

The limited economic impacts resulting from the Laurel Branch Picnic Area would not be likely to result in cumulative impacts even when combined with other planned actions and existing trends in the area.

The Partial-Build Alternative to Bushnell (Primitive and Principal Park Roads) would result in some cumulative economic impacts to the study area, but these economic impacts would be limited by relatively low levels of projected visitation and the large portion of this visitation that would be local users.

The Northern Shore Corridor would result in the greatest cumulative impacts among the partial-build and build alternatives, attracting more new visitors to the study area from outside the region. The cumulative impacts would be substantially greater for the Principal Park Road due to higher levels of projected visitation.

4.2.4 Land Use

4.2.4.1 Methodology for Assessing Land Use Impacts

Figure 3-2 illustrates the GSMNP GMP Proposed Management Zoning. Also included on Figure 3-2 are the wilderness recommendation boundary and the potential wilderness addition.

In order to assess the impacts of the study alternatives on GSMNP GMP land use and land use outside GSMNP, the following were considered: (1) existing land use in the study area, especially along the proposed roadway alternatives; (2) land management plans and policies in the study area; (3) traffic volumes projected for roadway alternatives; (4) land ownership (public or private) in the study area, particularly along the proposed roadway alternatives; and (5) future land use in the area under a No-Action Alternative. Projected change in travel patterns within and through the study area, as well as economic drivers and projected economic impacts of the alternatives, were also considered in determining potential indirect and cumulative impacts on land use. The direct and indirect consequences of the project-related changes were assessed for each alternative. For example, direct land use impacts would include revisions to the GSMNP GMP and indirect land use impacts could include induced development outside GSMNP. Land use impacts are assessed in terms of type, duration, and intensity.

Type

In regards to land use effects, few standards exist as to what constitutes beneficial or positive changes and which are considered adverse or negative. For example, the conversion of an undeveloped property to a commercial use may be viewed to some as beneficial if the new use provides a needed community service. Others may view this change in land use as adverse if it alters the natural landscape and impacts community character. Those desiring improved economic conditions may welcome any new development as beneficial. Therefore, the land use impacts of the project alternatives are described without any attempt to determine whether the impact would be beneficial or adverse.

Clarification of the term "baseline" for this project:

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Duration

Land use impacts attributed to the project alternatives can be temporary or extend over a longer period. Land use impacts are characterized as short-term if they are temporary or transient in nature, for example, a change in land use or development associated with construction activities. Land use impacts are characterized as long-term if they would occur regularly for many years or on an ongoing basis into the foreseeable future, for example, a change in land use or development to provide services for tourists.

Intensity

The scale or intensity of the land use impacts refers to the relative change(s) associated with the project alternatives when compared with current conditions or future conditions under the No-Action Alternative. The following thresholds were used to determine the magnitude of land use change that would likely result from the alternative being considered. These thresholds consider the degree of detection of the changes and the geographic area affected.

No/Negligible

Any change in land use and/or development is barely perceptible and has no discernable effect on the character of the area.

Minor

While some change in land use and/or development would be detectable, it would be slight and geographically limited and would have minimal effect on the character of the area. Existing land use and development patterns would not change.

Moderate

Changes in land use and/or development would be readily apparent, affecting somewhat larger areas, but would remain geographically localized, resulting in a detectable, long-term effect on the character of these areas. Existing land use and development patterns in these areas would be altered.

Major

Changes in land use and/or development extend across an entire community or region; resulting in a substantial and highly noticeable effect on the character of the area. Existing land use and development patterns for the community or region would be altered.

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4.2.4.2 Summary of Land Use Impacts

4.2.4.2.1 No-Action

The No-Action Alternative would not impact land use or affect development in GSMNP or the study area. Land use changes and development in the region outside of GSMNP would be driven by economic forces including the relocation of the GSMR headquarters to Bryson City, gaming operations and associated development in Cherokee, the continuing trend for increased second home construction in western North Carolina, and general increases in tourism and outdoor recreation in response to regional and national growth.

4.2.4.2.2 Monetary Settlement

The Monetary Settlement Alternative would not directly impact land use or affect development in GSMNP or the study area. With the Monetary Settlement Alternative, indirect land use change outside GSMNP is likely, as these funds would provide a unique opportunity for Swain County to stimulate local economic and community development efforts. The flexibility offered by the Monetary Settlement Alternative would provide Swain County with the potential to pursue a wide range of options. While it is unknown how funds would be utilized, it is assumed that they would be used for some purpose that would directly or indirectly create jobs and/or increase tourism in Swain County, both of which would induce development to a degree. Whether funds are used for some type of capital project(s), an economic development program, or other use, the Monetary Settlement Alternative would provide Swain County with a competitive edge over adjacent counties. Specific impacts would depend on how the county uses the funds.

4.2.4.2.3 Laurel Branch Picnic Area

The Laurel Branch Picnic Area includes additional picnic facilities in the Park in compliance with the GSMNP GMP. This alternative would not otherwise directly impact land use or affect development in the study area. The alternative would have only a slight impact on GSMNP visitation and other economic indicators; therefore a negligible impact on land use and development patterns would be expected.

4.2.4.2.4 Partial-Build Alternative to Bushnell (Primitive and Principal Park Roads)

The Partial-Build Alternative to Bushnell would have a moderate, adverse, long-term impact on land use in GSMNP with both the Primitive and Principal Park Roads. With the Partial-Build Alternative to Bushnell, approximately 8 acres (3.24 ha) would be reclassified from “Natural Environment – Type I” to “General Park Development.” The road corridor leading to the Partial-Build Alternative to Bushnell site would be reclassified from “Natural Environment – Type I” to “Transportation” subzone, which is a classification for public road corridors. The Primitive Park Road corridor includes approximately 205 acres (82.96 ha) and the Principal Park Road includes approximately 155 acres (62.73 ha).

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The Partial-Build Alternative to Bushnell would also reduce the area that would potentially be eligible for wilderness designation. The size of the excluded area would vary depending on which road type is selected. With the Primitive Park Road approximately 1,839 acres (744.20 ha) would be excluded and with the Principal Park Road approximately 1,658 acres (670.96 ha) would be excluded. These reductions do not affect the potential for the future wilderness designation of the remaining acreage within GSMNP discussed in Section 3.2.5.1.1 of this document.

In addition, upon construction of the roadway and the facilities, portions of Lakeshore Trail would be eliminated, along with some backcountry camping sites. Backcountry use would shift away from the roadway corridor and the facilities at Bushnell (Visitor Use and Experience, Section 4.2.5). Frontcountry use would increase, particularly in the vicinity of the Partial-Build Alternative to Bushnell recreational facilities.

The Partial-Build Alternative to Bushnell would have a minor, indeterminate, indirect, long-term impact on land use change and development patterns in the area outside GSMNP due to increased visitor use, traffic volumes and associated economic activity (Economics, Section 4.2.3). The higher visitor use estimated with the Principal Park Road would result in a slight difference in economic effects, but no discernable difference in land use effects. Some change in land use would likely occur along Fontana Road between downtown Bryson City and the GSMNP entrance due to increased visitor use and traffic volumes. New development could provide services and supplies for Park visitors. To reach this new facility, visitors would travel through downtown Bryson City, exposing them to services and attractions in the town and nearby areas. In addition, this alternative is projected to increase jobs and local personal income. For these reasons, indirect land use impacts are expected, particularly in Bryson City, although such change is not anticipated to be extensive.

Overall land use impacts resulting from the Partial-Build Alternative to Bushnell would be moderate, as land use change would be detectable but geographically limited. The slightly higher visitor use and traffic volumes estimated with a Principal Park Road would result in a slight difference in economic and land use effects outside the Park (Economics, Section 4.2.3), but land use impacts remain within the threshold of a moderate effect for both road types.

Southern Option at Forney Creek Embayment (Primitive and Principal Park Roads)

The Southern Option at Forney Creek Embayment would slightly alter land use impacts in GSMNP as compared to the baseline Partial-Build Alternative to Bushnell. For example, the size of the area to be reclassified from “Natural Environment – Type I” to “Transportation” would be reduced by approximately 40 acres (16.19 ha) with the Primitive Park Road and by approximately 34 acres (13.76 ha) with the Principal Park Road. Also with this option, less area would be excluded from future consideration of wilderness designation as compared with the baseline Partial-Build Alternative to Bushnell. With the Primitive Park Road approximately 451 acres (182.51 ha) less would be excluded and with the Principal Park Road approximately 258 acres (104.41 ha) less would be excluded.

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Impacts to backcountry use in GSMNP would be slightly altered in the vicinity of Forney Creek and the embayment due to the more southerly route and altered proximity to trails and backcountry campsites (Visitor Use and Experience, Section 4.2.5). These slight changes would not alter overall land use impacts of the Partial-Build Alternative to Bushnell. Indirect impacts to land use outside the Park would not change from the impacts expected with the baseline Partial-Build Alternative to Bushnell.

4.2.4.2.5 Northern Shore Corridor (Primitive and Principal Park Roads)

The Northern Shore Corridor would have a major, adverse, long-term impact on land use in GSMNP with both road types. A new roadway would change the current land use by introducing manmade features (e.g., the roadway, retaining walls, bridges) and vehicular traffic. The proposed roadway would also require cuts and fills that would alter the current landscape. The roadway corridor would be reclassified from “Natural Environment” to “Transportation” subzone. The Primitive Park Road corridor includes approximately 906 acres (366.64 ha) and the Principal Park Road includes approximately 823 acres (333.05 ha).

In addition, the Northern Shore Corridor traverses the Park’s potential wilderness designation area. If this alternative were constructed, the area generally from the roadway to Fontana Lake would be excluded from potential consideration of wilderness designation. The size of the excluded area would vary depending on which road type is selected. With the Primitive Park Road approximately 5,314 acres (2,150.46 ha) would be excluded and with the Principal Park Road approximately 5,215 (2,110.40 ha) acres would be excluded. These reductions do not affect the potential for the future wilderness designation of the remaining acreage within GSMNP discussed in Section 3.2.5.1.1 of this document.

Upon construction of the Northern Shore Corridor, approximately 31.1 miles (50 km) of Lakeshore Trail would be eliminated and backcountry use would shift away from the roadway corridor. These changes in visitor use are further described in Section 4.2.5.

The potential for indirect land use impacts outside the Park was also considered. The Northern Shore Corridor connects directly to NC 28 to the west of Fontana Dam. If the baseline Northern Shore Corridor were selected, some land use impacts would be likely to result in this area. Development potential exists on privately owned properties on the south side of NC 28 outside GSMNP. (These private in-holdings are within the boundary of the Nantahala National Forest. Private in-holdings are discussed in Section 4.7.) Based on traffic volumes, the probability for induced development at the western terminus resulting from a Principal Park Road is projected to be somewhat higher than with a Primitive Park Road. However, due to the limited amount of land in private ownership in this area, this potential land use impact would be localized regardless of road type.

Long-term indirect land use impacts would not be fully realized until the road is complete. The Northern Shore Corridor would likely increase the number of Park visitors and vehicle trips and thus induce some development in the area. Bryson City would likely see most of this increased development. The roadway

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would also likely to influence regional development decisions. New services to accommodate travelers would include restaurants, grocery stores, hotels, gas stations and convenience stores, other retail establishments, and entertainment facilities. Due to the higher volume of traffic projected with a Principal Park Road there is greater potential for induced development with this design. Land use impacts outside of the Park would be moderate and land use impacts outside of the Park for the Primitive Park Road would be minor.

Overall land use impacts resulting from the Northern Shore Corridor (Primitive Park Road) would be major due to land use change inside GSMNP and revisions to the GMP. Most land use change outside GSMNP would be localized at the western terminus and in Bryson City. Overall land use impacts resulting from the Northern Shore Corridor (Principal Park Road) would also be expected to be major. Land use change outside GSMNP would result in detectable effects on the character of some local communities, most noticeably Bryson City, but not extending across nor altering development patterns for an entire community or the entire region.

Southern Option at Forney Creek Embayment (Primitive and Principal Park Roads)

The Southern Option at Forney Creek Embayment would slightly alter land use impacts in GSMNP as compared to the baseline Northern Shore Corridor. For example, the size of the area to be reclassified from “Natural Environment – Type I” to “Transportation” subzone would be reduced by approximately 40 acres (16.19 ha) with the Primitive Park Road and by approximately 34 acres (13.76 ha) with the Principal Park Road. Also with this option, less area would be excluded from future consideration of wilderness designation as compared with the baseline Northern Shore Corridor. With the Primitive Park Road approximately 451 acres (182.51 ha) less would be excluded and with the Principal Park Road approximately 258 acres (104.41 ha) less would be excluded.

Impacts to backcountry use in GSMNP would be slightly altered in the vicinity of Forney Creek and the embayment due to the more southerly route and altered proximity to trails and backcountry campsites (Visitor Use and Experience, Section 4.2.5). These slight changes would not alter overall land use impacts. Indirect impacts to land use outside the Park would not change from the impacts expected with the baseline Northern Shore Corridor.

Southern Option at Hazel and Eagle Creek Embayments (Primitive and Principal Park Roads)

The Southern Option at Hazel and Eagle Creek Embayments would also alter land use impacts in GSMNP as compared to the baseline Northern Shore Corridor. The size of the area to be reclassified from “Natural Environment – Type I” to “Transportation” subzone would be reduced by approximately 60 acres (24.28 ha) with the Primitive Park Road and by approximately 83 acres (33.59 ha) with the Principal Park Road. Also with this option, less area would be excluded from future consideration of wilderness designation as compared with the baseline Northern Shore Corridor. With the Primitive Park Road approximately 687

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acres (278.01 ha) less would be excluded and with the Principal Park Road approximately 630 acres (254.95 ha) less would be excluded, due to the more southerly route of this option.

Impacts to backcountry use in GSMNP would be altered in the vicinity of Proctor and of Hazel and Eagle creeks and their embayments due to the more southerly route location and altered proximity to trails and backcountry campsites (Visitor Use and Experience, Section 4.2.5). These slight changes would not alter overall land use impacts. Indirect impacts to land use outside the Park would not change from the impacts expected with the baseline Northern Shore Corridor.

Southern Option Crossing Fontana Dam (Primitive and Principal Park Roads)

The Southern Option Crossing Fontana Dam would slightly affect land use impacts in the Park as compared to the baseline Northern Shore Corridor. The size of the area to be reclassified from “Natural Environment – Type I” to “Transportation” subzone would be reduced by approximately 42 acres (17.00 ha) with the Primitive Park Road and by approximately 41 acres (16.59 ha) with the Principal Park Road. Also with this option, less area would be excluded from future consideration of wilderness designation as compared with the baseline Northern Shore Corridor. With the Primitive Park Road approximately 550 acres (222.57 ha) less would be excluded and with the Principal Park Road approximately 551 acres (222.98 ha) less would be excluded.

The route across the dam eliminates the potential for development at the immediate western terminus of the project. Impacts to backcountry use in GSMNP would be slightly altered in the vicinity of Fontana Dam due to the route location and altered proximity to trails and backcountry campsites (Visitor Use and Experience, Section 4.2.5). These slight changes would not alter overall land use impacts.

4.2.4.2.6 Cumulative Impacts

Past federal actions such as the purchase of forestland in the region beginning in 1911, the establishment of GSMNP in 1934, the completion of Fontana Dam in 1944, and the expansion of the Park to include land purchased on the north shore of Fontana Lake, had a considerable impact on land use in the Park and study area. In addition, the construction of Lake View Road, the Ravensford Land Exchange, and the Cades Cove Opportunities Plan have affected or have the potential to affect land use in the Park. Lake View Road is a 7.2 mile segment of the originally proposed North Shore Road that was extended into the Park, converting a natural area to transportation use. Through the Ravensford Land Exchange, the ECBI acquired an undeveloped site for construction of new schools. The Cades Cove Opportunities Plan includes options that have the potential to alter land use, such as completing roadway and parking improvements and constructing visitor centers. The impacts to land use in the Park are considered in the context of decreases in open space, forested land, and other natural areas in the eastern United States as a result of overall patterns of urbanization and suburbanization. As discussed in Section 4.1.2.1.6, the GSMNP has been identified as

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having the largest total area (more than 464,000 acres) without public vehicular access roads in the Southern Appalachian region.

Land use outside GSMNP will continue to change. Development in the study area region will be primarily due to the relocation of the GSMR headquarters to downtown Bryson City, the trend for increased seasonal home construction in western North Carolina, and gaming operations in Cherokee. The railway headquarters relocation will result in development in Bryson City, including renovation of existing buildings and new construction. The railway headquarters will attract additional tourists who support restaurants, grocery stores, gas stations, hotels, and other entertainment venues. An increase in seasonal population in the region would likely result in the need for additional services and would also promote development in the foreseeable future. The seasonal population would support many of the same services, with the exception of hotels. In addition, overall Park visitation will change over time.

Cumulative impacts to land use in the Park are not expected with the monetary settlement. Cumulative impacts to study area land use outside the Park due to the Monetary Settlement are likely, especially if Swain County uses funds for some purpose that would enhance current trends.

Due to the negligible impacts to land use, no cumulative effects were identified with the Laurel Branch Picnic Area.

The Partial-Build Alternative to Bushnell, when combined with other projects that altered or have the potential to alter land use in the Park, would result in some cumulative land use impacts in the Park. Cumulative impacts due to the Partial-Build Alternative to Bushnell are also likely outside the Park, as the land use change in the study area expected with this alternative would combine with land use change expected under current trends. Based on current assumptions, land use change resulting from this alternative would be localized, following existing development patterns.

When added to other projects in the Park, construction of the Northern Shore Corridor would result in cumulative land use impacts in the Park. Long-term indirect land use impacts outside the Park, especially in Bryson City, are expected upon completion of the Northern Shore Corridor. These impacts, when added to the development expected in Bryson City and Cherokee and in Swain, Graham and surrounding counties under current trends, would result in greater cumulative impacts to the study area than would other alternatives, but cumulative land use impacts would still be somewhat localized in nature. Overall development in the region is limited due to the large percentage of land under public ownership.

4.2.4.3 Options to Address Potential Impacts

The GMP establishes broad management strategies for the Park. These strategies, along with Park operational decisions, could be used to manage the impacts to backcountry use in the vicinity of the Partial-Build Alternative to Bushnell or Northern Shore Corridor.

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