Chapter 3: Minimal Acceptable Lane Widths

3.1 Introduction

The lane width of a roadway is a determining factor in making the motorist feel secure and at ease. Some lane widths enhance the sight distance of roads where terrain and other objects limit the vision of the motorist. Lane widths of 9' to 12' are common in North Carolina on roads and 12' lanes are almost always used on multi-lane, divided facilities.

In the Work Zone, the motorist should feel the lanes are generally consistent from before the beginning point of construction to beyond the end. Tapers, shifts and lane narrowing are sometimes needed during construction, but are often minimized for the comfort of the motorist.

The purpose of this chapter is to give the designer a feel for the guidelines set forth by the Work Zone Traffic Control Section concerning lane widths in the Work Zone and how to best utilize the resources used in designing Traffic Control plans.

3.2 Definitions & Abbreviations

The primary definitions/abbreviations needed for this chapter will be the following:

2L2W – Two lane two way road, one lane going in each of two directions

Expressway – A divided highway with partial control of access

Four-lane, divided highway – Any highway or expressway that has two lanes going in each of two directions separated by a median

Freeway – A divided highway with full control of access

Multi-lane, undivided – Any roadway that has more than one lane going in each of two directions

Rural facility – Roads that accommodate moderate to low volumes of traffic that connect all, or mostly all, incorporated areas with populations of 50,000 or less

Suburban facility – Roads that accommodate moderate to high volumes of traffic around, but not necessarily connecting, incorporated areas with populations of 50,000 or more

Traveled way – The portion of the roadway for the movement of vehicles, exclusive of shoulders

Urban facility – Roads that accommodate high volumes of traffic in, and around, incorporated areas with populations of 50,000 or more

Work Zone – Any continuous tract or area of a roadway in which construction or maintenance is being performed

3.3 Guidelines

For capacity purposes, and when feasible, lane widths in the Work Zone should match the existing roadway in order to provide the highest level of comfort for the motorist. However, on some projects, the lane widths may have to be reduced to less than the existing roadway for constructability purposes or for right of way restraints. In these cases, concurrence between the Division Construction, Regional Traffic Engineer, Division Traffic Engineer and the Traffic Control Unit will be needed. This matter needs to be discussed at the Field Inspection, or before. For minimum lane widths, the decision made should be based on posted speed limit and traffic volumes. This guideline is not designed to override any decisions made in the field.

Freeways and Expressways

For freeways, expressways and other divided highways, maintain a minimum of 11 foot lanes with a 2 foot shoulder or 2 foot offset to positive protection.

Undivided Highways

While 11 foot lanes with a 2 foot shoulder is desirable, for a reduced width lane on undivided highways, maintain a minimum of 10 foot lanes with a 1 foot shoulder or 1 foot offset to positive protection. If the existing lane width is less than 10 feet, then maintain the existing lane width as a minimum.

One Lane, Two Way Patterns

While a 16 foot lane with 2 foot shoulders is desirable, maintain a minimum of a 14 foot lane with 1 foot shoulders on one lane, two way patterns.

3.4 Design Resources

Design resources other than this book include:

AASHTO A Policy on Geometric Design of Highways and Streets
Manual on Uniform Traffic Control Devices, Part 6