered species - A plant or animal that is in danger of extinction throughout all or a significant portion of its range. Endangered species are identified by the Secretary of the Interior in accordance with the Endangered Species Act of 1973.

Endemic - A species that is unique to a specific locality.

Fine fuels - Fuels such as grass, leaves, draped pine needles, and some kinds of slash which, when dry, ignite readily and are consumed rapidly.

Forb - Any herbaceous plant species other than those in the Gramineae, Cyperaceae, and Junceaceae

families; fleshy leaved plants.

Fragmentation - The process of reducing size and connectivity of stands that compose a forest.

Fuels - Plants and woody vegetation, both living and dead, that are capable of burning.

Ground water - Water beneath the earth's surface that accumulates as a result of seepage from the surface and serves as the source of springs and wells.

Habitat - The place where a plant or animal naturally or normally lives and grows.

Hazard tree - A tree that poses a threat to life or property due to its condition or attitude.

Heavy fuels - Fuels of large diameter such as snags, logs, and large limbs that ignite and are consumed much more slowly than fine fuels.

Hiding cover - Cover used by animals to hide from predators.

Historic Range of Variability (HRV) - The typical fluctuation of processes or functions, and the typical proportions of ecosystem elements in a watershed over a period of time when the ecosystem was not significantly affected by European settlement and management. HRV is the amplitude or minimum-maximum range of "natural conditions."

Ladder fuels - Fuels that allow fire to carry by convection from surface fuels into the crowns with relative ease.

Large Woody Material - Whole or portions of trees, usually with branches and the root wad attached to the bole, which are at least partially submerged and which provide fish habitat.

LOS - Late- and old-structured as defined by Hopkins, et al. in 1992. These include 20-30 large-sized trees per acre greater than 21" diameter at chest height and 3 snags per acre greater than 14" diameter at chest height and/or 10% of the stand with spire tops.

Management Indicator Species (MIS) - an approach to habitat management whereby a selected wildlife species is represented for emphasis because its habitat requirements are similar to a number of other desired species

Migration route - A travel route used routinely by wildlife in their seasonal movement from one habitat to another.

Milepost - A numeric sign post set up to indicate distance in miles from the starting segment of the

highway.

Mitigating measures - Modifications of actions that: 1) avoid impacts by not taking a certain action or parts of an action; 2) minimize impacts by limiting the degree or magnitude of the action and its implementation; 3) rectify impacts by repairing, rehabilitating, or restoring the affected environment; 4) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action; or 5) compensate for impacts by replacing or providing substitute resources or environments.

Model - An idealized representation of reality developed to describe, analyze, or understand the behavior of some aspect of it; a mathematical representation of the relationships under study. The term model is applicable to a broad class of representations, ranging from a relatively simple qualitative description of a system or organization to a highly abstract set of mathematical equations.

Native Plants - Plants that are indigenous to the site, such as ponderosa pine (*Pinus ponderosa*), bitterbrush (*Purshia tridentata*), manzanita (*arctostaphylus patula*).

Natural processes - The major actions or events that regulate or influence the function, structure, composition and pattern of ecosystems and that link organisms and their environment. Examples are wildfire, windstorms, flooding, disease, etc.

Newberry National Volcanic Monument - Created by congress in 1994 (PL 101-52) in order to preserve and protect Newberry's remarkable landforms - and to provide for the conservation, protection, interpretation, and enhancement of it's resources.

Noxious weed - A plant specified by law as being especially undesirable, troublesome, and difficult to control.

OHV - Off-highway vehicle; Any Class I (three wheelers, four wheelers), Class II (4X4s, jeeps), Class III (motorcycles) All-Terrain Vehicle as defined by the State of Oregon.

Opening - A break in the forest canopy; the existence of an area of essentially bare soil, grasses, forbs, or shrubs in an area dominated by trees.

Planning record - A file containing maps, studies, and other materials used in the preparation of this Environmental Impact Statement. All documents incorporated by reference are also part of the planning record. This planning record is available for public inspection and review.

Prescribed fire - The burning of forest or range fuels on a specific area under predetermined conditions so that the fire is confined to that area and fulfills management objectives.

Range of variability (historic range of variability or natural range of variation) - The components of healthy ecosystems fluctuate over time. The range of sustainable conditions in an ecosystem is

determined by time, processes (such as fire), native species, and the land itself.

Recreation Opportunity Spectrum (ROS) - The land classification system that categorizes land by its setting and the probable recreation experiences and activities it affords, based on access, remoteness, naturalness, facilities, social encounters, visitor impacts, and visitor management.

Retention - Visual changes are not noticeable to the casual forest visitor.

Scenic Integrity - The amount of human-caused deviation from form, line, color, and texture in a landscape.

Riparian area - A geographic area containing an aquatic ecosystem and adjacent upland areas that directly affect it. This includes floodplain, woodlands, and all areas within a horizontal distance of approximately 100 feet from the normal line of high water of a stream channel or from the shoreline of a standing body of water.

Sensitive habitats - Include meadows, wetlands, big game winter range areas, big game calving and fawning areas, important ruffed grouse areas, important songbird and waterfowl nesting and foraging areas, and TES wildlife and plant habitats.

Scenery Management System - A newer system used to describe and measure the visual resource. Rather than the older Visual Management System used in the 1990 Deschutes National Forest Land and Resource Management Plan revision, this newer system is based on integration of human values into ecosystem management.

Scenic Byway - A national program that identifies travelways possessing outstanding qualities that exemplify the regional characteristics of the United States.

Scenic Viewshed/Corridor - An area viewed by the public where the main objective may or may not be managed for scenic quality, but scenery is an important component.

Scenic Views Management Area - A management area within the Deschutes National Forest where the goal . . . "is to provide visitors with high quality scenery that represents the natural character of Central Oregon."

Seral stage - One of a series of ecological communities that succeed one another in the biotic development of an area.

Short-term - For this report, usually 10 years.

Single-storied stand - A stand of trees in which the canopy is contained in one layer.

Snag - Any standing dead, partially dead, or defective (cull) tree at least 10 inches in diameter at breast height and at least 15 feet tall.

Snag dependent species - Birds and animals dependent on snags for nesting, roosting, or foraging habitat.

Special Use Permit - Provides for the use and occupancy of the National Forest system by individuals or Federal, State, and local Governments when such use will not detract from specific management area direction, are within the public interest, and cannot reasonably be served by development on non-National Forest System lands.

Species - (1) A group of individuals that have their major characteristics in common and are potentially interfertile. (2) The Endangered Species Act defines species as including any species or subspecies of plant or animal. Distinct populations of vertebrates also are considered to be species under the act.

Species diversity - The number, kind, and relative abundance of species.

Species of Concern - Species of Concern (SOC) is an informal term that refers to the species the US Fish and Wildlife Service believes might be in need of concentrated conservation acts. The status provides no legal protection.

Stand - An aggregation of trees occupying a specific area and sufficiently uniform in composition, age, arrangement, and condition so that it is distinguishable from the forest in adjoining areas.

Suppression - All actions undertaken to extinguish or limit fire growth beginning with its discovery.

Travel corridor - A route followed by animals along a belt or band of suitable cover or habitat.

Understory - The trees and other woody species growing under the canopies of larger adjacent trees and other woody growth.

Violation Rate - In the context of this analysis, includes motor carrier violations such as improper driver fitness, incorrect paperwork, transportation of shipments that are heavier than allowed, and mechanical problems.

Visual Quality Standards/ Visual Management System - Used in the 1990 Deschutes National Forest Land and Resource Management Plan revision, includes categories of acceptable landscape alteration measured on degrees of deviation from the natural-appearing landscape.

Wet meadows - Areas where grasses predominate. Normally waterlogged within a few inches of the ground surface.

Wetlands - Areas that are inundated by surface water or ground water with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that require saturated or seasonally saturated soil conditions for growth and reproduction (Executive Order 11990). Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas.

Wildlife tree - A live tree retained to become future snag habitat.

[Deschutes and Ochoco National Forests Website](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/glossaryweighsta.html)

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Footnotes

1. 1995 U.S. Highway Corridor Strategy
2. 1998 average daily count between Lava Butte and Bend resulted in 1,960 trucks (ODOT traffic reports website).
3. This number means that, of the trucks that stopped at this Bend station, which is only a small percent of the total number of trucks operating statewide, 40.4% were placed out of commission during the time specified.
4. There were 14, 7, and 11 truck-at-fault accidents between 1997 and 1999, respectively between Bend and Sunriver.
5. See page 58 under the heading "Incomplete and Unavailable Information".
6. Violation rates do not include trucks that were taken out of service for mechanical reasons or lack of driver fitness.
7. "A Summary of Commercial Vehicle Overloading, Safety and Non-Compliance," a paper prepared by the OSU Transportation Research Institute in Corvallis, Oregon, 1999.
8. It is estimated there were 24,720 trucks hauling this material locally off of National Forest Lands in the years 1998 through 2000.
9. Overall, truck traffic statewide has increased by 21% in the last eight years ("Traffic Technology International," March 1999)
10. ITSA Award Nomination for the Green Light Project memo submitted by Chris Bell, Oregon State University, Corvallis, Oregon, 1999.
11. Retention: Visual changes are not noticeable to the casual forest visitor.
12. Scenic Integrity: The amount of human-caused deviation from naturally-occurring form, line, color, and texture in a landscape is minimal to the point that the landscape appears unaltered.
13. Landscape Aesthetics USDA Handbook #701
14. Depending upon the expected life of the facility and future changes to the highway configuration.
15. See Board of Commissioners document regarding a notice of decision denying ODOT's land use application dated 6/4/99, File #CU-98-109/V-98-15.
16. Decision of Deschutes County Hearings Officer, March 29, 1999.
17. Board of County Commissioners for Deschutes County Findings and Decision, June 28, 1999.

18. Oregon Highway Plan
19. Conversation with ODOT Access Management Engineer David Boyd, June, 2000
20. According to Barry Zellmer, Region 4 Utility Specialist for ODOT.
21. See Council on Environmental Quality's 40-most asked questions
22. Environmental Assessment completed in 1999 which provides management direction for the arrest and containment of noxious weeds on the Deschutes National Forest. The complete EA is available by request from the Deschutes National Forest; it is hereby incorporated by reference into this document.
23. The average percentage of vehicles that were inspected and taken out of service at the northbound Bend scale was 40.4% for the years 1989-1994. This was the highest in the state excluding Port of Entries and was mainly due to local traffic.
24. The Oregon State Police identified violations of Motor Carrier laws as the primary cause for serious collisions with trucks within this segment of U.S. Highway 97 between Bend and Sunriver.
25. Some minor variation may occur to these specifications.
26. ODOT has determined this would occur if this alternative is selected.
27. Board of Commishioners findings.
28. Setback is the distance from the edge of the pavement to the back of the site.
29. In Alternative 4 (Site 8), the entrance grade to the highway is split due to terrain.
30. Citizen Advisory Committee meeting, July, 1997
31. Personal communication with officer John Van Patton of the Deschutes County Sheriff Depatment, July, 2000.
32. "A Summary of Commercial Vehicle Overloading, Safety and Non-Compliance", a paper prepared by the OSU Transportation Research Institute in Corvallis, Oregon, 1999.
33. Visual changes are not noticeable to the casual forest visitor.
34. May 1999 vehicle count from Steve Wilson, ODOT Traffic Engineer
35. September 12, 2000, Personal communication with Scott Langton with the Deschutes County Tax Assessor Office
36. 1999 Sunriver Environmental LLC Land Exchange Environmental Assessment, Finding of No Significant Impact, and Decision notice
37. 1998 USDA Forest Service/Crown Pacific Limited Partnership Land Exchange Project Final Environmental Impact Statement and Record of Decision
38. Based on historical use of mule deer in the winter and updated annually.
39. ODOT Deer Mortality Counts on U.S. Highway 97 South of Bend from Milepost 145-153 for 1972-1998.
40. For this analysis, habitat quality includes two factors including disturbance based on species adaptability and the amount and quality of surrounding forest which may include the amount and distribution of snags
41. Lehnert et al. 1996, "Mule Deer-Highway Mortality in Northeastern Utah: Causes, Patterns, and a New Mitigative Technique"
42. Hopkins, et al. 1992; Include 20-30 large-sized trees per acre greater than 21" diameter at chest height and 3 snags per acre greater than 14" diameter at 4.5 feet and/or 10% of the stand with spire tops.

43. 1995 ODOT traffic study
44. May 1999 vehicle count from Steve Wilson, ODOT Traffic Engineer
45. Personal communication with officer John Van Patton of the Deschutes County Sheriff Department, July 2000.
46. Oregon Department of State Police Memo dated April 22, 1997
47. 1995 report for trucks weighed at the former location of the Bend weigh and safety station. Statistic indicates that, while statewide 95% of drivers are in compliance, Central Oregon has the highest concentration of those drivers who are offenders.
48. Personal communication with Owen Herzberg, ODOT Motor Carrier Transportation Specialist, June 2000.
49. Personal communication with Bruce Ward, ODOT Motor Carrier Transportation Specialist, July 2000.
50. Personal communication with officer John Van Patton with the Deschutes County Sheriff Department, July 2000.
51. The proposed operational schedule would be between 32-40 hours per week. Weigh-in-Motion technology is expected to reduce the number of trucks required to stop at the weigh station in the future.
52. Personal communication with Bruce Ward, ODOT Motor Carrier Specialist; using data from the Juniper Butte Weigh and Safety Station located near Madras, Oregon.
53. "A Summary of Commercial Vehicle Overloading, Safety and Non-Compliance", a paper prepared by the OSU Transportation Research Institute in Corvallis, Oregon, 1999.
54. Special Report 225: "Truck Weight Limits: Issues and Options", Transportation Research Board, National Research Council, Washington, D.C., 1990.
55. Parkenson, finnie, Horn, and Lottman, "A Procedure to Calculate the Economin Benefit of Increased Pavement Life That Results From Port of Entry Operations in Idaho" , Paper presented to the tRansportation Research Board 71st Annual Meeting, 1996.
56. Forest Service Handbook 2309.22

[Deschutes and Ochoco National Forests Website](http://www.fs.fed.us/centraloregon/manageinfo/nepa/documents/bendfort/weighstation/footnotes.html)

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Last Update: 10/30/01

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