Rolesville Police Department

PO Box 250
204 Southtown Circle
Rolesville, NC 27571
(919) 556-7226 (Office)
(919) 556-3728 (Fax)

Timothy C. Stoker
Chief of Police

US 401 Speed Reduction Statistics
March 1, 2009 – August 31, 2009

Citations Issued: 462 (entire town limits)

Total Charges: 611 (entire town limits)

Speeding Charges Issued in New US 401 Speed Zones:

Location	1 – 9 MPH	10 – 14 MPH	15 – 19 MPH	Over 20 MPH	Total
North Main Street		13	61	48	122
South Main Street		18	64	79	161

North Carolina State Constitution
Article 9
Sec. 7. County school fund; State fund for certain moneys.

(a) Except as provided in subsection (b) of this section, all moneys, stocks, bonds, and other property belonging to a county school fund, and the clear proceeds of all penalties and forfeitures and of all fines collected in the several counties for any breach of the penal laws of the State, shall belong to and remain in the several counties, and shall be faithfully appropriated and used exclusively for maintaining free public schools.

(b) The General Assembly may place in a State fund the clear proceeds of all civil penalties, forfeitures, and fines which are collected by State agencies and which belong to the public schools pursuant to subsection (a) of this section. Moneys in such State fund shall be faithfully appropriated by the General Assembly, on a per pupil basis, to the counties, to be used exclusively for maintaining free public schools. (2003-423, s.1.)

Operating speeds are those observed during free-flow conditions. The 85th-percentile of the observed operating speed is the most commonly used measure in geometric design and traffic engineering.

Posted speed limits are established by legislative or administrative action. State statutes or municipal ordinances can contain general speed limits that are applicable to a particular roadway functional class. Speed limits set by administrative action are based on an engineering study. Such studies may use the 85th-percentile operating speed and other roadway characteristics to establish the posted speed limit.

The goal of the designer is to produce a harmonious relationship between various speed measures. In other words, designers use the design speed to establish certain design criteria and expect that the design speed will be nearly equal to various operating speed measures and the posted speed limit. Design speed selection should encourage drivers to operate their vehicles consistently with the intended function of the highway or street. Because the Green Book encourages the use of design speed values greater than the minimum, and because drivers tend to choose their speeds based on physical and operational limitations present along the roadway, higher-than-minimum design values may result in operational inconsistencies. This is not only perceived as a problem by designers but also by enforcement personnel, who often observe speeds well in excess of posted speed limits and receive complaints from the public about high operating speeds on roadways with a low posted speed limit. The key to achieving speed harmony is to create a design where the design speed, operating speed and posted speed limit are consistent with the intuition of drivers, enforcement personnel and designers alike.

C. Design Elements

1. Sight Distance

Sight distance is the length of roadway that is visible to the driver.[7] Several forms of sight distance measures exist in geometric design. These include stopping, intersection, passing and decision sight distance.

Stopping Sight Distance. Stopping sight distance should be provided at every location on a roadway such that drivers traveling at or near the design speed can stop before reaching a stationary object on the road. Stopping sight distance consists of two components—distance traveled during perception-reaction time and distance traveled during braking. Both horizontal and vertical alignment designs influence the amount of stopping sight distance required by drivers. The basic stopping sight distance model is (assuming level grades):

$$SSD = 1.47Vt + 1.075\frac{V^2}{a} \quad \text{(U.S. units)} \qquad (7\text{-}1)$$

$$SSD = 0.278Vt + 0.039\frac{V^2}{a} \quad \text{(metric units)} \qquad (7\text{-}2)$$

where:
t = perception-reaction time (2.5 seconds [sec.])
V = design speed (mph [km/hr.])
a = deceleration rate (11.2 feet per second^2 [ft./sec.^{2}] or 3.4 meters per second^2 [m/sec.^{2}])

In design, it is common to assume perception-reaction times of 2.5 seconds (sec.). This value encompasses the perception-reaction time of more than 90 percent of drivers traveling in conditions that are more complex than conditions in typical driving experiments. However, 2.5 sec. may not adequately represent the most complex situations encountered in real driving scenarios.

Like the perception-reaction time, deceleration rates assumed in design represent a condition that approximately 90 percent of drivers exceed when required to stop for an unexpected object. The deceleration rate of 11.2 ft./sec.^{2} (3.4 m/sec.^{2}) is within a driver's capability to stay in the intended travel lane and maintain steering control on wet pavement surfaces.

The stopping sight distance Equations 7-1 and 7-2 also assume a driver eye height of 3.5 ft. (1,080 millimeters [mm]) and an object height of 2 ft. (600 mm), which is representative of a passenger car taillight height. Although no explicit consideration is given to trucks in the stopping sight distance model, trucks drivers have higher eye heights than passenger car drivers. As such, truck drivers typically have better vertical sight lines than do passenger car drivers. For this