

1. INTRODUCTION

Oak Ridge National Laboratory (ORNL) is preparing an environmental report for the National Park Service (NPS) on the proposed construction and operation of Section 8B of the Foothills Parkway between Cosby and Pittman Center in East Tennessee. The NPS will use the information in the environmental report (ER) and from other sources to prepare an environmental impact statement (EIS) that evaluates the potential environmental impacts of the proposed project. The Federal Highway Administration (FHWA) is designing this and other sections of the parkway with NPS input.

The first deliverable for this project (August 1994) presented a detailed study plan to the NPS. In October 1994 the First Field/Progress Report was submitted to NPS. The Second Progress Report was submitted to NPS in February 1995 and the Third Progress Report in June 1995. This Environmental Report contains data gathered on various tasks through November 1996 and an assessment of environmental impacts from the proposed Foothills Parkway, Final Conceptual Plans for Environmental Review, December 27, 1996. The text of this report is similar to a NEPA document with detailed technical data in appendices.

1.1 PURPOSE AND NEED

The purpose of developing the Foothills Parkway along the Tennessee side of the Great Smoky Mountains National Park (GSMNP) is to provide a scenic roadway from which visitors may view the Smoky Mountains from a sufficient distance and from a sufficiently high perspective to permit full perception of their grandeur, extent, and height. The Foothills Parkway was planned as a scenic parkway, 115 km (72 miles) long, traversing the western and northern perimeters of GSMNP. When completed, the Foothills Parkway would extend from Chilhowee on the west to the intersection with Interstate 40 (I-40) east of Cosby. The road is to be a two-lane, 6.1-m (20-ft)-wide, asphalt paved parkway, with a design speed of 48 km (30 miles) per hour or less.

The right-of-way (ROW) of the parkway section currently under study, which is called Section 8B, is approximately 305 m (1000 ft) wide and extends from Cosby on the east to Pittman Center on the west. Section 8B of the Foothills Parkway would connect Section 8A, which is already built and in use, and Section 8C, which would run from Pittman Center to the Gatlinburg Spur (U.S. 441) (Figs. 1A and 1B). Section 8C will be evaluated in the future after proposals to construct this section are developed. A draft EIS on Section 8D was published and distributed for public review in January 1995.

1.2 SCOPE AND APPROACH OF THE ENVIRONMENTAL REPORT

This report describes the existing environmental resources that could be affected by construction and subsequent use of Section 8B and presents an analysis of potential environmental impacts of the proposed project. Existing information is summarized and new resource data is described including information on geology, soils, water, aquatic ecology, terrestrial ecology, meteorology and air quality, socioeconomics, aesthetics, and archaeologic and historic resources. In addition,

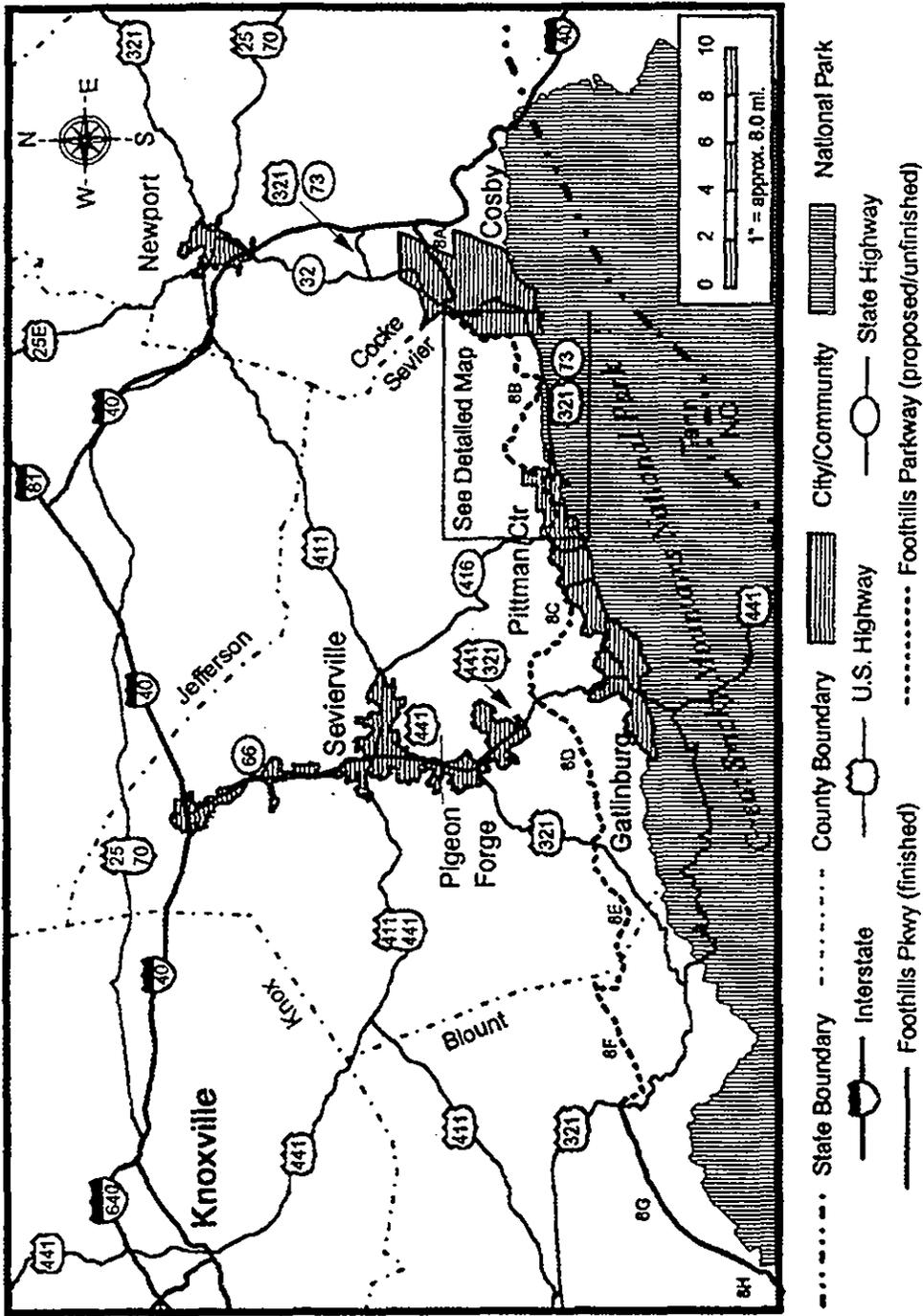


Fig. 1.A. General location map for the area of the Foothills Parkway.

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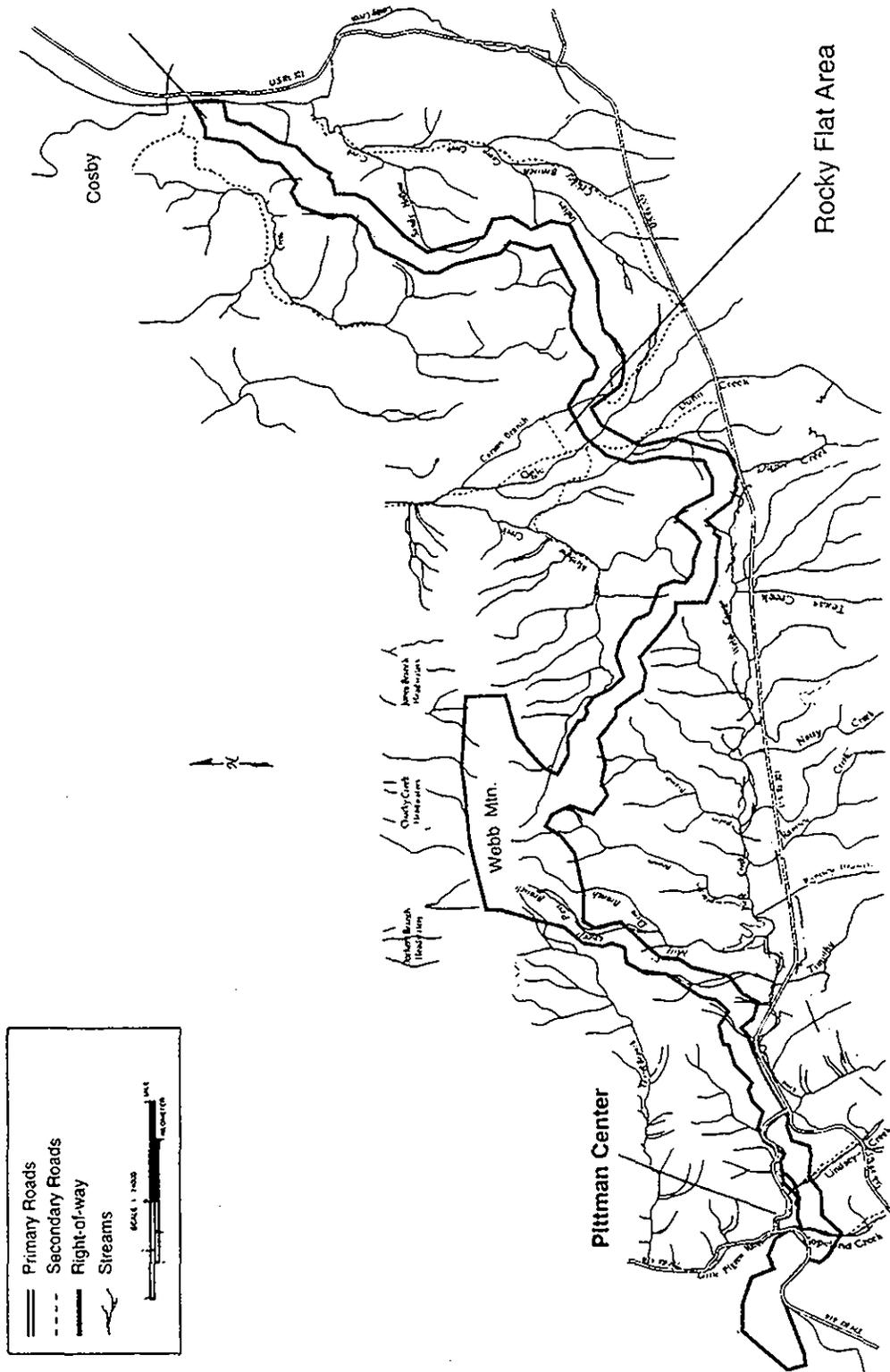


Fig. 1B. General map of Foothills Parkway Section 8B.

existing traffic patterns and noise are evaluated. Issues for which environmental impacts are evaluated are listed in Sect. 1.4.

Preparation of this environmental report has been conducted in phases. Phase one consisted of data gathering and the preparation of the "affected environment" section for the environmental report. Phase two involved a meeting with NPS and FHWA staff to present and discuss results of the field studies as input to the FHWA to initiate conceptual project design and identification of mitigation measures for environmental impacts. Phase three, which started when the FHWA conceptual design was completed, involved assessing environmental impacts and assembling the complete environmental report. Upon its completion, NPS staff will use the environmental report to prepare a draft EIS for public review and comment.

1.3 BACKGROUND

1.3.1 History

The NPS has been committed to construction of the Foothills Parkway since 1944, when Congress passed Public Law 232. That law authorized construction of the Foothills Parkway to provide scenic views of the GSMNP and allowed the Secretary of the Interior to accept land donated by the state of Tennessee for construction of a scenic parkway, with the stipulation that such lands would become part of the GSMNP.

In 1945 the Tennessee legislature passed a bill authorizing the state to acquire a corridor for the Foothills Parkway by gift, purchase, or condemnation. The legislature passed a second bill in 1947 authorizing the state to transfer the corridor lands to the NPS for inclusion in the GSMNP.

To date, approximately 38 km (24 miles) of the parkway have been completed and opened to traffic. The completed portions extend from Chilhowee to Walland and from Cosby to I-40 (Sections 8A, 8G, and 8H). Another portion about 24 km (15 miles) long between Walland and Wear Valley is almost complete (Sections 8E and 8F) except for a 2.2 km (1.4-miles) portion that will connect two sections of that stretch. A draft environmental assessment (EA) on this "missing link" portion was released to the public in January 1994. The revised EA was released in December 1996 and a decision by the NPS is pending.

1.3.2 Planning Background

The General Management Plan for the GSMNP (NPS 1982) designates management zones to carry out broad management strategies for the various lands and waters of the GSMNP. These management zones indicate the types of uses, activities, and management actions that are appropriate. The existing Foothills Parkway is considered under the development zone as part of the transportation subzone. As sections of the parkway are completed, they will be given this classification as public road corridors.

Management objectives within the development zones include the following (NPS 1982):

1. to ensure that all developments ... are the minimum necessary for safe, efficient park administration and essential visitor services, consistent with other park objectives and NPS policies; and to bring each to an attractive, safe, sound condition; and
2. to prevent, to the extent possible, deterioration of facilities to the point of unsightliness, unsafe conditions, or resource degradation, or deterioration beyond efficient repair.

1.4 ISSUES IDENTIFIED IN SCOPING

Construction of Section 8B was the subject of two scoping meetings at Pittman Center and Gatlinburg held by the NPS on November 19–20, 1993. The principal issues of concern identified during the scoping process are discussed in this section.

Water quality. Construction activities could affect the quality of water in streams that cross or are adjacent to the ROW in two ways. Erosion from steep slopes could increase sediment in the streams. In addition, there is a potential for exposing pyritic soils, which are high in sulfates and may contribute acidic materials to adjacent waters when exposed to air and water. These acidic materials may affect water quality and the plant and animal species living in the aquatic systems.

Other issues of concern include floodplain effects, flooding, and streamflow changes; impacts on local water supplies (quality and quantity) and groundwater quality; and impacts on stream ecology of increased temperatures that would result from forest canopy removal.

Slope stability. Slope stability is a major concern, given the steep slopes on which the parkway may be constructed and stability problems experienced in construction of previous sections.

Local economy and land use. Construction of Section 8B of the Foothills Parkway might cause additional commercial and residential development in adjacent areas, affecting the economy and social structure of the area and changing current land use.

Visual experience. The purpose of the parkway is to provide scenic views of the GSMNP from a high vantage point. However, there is concern about the visual changes that construction of the road might make to the view of the mountains from outside the park for visitors and local residents.

Air quality. Further completion of the Foothills Parkway might increase traffic within the area. Increased traffic could adversely affect air quality and might contribute to limiting the range of views now available. Impaired air quality might affect the unusual diversity of plant and animal life that is present in the park. Fugitive dust from construction of the parkway might also adversely affect the short-term air quality by increasing suspended particulates.

Ecological resources. Construction and operation of the Foothills Parkway might adversely affect species within the ROW that are listed, or candidates for listing, as threatened or endangered by the state or the federal government. Other ecological resources that could be affected include stream biota, wetlands, and existing terrestrial plant and animal communities. The potential adverse

effects to these resources include impacts from disturbance, introduction of non-native species, impacts of physical alteration and fragmentation of habitats, and impacts on biodiversity and sustainability of existing habitats.

Cultural resources. Construction of the Foothills Parkway might have an impact on archeological and historic resources, including cultural landscapes, that are listed on or are eligible for listing on the *National Register* of Historic Places. Ethnographic resources associated with the native populations of the region may also be affected by construction of the parkway.

Traffic (motor vehicle and bicycle) and noise. Potentially adverse effects include changes in vehicle traffic patterns and levels, impacts of increased traffic noise on people and wildlife, and potential impacts from and to bicycle traffic.