

## **Transportation Specialist Report for North Clack Integrated Resource Project**

### **Executive Summary**

Lack of road maintenance throughout this project area has had measurable detrimental effects on the Forest's transportation resource. As deferred maintenance continues to increase while annual road maintenance budgets decrease, the condition of system roads within the project area would continue to deteriorate over time. Road maintenance needs are likely to become road reconstruction needs, resulting in hazardous conditions and increased cost to taxpayers as well as fire suppression activities hindered. Forest access for travel, tourism, and recreation as well as safety for forest visitors are already negatively impacted and would continue in the absence of the road maintenance opportunity provided by forest management.

In this transportation report, I have shown that the proposed treatments, with regard to the transportation resource, are consistent with direction from the Mt. Hood Forest Plan, as amended, as well as all applicable laws and regulations. Of the 83 miles of system roads in the project area, approximately 63 miles would be maintained or reconstructed to facilitate safe haul. The Project Design Criteria (PDCs) for this project for road reconstruction and maintenance include sediment and erosion control as well as protection of natural resources and implement the guidance of the Northwest Forest Plan. The Best Management Practices (BMPs) associated with this project together with the applicable road maintenance specifications (USDA, 2008) meet or exceed all requirements set forth by the State of Oregon for mitigating and minimizing environmental impacts of road maintenance and road reconstruction under OAR 629-625-0000 and per "Oregon Department of Forestry, State Forests Program, Forest Roads Manual", 2000. The proposed changes to Forest System Roads are appropriate and primarily consistent with the Travel Analysis Report (TAR) moving the road system toward the desired future condition.

Given these measures, the proposed treatments would result in increased effectiveness and overall value of the Forest's transportation system while correcting or mitigating detrimental effects on other resources.

Please note that temporary roads are not part of the Forest's permanent transportation system and are addressed in the Logging Systems Report.

### **Analysis Assumptions and Methodology**

#### ***Road Classification System***

System roads within the Forest range from Maintenance Level 5 (commonly paved or continuously dust controlled for travel at speeds of nominally 35 mph) to Maintenance Level 1 (storage roads closed to all vehicular traffic and not maintained for use), and include asphalt paved roads, aggregate (gravel) surfaced roads, improved (stabilized or pit-run aggregate) roads, and native surface roads. Maintenance Levels (ML) are defined as follows:

**Road Maintenance Level 5** – Assigned to roads that provide a high degree of user comfort and convenience. Normally, roads are double-lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is "encourage", except that, unless otherwise specifically authorized, non-street-legal Off-Highway Vehicle (OHV) use is prohibited.

**Road Maintenance Level 4** – Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is "encourage" passenger cars. However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times; unless otherwise specifically authorized, non-street-legal OHV use is prohibited.

**Road Maintenance Level 3** – Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either "encourage" or "accept" passenger cars. "Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users; unless otherwise specifically authorized, non-street-legal OHV use is prohibited.

**Road Maintenance Level 2** – Assigned to roads used by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either (1) discourage or prohibit passenger cars or (2) accept or discourage high clearance vehicles.

**Road Maintenance Level 1** – Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resource to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate". Roads receiving level 1 maintenance may be of any type, class or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic, but may be available and suitable for non-motorized uses.

### ***Determination of Road Maintenance and Reconstruction Needs***

Reconstruction and maintenance for timber sales and stewardship contracts are limited to the proportionate share of the total traffic on a road per U.S. Forest Service policy known as the Commensurate Share Policy (referenced in Forest Service Handbook 7709.59). The Commensurate Share Policy is used to determine maintenance and reconstruction responsibilities for any project that has commercial haul. Under this policy all competing users would be assessed their commensurate share of responsibility for maintenance and

reconstruction. The commensurate share of responsibility for any given commercial haul is determined by examining typical structural degradation of roads under heavy haul (AASHTO, 1993) (USDA, 1996).

Determination of road reconstruction needed to safely conduct operations associated with the proposed treatments was made utilizing the standards and guidelines set forth in the following documents with authority under 36 CFR Parts 212, 251, 261, and 295:

- Roads Analysis: Mt. Hood National Forest, 2003
- Forest Service Manual (FSM) 7700 – Travel Management
- FSM 7710 – Travel Planning
- FSM 7730 – Transportation System Road Operation and Maintenance
- Highway Safety Act of 1966 (P.L. 89-564) in compliance with applicable Highway
- Safety Program Guidelines, as specified in the Memorandum of Understanding found
- in FSM 1535.11
- Forest Service Handbook (FSH) 7709.55 – Travel Analysis Handbook
- FSH 7709.56 – Road Preconstruction Handbook
- FSH 7709.58 – Transportation System Maintenance Handbook
- FSH 7709.59 – Transportation System Operations Handbook

Measurements and quantities shown in this report were compiled using data from the Region 6, Mt. Hood National Forest, INFRA database, the Transportation GIS Geodatabase, the District Roads and Topography Map, and measurements and observations taken in the field.

### ***Determination of Needed Changes to the National Forest Road System***

In 2015, the Mt. Hood National Forest completed a transportation system analysis at the Forest scale, titled 2015 Travel Analysis Report (TAR) (USDA, 2015), which sought to outline a sustainable Forest Transportation System for the future. The TAR is the culmination of a series of travel management analyses dating back two decades, including the 1999 Access and Travel Management analysis (ATM), the Roads Analysis: (USDA, 2003) and The Legacy Roads Strategy of 2010. The TAR analysis categorized all system roads on the Forest as either “Likely Needed” or “Likely Not Needed” as part of the desired future transportation system. While not a decision document, the TAR set the stage for project-level decisions about whether to retain roads and maintain for public access use, close roads to public access but maintain for administrative use, place roads into storage for later use, or to decommission roads. This project-level analysis for this project takes the general information from the TAR and looks at the local roads with proposals that may differ from what was listed in the TAR based on more detailed and site-specific information. The [TAR document](#)<sup>1</sup> is incorporated by reference into this specialist report.

In addition to the TAR and past Forest transportation analyses, this project takes into consideration the 2010 OHV Decision and is further focused by project-specific information

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<sup>1</sup> <http://www.fs.usda.gov/main/mthood/landmanagement/planning>

obtained by observations and measurements taken in the field during the 2018 Spring and summer field season. This report is a project-level analysis intended to document the effects of and on National Forest Transportation System within the project boundary, and helps ensure that the future road system can be one that, from a transportation perspective, is safe, environmentally sound, efficient, and cost effective.

Determinations for road status changes (close or decommission) associated with the action alternatives were made in collaboration with the full interdisciplinary team and informed by the Northwest Forest Plan Standards and Guidelines, the Land and Resource Management Plan: Mt. Hood National Forest (USDA, 1990) also known as the Forest Plan, the 2015 Travel Analysis Report (USDA, 2015).

## **Existing Condition**

### ***Existing Patterns of Use***

The Forest's transportation system provides multi-use access for trans-forest travelers, the recreating public, commercial users, and administrative users. The majority of roads within the analysis area have been in existence for more than 40 years. While a few of the primary roads within and adjacent to the analysis area have existed as travel routes to and through the Forest since early in the 20th Century, most of the secondary and tertiary road system has been constructed to provide access for vegetative management purposes. Some of these roads have since been converted to Off Highway Vehicle (OHV) trails. A detailed account of road miles and distribution of transportation in the analysis area is found in the [North Clack Roads Table](#)<sup>2</sup> which is incorporated by reference.

The roads within the analysis area generally have a pattern of use common to low-standard roads in the Mt. Hood National Forest with a few key differences. This planning area contains the designated Ladee Flats OHV Area which draws users from the local area and beyond. Peak use occurs in the summer with the influx of administrative, commercial, and recreational traffic. Summer recreational traffic in this area consists of OHV use, camping at dispersed camp sites, and access to hiking trails. Summer commercial traffic consists primarily of log haul and other timber purchaser traffic necessary for operations including commuting of workers into the Forest and transport of heavy equipment. Elevated use occurs in the late summer and fall with the commencement of the deer and elk hunting seasons. Winter brings lowered usage of the roads with arterial through-routes being used mostly by those seeking access to winter use of OHV routes as well and other winter recreation. The anticipated future use patterns would most likely continue these trends or increase as the OHV area gains popularity, with the majority of road use being comprised of recreational OHV traffic and timber haul. This report focusses on access to OHV staging areas and dual use roads: a discussion of the OHV trail network can be found in the Recreation Report.

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<sup>2</sup> [https://www.fs.usda.gov/nfs/11558/www/nepa/105362\\_FSPLT3\\_4630506.pdf](https://www.fs.usda.gov/nfs/11558/www/nepa/105362_FSPLT3_4630506.pdf)

### ***Existing Transportation Funding***

Across the Forest the historic needs for and uses of the system have shifted as timber harvest on national forests has declined and other uses, such as recreation, have grown. Steady decline of funding to maintain the system accompanied by the reductions in timber harvest funding for road maintenance have resulted in funding lower than the level needed to properly maintain the open roads on the Forest. In the project area, the value of timber removed is the primary funding mechanism to accomplish work, since timber operators are required to maintain and repair system roads. Recent trends show that appropriated funds that are distributed to the Mt. Hood National Forest provide only enough to maintain or make repairs to about 15 percent of the road system annually. In April of 1981 the "Reduced Road Reconstruction Policy" was implemented on the Mt. Hood National Forest with the stated objective of reducing the total cost of developing, maintaining, and operating the transportation system. The policy statement from FSM 7730 - Transportation System Road Operation and Maintenance:

#### **7730.3 (b) Existing Road Reconstruction**

(1) Existing roads not meeting Forest Service Manual (FSM) requirements now or for future critical elements may be operated without reconstruction when the Forest Engineer determines the inadequacies can be mitigated (made less severe) by (a) user scheduling (sale or public), (b) maintenance, and (c) adequate traffic devices that identify the hazards.

And in turn, the 2003 Roads Analysis identified, for approximately half of the road system existing at that time, the need to change maintenance levels to lower standards, to store roads in a maintenance level-one category, or to decommission roads.

In consideration of this policy, past transportation system analyses and decisions, detrimental environmental effects of unmaintained roads, and the need to reduce the operational transportation system to one that could be affordably maintained, the 2015 TAR strives to define a sustainable road system that balances the goals of providing for the access for public and administrative uses, provides options, continues to diminish unwanted environmental effects, as well as reduces the cost of our transportation network. The TAR defined the transportation system's Desired Future Condition as, "A minimum Forest transportation system that safely and efficiently serves current and anticipated management objectives and public uses; ... A balance of routine and deferred maintenance funding maintains this system, which meets public uses and resource protection objectives; ...(A system where) Available funding is primarily allocated to the ML 4-5 roads. Roads that are ML 2 and 3 primarily are maintained by project-associated funds commensurate with project use." The need to maintain the current operational transportation system while the primary funding sources decline, constrains and challenges how the priorities of annual maintenance funds are allocated to the transportation network. Consequently, roads with lower level maintenance designations have only been maintained sporadically as commercial timber operations occur.

### ***Existing Road Conditions***

Overall, the condition of roads within this planning area are in fair, moderate, or poor shape. Some system roads have begun to deteriorate to a point where passage by passenger vehicles

and commercial heavy haul vehicles is hazardous under current conditions. Vegetative growth along roadsides has begun to encroach upon the road prism, limiting sight distances around horizontal curves. Many of the stream crossing and drainage culverts on this road system, while originally sized for hydrologic capacity, are undersized for passage of runoff associated debris and become plugged on a frequent basis. Compounding this problem, ditch lines and drainage structures along the roadway are filled with slough and slide material or are blocked by trees which have grown in excess of 4" in diameter, causing these drainage features to operate inadequately or fail. Standing water in ditches then either flows over the roadway, causing surface erosion, or begins to percolate through the road base and subgrade causing potholes, sinkholes, and road slumps.

The paved and bituminous treated roads that are part of the Forest transportation system (i.e. not including State Highways) in this area suffer from severe cracking, potholing, or surfaces which are beginning to break apart entirely. Generally, the aggregate surfaced and improved (pit-run) roads in this area hold together very well in areas where the terrain is relatively flat and erosion is less of an issue, whereas in a few locations where steeper terrain prevails these roads exhibit severe erosion characterized by loss of surface materials and delivery of sediment to streams. Native surface roads in this area are characterized by moderate rutting caused by public and OHV use during wet conditions.

Several routes in the planning area were previously old railroad grades that were converted to roads. For that reason some roads lack a functioning shape and have excessive through-cuts causing them to have poor water drainage and are in need of constructive improvements.

Additionally, some of the primary roads are also used to access OHV trails and are very popular unless the snow depth physically prevents travel. Due to the construction of the roads and the habits of some OHV users, the ditches are not functional in many areas, this results in surface erosion, or begins to percolate through the road base and subgrade causing potholes. A portion of Road 4610 is a dual use road which means it has OHV use simultaneously with other traffic. This has resulted in accelerated deterioration of the road.

### ***Material Sources***

Construction, reconstruction, and maintenance of Forest System Roads requires mineral rock resources. During the construction of the original road system two primary quarries were developed in the immediate area to serve as government source of material that could be utilized to avoid the costly expense of purchasing and importing large quantities of materials from greater distances away. This material source was developed not only to provide materials for construction, but was planned out to continue providing this valuable resource for reconstruction and maintenance needs into the future. The supply of mineral materials at this location have not yet been exhausted and may continue to be utilized for its intended purpose now and into the future.

North Fork Quarry is accessed from the South by Forest Road 4610024 off of the 4610 road from the East. North Fork Quarry is known to contain pit run or road base material that is easily obtained by use of heavy equipment without the need for ripping or blasting and has been used

successfully in the past to produce roadway base and potentially surface course aggregates making North Fork Quarry a valuable resource.

South Eagle Quarry is accessed from the South by Forest Road 4615130 off of the 4614 and 4615 roads from the West. South Eagle Quarry has material that is easily obtained by use of heavy equipment without the need for ripping or blasting and has been used for successfully crushing rock in the past to produce roadway base and surface course aggregates, making South Eagle Quarry a valuable resource for the quality and flexibility of its material.

### **Direct and Indirect Effects**

#### ***No Action Alternative***

#### **Commercial Haul of Materials**

The No Action Alternative would involve no haul of commercial wood fiber. Since heavy haul of materials is the most impactful action regularly applied to the transportation resource, the No Action Alternative would result in less traffic generated wear and tear on the roads within the project boundary. Wear and tear that would come from recreation and administrative use would continue to occur; normally in passenger vehicles. This would be considered detrimental to the transportation resource in this area due to the inability to address current maintenance and reconstruction needs on this portion of the Forest.

#### **Road Maintenance & Reconstruction Activities**

Due to budget prioritizations, no action would mean that no road maintenance would occur in the near future. Road reconstruction issues such as current road failures, drainage failures, and erosion control problems that have been identified within this road system would not be addressed.

Lack of road maintenance and reconstruction would result in a strong adverse effect with respect to both safety and the environment. Road surface, road subgrade, and road base failures present physical hazards to drivers, reduce a driver's ability to maintain positive control of a vehicle, and increase the potential for the development of erosion hazards on road slopes including soil slumps and slides due to pooling of water and increased soil saturation in the road bed (USDA, 1994). Failed or poorly functioning drainage systems increase sedimentation in streams and waterways due to their failure to properly mitigate erosion. They also increase the likelihood of waterway contamination from vehicular fluids due to water being forced onto roadways prior to draining into natural stream courses. Un-brushed roadways also present an additional safety hazard to road users due to decreased sight/stopping distance (AASHTO, 2004).

## **Changes to the National Forest Road System**

This alternative would not include system road status changes such as road closures and consequently, there would be no displacement with respect to the transportation system users. The current use pattern of roads within the planning area would not change. Commercial road use on this system would continue through the issuance of Road Use Permits to facilitate ingress and egress for adjoining or in-held private lands. Volume of public use on this system would not change over the near term, but could decrease slightly over time due to decreased navigability of the roads. Administrative use on this system would not change, although access would become increasingly difficult due to lack of road maintenance and lack of funding sources with the capability of appropriately addressing road reconstruction issues.

Road densities and road use designations would both remain unchanged with no action.

## ***Action Alternatives***

### **Commercial Haul of Materials**

The action alternatives would involve haul of commercial timber. While heavy haul of materials is the most impactful action regularly applied to the transportation resource, this action is expected to be limited in its duration and would be accompanied by increased quantities and frequency of road maintenance. The value of the timber removed in this project is substantial and is likely to be sufficient to cover the costs of the repair and maintenance items discussed below and would also likely be sufficient to fund the road closure and decommissioning connected actions that are not directly related to haul.

### **Road Reconstruction Activities**

Road Reconstruction activities occur on existing system roads and generally fall within three categories:

- 1) Heavy Maintenance. This involves work that is similar to road maintenance activities but exceeds the work defined in the standard road maintenance specifications. This work is more intensive and causes somewhat greater disturbance than road maintenance work, though still contained within the existing road prism. Examples include roadbed reconditioning, ditch reconditioning, roadside clearing & grubbing, culvert replacement, and road resurfacing (aggregate, bituminous material, or a combination).
- 2) Road Repairs. Consists of heavy equipment construction needed to repair or bypass existing roadway failures or failure of existing road features. This work may require detailed engineering design and oversight and can involve excavating, moving, or disposing of large quantities of earth. Examples include full-depth asphalt patches, asphalt pulverization, installing new drainage culverts, underdrain installations, sinkhole repairs, slide removal, deep patch repairs with geotextile, slope stabilization, and road realignments. This work seeks to remain within the existing road prism but construction limits may extend outside the existing road prism as-needed to complete the work.

- 3) Constructive Improvements. This work constructs improvements to an existing system road to meet design objectives for safety or resource protection. It would involve detailed engineering design and oversight and can involve excavating, moving, or disposing of large quantities of earth and construction materials. This work may redefine the existing road prism. Examples include road re-alignment, construction of Aquatic/Terrestrial Organism Passages (including bridges), hardened low-water fords, earth retaining structures, roadside guardrails, rock-fall arresters, road paving, and road daylighting.

The majority of roads used for haul would receive some type of reconstruction work that is considered beyond the definition of maintenance. Collector and primary haul routes would likely receive more road repairs and constructive improvement work than some others to accommodate heavy use.

### **Road Maintenance Activities**

Road maintenance would occur on all roads used for haul of commercial materials (log and rock haul). These road maintenance activities create limited disturbances contained within existing road prisms and is conducted prior to and during operations to ensure minimum safety standards and effective roadway drainage. Regular road maintenance activities would occur on roads designated for haul as needed:

1. Brushing – Cutting of vegetation which encroaches along roadsides to provide visibility to meet minimum sight distances for stopping and maneuvering by vehicle operators. This work includes cutting of vegetation in drainage ditches to a maximum height of 6 inches.
2. Blading – Grading of road surfaces to remove irregularities and provide road cross-slopes to ensure sheeting of water from the road travel way. This work, while conducted with the objective of improving or maintaining road drainage, also removes surface wash-boarding and minor potholes thereby maintaining a vehicle's contact with the road surface and improving an operator's ability to maintain positive control of a vehicle while driving.
3. Surfacing – Also known as 'Spot-Rocking', this involves placement of crushed aggregate or pit-run material over the surface of the road. Placement of processed rock on road surfaces serves to distribute applied loads over a wider area as the load is transferred to the road subgrade. This helps to prevent rutting of the roadway which channelizes water in the road and causes erosion or saturates the road subgrade and compromises the structural integrity of the road. Saturation of road subgrade is the primary cause of catastrophic road failure. Surfacing may also be used for safety on steep grade roads to provide an improved running surface whereby a heavy haul vehicle can better maintain contact with the road surface for improved braking and maneuvering.
4. Ditch Cleaning – Removal of soils that have collected in ditch lines over time due to deposit of sands & silts from the road surface or sloughing of cut-slope soils, rock, and organics. Cleaning of ditches is needed to facilitate proper flow of water away from roads to avoid subgrade saturation. Cleaning of ditches results in the removal of existing

vegetation from ditch lines over the short term and should be used in conjunction with temporary erosion control and revegetation measures. Typically, material removed from ditches is not suitable for incorporation into road surfaces and must be hauled away and disposed of at approved disposal sites on the Forest or removed from the Forest entirely (end-haul).

5. Culvert Cleaning – In many cases, culverts that facilitate conveyance of water away from roadways become blocked by soils and vegetative debris and need to be cleaned out in order to ensure proper flow of water, both at ditch drainage crossings and at road-stream crossings. Cleaning of culverts may produce temporary minor disturbance of soils at culvert inlets and outlets. Erosion control measures may be used to prevent downstream sedimentation as-needed and the need for erosion control measures would be evaluated on a case-by-case basis using Clean Water Best Management Practices and the Project Design Criteria.
6. Roadway Drainage Maintenance – Also referred to as Storm proofing or Storm Damage Risk Reduction (SDRR), involves reshaping of existing or installation of new drainage dips and/or water-bars in the roadway. These drainage features, as opposed to culverts, are features that are constructed into the roadbed itself and are comprised of the existing road's rock and earthen material reshaped to redirect water away from the road surface and into ditches or onto road fill slopes. This practice is commonly used on roads that are closed to public traffic, but may also be utilized on steep graded roads and roads that receive little road maintenance. These features, if existing, would be smoothed out prior to heavy haul during the dry season. Replacement of these features or construction of new features would be accomplished on roads prior to the wet season and at the completion of operations.
7. Treatment of Danger Trees – Where roads that are expected to receive higher than normal volumes of traffic during the life of the project are endangered by the potential imminent failure of standing trees, such 'Danger Trees' would be felled to provide for the safety of the public and workers engaged in operations under the action alternatives.

The full text of the standard Timber Sale Road Maintenance Specifications along with their associated Intent and Use Guide can be found online at: [Forest Service Pacific Northwest Region Transportation Systems Operations and Maintenance](http://www.fs.fed.us/database/acad/om/tsmaintenance_specs.htm).<sup>3</sup>

### **Material Sources and Material Disposal Locations**

Government sources of rock products in the local area would be the preferred method of supply for crushed surface or base aggregates used in road maintenance and reconstruction work in the area due to the availability of government source material and the high cost and potential of invasive species when hauling from private sources. In the event that government source material cannot be used, commercial rock sources would be utilized. In order for this

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<sup>3</sup> [http://www.fs.fed.us/database/acad/om/tsmaintenance\\_specs.htm](http://www.fs.fed.us/database/acad/om/tsmaintenance_specs.htm)

commercial product to be utilized on the Forest, local commercial sources would need to coordinate with the Forest Service to have their quarries or pits inspected by qualified Forest Service personnel and accepted as being reasonably free of organic material or seeds from noxious weeds or invasive botanical species of concern. Known commercial sources in the local area that may be considered for utilization are Mt. Hood Rock Products, Estacada Rock Products, Graves Quarry, Baker Rock Resources, Canby Sand and Gravel.

North Fork Quarry is a government source known to have quality material that can be easily excavated for use as suitable borrow and structural fill, screened for use as pit-run material, or even crushed for production of base course aggregates all within the existing quarry development plan. Due to this quarry's strategic location within the planning area North Fork Quarry is ideal location for use. If operations take place in North Fork Quarry, such operations would be done in collaboration with soils, geotechnical, hydrologic, and aquatic wildlife specialists and would be conducted in compliance with all National and State Clean Water Best Management Practices as well as all PDCs associated with this analysis. This quarry is used as an OHV play area. It would have to be closed to OHV when used for rock product development and removal.

South Eagle Quarry is a government source known to have an abundance of quality material within the bounds of the current Quarry Development Plan that can be easily excavated for use as suitable borrow and structural fill, screened for use as pit-run material, or even crushed for production of surface and base course aggregates. The existing Quarry Operating Plan shows that this site also has adequate room for crushing operations to occur. If operations take place in South Eagle Quarry, such operations would be conducted in collaboration with soils, geotechnical, hydrologic, and aquatic wildlife specialists and in compliance with all National and State Clean Water Best Management Practices as well as all PDCs associated with this analysis.

### **Changes to the National Forest Road System**

In order to bring the Forest Road system into line with current agency policy, rectify inconsistencies, reduce impacts to natural resources, or reduce maintenance liabilities, this project would add one road back to the system that had been identified for conversion to OHV trail, close and prohibit traffic on certain roads, and decommission roads. Site-specific treatments would be tailored to site-specific conditions using one or more of the following treatments:

1. Road Closure with a Gate (remains a system road).
2. Road Closure with a Berm and storm proofing (remains a system road). Storm proofing usually involves water-bars or other structures to provide drainage & hydrologic stability and reduce erosion. Culverts would be retained unless specified. Where appropriate, the depth of fill material over culverts may be reduced.
3. Road Closure with Entrance Management (remains a system road) - installing one or more earth berms or trenches and decompacting approximately the first 1/8 mile of road. Culverts would be retained unless specified.
4. Active Decommissioning - removing culverts, reestablishing former drainage patterns or natural contours at stream channels, installing water bars, removing gravel surfacing,

decompacting road surfaces, pulling back unstable fill slopes or road shoulders, scattering slash on the roadbed, applying erosion control mulch and seed on disturbed areas, and blocking and disguising the former road entrance to prevent motorized vehicle traffic.

5. Passive Decommissioning - removes a road from the transportation system but involves no physical treatments on the ground because the road is overgrown in a naturally recovering state.

With regard to access, these road closure status changes affect roads that receive no use by trans-forest travelers and low use by the recreating public. The recreational traffic on these roads is very low, limited mainly to unauthorized Off-Highway Vehicle (OHV) use, low levels of dispersed camping, and use by seasonal hunters.

These road status changes, for the most part, reflect the recommendations of the 2015 TAR and serve to move the Forest Transportation System toward its desired future condition. There are certain instances, however, where the action alternatives deviate from past management decisions based on an analysis of the site-specific conditions. The North Clack Road Table presents the full list of road status changes that would occur with the action alternatives and summarizes the treatment that each road would receive. The following table is a summary of the proposed actions.

	<b>miles</b>
Close	26.2
Convert to Trail	1.2
Data Decommission	1.0
Decommission	6.0
OBML1 TO ML2	5.6
OBML2 TO ML1	0.2
OBML4 TO ML3	2.4
OBML3 to ML2	4.0
Status CV to ML2	1.2

### **Cumulative Effects**

The analysis area for cumulative effects is the project area and the haul roads outside the planning area. Haul of commercial products over the analyzed transportation system would likely occur over the next 5 to 10 years originating from Federal Bureau of Land Management as well as privately owned lands adjacent to the planning area. Any entities desiring to haul would be required to obtain a Road Use Permit prior to hauling over these roads, affording the Forest Service the opportunity to request completion of road maintenance or require payment of fees to cover maintenance costs. Also, required are implementation of resource protection measures similar or identical to the Project Design Criteria included with the action alternatives.

In addition to other haul, replacement of Aquatic Organism Passage culverts authorized under the 2018 Forest-Wide Aquatic Restoration Decision Memo would likely occur over the next 5-10 years. Work from the OHV plan remains and would be completed to convert the 4610113 road to a trail and decommission the 4611135 road.

The action alternatives along with these foreseeable actions, would result in increased effectiveness and overall value of the Forest’s transportation system while minimizing impacts to other resources. There would be no substantive cumulative effects because all projects that use roads also provide maintenance and repair commensurate with their use.

**Consistency Determination**

The action alternatives, with respect to the transportation resource, has been reviewed for consistency with the Mt. Hood Forest Plan. All proposed actions related to the Forest Transportation System are consistent with the Forest wide Transportation Standards and Guidelines; FW-407 through FW-437, FW-451, and FW-452, pages Four–95 through Four–97.

The Forest-wide Roads Analysis (2003) and the project specific transportation analysis documented in this report implements guideline FW-416.

All system road decommissioning decisions would be made following the guidance provided under FW-432.

All temporary roads constructed for project use that are not part of the recreational trails system would be rehabilitated and blocked and treated to meet or exceed the standards of FW-433 and FW-436.

All other standards and guidelines under the Mt. Hood Forest Plan are specifically addressed and enforced through contract provisions included with each individual timber sale, stewardship project, or public works contract and/or the stated Project Design Criteria.

<i>/s/ Joshua Marxen</i>
Joshua Marxen
Forest Transportation Planner
Mt. Hood National Forest

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