

## I. DESCRIPTION OF THE UNDERTAKING

The SR 1, Little Heaven Grade Separated Intersection Project, located in the Little Heaven area of Kent County, Delaware, is approximately 8.5 miles south of Dover and approximately 4.5 miles south of Dover Air Force Base (DAFB) as shown in **Figure 1**. The project area is approximately 659 acres in size and extends 2.73 miles along SR 1 from south of Barratt's Chapel Road to north of Mulberrie Point Road.

**Figure 1: Project Location Map**



## **A. Purpose and Need**

SR 1 south of the Dover Air Force Base (DAFB) is a four-lane divided highway with uncontrolled access. The SR 1/Clapham Road intersection within the limits of the SR 1, Little Heaven Grade Separated Intersection project, was one of ten locations identified for grade-separated intersection improvements under the Delaware's Department of Transportation (DelDOT) SR 1 Corridor Capacity Preservation Program (CCPP) that encompassed the 31-mile stretch of SR 1/US 113 corridor extending from the DAFB in the north to Nassau in the south.

The *purpose* of the project is to improve traffic safety and relieve traffic congestion along SR 1 and at its roadway crossings while providing access for existing and planned developments and avoiding or minimizing adverse effects to the socio-economic, cultural and natural environmental resources within the project area. The project purpose is consistent with the SR 1 Corridor Capacity Preservation Program's (CCPP) four main goals, as follows:

1. Maintain the road's ability to handle traffic efficiently and safely.
2. Minimize the transportation impacts of increased economic growth.
3. Preserve the ability to make future transportation-related improvements, as needed.
4. Prevent the need to build an entirely new road.

SR 1 serves as a major north-south highway through Delaware. South of DAFB, SR 1 is a four-lane divided highway with uncontrolled access. SR 1 is federally functionally classified as an Urban Freeway/Expressway in the portion of the project area to the north which extends into the Dover Urbanized Area boundary. The southern portion of the project limits extending from south of Bowers Beach Road to Barratt's Chapel Road is designated as a Rural Other Principal Arterial.

The purpose of the SR 1, Little Heaven Grade-Separated Intersection Project is supported by the project *needs* listed below and further described in subsequent sections:

1. Traffic Safety
2. Preserve Roadway Capacity for Current and Future Traffic

### **1. Traffic Safety**

Growth in travel to and from the Delaware Beach resort areas, in addition to year-round growth in residential and commercial traffic in eastern Sussex County and central Kent County have contributed to increased traffic congestion and accidents along SR 1. The current four-lane divided roadway typical section of SR 1 is of sub-standard design for a Principal Arterial and Freeway/Expressway highway classification. It does not have any access controls, despite serving as a major throughway and has inadequate separation of through traffic from local traffic and improve traffic operations.

There are seven roadway intersections and numerous private entrances to SR 1 within the 2.73 mile length of the project. Many of these private entrances are unimproved driveways that have poorly defined entrance and exit points fronting SR 1. Lack of acceleration/deceleration lanes from side roads and driveways and lack of uniform spacing between median breaks and intersections also contribute to safety and capacity problems along the SR 1. Uncontrolled access also limits capacity of the roadway due to vehicles turning from side streets which slows through traffic.

The through lanes and shoulders are of substandard width and the right and left turn lanes are of substandard lengths and widths and do not allow sufficient deceleration from through lanes. Some intersections enter SR 1 at skewed angles and have poor turning radii which are difficult for large vehicles to navigate and have inadequate sight distances. Drainage is somewhat adequate, but can be improved to address flooding of side streets during heavy rainfall.

## **2. Preserve Roadway Capacity for Current and Future Traffic**

SR 1 serves as the primary north-south highway to access the Delaware beach resort areas. Increase in population (especially retired individuals), tourism and development in Delaware has led to increased traffic volumes and congestion on SR 1 and intersecting roadways within the project area. Eastern Sussex County and central Kent County have continued to experience high rates of growth in year-round residential and commercial traffic due to new development that has subsequently led to increased traffic congestion. Traffic along SR 1 is expected to continue to increase in the future. Traffic volumes are expected to increase on SR 1 and intersecting roadways.

## **B. Proposed Action**

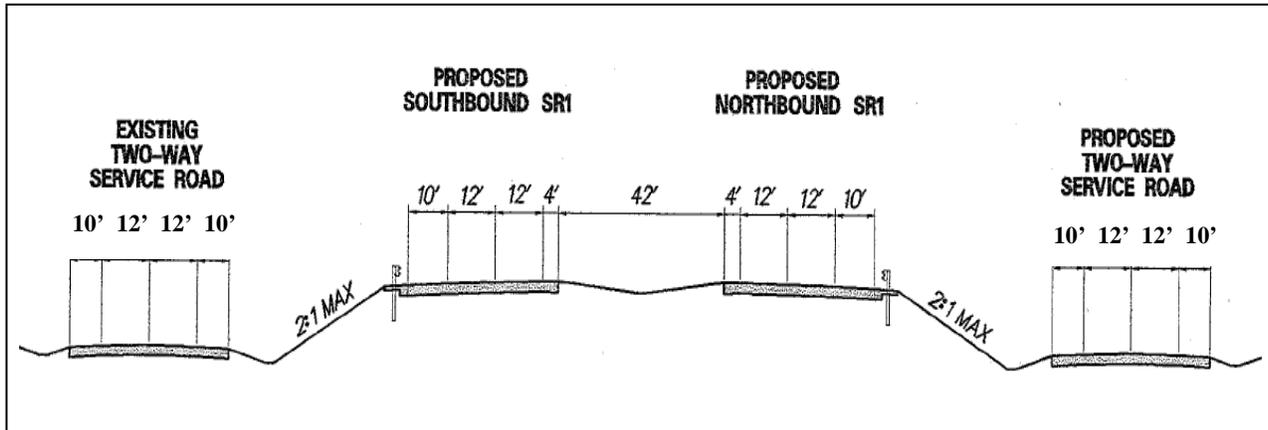
In order to address the needs for traffic safety and preserving roadway capacity for current and future traffic along SR 1 and intersecting local roadways it is essential to separate through traffic movements along SR 1 from local traffic movements crossing SR 1. The Delaware Department of Transportation (DelDOT) is considering removing the existing at-grade intersection crossings at Bowers Beach Road and Mulberrie Point Road and all direct property access to SR 1 and providing alternative access to adjacent properties via parallel service roads and access to and from SR 1 via ramps. Local road crossings of SR 1 would be consolidated at grade-separated intersection and parallel service roads would be provided to maintain connectivity between the local roads and private accesses on each side of SR 1.

The proposed action is consistent with goals and objectives identified in the State of Delaware's Long-Range Transportation Plan, the SR 1 Corridor Capacity Preservation Program, the Strategies for State Policies and Spending and the Livable Delaware Initiative. The proposed action is also consistent with the Kent County, Delaware Comprehensive Plan (2008) and the Dover/Kent County Metropolitan Planning Organization's Long-Range Transportation Plan and Transportation Improvement Program.

Six build alternatives were developed, Alternatives A through F. A No-Build Alternative was also considered which assumed no substantial improvements other than normal maintenance would be made to the transportation network within the project area. Public Workshops were held throughout the project development process to allow the public to review and comment on the alternatives. The public workshops were held on July 17, 1996, October 21, 1998, January 6, 2004, July 20, 2004, October 26, 2004 and July 16, 2008.

The proposed typical cross section for the Preferred Alternative consists of reconstructing SR 1 to a four lane divided, access controlled freeway consisting of two-12 foot travel lanes in each direction with 10 foot outside shoulders and a 4 foot inside shoulders. A 42 foot open grass median would divide the northbound and southbound lanes. A service road would be provided adjacent to the east of northbound SR 1 and to the west of southbound SR 1 in order to provide access to properties and public streets. The typical cross section (see **Figure 2**) for the two-way service roads consists of two-12 foot lanes (one in each direction) and 10 foot shoulders on both sides of the roadway.

**Figure 2: Typical Section for Preferred Alternative**



The Preferred Alternative, Alternative C (**Figure 3**), would shift SR 1 to the east of the existing SR 1 roadway corridor, would provide two-way north-south parallel service roads on each side of SR 1, would construct/reconstruct several intersections to tie into the proposed improvements and would provide a grade separated crossing of SR 1 over Bowers Beach Road. The Bowers Beach Road crossing would connect to the new two-way, north-south service roads that would be constructed parallel to SR 1 which would in turn provide connection between the local roadways and would provide access to and from SR 1 via ramps. The west service road would connect Clapham Road in the north to Barratt's Chapel Road in the south. The east service road would connect Mulberrie Point Road to the north to Skeeter Neck Road to the south. It would improve the local road network while helping to preserve the capacity of SR 1. It is the only alternative that provides access to all of the local roads along the service road.

Locating the grade separated crossing of SR 1 to Bowers Beach Road instead of north of Mulberrie Point Road would avoid direct impacts to several communities and greater direct impact takes on the historic Mt. Olive School located near the intersection of Clapham Road and Mulberrie Point Road. It would also minimize wetland impacts. The intersection improvements would align the intersections of south Skeeter Neck Road and Barratt's Chapel Road and would provide ramps connecting Clapham Road to and from southbound SR 1 and would to provide access to and from southbound SR 1 and Clapham Road. The existing SR 1 intersection with Barratt's Chapel Road would be closed in favor of using this new configuration.

Alternative C as shown in **Figure 3** displays several refinements that took place after its selection as the Preferred Alternative, primarily a new connection to the west service road and Barratt's Chapel Road opposite South Skeeter Neck Road. This new connection was needed based on planned and projected development and increased traffic along Barratt's Chapel Road. In order to mitigate wetland impacts a wetland mitigation site has been identified to the east of SR 1 in an area north of the Skeeter Neck Road (south).

