Roadway Capacity Deficiencies

Roadway capacity deficiencies occur wherever the travel demand volume of a roadway is close to or more than the capacity of that roadway. Travel demand volume is the total number of vehicles that wish to use a roadway on a daily basis. The existing travel demand volumes for the planning area are based upon traffic count data taken annually by the NCDOT Traffic Survey Unit and are shown in **Figure 6** for the year 2003. The projected 2030 travel demand volumes, which are based upon historic and anticipated population, economic growth patterns, and land use trends, are shown in **Figure 7**.

Capacity is the maximum number of vehicles that can pass over a given section of roadway during a given time period under prevailing roadway and traffic conditions while still maintaining a service level that is acceptable to drivers. Many factors contribute to the capacity of a roadway, including:

- Geometry of the road, including number of lanes, horizontal and vertical alignment, and proximity of perceived obstructions to safe travel along the road;
- Typical users of the road, such as commuters, recreational travelers, and truck traffic;
- Access control, including streets and driveways, or lack thereof, along the roadway;
- Development of the road, including residential, commercial, and industrial developments;
- Number of traffic signals along the route;
- Peaking characteristics of the traffic on the road;
- Characteristics of side-roads feeding into the road; and
- Directional split of traffic or the percentages of vehicles traveling in each direction along a road at any given time.

2003 Traffic Capacity Analysis

The comparison of the 2003 travel demand volumes for the major roadways in the planning area to the current practical capacities for these roadways identified several existing deficiencies for Lincoln County planning area. These existing roadway deficiencies are summarized in **Table 2**.

2030 Traffic Capacity Analysis

The capacity deficiency analysis for the 2030 design year is based upon the “no build” alternative. This analysis examined the existing street system and determined that numerous roadways within the planning area will exceed practical capacity by the design year. **Table 3** presents the capacity deficiencies determined for the design year based upon this analysis. Complete recommendations for these facilities are included in **Chapter 2** of this report.