

Supplemental Guidance for Standard Practice T-69 (Traffic Signal and Signal System Revisions Resulting from Speed Limit Changes)

November 1, 2012

General:

Statutory speed limits are 35 MPH within incorporated municipal limits and 55 MPH outside of incorporated municipal limits ([G.S. 20-141, b](#)). This includes state system roads and highways, municipal streets, private drives, public vehicular areas (PVAs), and ramps. Non-statutory speed limits must be both ordinances and posted to be effective ([G.S. 20-141, d, e](#)). Therefore, non-posted speed limits are assumed to be statutory unless an existing ordinance is located that indicates another speed limit may be in effect (signs may be missing, damaged, etc.).

Ordinanced speed limits on State Highway System (SHS) roads can be found in the “Ordinance Module” of the Traffic Engineering Accident Analysis System ([TEAAS](#)). Official ordinance packages (Certificates of Rulemaking, CORs) can be found on the NCDOT ordinance website ([click here](#)).

In many cases, engineering judgment is used. In some cases, recommendations from the operations personnel who will be responsible for the ultimate maintenance and operations of the traffic signal may be solicited. All design decisions shall be documented in the project file.

The Signal Design Section and the Central Office System Timing (COST) Section shall notify appropriate Regional Traffic Engineers (RTEs) and Division Traffic Engineers (DTEs) of any identified discrepancies between field conditions (signs) and ordinances. The Central Office System Timing (COST) Section shall also notify the Signal Design Section of any identified discrepancies with signal plan of records (POR). All contractors shall follow these same guidelines.

Municipal Streets:

On a municipality-owned approach to an NCDOT-owned traffic signal, if the speed limit is not posted, the municipality should be contacted to verify the speed limit and get their response in writing for file documentation. If the speed limit is posted, a photo shall be taken and included with the other photos in the file.

When a municipality changes speed limits on their own system, they need to contact NCDOT if the street connects to an NCDOT-owned traffic signal. Once we are contacted, we will investigate to determine if the existing yellow/red times are affected and take any necessary steps in updating the signal plan.

Public Vehicular Areas (PVAs) and Driveways:

There are no “standards” regarding design speeds for PVAs. Typically, 20 to 25 MPH is used for the majority of through movements at PVAs. Left turns coming out of a PVA will use clearance/change intervals designed for 20 MPH (like the majority of SHS approaches).

Depending on the characteristics of a PVA approach, the through movement design speed may be increased up to 30 or 35 MPH. Some internal driveways may mimic a traditional roadway approach regarding the length, lane width, number of lanes, or other factors. At these types of approaches, the internal operating speeds may be somewhat higher than what you would find at a smaller type development.

There is not a significant difference in our minimum timing criteria for yellow change intervals the more the speed drops below 35 MPH (3.0 seconds is the minimum time NCDOT would use for a yellow change interval). The lower speeds will have a longer red clearance and that time will increase as the width of the intersection increases. The passage times (to extend the green interval) will be variable depending on the width of the intersecting roadway as well.

Exit Ramps:

Design speeds for freeway exit ramps are also set on a case by case basis. The speeds may vary due to the geometrics of the approach and the speed limit of the freeway being exited.