

**SCENERY & RECREATION IMPACT ANALYSIS**  
for  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
**T.I.P. Project No. A-9 (US 74 Relocation)**  
Stecoah Gap Segment  
within the boundaries of  
**CHEOAH RANGER DISTRICT,**  
**NANTAHALA NATIONAL FOREST**

**Existing Condition & Management Direction**

The North Carolina Department of Transportation A-9 project area is partly located on the Cheoah and Tusquitee Districts of the Nantahala National Forest. This analysis addresses potential scenery impacts to National Forest (NF) lands along Stecoah Gap segment of the A-9 project. Stecoah Gap segment extends from SR 1277 at Cheoah, to NC 28 at Stecoah, North Carolina; and is within proclaimed boundaries of Cheoah Ranger District. Approximately 50 acres of National Forest land would be impacted by this segment.

**Scenery:** Proposed alternative corridors lie in management areas (MA) 4D, 14 & 18 as defined in the *Nantahala and Pisgah Land and Resource Management Plan* (N&P LRMP). Management area 4D has an emphasis on high-quality wildlife habitat and is assigned partial retention (PR) VQO in foreground and middleground sensitivity level 1 areas, and modification (M) VQO in all other distance zones and sensitivity levels. Management area 14 is the Appalachian National Scenic Trail corridor and is assigned retention (R)VQO throughout the area. Management area 18 includes all riparian zones and is assigned R VQO if the adjacent management area is assigned retention; and PR if the adjacent management area is assigned partial retention or modification.

Visual quality objectives are described in N&P LRMP, appendix G. The following are excerpts with descriptions of VQOs that apply to the project area:

Retention: “This visual quality objective provides for management activities which are not visually evident. Activities only repeat form, line, color, and texture which are frequently found in the characteristic landscape. Changes in size, amount, intensity, direction, pattern, etc., should not be evident.” Activities are allowed “1 full growing season to meet VQO.”

Partial Retention: “Management activities remain visually subordinate to the characteristic landscape. Activities repeat form, line, color, or texture common to the characteristic landscape but changes to size, amount, intensity, direction, pattern etc., remain visually subordinate to the characteristic landscape. Activities may also introduce form, line, color, or texture which are found infrequently or not at all in the characteristic landscape, but they should remain subordinate to the visual strength of the characteristic landscape.” Activities are allowed “2 full growing seasons to meet VQO.”

Modification: “Management activities may visually dominate the original characteristic landscape. However, activities of vegetative and landform alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type. Additional parts of these activities such as structures, roads, slash, root wads, etc., must remain visually subordinate. Activities which are predominately introductions of facilities such as buildings, signs, roads, etc., should borrow naturally established form, line, color and texture so completely and at such a scale that its visual characteristics are compatible with the natural surroundings.” Activities are allowed “3 full growing seasons to meet VQO.”

Scenery consists of the combination of landforms, rock outcrops, water bodies, and vegetation as seen across the landscape. From viewpoints analyzed for this project, modifications to the landscape can be seen on public and private lands in the form of clearings, roads, timber harvests, residential and commercial structures, pasture, and highways. National Forest lands seen in the foreground and middleground from the Appalachian Trail, NC 143, US 28 and private lands appear as a continuous hardwood forest with patches of younger trees in areas of past timber management. Logging roads used to access these harvest areas may be seen as well. Many views from the Appalachian Trail and other viewpoints are screened by foreground vegetation during leaf-on season, but offer filtered views in leaf-off -- some are unobstructed long-range views. Middleground views of private lands as seen from the Appalachian Trail, and open roads in the area, are highly modified -- which create a mosaic of land use patterns across the landscape. From Cheoah Bald to Sweetwater Gap along the Appalachian Trail, the most heavily modified viewsheds are to the north and northeast toward the community of Stecoah, and along the existing NC 143 corridor.

Although modifications on National Forest lands are visible from many locations, the views are spectacular. The Appalachian Trail, NC 143, US 28 and surrounding area all have foreground and middleground views of the Cheoah Mountains. Although timber harvests and logging roads are visible, the most noticeable man-made feature on National Forest land is the existing NC 143 corridor. Highway 143 crosses National Forest lands in Stecoah Creek and Sweetwater Creek drainages, and passes through Stecoah Gap where it intersects the Appalachian Trail. Cut and fill banks are well healed and blend-in with surrounding vegetation in most cases; but the roadway itself, vehicles, and associated disturbances are a dominant part of the experience. As Appalachian Trail hikers approach Stecoah Gap, noise of traffic on NC 143 becomes apparent. The disturbance is most obvious in the last half mile descent into the gap. In addition to the Appalachian Trail, FR 2610 intersects NC 143 in Stecoah Gap where there is a parking area and scenic overlook.

**Recreation:** Recreation opportunities on National Forest lands are classified by the Recreation Opportunity Spectrum (ROS). Each management area on the Nantahala National Forest is assigned an ROS class based on management objective, open road density, existing recreation uses, remoteness, special designation, etc. Associated criteria listed below are referenced as management area standards. There are four ROS classes in the N&P LRMP: Semi-Primitive Non-Motorized (SPNM), Roaded Natural 2 (RN2), Roaded Natural 1 (RN1), and Rural. Within the project area, MA 4D is managed for RN1, MA 14 is managed for SPNM (except at open-road crossings where it is RN2), and MA 18 is managed for the ROS class of adjacent management areas. The following ROS class criteria are excerpts taken from N&P LRMP, appendix G:

SPNM:

Setting “Area is characterized by a natural or natural-appearing environment of moderate-to-large size. Interaction between users is usually low, but there is usually evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is not permitted.”

Experience “Moderate to high probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk.”

Remoteness “An area generally farther than ½ mile from all roads, railroads or trails with motorized use; can include the existence of primitive roads and trails if usually closed to motorized use.”

RN2:

Setting “Area is characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of people. Such evidences usually harmonize with the natural environment, interaction between users may be low, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment.”

Experience “About equal probability to experience affiliation with other user groups and for isolation from sights and sounds of humans. Opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities with more primitive type of recreation are very important. Practice and testing of outdoor skills might be important. Opportunities for both motorized and non-motorized forms of recreation are possible, but non-motorized opportunities predominate.”

Remoteness “An area within ½ mile of improved roads generally closed to motorized use; or ½ mile or more from improved roads with motorized use. Can include the existence of other improved roads if usually closed to motorized use.”

RN1:

Setting “Area is characterized by a predominantly natural-appearing environment with evidence of the sights and sounds of people. Such evidence usually harmonize with the natural environment. Interaction between users is moderate. Evidence of other users is prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and facility design.”

Experience “Same as Roaded Natural 2 except motorized recreation opportunities predominate.”

Remoteness “An area within ½ mile of improved roads, railroads, and trails with motorized use.”

Recreation use in the project area consists of hunting, fishing, hiking, backpacking, horseback riding, mountain biking, sight seeing, nature study, spiritual reflection, etc. Many of these activities occur throughout the area. Closed Forest Service roads are seeded as wildlife openings and provide access for hunters, bikers, horsemen and others. Wildlife management for game species emphasizes high quality habitat for turkey and bear, but grouse and deer occur as well. Stecoah Creek has a population of rainbow trout and is used by recreational fishermen. The surrounding forest is host to amateur and professional naturalists, botanists, biologists, geologists, etc.; and to many is a place of solitude for rejuvenation from stresses of everyday life.

Appalachian National Scenic Trail, which is congressionally designated, passes through the project area at Stecoah Gap. It is estimated that over its entire length, from Georgia to Maine, three to four million people use some part of the trail each year. Cheoah Bald to Fontana Dam is one of the most heavily used sections of the Appalachian Trail in North Carolina because of its spectacular views and multiple access points for day-hikers and backpackers.

Although the project area is not within any current roadless inventory areas, sights and sounds of the proposed highway will impact Cheoah Bald roadless area. The area’s northern boundary is less than ½ mile south of the project near Stecoah Creek. Cheoah Bald roadless area was inventoried as part of the Southern Appalachian Assessment in 1995 and updated during a national roadless area review in 2000. The area is also inventoried as SPNM and is managed for the aforementioned experiences associated with this designation. Several of the Appalachian Trail viewpoints analyzed are within the roadless/SPNM area.

Both alternatives do pass through Cheoah Bald RARE II area. Roadless and Undeveloped Area Evaluation II (RARE II) resulted from a 1979 environmental impact statement, which assessed suitability of roadless areas for congressional designation as Wilderness. Recommendations were made for Wilderness, non-Wilderness or further study. Cheoah Bald RARE II area was recommended as non-Wilderness, released from further study, and subsequently roaded. There are no restrictions on roading released RARE II areas that lie outside current roadless inventory boundaries.

### **Alternative Proposals & Impact Analysis**

Consideration of alternatives for Stecoah Gap segment consists of alternatives “X” and “Y”. Each of the action alternatives proposes a four-lane divided highway with partial control access. General design standards for each alternative are the same; differences (as related to National Forest System lands) are length and entrance elevations of Stecoah Gap tunnel, area of Stecoah Creek impacted, amount of cut/fill, bridge locations and total number of acres impacted. In each case alternative “Y” would have greater negative impacts to scenic and recreation resources than alternative “X”. Refer to NC DOT *Alternatives Report* for detailed comparisons between alternatives “X” and “Y”.

Field surveys were used to identify viewpoints (VP) that might be impacted under both alternatives. Travel corridors, use areas, water bodies and private lands in and around the project area were

considered for potential viewpoints. Viewpoints analyzed are from middleground and foreground locations. (Foreground is from the viewer out to a distance of ½ mile; middleground is from ½ mile to 3 miles distant.)

The following list identifies locations of VPs considered in the analysis. Some locations listed are specific points, while others are segments of trails or roads. Some would be seen as viewers are moving (in a vehicle or walking), while others are from stationary vistas. Views may be filtered or screened by foreground vegetation; others are open and unobstructed. The degree of potential impact varies with these and several other factors such as distance from viewer, viewer position, topographic screening, etc. -- all of these factors are considered when determining what mitigation may be required to minimize scenery impacts. Critical viewpoints along the Appalachian Trail have an open or sparsely filtered year-round view, where potential impacts may be seen as a dominant feature of the landscape. Non-critical viewpoints offer similar views, but may be more restricted or only seen during leaf-off season.

#### Viewpoints

- Appalachian Trail from Cheoah Bald to Brown Fork Gap
- Stecoah Gap Picnic Area & Scenic Overlook
- Stecoah Creek and tributaries
- Private lands in Stecoah Community; including Stecoah Valley Center (Old Stecoah School)
- NC 28
- NC 143
- US 74 (new location, either alternative)

#### Effects by Alternative

##### **Direct & Indirect Effects Common to Both Alternatives:**

For either alternative, sights and sounds of the new highway would be apparent from most viewpoints analyzed, surrounding forest areas, and private lands in Stecoah Community. Appalachian Trail users would see glimpses of the highway from numerous locations north and south of Stecoah Gap; and at least five locations would be critical viewpoints. Audible and visual impacts would be greater during leaf-off season. Opportunities to experience solitude and other SPNM characteristics in the Cheoah Bald area would be impacted in areas north of the bald. Disturbance to hunters would probably be limited to areas within ¼ mile of the proposed highway. Non-motorized access to gated FS roads at Stecoah Gap and Stecoah Creek would remain open to all legal uses, though Stecoah Creek Road would be re-routed to an intersection with the new highway. Recreational trout fishing opportunities in Stecoah Creek drainage may be reduced. Both alternatives propose bridging Stecoah Creek, and re-routing some of its tributaries through ditches and culverts. Additionally, the aesthetic appearance of Stecoah Creek would be impacted dramatically and permanently altered. Hunting and fishing are recreation resources that are closely tied to wildlife and fisheries management. For details related to potential impacts to wildlife and fisheries resources, refer to the aquatic and wildlife analyses.

Several large cut and fill banks and cut rock faces would be visible from Stecoah Community, NC 143, the Appalachian Trail, and the new highway itself. These cuts would be a combination of sloped soil banks and/or blasted rock. Normally, soil cut/fill banks would be graded smooth and seeded with

vetch, lespedeza or grass; and pre-split rock cuts would be drilled and blasted to near vertical faces with exposed drill-hole scars. In one instance, west of Stecoah Creek, proposed highway cut for either alt. would be approximately 200 feet high. A cut slope or rock face of this magnitude would be visible from miles away and be out of scale and character with the surrounding “natural-appearing” landscape.

#### **Alternative “X”, Direct & Indirect Effects:**

Although both alternatives propose a tunnel under Stecoah Gap, alternative “X” proposes a location that enters the mountain almost 130 feet lower, and is more than 1000 feet longer than alternative “Y”. This tunnel location would minimize impacts to Appalachian Trail users and others accessing the forest from Stecoah Gap parking area by significantly reducing visual and audible disturbances from the highway. Because of the entrance location, the entire route sits at a lower elevation as it ascends from Stecoah Creek -- which results in fewer high-volume cut slopes while hiding more of the route from Appalachian Trail viewpoints. Alternative “X” also lies near the edge of National Forest ownership -- therefore, impacting fewer acres overall and disturbing less of Stecoah Creek drainage than alt. “Y”.

#### **Alternative “Y”, Direct & Indirect Effects:**

Alternative “Y” would have greater impacts to scenic and recreation resources than alternative “X”. This alternative proposes a shorter tunnel under Stecoah Gap, which enters higher on the slope. Alternative “Y” tunnel location also reduces impacts to Appalachian Trail users; but the highway would be seen and heard to a much greater extent than with the lower tunnel of alt. “X”. Appalachian Trail viewpoints north of Stecoah Gap would look directly into cut slopes east of the tunnel. These slopes would reach up to 130 feet high and be nearly 1200 feet long. At the same station, alt. “X” cut slopes are about 50 feet high, 400 feet long, and sit almost 160 feet lower on the slope. With few exceptions, this example is a typical comparison of the quantity, height, and length of cut slopes between the two alternatives. Differences with regard to impacts from the Appalachian Trail would be dramatic. This alternative is also encompasses more area within National Forest boundaries, which results in impacts to more acres overall, and disturbs more of Stecoah Creek drainage than alternative “X”.

#### **Cumulative Effects**

Views of private and NC DOT lands in Stecoah drainage are of a highly modified rural landscape, with roads, pastures and structures visible in the foreground and middleground. The proposed highway and associated cut/fill slopes would be seen in conjunction with these modifications, and in addition to existing NC 143 – which will remain open for local access.

Except where NC 143 passes through Stecoah Gap, apparent modifications on National Forest lands are minimal. The average viewer wouldn’t notice the seeded logging roads, log decks, gates, and timber harvests from most of the analyzed viewpoints. From the Appalachian Trail, very few of these modifications are even visible. Though human modifications do exist on NF lands, the scale is small relative to the overall landscape.

With the greatest existing and potential impacts located in Stecoah Gap, the tunnel location of alt. “X” would be most beneficial in reducing sights and sounds of the new highway when seen in combination with NC 143 and existing NF logging roads. If alt. “X” is selected, forest users parking in or hiking through Stecoah Gap may not even realize there is a highway underneath them, since it would be 558 vertical feet below and approximately 1500 horizontal feet away on either side of the gap. This represents a slope distance of about 1600 feet, or 3/10 mile from the gap to tunnel entrances.

Alternative “Y” tunnel would be 426 vertical feet below and approximately 1050 horizontal feet away on either side of the gap – which is a slope distance of about 1130 feet, or 2/10 mile. As Appalachian Trail hikers climb up from the gap, sights and sounds of US 74 would become apparent and more of NC 143 comes into view. After hikers pass over the ridge-top, north and south of Stecoah Gap, impacts from the two highways would be reduced. As previously stated, alt. “X” tunnel would hide many views of US 74 as hikers ascend to the ridge-top; thus reducing cumulative impacts by minimizing locations from which existing and proposed highways would be visible. With alt. “Y” tunnel, US 74 would become visible sooner – well before hikers reach the ridge.

## **Mitigation Measures**

### **Alternative “X”**

With its lower tunnel entrances, longer tunnel length, reduced size and quantity of cuts, and less disturbance to National Forest lands overall -- alternative “X” is preferred from a standpoint of scenery resource protection. However, mitigation will be necessary for further reduction of potential impacts. Implementation of the following mitigation would allow A9 alt. “X” to meet modification VQO from most viewpoints, though the proposal would not meet the assigned partial retention visual quality objective. Successful implementation of this mitigation will require close coordination between a Forest Service landscape architect, project engineers and geologists throughout design and construction phases. This mitigation is specified with the understanding that highway safety standards take precedence, but that suitable alternative mitigation techniques will be developed through coordinated efforts as these issues arise in design and construction. The overall objective of scenery mitigation is to mimic natural form, line, color and texture to the extent possible in all disturbed areas.

- On all soil and loose rock cut/fill slopes: Undulate or warp the terrain to eliminate an unnaturally “smooth” appearance typical in highway construction. In addition to seeding for immediate erosion control, replant with native shrubs and trees such as Rhododendron, Mountain Laurel, Hemlock, Black gum, Poplar, Oaks, etc. – to replicate vegetative mix of surrounding forest. A dense but irregular spacing will be necessary to achieve desired results; design and final review of planting plan should be coordinated with FS landscape architect.
- On all solid rock cuts: Straight lines of shear rock faces and drill-hole scars seen with traditional pre-split blasting techniques do not repeat lines or forms seen in nature. Use blasting techniques which produce irregular, natural-appearing faces. This can be achieved on sloped or near-vertical cuts with use of minor warping and/or sculpting to introduce irregularities, so rock face is not parallel to road edge. On rock through-cuts, major warping may be needed. Understandably, these techniques may require a wider ditch catch than pre-split cut. Obliterate drill hole scars within 50 vertical feet of roadway. If rock netting or fencing is required, paint or etch to reduce visibility. Expertise on material characteristics,

blasting techniques and safety standards resides with the project geologists and engineers; again, close coordination with FS landscape architects will be necessary to determine suitable solutions which meet all objectives.

- Face tunnel entrances with natural-appearing material such as quarry stone. Emergency services buildings at east end of tunnel should be of a design, finish material and color which harmonizes with the surrounding natural landscape, i.e. wood and/or stone, or similar. A Forest Service landscape architect should review and approve the design.
- Where feasible, use grass medians with shrub plantings instead of concrete dividers. This will increase overall width, but have a more natural appearance.
- Have the power transmission line, which crosses the Appalachian Trail 1000 feet northeast of Stecoah Gap, relocated along the NC 143 corridor. This will allow the existing power line ROW to re-vegetate and screen views of A9 corridor.
- Relocate Appalachian Trail between Sweetwater Gap and Brown Fork Gap where proposed A9 route is visible from the trail's current ridge-top location.

### **Alternative "Y"**

Potential impacts associated with alternative "Y" would not meet N&P LRMP scenery standards. With its higher cut slopes and tunnel location, it would be difficult to mitigate impacts as effectively as alternative "X". However, the previously listed mitigation could be applied to this alternative.

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