

An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified as a specific goal in the park's general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute impairment to the extent that it is an unavoidable result, which cannot reasonably be further mitigated, of an action necessary to preserve or restore the integrity of park resources or values.

Impairment evaluations for GSMNP and AT resources are included throughout Chapter 4 and summarized in Section 4.9.

4.2 Impacts to the Human Environment

4.2.1 Traffic, Mobility, and Access

4.2.1.1 Methodology for Assessing Traffic, Mobility, and Access Impacts

The methodology used in this analysis includes development of traffic projections for the partial-build and build alternatives and an evaluation of operations on area roadways and at key intersections. Traffic during construction also is considered. The approach to assessing impacts of traffic generated by the study alternatives on the surrounding community focuses on changes in mobility and access to community facilities and transportation networks. For these factors, the direct, indirect, and cumulative consequences of likely project-related changes are assessed. Direct effects could include alteration in access to GSMNP resources. Indirect effects could include changes in local traffic patterns in response to truck traffic traveling on local roads during construction.

The analysis considers the type, context, duration, and intensity of impacts to mobility and access.

Type

Mobility and access impacts are characterized as beneficial or adverse. Beneficial impacts might include relieving traffic congestion or providing new access or roadway connections. Adverse impacts include increasing local traffic congestion or degrading existing access.

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Context

Impacts to mobility and access could occur within GSMNP and at the local and regional levels.

Duration

Mobility and access impacts can be temporary or extend over a longer period. Impacts are characterized as short-term if they are temporary or transient in nature, for example, impacts to local roads and intersections from truck traffic related to roadway construction. Long-term impacts are those that would occur regularly for many years or on an ongoing basis into the foreseeable future, for example, increased traffic on local roads associated with visitors to the North Shore Road.

Intensity*No/Negligible*

Effects on mobility and access would be below detectable levels or detectable only through indirect means, and they would have no discernible effect on local or regional traffic or travel patterns.

Minor

Effects on mobility and access would be detectable, but limited in number of locations or traffic volumes affected. Effects would not be expected to alter local or regional traffic or travel patterns.

Moderate

Effects on mobility and access would be readily detectable across a broad geographic area or segment of the community and could have an appreciable effect on local or regional traffic or travel patterns.

Major

Effects on mobility and access would be readily apparent, would extend across the entire community or region, and would have a highly noticeable influence on local or regional traffic or travel patterns.

4.2.1.2 Summary of Traffic, Mobility, and Access Impacts

Traffic projections were developed for the partial-build and build alternatives after they open and are fully operational. Seasonal factors and vehicle classification percentages were developed for the alternatives. Traffic operations on the partial-build and build alternatives, as well as on area roadways and at area

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intersections were evaluated and construction traffic and accident rates were reviewed. This information is incorporated into mobility and access impact determinations for all alternatives.

4.2.1.2.1 2025 Traffic Projections

To determine background traffic volumes for the future design year, a growth factor of 1.9 percent per year was applied to the 2003 peak-hour traffic to obtain the 2025 peak-hour volumes. This is the volume of traffic that would be expected on roadways in the study area if none of the build alternatives were constructed and represents the No-Action Alternative. Figure 4-1 shows the projected 2025 peak-hour traffic volumes on area roadways.

Potential traffic volumes on area roadways outside of GSMNP resulting from the Monetary Settlement would depend on local use of funds.

Traffic volumes along the partial-build and build alternatives are shown in Table 4-1.

Table 4-1. 2025 Traffic Volumes

Alternative	AADT* (vpd)	Peak Hour (vph)	Seasonal Average Day (vpd)	Peak Hour (vph)	Seasonal Peak Day (vpd)	Peak Hour (vph)
Laurel Branch Picnic Area	64	5	140	11	298	21
Bushnell (Primitive Park Road)	144	12	328	26	586	41
Bushnell (Principal Park Road)	226	18	612	49	1102	77
Northern Shore Corridor (Primitive Park Road)	150	12	311	25	554	44
Northern Shore Corridor (Principal Park Road)	475	38	746	60	1342	107

*AADT – Annual Average Daily Traffic

In predicting traffic volumes for the Laurel Branch Picnic Area and the Partial-Build Alternative to Bushnell, two different approaches were applied to achieve somewhat similar results. One approach was to consult Institute for Transportation Engineers’ (ITE’s) Trip Generation Manual to determine the traffic that would use each day-use development area (facility), based upon acreage. The other approach was to perform an economic analysis based on the types of amenities at each facility and determine traffic volumes from facility usage. Assumptions were made to determine reasonable traffic volumes for each facility. Since recreational facilities are not a category in the ITE manual, and the types of amenities available are not adjustable, an assumption was made that each facility would be similar to a Regional Park (Category 417). The size of each facility was based on preliminary footprints, topography, existing trail locations, and lake frontage. Traffic volumes obtained from the ITE manual were assumed to be during the peak tourist season. For the

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economic analysis, the number of uses were estimated for each facility for different day types (summer weekend, off-season weekday, etc.) and combined with vehicle occupancies to obtain number of vehicles.

With the Laurel Branch Picnic Area, all of the traffic would come from or through the Bryson City area. Figure 4-2 shows the projected 2025 peak-hour traffic volumes on area roadways for this alternative.

With the Partial-Build Alternative to Bushnell, all of the traffic will come from or through the Bryson City area. It is assumed that the volume of traffic to the facility at the Partial-Build Alternative to Bushnell with a Primitive Park Road would be 50 to 60 percent less than for a Principal Park Road due to the Primitive Park Road being less desirable to travel with much lower travel speeds. Figures 4-3 and 4-4 show the projected 2025 peak-hour traffic volumes on area roadways for the Partial-Build Alternative to Bushnell (Primitive and Principal Park Roads).

In projecting future vehicles along the Northern Shore Corridor, traffic volumes were reviewed for scenic roadways within the region that were thought to be somewhat similar to the Northern Shore Corridor. In addition, projected economic impacts were utilized in developing traffic projections. Assumptions were made to determine reasonable traffic volumes for the Northern Shore Corridor. Once complete, the Northern Shore Corridor (Principal Park Road) would become an attractive scenic route for tourists, as well as a connector between Bryson City and Fontana Dam/NC 28. In that other roadways used for comparison have been in service for a number of years, volumes shown for this alternative represent stabilized, long-term volumes once the road has been completed and is well known and the initial surge effects have subsided. These estimates were made based on comparisons with sections of similar scenic roadways in the area (Blue Ridge Parkway, Skyline Drive, Cherohala Skyway, and NC 28). The volume of traffic on the Northern Shore Corridor would decrease an estimated 30 to 35 percent for a Primitive Park Road because this lower-speed unpaved roadway is expected to be less desirable for travel. For the Northern Shore Corridor, it was assumed that 50 percent of the traffic created by the road would come from the Bryson City area and 50 percent would come from the Fontana Dam area. For traffic from the Fontana Dam area, it was further assumed that 80 percent would be coming and going from the Tennessee direction (Deals Gap) while 20 percent would be from the Fontana Village direction. Figures 4-5 and 4-6 show the projected 2025 peak-hour traffic volumes on area roadways for the Northern Shore Corridor (Primitive and Principal Park Roads).

4.2.1.2.2 Seasonal Factors

Monthly traffic volume data and seasonal factors provided by NCDOT, TDOT, and the NPS were reviewed to derive monthly traffic volume factors for application to this project. As shown in Table 4-2, July is the peak month, although in the case of the Northern Shore Corridor it is matched by October, reflecting the role of the fall color season as a major tourist attraction for the region. Again, assumptions were made regarding the attractiveness of the Primitive Park Road and the number of amenities available at each facility in predicting seasonal factors. It was also assumed that the Northern Shore Corridor (Primitive Park Road) would be closed during the winter months.

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Table 4-2. Monthly Traffic Volume Percentages

Month	Laurel Branch Picnic Area	Partial-Build to Bushnell (Primitive Park Rd)	Partial-Build to Bushnell (Principal Park Rd)	Northern Shore Corridor (Primitive Park Rd)	Northern Shore Corridor (Principal Park Rd)
January	50%	38%	29%	0%	46%
February	50%	38%	29%	0%	52%
March	50%	38%	29%	30%	61%
April	50%	38%	29%	74%	90%
May	62%	54%	46%	109%	104%
June	119%	131%	102%	140%	140%
July	218%	228%	271%	207%	157%
August	193%	213%	252%	170%	139%
September	193%	213%	252%	122%	120%
October	119%	131%	102%	207%	153%
November	50%	38%	29%	0%	90%
December	50%	38%	29%	0%	49%

Percentages are based on an average month, which is defined as 100 percent, and would equal one-twelfth of total annual traffic.

4.2.1.2.3 Vehicle Classifications

In order to determine the percentage of vehicle types, vehicle volumes were reviewed for scenic roadways within the region that were thought to be somewhat similar to the Northern Shore Corridor. Again, percentages were derived based on comparisons and assumptions regarding each type of facility, the attractiveness of each road type, and the amenities available. The vehicle classification percentages are shown in Table 4-3.

Table 4-3. Vehicle Classification Assumptions

	Laurel Branch Picnic Area	Partial - Build to Bushnell (Primitive Park Rd)	Partial - Build to Bushnell (Principal Park Rd)	Northern Shore Corridor (Primitive Park Rd)	Northern Shore Corridor (Principal Park Rd)	
					Peak Season	Off-Season
Motorcycles	5%	5%	5%	7%	15%	6%
Cars/SUVs	84%	85%	84%	86%	77%	91%
RVs/Trailers	10%	10%	10%	7%	7%	3%
Buses	1%	0.5%	1%	0%	1%	0.25%

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4.2.1.2.4 Traffic Operations Analysis – 2025

4.2.1.2.4.1 Intersections

The LOS was studied at seven intersections that would be affected by the various alternatives. Since no provisions have been made for improvements to these intersections, they were analyzed as they exist. Figure 4-7 shows the LOS for the No-Action Alternative. The intersections with stop sign control were assumed to remain with stop sign control, and the two signalized intersections were assumed to remain signalized. With the normal increase of traffic from 2003 to 2025, some intersections will operate at an undesirable LOS with or without any of the alternatives.

Figures 4-8 through 4-12 show the LOS at each intersection for the alternatives. Tables 4-4 and 4-5 show the LOS and the delay at each unsignalized and signalized intersection, respectively, for the partial-build and build alternatives. Data for the No-Action Alternative are also included for comparison purposes.

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Table 4-4. Intersection Level of Service – Unsignalized (2025)

Intersection	Mainline		Side Street	
	LOS (a.m./p.m.)	Delay in seconds (a.m./p.m.)	LOS (a.m./p.m.)	Delay in seconds (a.m./p.m.)
#1 – Welch Road (SR 1246) and NC 28				
No-Action	A/A	7.3/7.4	A/A	8.8/8.9
Laurel Branch Picnic Area	A/A	7.3/7.4	A/A	8.8/8.9
Partial-Build to Bushnell (Primitive Park Road)	A/A	7.3/7.4	A/A	8.8/8.9
Partial-Build to Bushnell (Principal Park Road)	A/A	7.3/7.4	A/A	8.8/8.9
Northern Shore Corridor (Primitive Park Road)	A/A	7.3/7.4	A/A	8.9/8.9
Northern Shore Corridor (Principal Park Road)	A/A	7.4/7.4	A/A	9.0/9.0
#2 - NC 143 and NC 28				
No-Action	A/A	8.5/8.1	B/B	12.6/14.5
Laurel Branch Picnic Area	A/A	8.5/8.1	B/B	12.6/14.5
Partial-Build to Bushnell (Primitive Park Road)	A/A	8.5/8.1	B/B	12.6/14.5
Partial-Build to Bushnell (Principal Park Road)	A/A	8.5/8.1	B/B	12.6/14.5
Northern Shore Corridor (Primitive Park Road)	A/A	8.5/8.1	B/B	12.6/14.6
Northern Shore Corridor (Principal Park Road)	A/A	8.5/8.1	B/B	12.9/15.0
#3 - US 19/US 74 and NC 28 North				
No-Action	A/A	8.7/9.4	D/D	25.3/28.4
Laurel Branch Picnic Area	A/A	8.7/9.4	D/D	25.3/28.4
Partial-Build to Bushnell (Primitive Park Road)	A/A	8.7/9.4	D/D	25.3/28.4
Partial-Build to Bushnell (Principal Park Road)	A/A	8.7/9.4	D/D	25.3/28.4
Northern Shore Corridor (Primitive Park Road)	A/A	8.7/9.4	D/D	25.6/28.8
Northern Shore Corridor (Principal Park Road)	A/A	8.7/9.4	D/D	26.6/29.8
#4 - US 19/US 74 and NC 28 South				
No-Action	A/A	9.2/9.2	B/B	14.9/13.8
Laurel Branch Picnic Area	A/A	9.2/9.2	B/B	14.9/13.8
Partial-Build to Bushnell (Primitive Park Road)	A/A	9.2/9.2	B/B	14.9/13.8
Partial-Build to Bushnell (Principal Park Road)	A/A	9.2/9.2	B/B	14.9/13.8
Northern Shore Corridor (Primitive Park Road)	A/A	9.2/9.2	C/B	15.1/13.8
Northern Shore Corridor (Principal Park Road)	A/A	9.2/9.2	C/B	15.2/13.9
#7 - Everett Street and Depot Street				
No-Action	A/B	9.8/10.1	F/F	167.0/808.6
Laurel Branch Picnic Area	A/B	9.8/10.1	F/F	186.8/864.2
Partial-Build to Bushnell (Primitive Park Road)	A/B	9.8/10.2	F/F	200.4/904.1
Partial-Build to Bushnell (Principal Park Road)	B/B	10.0/10.3	F/F	233.9/-*
Northern Shore Corridor (Primitive Park Road)	A/B	9.8/10.1	F/F	186.8/864.8
Northern Shore Corridor (Principal Park Road)	A/B	9.9/10.2	F/F	212.0/957.7

Note: Intersection numbers correspond to the numbers on Figures 4-1 through 4-12. Intersection #5 and #6 are listed in Table 4-5 because they are signalized.

* Results greater than allowable in the analysis software.

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Table 4-5. Intersection Level of Service – Signalized (2025)

Intersection	Total Intersection	
	LOS (a.m./p.m.)	Delay in seconds (a.m./p.m.)
#5 - US 19/US 74 Main Street and Veterans Boulevard		
No-Action	D/F	42.7/113.5
Laurel Branch Picnic Area	D/F	44.3/114.3
Partial-Build to Bushnell (Primitive Park Road)	D/F	45.1/113.9
Partial-Build Bushnell (Principal Park Road)	D/F	45.6/118.2
Northern Shore Corridor (Primitive Park Road)	D/F	44.6/115.2
Northern Shore Corridor (Principal Park Road)	D/F	50.7/117.4
#6 - US 19/US 74 Main Street and Everett Street		
No-Action	B/B	17.9/19.3
Laurel Branch Picnic Area	B/C	18.7/20.0
Partial-Build to Bushnell (Primitive Park Road)	C/C	21.7/21.5
Partial-Build to Bushnell (Principal Park Road)	C/C	22.7/22.2
Northern Shore Corridor (Primitive Park Road)	B/C	18.6/20.1
Northern Shore Corridor (Principal Park Road)	B/C	18.9/20.7

Note: Intersection numbers correspond to the numbers on Figures 4-1 through 4-12. Intersection #1-4 and #7 are listed in Table 4-4 because they are not signalized.

4.2.1.2.4.2 Area Roadway Corridors

Mainline LOS values for the major roadways analyzed are listed in Table 4-6. Four of the six mainlines examined appear to operate at acceptable levels of service under 2025 roadway conditions. The majority of the roadways within the study area are found to have an acceptable LOS due to low volumes of traffic, even during the area's peak tourism season. While most of the roadways studied operate at LOS A, Fontana Road from Bryson City to GSMNP appears to operate closer to capacity at LOS C. This is likely due to a combination of steep grade and lack of passing zones. The two sections of US 19 operate at LOS E through Bryson City, from the US 74 interchange to SR 1168 (Walker Woody Road), due to relatively heavy traffic volumes and a large number of access points. As shown in Table 4-6, none of the alternatives are projected to affect the LOS for major roadways in the area.

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Table 4-6. Level of Service – 2025

Mainline Roadway	LOS
SR 1364 (Fontana Road)	
No-Action	C
Laurel Branch Picnic Area	C
Partial-Build to Bushnell (Primitive Park Road)	C
Partial-Build to Bushnell (Principal Park Road)	C
Northern Shore Corridor (Primitive Park Road)	C
Northern Shore Corridor (Principal Park Road)	C
US 19 from Bryson City to SR 1168 (Walker Woody Road)	
No-Action	E
Laurel Branch Picnic Area	E
Partial-Build to Bushnell (Primitive Park Road)	E
Partial-Build to Bushnell (Principal Park Road)	E
Northern Shore Corridor (Primitive Park Road)	E
Northern Shore Corridor (Principal Park Road)	E
US 19 from US 74 Interchange to Bryson City	
No-Action	E
Laurel Branch Picnic Area	E
Partial-Build to Bushnell (Primitive Park Road)	E
Partial-Build to Bushnell (Principal Park Road)	E
Northern Shore Corridor (Primitive Park Road)	E
Northern Shore Corridor (Principal Park Road)	E
US 74 from NC 28 Intersection to SR 1190 Interchange	
No-Action	A
Laurel Branch Picnic Area	A
Partial-Build to Bushnell (Primitive Park Road)	A
Partial-Build to Bushnell (Principal Park Road)	A
Northern Shore Corridor (Primitive Park Road)	A
Northern Shore Corridor (Principal Park Road)	A
NC 28 from Almond to Stecoah	
No-Action	A
Laurel Branch Picnic Area	A
Partial-Build to Bushnell (Primitive Park Road)	A
Partial-Build to Bushnell (Principal Park Road)	A
Northern Shore Corridor (Primitive Park Road)	A
Northern Shore Corridor (Principal Park Road)	A
NC 28 from Stecoah to Fontana Village	
No-Action	A
Laurel Branch Picnic Area	A
Partial-Build to Bushnell (Primitive Park Road)	A
Partial-Build to Bushnell (Principal Park Road)	A
Northern Shore Corridor (Primitive Park Road)	A
Northern Shore Corridor (Principal Park Road)	A

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4.2.1.2.4.3 Project Corridor Conditions

Each of the alternative corridors in the study is expected to generate a relatively low volume of traffic. The Northern Shore Corridor (Principal Park Road) from Bryson City to NC 28 west of Fontana Lake would generate the most traffic, while the road to the Laurel Branch Picnic Area would generate the least amount of traffic. Table 4-7 gives the expected LOS for the different alternates. Each alternative is expected to operate at LOS A.

Table 4-7. Level of Service for an Alternative's New Roadway - 2025

Alternative	Peak Season ADT (vpd)	Peak Hour LOS
No-Action	---	NA
Monetary Settlement	---	NA
Laurel Branch	298	A
Partial-Build to Bushnell (Principal Park Road)	1,102	A
Partial-Build to Bushnell (Primitive Park Road)	586	A
Northern Shore (Principal Park Road)	1,342	A
Northern Shore (Primitive Park Road)	554	A

4.2.1.2.5 Construction Traffic

During construction, traffic is expected to increase in the areas surrounding the project, including Bryson City and Fontana Dam. A majority of the construction traffic would be composed of trucks hauling materials and equipment to and from the construction area. Due to these traffic increases, and the types of vehicles associated with construction, intersection and roadway capacities are expected to be adversely affected during this phase of the project.

Construction activities that would require numerous trips to haul materials include clearing and grubbing, excavation of pyritic material, placement of stable fill, limestone treatment of pyritic material, subgrade placement, and asphalt paving. The actual number of construction vehicles would be based upon many factors such as construction schedule, construction process, number of workers, types of equipment, location of materials, and others, depending on which alternative is chosen. As an example, truck traffic associated with the excavation of pyritic material and limestone treatment has been estimated to range between 5 and 56 roundtrips into and out of the Park per day, or 1 to 6 trucks making such a roundtrip each hour during the hauling phases of construction. The Laurel Branch Picnic Area would generate the lowest number of additional trucks per day, since it is smaller in size, while the Partial-Build Alternative to Bushnell would

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generate the largest number of trucks per day due to its size and projected 5-year construction schedule.

Excess excavated pyritic material would be hauled offsite and treated with limestone. The nearest supply of limestone for onsite embankment treatment as well as the offsite treatment of excess pyritic material would likely come from Tennessee.

The numbers of truck trips discussed above reflect hauling of materials into and out of the Park only. These estimates do not include traffic generated by workers commuting to the project site each day. In addition, on-site hauling activities and movements of construction equipment would substantially increase the number of vehicles operating on each section of the project within the Park while that section is actively under construction.

The addition of vehicles associated with construction is expected to adversely affect the existing roadway networks in Bryson City and surrounding areas. To reduce these impacts, it would be necessary to pursue or create alternate hauling routes that do not follow the main roadways. Future design would be undertaken to reduce the amount of excavation and balance earthwork to minimize the amount of excess pyritic rock. However, the amount of excess pyritic rock to be hauled off likely would necessitate an encapsulation site near the project, north of Bryson City and possibly an additional site on the western end of the project (Northern Shore Corridor) to help reduce construction traffic impacts and costs. Disposal of excess pyritic material would require specific geology, soils, and site conditions and a plan for encapsulation at the site(s). The project contractor would be responsible for identifying off-site borrow waste locations and obtaining permits.

4.2.1.2.6 Accident Rates

If the No-Action Alternative is chosen and no improvements are made to the roadway system, the accident rates on area roads can be expected to increase as the LOS decreases over time with natural traffic growth throughout the region.

The Northern Shore Corridor (Principal Park Road) would add 475 annual average daily traffic (AADT) to the area, more than any of the other build alternatives. When the 475 is broken down into peak hour volumes and disbursed among local intersections in the area, it would have little effect on the accident rate at any one intersection. The other build alternatives would result in fewer impacts, due to lower associated traffic volumes.

4.2.1.2.7 Mobility and Access Impacts

4.2.1.2.7.1 No-Action

The No-Action Alternative would result in no changes to mobility and access to the study area or surrounding region.

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4.2.1.2.7.2 Monetary Settlement

The Monetary Settlement Alternative would result in negligible, indeterminate, short-term and long-term changes to mobility and access the study area or surrounding region. On the one hand, local investments of the Monetary Settlement may create some additional traffic in area communities, including Bryson City. New traffic in Bryson City would be in addition to traffic generated when the GSMR relocates its headquarters to Bryson City. On the other hand, portions of the Monetary Settlement could be used for local communities to improve the capacity of local transportation networks and improve or add public infrastructure and amenities, enhancing mobility and access. While changes due to the Monetary Settlement might be permanent, their duration would depend on the how the settlement is invested into the local communities.

4.2.1.2.7.3 Laurel Branch Picnic Area

The Laurel Branch Picnic Area would result in minor, adverse, short-term impacts during construction and a negligible, beneficial, long-term change to mobility and access in the study area and the surrounding region generating little additional traffic and providing access to limited amenities at the end of existing Lake View Road once construction was completed.

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

The Partial-Build Alternative to Bushnell (Primitive or Principal Park Road) would result in moderate, adverse, short-term impacts and negligible to minor, indeterminate, long-term changes to mobility and access in the study area and surrounding region. The long-term impacts would be negligible to minor for the Primitive Park Road, due to road conditions and lower traffic volumes, and minor for the Principal Park Road. The Partial-Build Alternative to Bushnell would not create any new connections in the region's transportation network. The Partial-Build Alternative to Bushnell would provide increased access into GSMNP for area residents and outside visitors to this area of the Park, specifically providing up to 8 miles (13 km) of additional road into the Park and a new driving experience, access to several cemeteries, new short hikes at the Bushnell site, and closer access to the lake, including a boat ramp. The additional traffic generated by the amenities at Bushnell and during construction would add to traffic in downtown Bryson City, which currently experiences some congestion during peak periods and will experience traffic growth due to natural population growth and increases in the number of visitors to the area, as well as added traffic once the GSMR relocates its headquarters to Bryson City. Access to Swain County High School along Fontana Road would be impacted, primarily during morning and afternoon peak periods, by additional traffic traveling to and from the Bushnell destination, as well as traffic during construction. While construction impacts would be more evenly distributed throughout the year, the long-term impacts due to additional visitor traffic would be concentrated on weekends and during the summer peak season when school is not in session.

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Southern Option at Forney Creek Embayment

The Southern Option at Forney Creek Embayment would not alter impacts to mobility and access that would result from the Partial-Build Alternative to Bushnell.

4.2.1.2.7.5 Northern Shore Corridor (Primitive and Principal Park Roads)

The Northern Shore Corridor (Primitive or Principal Park Road) would result in moderate, adverse, short-term impacts and minor to moderate, beneficial or indeterminate, long-term changes to mobility and access in the study area and the surrounding region. The long-term impacts would be moderate for the Principal Park Road, but minor for the Primitive Park Road due to the additional length and the extremely low-speed road conditions. The Northern Shore Corridor would connect Lake View Road to NC 28. The Northern Shore Corridor would provide increased access into GSMNP for area residents and outside visitors to this area of the Park. This alternative would provide up to 34 miles (55 km) of additional road into the Park and a new driving experience, access to several additional cemeteries and trails, and closer access to the lake via these trails throughout the portion of the study area within GSMNP. The additional traffic generated by the Northern Shore Corridor and during its construction would increase traffic in downtown Bryson City, which currently experiences some congestion during peak periods and will experience natural growth of its population and visitors, as well as added traffic once the GSMR relocates its headquarters to Bryson City and has additional departures. Access to Swain County High School along Fontana Road would be impacted, primarily during morning and afternoon peak periods while school is in session, by the additional traffic traveling on the Northern Shore Corridor, as well as traffic during construction.

Southern Option at Forney Creek Embayment, Hazel and Eagle Creek Embayments, and Crossing Fontana Dam

The Southern Options at Forney Creek Embayment, Hazel and Eagle Creek Embayments, and Crossing Fontana Dam would not affect impacts to mobility and access resulting from the Northern Shore Corridor.

4.2.1.2.8 Cumulative Impacts

Projected economic impacts and development trends were taken into account in developing 2025 traffic projections. Due to the limited volume of increased traffic, there would be no further cumulative impacts to mobility and access in the study area resulting from the proposed alternatives.

4.2.1.2.9 Wildlife Impacts

The introduction of traffic from alternatives that involve building new roadway sections could result in increased mortality to wildlife having to cross the road. These effects are incorporated into overall impacts presented in Terrestrial Wildlife, Section 4.4.6. Noise during construction and from traffic introduced by roadway alternatives would result in impacts to the behavior of migratory birds and other wildlife.

Clarification of the term "baseline" for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

Additional information on soundscape impacts to wildlife and section references are in Soundscapes, Section 4.3.5.

4.2.1.3 Mitigation Options to Address Potential Mobility and Access Impacts

Options to address potential mobility and access impacts include:

- Identification of hauling routes that minimize traffic on congested roadways, and/or
- location of encapsulation sites near the project, north of Bryson City as well as possibly on the western end of the project (for the Northern Shore Corridor).

4.2.2 Community

The study alternatives would have a variety of impacts to the physical and social infrastructure of communities adjacent to GSMNP, as well as to outside communities interested in GSMNP and its natural and cultural resources.

4.2.2.1 Methodology for Assessing Community Impacts

The approach to assessing impacts of the study alternatives on the surrounding community considers two factors: (1) existing conditions of the surrounding study area in regards to the physical infrastructure and (2) effects on the social networks and social and psychological perspectives (social infrastructure) of former residents, current residents, and visitors in the study area. For these factors, the direct, indirect, and cumulative community consequences of likely project-related changes are assessed. Direct effects could include alteration in access to GSMNP cultural or natural resources. Indirect effects could include short-term demands for local housing created as a result of jobs provided during road construction or long-term impacts to local populations due to changes in the number of annual visitors to the Park and surrounding areas.

The analysis considers the type, context, duration, and intensity of the community consequences.

Type

In regard to community effects, few standards exist as to what constitutes beneficial or positive changes or those considered adverse or negative. For example, the TVA's construction of Fontana Dam during World War II resulted in new jobs but required relocations. This event may be viewed as adverse by some and beneficial by others. For this analysis, an attempt was made to capture the major issues that frame whether various groups view an alternative positively or negatively. It is important to note that while representative groups share some issues and values, an individual may hold any one or a set of these values differently than another individual and may feel much more or less strongly about a given value than others do. For additional insight into issues of concern to the public regarding the North Shore Road Project, summaries of

Clarification of the term "baseline" for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.