

**I. PURPOSE AND NEED FOR THE ACTION**

**A. PROJECT DESCRIPTION**

The MD 97 Brookeville Project includes proposed transportation improvements to MD 97 (Georgia Avenue) in the vicinity of the Town of Brookeville in Montgomery County, Maryland (**Figure I-1**). The project area extends approximately two miles from south of Gold Mine Road to north of Holiday Drive and includes the corporate limits of the Town of Brookeville (**Figure I-2**).

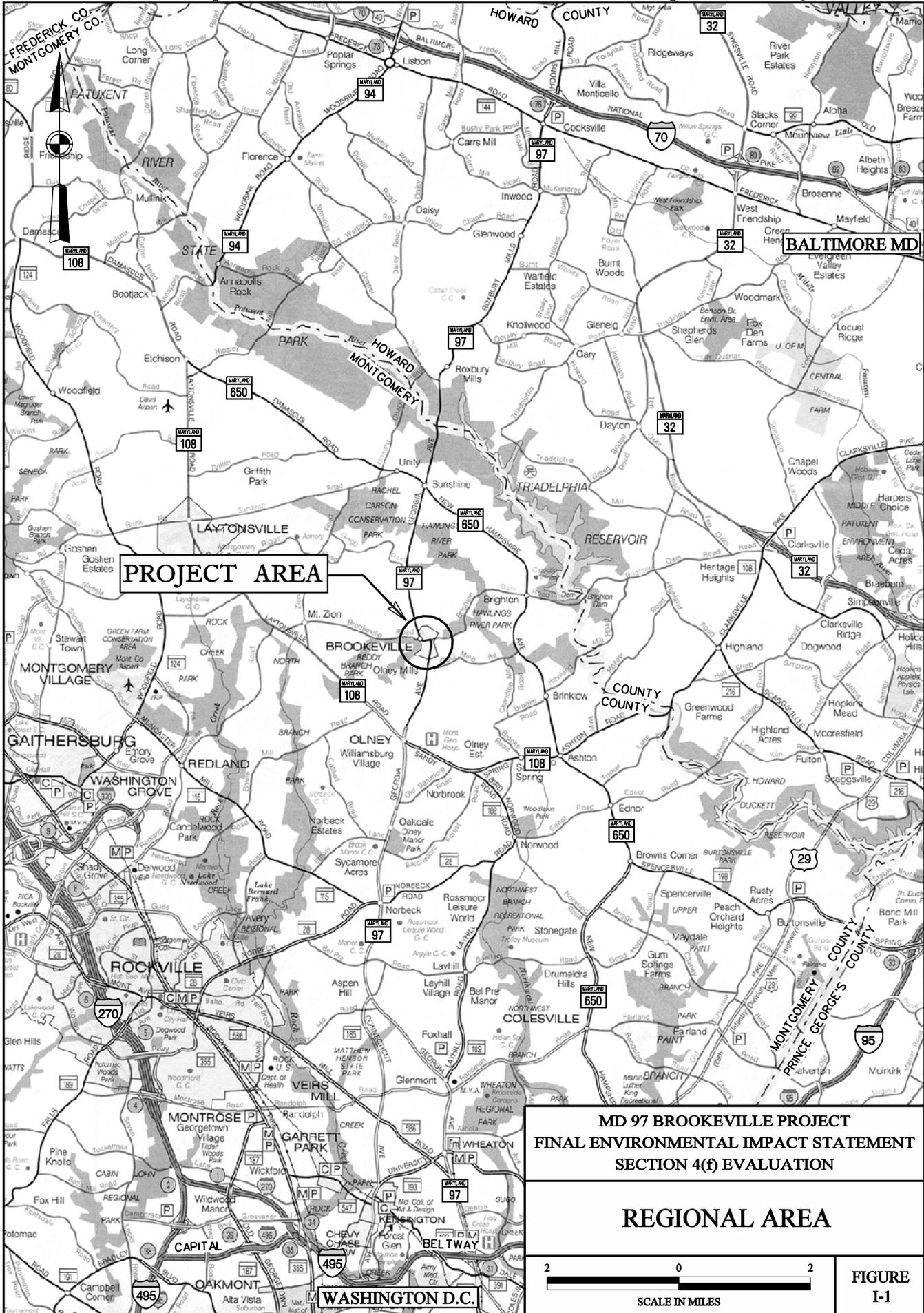
**B. BACKGROUND AND HISTORY**

Brookeville is a unique crossroads town because of its relatively unaltered 18<sup>th</sup> century architecture, its pristine and tranquil setting, and its tie to our Country's history. Among the many historic buildings in Brookeville, the Madison House is especially noteworthy. On August 26, 1814, President Madison sought shelter there for the night when the British burned Washington, during the war of 1812. Since that time, the town has been referred to as the "United States Capital for a Day". The Town of Brookeville is recognized as a Montgomery County historic district and was listed on the National Register of Historic Places in 1979.

Today, the Town of Brookeville remains relatively untouched with its quaint, curving streets and enveloping trees, which distinguish the area from the modern and encroaching development of areas such as Olney located about one mile to the south (**Figure I-2**). Brookeville residents are concerned that the increasing traffic volumes will alter their town's historic character.

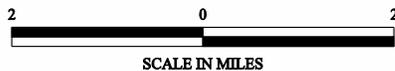
The June 1980 Approved and Adopted Master Plan for Olney recognizes that Brookeville is an important historic resource for the entire county. The Olney Master Plan supports the designation of the area around Brookeville for agricultural and open space preservation and the relocation of MD 97 to the west of Brookeville, to preserve the town's historic character. The Olney Master Plan's agricultural and open space recommendations will help preserve Brookeville's historic setting. The Olney Master Plan also notes that property owned by the M-NCPPC and designated for anticipated transportation use for improvement of MD 97 is leased to the Longwood Community Center for use as recreational fields.

In 1990, a feasibility study for improving traffic flow throughout the town was initiated. The SHA investigated improvements within the Brookeville Historic District and also studied the Master Plan Alignment. A Project Planning Study was initiated in January 1995 and the MD 97 Brookeville Project appears in the current Maryland Department of Transportation's FY 2003-2008 Consolidated Transportation Program (CTP), but only for project planning studies.

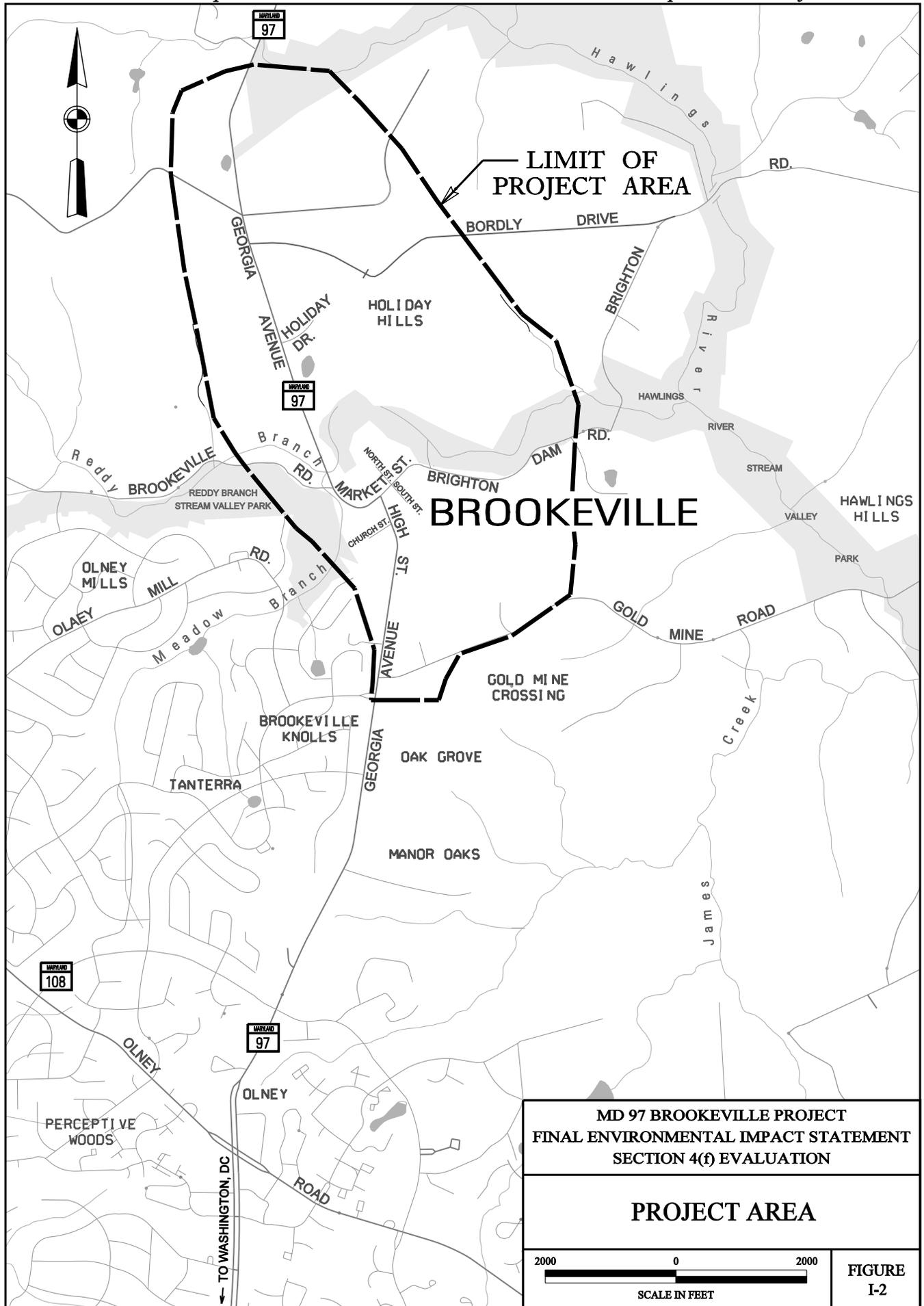


**MD 97 BROOKEVILLE PROJECT  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
SECTION 4(f) EVALUATION**

**REGIONAL AREA**



**FIGURE  
I-1**



**C. EXISTING CONDITIONS**

Regionally, MD 97 is an arterial highway serving the east Montgomery County corridor and central Maryland from Washington, D.C. and the Capital Beltway (I-495) to I-70 in Howard County. MD 97 functions as a major north-south commuter route between the employment areas in and surrounding Washington, D.C., and the residential communities north of Brookeville, including northern Montgomery County, Howard, and Frederick Counties (**Figure I-1**).

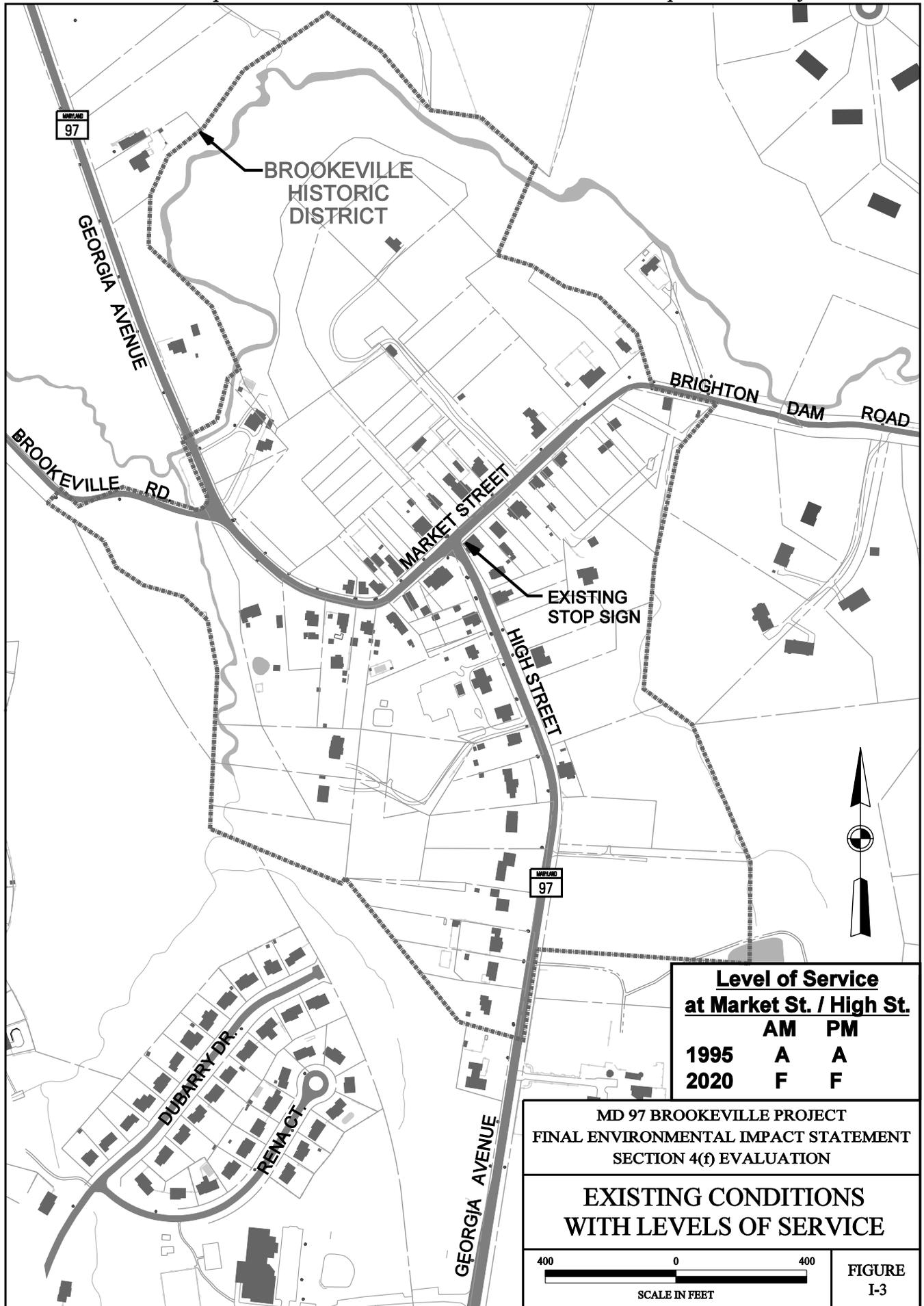
Within the Town of Brookeville, MD 97 experiences a sharp “dog-leg” bend in horizontal alignment (**Figure I-3**) accompanied by steep grades in vertical alignment. The resulting “S” curve along High Street, Market Street, and Georgia Avenue includes roadway geometrics that are substandard in design. Both north of, and within the project area, MD 97 is a two-lane roadway with 11 to 12-foot lane widths, zero to five foot shoulder widths and a ROW width of 40 feet. However, less than one mile south of the project area, traffic demand has necessitated the improvement of MD 97 to a multi-lane divided roadway from Olney to Washington, D.C. (**Figure I-1**). No access controls are in place.

The 1995 Average Daily Traffic (ADT) volumes were approximately 9,000 vehicles per day passing through Brookeville. These traffic volumes are forecasted to double to approximately 18,000 vehicles per day by the year 2020. In addition, during the PM peak period there is significant back-up of vehicles at the intersection of MD 97 and Market Street in the northbound direction. Similarly, during the AM peak period, a continuous stream of slow moving traffic can be observed at this intersection in the southbound direction.

The numerous driveways, narrow roadway, poor vertical and horizontal alignment, and a northbound stop condition at the T-intersection of High Street and Market Street contribute to the transportation problem within the Town of Brookeville (**Figure I-3**).

**1. Roadway Deficiencies**

The existing MD 97 roadway conditions in Brookeville range in width from 22 to 24 feet with shoulders from 0 to 5 feet. At the T-intersection of Market Street and High Street, an inadequate sight distance exists for MD 97 drivers traveling northbound along High Street (**Figure I-3**). The existing vertical grade and “S” curve along Market Street interfere with the northbound driver’s sight distance thus forcing the driver out into the intersection. Northbound drivers traveling through Brookeville on MD 97 (High Street in Brookeville) must turn left at the T-intersection at Brighton Dam Road (Market Street in Brookeville) from a stop condition. These northbound drivers are regularly observed positioning themselves 1 to 1.5 additional car lengths beyond the stop bar to judge if traffic is approaching from the right on Brighton Dam Road and from the left on southbound MD 97. Slightly further north on MD 97, the existing horizontal and vertical curve also affects the driver’s sight distance in both the northbound and southbound directions. North on MD 97 where Market Street transitions back into Georgia Avenue, the existing horizontal and vertical curve also affects the driver’s sight distance. Both the steep vertical down grade of seven percent transitioning to ten percent and the sharp horizontal curve to the right (130 feet radius) create the sight distance problem along this section of MD 97.



There are other elements that also impede the driver’s sight distance within the Town of Brookeville. These elements include trees, utility poles, and homes positioned close to the roadway (**Figure I-3**). Consequently, the posted speed limit has been reduced from 40-mph north and south of Brookeville to 20-mph in the Town of Brookeville.

At the T-intersection, large vehicles (school buses and trucks) traveling southbound along MD 97 are unable to make a right turn from Market Street onto High Street without crossing the centerline of the opposing northbound traffic. This is primarily due to the inadequate turning radius (50 feet) on the southwest corner. In order to prevent crossing the centerline, large vehicles making right turns southbound occasionally encroach upon the privately owned historic residential property in the southwest corner of the intersection. **Figure I-3** identifies the limits of the Brookeville Historic District, which coincides with the corporate limits of the Town of Brookeville.

**D. PURPOSE FOR PROJECT**

The project’s purpose is to remove the continually increasing traffic volumes from the Town of Brookeville, improve traffic operations and safety on existing MD 97, and preserve the historic character of the town. The project limits, which extend for approximately two miles on MD 97 from south of Gold Mine Road to north of Holiday Drive (**Figure I-2**), are adequate to address the transportation problems and define logical study limits. The previously mentioned roads (Georgia Avenue, Market Street, Brighton Dam Road, and High Street) comprise the intersecting roads in the immediate vicinity of an existing 90-degree turn in the center of town, which is the major impediment to improving traffic flow.

**E. NEED FOR IMPROVEMENT**

**1. Operations**

Within the Town of Brookeville, MD 97 is part of a T-intersection at Market Street and High Street. MD 97 forms the western and southern legs of this intersection while Market Street/Brighton Dam Road forms the eastern leg. Northbound MD 97 traffic is controlled at the intersection by a stop sign (**Figure I-3**), which allows traffic to enter the intersection from the minor road (Market Street), at the expense of the major road (MD 97). During the evening peak hour, queues (lines) up to 25 vehicles have been observed on northbound High Street waiting to turn left at Market Street.

The poor geometrics of the roadway and the “dog-leg” or “S” curve located along MD 97 (High Street, Market Street, and Georgia Avenue) cause a potentially unsafe condition for drivers. In Brookeville, the inadequate geometrics and roadway operations are incompatible with roadway operations north and south of the town and present a safety problem to motorists who are unfamiliar with the road. These conditions, together with the increasing volume of traffic passing through the Town of Brookeville, continue to affect the tranquility and small town atmosphere that Brookeville has known for nearly 200 years.

**2. System Continuity**

The continuity of the MD 97 roadway is disrupted upon entering Brookeville. As explained previously, MD 97 transitions from a heavily used, commuter roadway north and south of Brookeville to a quaint and winding road within the historic Town of Brookeville. The large volume of commuter traffic along MD 97, north and south of Brookeville, must pass through the historic district, utilizing High Street and Market Street, which contain substandard geometrics for these volumes (**Figure I-3**). With the future traffic volumes expected to approximately double, the Town of Brookeville will be divided into two separate sides, east of and west of MD 97. This directly conflicts with the character of the historic town.

MD 97 carries predominantly through traffic and is the only major roadway that links the Town of Brookeville with surrounding towns and other commuting corridors (**Figure I-1** and **Figure I-2**). An Origin and Destination Study was conducted in April 2000 along MD 97 from MD 108 to MD 650 during the morning and evening peak hours of operation. It was found that 84 percent of southbound, morning traffic and 71 percent of northbound, evening traffic passed through the Town of Brookeville. This can be attributed to the roadway's direct connection between many bedroom communities in Carroll, Frederick, Baltimore, Howard, and Montgomery Counties and the businesses in the metropolitan area of Washington D.C. (**Figure I-1**).

**3. Traffic**

**a. Average Daily Traffic**

The ADT volume along the study section for 1995 was approximately 9,000 Vehicles Per Day (VPD) south of Brookeville and 8,500 VPD north of Brookeville. Trucks account for five percent of the traffic volume. The forecasted ADT for the design year, 2020, is approximately 18,000 VPD south of Brookeville and 17,000 VPD north of Brookeville. This represents a doubling in the volumes that MD 97, through Brookeville, would need to accommodate.

**b. Level of Service**

The Level of Service (LOS) for a roadway is a qualitative measure of the operational conditions within a traffic stream, on that roadway. It describes conditions in terms of speed, travel time, comfort, convenience, and safety. An explanation of the LOS is as follows:

- Level A - free traffic flow, low volumes, higher speeds
- Level B - stable traffic flow, some speed restrictions
- Level C - stable flow, increasing traffic volumes
- Level D - approaching unstable flow, heavy traffic volumes, decreasing speeds
- Level E - unstable flow, high volumes nearing roadway capacity, delays
- Level F - forced flow with traffic delays

Both north and south of Brookeville, MD 97 operates at a LOS D based on 1995 traffic conditions considered to be current (**Figure I-3**). In the design year 2020, the existing roadway will operate at a LOS D north of Brookeville and LOS E south of Brookeville.

Currently, the T-intersection at Market Street and High Street operates at a LOS A but only after the long queues waiting in turn to pass through the intersection arrive at the intersection. However, the LOS is D along High Street south of the T-intersection, thus resulting in the long queues. These long queues together with the stop controlled intersection result in a degradation of Brookeville's historic character and small town ambiance as the vehicles wait in queues contributing to both noise and air pollution. This condition will continue to worsen noise and air quality as the design year approaches with a LOS F in the PM (**Figure I-3**).

#### **4. Accident History**

The accident history from January 1996 to October 1999 shows 36 police-reported accidents in the project area. These resulted in an accident rate of 154.1 accidents per 100 million vehicle miles of travel (acc/100mvm). This rate is higher, but not significantly so, than the statewide average accident rate of 140.7 acc/100mvm for all similarly designed highways now under state maintenance. This may be due to the fact that traffic is traveling slowly through the center of town. Approximately 28 percent of all accidents resulted from collisions with fixed objects, 22 percent from rear end collisions, 19 percent from left turn collisions, eight percent from right-angle collisions, and three percent each from collisions with parked cars and opposite direction collisions. Also, 22 percent of the total accidents were truck-related. None of the traffic study rates, with the exception of left turn collisions and truck-related accidents, are significantly higher than the statewide average rate for each type of collision. Of the total number of accidents, 53 percent involved personal injuries and 47 percent involved property damage only. There were no fatal accidents within the project area. Approximately 11 percent of the accidents reported were the result of excessive speed or a failure to reduce speed. The rear end accidents and failure to reduce speed are attributed to the stop condition along MD 97.

#### **F. CONCLUSION**

Brookeville is a unique crossroads town because of its relatively unaltered 18<sup>th</sup> century architecture, its pristine and tranquil setting, and its tie to the history of the United States. The Town of Brookeville is listed as a historic district on the National Register of Historic Places. Brookeville residents are concerned that the increasing traffic volumes will continue to alter the historic character of the town. The numerous driveways, narrow roadway, poor vertical and horizontal alignment along the MD 97 "dog-leg", and the northbound stop condition at the T-intersection of Market Street and High Street all contribute to the transportation problems within the Town of Brookeville. Improvements to MD 97 are necessary to alleviate existing and future congestion and safety problems in town that will, in turn, preserve the historic Town of Brookeville's quality of life, original character, and local charm. The project will also benefit commuters passing through the area by minimizing the congestion and safety problems associated the current roadway configuration along MD 97 within the Town of Brookeville and at the T-intersection of Market and High Streets.