

Time-Distance Operator Training

TDI-B03.01

Course Title: TIME-DISTANCE OPERATOR TRAINING

Lesson Title: Speed Offenses and Speed Enforcement

Lesson Purpose: To refresh and expand the participant's knowledge of the speed problem in general, and the existing body of laws created to deal with that problem.

Performance Objectives: At the end of this unit of instruction, the participant will be able to achieve the following objectives:

1. Describe the association between speed offenses and motor vehicle crashes.
2. Describe major types of speed regulations, including origin, development, and scope of these regulations.
3. Describe the safety benefits of effective speed enforcement in general and 55 m.p.h. enforcement in particular.

Hours: Two (2) Hours

Instructional Method: Lecture

Classroom Environment: Academic Classroom

Materials Required: Time-Distance Operator Manual

Pen/pencil

Note paper

Handout: Traffic Safety Facts "Speeding" published by the US Department of Transportation, National Highway Traffic Safety Administration.

References: See Bibliography

Prepared by: NHTSA and North Carolina RADAR Advisory Group

Date Prepared: January 1982

<i>Time-Distance Operator Training</i>
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Revised By: North Carolina RADAR Advisory Group

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February 1991

Revised By: North Carolina SMI Advisory Committee

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June 2016

Time-Distance Operator Training

TDI-B03.03

Course Title: TIME-DISTANCE OPERATOR TRAINING

Lesson Title: Speed Offenses and Speed Enforcement

I. Introduction

A. Opening Statement

Note: Historically, as average speeds increase, so have traffic crashes and fatalities. It has been shown that high speed places a strain on human capabilities and also increases the energy in a crash. Effective speed enforcement is essential in the reduction of speed and can reduce the number of lives lost in motor vehicle crashes.

Since the earliest days of the automobile, speed has been its most controversial feature. A major selling point for many automobile manufacturers has been the handling capabilities of their products at high speeds. These manufacturers have had little trouble in finding a ready market for these new and faster products. It seems the general public has always exhibited a desire for new and faster automobiles. Concern over the public's fascination with speed was voiced as early as 1906 by the Supreme Court of Pennsylvania. In affirming a conviction under a city ordinance for speeding over 7 mph, the court said:

“It is only necessary to resort to the most cursory observation to find the evidence that many drivers of automobiles in their desire to put their novel and rapid machines to a test of their capacity, drive such vehicles through the streets with a reckless disregard of the rights of others.” Brazier v. City of Philadelphia, 215 Pa. 297, 64 A. 508, 510 (1906).

Note: Show Slide, “Performance Objectives”

B. Student Performance Objectives

At the end of this block of instruction, the participant will be able to achieve the following objectives:

1. Describe the association between speed offenses and motor vehicle crashes.

2. Describe major types of speed regulations, including origin, development, and scope of the regulations.
3. Describe the safety benefits of effective speed enforcement in general, and 55 mph enforcement in particular.

C. Reasons

As we all know excessive speed plays a major role in the seriousness of motor vehicle crashes. Excessive speed generates greater momentum which when directed into a crash greatly increases the damaging impact of the crash. Your knowledge of speed regulations and speed enforcement plays an essential role in our efforts to decrease the personal injury and property damage caused by excessive speed.

Note: In order to be effective in speed enforcement, it is important that we go beyond the mere technicalities of speed enforcement. It is important to examine the evolution of increased motor vehicle speed and the related evolution of highway crashes. It is necessary to examine how effective speed enforcement has helped to curtail motor vehicle crashes and their consequences. We must also examine the need for continuing effective enforcement as well as the various types of speed offenses and their elements.

II. Body

A. Speed in Society

Note: Show Slide, “Preoccupied with Speed”

Society’s preoccupation with speed appears to be even more prevalent today in our highly mechanized society. It seems the faster we can get every destination, the better. People rush to work and to play. The automobile provides the means to maintain this harried existence. For some, it also serves as means to relieve the tensions brought about by living at so rapid a pace. These individuals turn their automobiles into weapons or tools of aggression. They take out their frustrations by taking to the highways and pushing that gas pedal through the floorboard.

This is not to say that everyone driving an automobile is obsessed with speed nor is it a condemnation of high-speed travel. High-speed vehicles and highways are, at times, essential to the efficient flow of traffic. We must not, however, lose

Time-Distance Operator Training

sight of the dangers caused by high speeds. Increased speeds affect the three elements of driving:

Note: Show Slide, “Increased Speeds Affect 3 Elements of Driving”

1. The operator--increased speeds serve to tax the basic capabilities of the driver, such as his reaction time (the time required to respond to a situation) as well as amplifying any existing physical deficiencies, such as vision.
2. The vehicle--increased speeds tax the automobile equipment, the brakes, steering, etc.
3. The road surface--increased speeds amplify the potential hazards of any deficiencies in the road surface (potholes, construction, etc.) or situational conditions resulting from weather, ice, snow, or rain.

Increased speeds interacting with one or more of these elements can result in a traffic crash. To grasp the dramatic impact speed has on these elements; let's examine a simple task, such as stopping a vehicle. This simple task incorporates the three elements above and is, therefore, greatly affected by increased speeds.

For the purposes of our example, we will use an average man who possesses a reaction time of approximately $\frac{3}{4}$ of a second. Suppose our motorist is proceeding along a typical smooth road clear of any snow, ice, etc. He drives along at about 20 mph and notices a hazard ahead. He reacts to this hazard within $\frac{3}{4}$ of a second. At 20 mph his car moves 22 feet during $\frac{3}{4}$ of a second. Assuming that his automobile is in proper working order, it will require about an additional 20 feet of braking distance to bring his car to a complete stop. In all, it has taken 42 feet to stop the car. Now, let's suppose our driver was proceeding at 40 mph. Reacting to a hazard within the same reaction time span, his car will have traveled 44 feet before he begins to brake. However, his braking distance now is 81 feet. Remember, at 20 mph his braking distance was only 20 feet. The braking distance at 40 mph is not twice the distance required at 20 mph, but 4 times. He now requires a total of 125 feet to bring his vehicle to a halt. Further, the braking distance at 80 mph would not be 4 times the distance required at 20 mph but more than 16 times. Figure 3-1 illustrates this point. It presents the distance required to stop a vehicle at speeds ranging from 20-80 mph.

Note: Show Slide, “Distance Required to Bring Vehicle to Complete Stop”

Time-Distance Operator Training

Remember, we based this example on an average driver with average reaction time, driving a car in good working order, under good road conditions. As speeds increased, we saw that the driver maintained less control over his vehicle. Increased speeds taxed the effectiveness of the driver's reaction time and the vehicle's stopping capabilities. If there had been any deficiencies in the reaction time of our driver, the working order of his car, or the condition of the roadway, increased speed would have magnified those deficiencies resulting in total loss of vehicle control.

Note: Show Slide, “Excessive Speed”

Technical advancements can continue to alter the mechanics of an automobile, or improve the design of roadways to allow for greater speeds, but as the example above revealed, these are just two of the factors involved. There remains the human element and you cannot redesign a man. What is required, then, is a stricter control of the driver. Increased enforcement efforts are necessary to assure that drivers maintain a safe and reasonable speed, and to encourage voluntary compliance with the speed limit.

Note: Show Slide, “Speed At Which Crash Occurs” and also refer students to Figure 3-1 in back of section.

B. A Short History of Speed Regulation

Note: Show Slide, “Short History of Speed Regulation”

As the problem of speed has been with us throughout the years, so has the problem of controlling speed. Various types of legislation to control speed have been introduced throughout our country's history. The purpose of this speed regulation has not been to restrict the flow of traffic, or hassle drivers, but to make traffic movement efficient with minimum danger to people and property.

According to Joseph Nathan's Famous Firsts the very first traffic law in America was passed on June 12, 1652, by New Amsterdam (now New York). It prohibited the riding of horses at a gallop, or driving a horse-drawn vehicle at a galloping speed, within the city limits. Hartford, Connecticut, lays claim to the distinction of having the first automobile speed regulation. It was enacted in 1901 and limited automobile speeds to 12 mph in the country and 8 mph within the city limits.

As the number of automobiles increased, so did the body of laws governing their use. This volume of statutes and ordinances was based upon a basic assumption

Time-Distance Operator Training

that no person should drive a vehicle on a highway at a speed greater than is reasonable and prudent under the existing conditions. This assumption became known as the "basic speed law."

Note: Show Slide, "Basic Speed Law"

Enforcing the basic speed law involves procedures different from enforcing speed limits. Under the basic speed law, it must be shown that the violator's speed was too fast for conditions. This is not easy, since any basic speed law includes such ambiguous terms as:

"Reasonable"--what are the determinants of "reasonable"?

"Prudent"--this word is also subject to a great deal of interpretation as to just what constitutes a prudent speed.

"Under existing conditions"--can refer to the condition of the road (whether they are wet or slippery, etc.), the vehicle (whether it is in proper working order) and the driver (is he fatigued, intoxicated, etc.?).

Note: Show Slide, "Elements of Basic Speed Law"

Early efforts to enforce this somewhat ambiguous law resulted in some confusion. These early efforts brought about the emergence of two major schools of thought regarding speed enforcement: those advocating "Prima facie" speed limits and those advocating "Absolute" speed limits.

Note: Show Slide, "Prima Facie"

Note: Instructor should emphasize that there is no Prima Facie speed law in North Carolina. It is being mentioned to show the evolution of the speed laws.

Loosely translated, the term "prima facie" means "at first sight," a fact presumed to be true unless disproved by some evidence to the contrary. Prima facie evidence is evidence that until its effect is overcome by other evidence will suffice as proof of a fact in issue. Prima facie speed limits are stated as a specific rate of speed which is posted on the highway, e.g. 35 mph. However, it is the basic speed law that must be enforced and adjudicated. (For the purpose of this discussion it should be known that there is no prima facie speed law in North Carolina.) In other words, a speed limit is indicated to make the motorist aware of what is

considered a reasonable speed for that area. If a motorist exceeds this speed, he is presumed to have violated the basic speed law. However, speed in excess of the prima facie limit is only an indication that the speed was unreasonable and improper. The accused is entitled to produce evidence in court to show that his or her speed was reasonable and prudent for the conditions and circumstances at the time in question and a court or jury provides the final decision. Proponents of this type of law insist that it permits greater flexibility in practice. They say it is not always dangerous under every condition to exceed stated limits. They contend the prima facie system provides reliable guides to motorists and are not inflexible rules. To them, prima facie limits are not arbitrary but depend on good judgment and good manners. They contend that most drivers adjust their speed according to the conditions they encounter.

Note: Show Slide, “Absolute Speed Law”

"Absolute" speed limits are based on laws which simply prohibit driving faster than a specified numeric speed. This school of thought insists that the "basic speed law," alone, leaves too much room for individual interpretation by motorists, many of whom are not reliable enough to make correct decisions as to appropriate speeds. They also maintain that prima facie limits are practically unenforceable, since questions arise in almost every case as to rate of speed in respect to environmental conditions and what a reasonable speed for those conditions really is. With absolute limits all drivers exceeding these limits have simply violated the absolute speed law. When the law prescribes a definite numeric maximum limit, driving in excess of the limit, regardless of conditions, is a violation. The only proof required is that the motorist exceeded the limit. Circumstances and conditions have no bearing on the driver's guilt or innocence. They are not regarded as elements of the offense and are immaterial insofar as guilt is concerned.

Note: Show Slide, “Can a person violate the basic speed law without exceeding the absolute speed limit?”

Speed limits can include both maximum and minimum speed restrictions and different limits can be set for different conditions; such as, time of day--speeds are sometimes lowered during night or rush hours; type of roadway--highway or urban routes; and type of vehicle or equipment--lower maximums are often set for buses or trucks.

In the early versions of the Uniform Vehicle Code prima facie limits were recommended and a substantial majority of states adopted the prima facie speed

provisions. Meanwhile, the absolute type of law fell into disfavor. Some states had a combination of the two; that is, (1) a basic speed law with prima facie limits, and (2) an absolute maximum beyond which it was unlawful to drive under any circumstances. Several states still use prima facie limits in designated speed zones but with an absolute maximum on the open highway.

In the 1950's, however, more states began to adopt absolute limits and abandon prima facie. In fact, the 1956 Uniform Vehicle Code was revised to provide absolute maximum limits and all mention of prima facie was eliminated. But, of course, the Basic Speed Law still applies. North Carolina has an absolute speed law, the posted limit, and a basic speed law, prohibiting driving too fast for existing conditions. Once again, there is no prima facie speed law in North Carolina.

C. Elements of the Offense

Successful enforcement of speed regulations - whether prima facie or basic or absolute - involves more than simply detecting and apprehending violators. Speeding, just as any other offense, can only be successfully prosecuted when certain elements and facts are established. These elements are stipulated in each statute. In order for prosecutors to establish that an offense has been committed, they must establish that each and every element was present. The elements of the speed offense are driver identification, location, speed and conditions. In general, these elements are specified as shown in Figure 3-2.

Note: Show Slide, “Elements of Speeding Offense”

You should note that the elements are essentially the same except for "speed," which is defined differently under each type of law. The location element is specified in some instances to include only the public highways and roads of the jurisdiction. In other instances, the broader definition is used and would include public vehicular areas.

Note: Review N.C. G.S. 20-141 with class.

D. Gathering Evidence

As indicated in the above sections, to obtain a successful prosecution of a speeding offense, an officer must collect evidence to establish the presence of the various elements which make up the speed offense. (Review Figure 3-2) The how, where, and when of this information-gathering process is the subject of this

section.

1. Driver Identification

Note: Show Slide, “Gathering Evidence”

There are two aspects to driver identification. The officer must be able to quickly identify the driver of the vehicle at the time of the violation and he/she must be able to identify the same driver later in court.

Upon observing a violation, the officer should make an immediate visual identification of the driver. Other occupants of the vehicle might attempt to change places with the driver in an effort to confuse the investigation. An alert officer can counter these activities by noting driver characteristics when first observing the suspects. Things to note could be clothing colors, hats, beard or other distinguishing identifiers at a quick glance. In this manner, the officer can still positively identify the original driver, even if the occupants should try to switch positions.

When the officer has completed the first identification of the driver, he/she should search for more detailed identifiers. These can be gathered while the officer is "citing" the suspect. Things to note here are scars, birth marks, hair color or any distinguishable characteristics that would aid the officer in identifying the suspect in court.

2. Location

Establishing where the defendant's vehicle was being operated at the time of the infraction is usually not a difficult task. The officer's testimony that the violation was observed to take place on a certain street or highway is sufficient. If there is doubt as to whether the location of a particular roadway is considered public or private, look it up under state statutes or check with a supervisor. If the offense occurred off-highway and is included under your State statute, the location can be defined by reference to permanent land marks.

3. Speed

The establishment of the defendant's exact speed takes on differing degrees of importance depending on which speed law was in effect at the location of the violation.

When absolute limits are involved, measurements of speed obtained by time-distance instruments are corroborative only in establishing the elements of "Speed." An officer must establish that he/she has an opinion as to the defendant's speed and that speed is in excess of established absolute limits, to establish the element.

In the case of the Basic Speed Law, the measurement of speed alone will not establish the element of "Speed." However, remember, the Basic Speed Law states that it shall be unlawful to operate a motor vehicle at a speed which is unreasonable or imprudent. There are no clearly defined limits to indicate what is an unreasonable speed. Therefore, a measurement of speed alone is useless without some indication that the speed was excessive. The courts will ultimately decide the imprudence of the speed. It is incumbent upon the officer to produce more detailed information to show the courts that the defendant's speed was unreasonable or imprudent.

4. Conditions (Basic Speed Law)

In establishing that a defendant's speed was unreasonable or imprudent, the officer must gather information to show that the speed should be considered unreasonable in light of existing conditions. Such conditions include: (1) weather--rain, snow, sleet; (2) roadway characteristics-- traffic volume, road surface conditions; (3) vehicle conditions--brakes, tires, vision obstructions, such as dirty windshield. Obviously this type of information does not have to be established in cases involving Absolute limits, where it is sufficient to prove that a speed limit has been violated. Information concerning conditions is immaterial when Absolute limits are involved.

As we have seen, the officer must gather a good deal of information if he is to ensure the successful prosecution of a speed offense. All of the data must be gathered beginning at the time the violator is first detected.

E. National Maximum Speed Law

As we have seen in previous sections, safety officials have long been aware of the relationship of speed to safety. They have also been aware of a relationship between speed and fuel consumption. Since highway driving involves high speeds, highways seem the logical target for programs geared toward safety and fuel conservation. Initial programs repeatedly attempted to lower speed limits on

Time-Distance Operator Training

highways and rural roads, with little success. It took a national emergency in the form of an energy shortage to provide the impetus for lowering highway speeds on a national basis.

In the following sections we will discuss reasons for adopting a nationwide speed limit of 55 mph, and the subsequent impact of that speed limit on motorist safety and fuel consumption.

1. Relationship of the 55 mph Limit to Energy Conservation

Show Slide, “Energy Conservation”

With the oil embargo of 1973, the nation quickly began to take measures to conserve fuel. Since highway transportation accounts for about 44% of our gasoline consumption, Congress imposed a nationwide 55 mph maximum speed in 1974.

Fifty-five mph was chosen because it is the median energy efficiency speed. That speed was determined by studying wind resistance factors and engine efficiency factors.

The energy required to move the mass of air surrounding a moving motor vehicle is called "wind resistance." Wind resistance increases as the square of the velocity of the vehicle. In other words, the energy required to move an air mass at 65 mph is 40% greater than that required to move it at 55 mph even though the velocity is increased only 18%. Thus, at 65 mph more energy is required and therefore more fuel is needed than at 55 mph.

When the oil embargo ended on April 29, 1974, most drivers expected the 55 mph limit to be lifted. Instead, the temporary law became permanent. While it was impossible to determine the exact number of gallons of fuel saved as a result of the 55 limit, another glaringly obvious statistic came to light. Traffic fatalities had been reduced.

The 55 mph speed limit law remained in effect until April 2, 1987. At this time the United States Congress authorized a return to the 65 mph limit on rural interstates. North Carolina followed the example of her sister states and increased the speed limit on rural interstates to 65 mph on May 8, 1987.

2. Relationship between Speed and Safety

When the 55 mph speed limit was enacted, its purposes were to save fuel and help reduce our dependence on foreign fuel sources. At the end of 1974 an additional effect of the reduced speed limit was noticed: traffic fatalities had been reduced by 8,856.

Past analysis has shown that when speeds increased significantly, so did fatalities; and conversely when speeds decreased, so did fatalities. In fact, in 1974, the first year of the 55 mph limit, traffic fatalities decreased 16.8%.

Note: Show Slide, “Highway Safety Trends”

Not only did the 55 mph speed limit reduce the number of fatalities, it also reduced the number of significant injuries. The reported number of spinal cord injuries caused by auto crashes dropped as much as 60 to 70% in some areas of the country. In all, disabling injuries resulting from traffic crashes dropped 10% after 1973 when two million people were severely injured.

It should come as no great surprise that speed has such a tremendous effect on fatality and crash severity rates. As discussed earlier, increased speeds tax the operating limitations of both the vehicle and the driver. Speeding increases the stress on tires, steering and braking systems, and also amplifies driver limitations, such as vision and reaction time. Also, any crashes occurring at higher speeds result in greater structural damage to the auto, and tragic consequences for the occupants. In fact, the probability of a fatality in a crash roughly doubles as traveling speed increases from 45 to 60 mph, and doubles again as speeds go to 70 mph.

3. Effects of Raising the National Speed Limit from 55 mph to 60 mph

One study which clearly demonstrates the possible effects of raising the national speed limit was conducted by NHTSA in 1977. The study estimated the increase in the number of motor vehicle crashes, injuries, and fatalities that would result from an increase in the national speed limit to 60 mph. It was determined that raising the speed limit would have a relatively small effect on the number of crashes and injuries (approximately 1% and 2%, respectively). However, a 9% increase in the number of fatalities was expected. This means that a 5 mph increase in speed limit would not significantly change the frequency of crashes, but rather the

severity of these crashes.

Note: Show Slide, “What if.....”

The projected 9% fatality increase mentioned above translates into about 3,500 lives. This figure comes close to the total number of lives reported saved in 1974 and 1975 due to the 55 mph speed limit. In effect, raising the speed limit to 60 mph could offset most of the safety benefits achieved by the 55 mph speed limit.

4. Speed Limit Compliance

Passage of the 55 mph speed limit in 1974 had an immediate and dramatic impact on U.S. driving patterns. However, looking at the years following 1974, it is also obvious that speed trends took a pronounced upturn. It is clear that, after two successful years of speed reduction, driving speeds increased.

5. Some Explanations As To Why Motorist Speed

The impact of seeing other motorists speeding provides one possible explanation. A motorist on the highways sees everyone else exceeding the speed limit and getting away with it and figures "why shouldn't I?"

Whatever the explanation for the noncompliance occurring on our highways, it is clear that the potential exists for voluntary cooperation. A key to cooperation lies with law enforcement. Motorists must be reminded that the laws are there and will be enforced.

The statistics seem to indicate that the increased speed has resulted in increased deaths. Figures that are available show that of the 40 states that raised their speed limits to 65 mph in 1987 and 1988 on rural interstates, 16 states experienced an increase of more than 50 percent in the number of rural Interstate fatalities.

On November 28, 1995 Congress signed into law the National Highway Safety Systems Designation Act (NHS). This Act, among other things, established the National Highway Systems and eliminated the Federal mandate for the National Maximum Speed Limit (NMSL). In so doing, the NHS Act ended a period of more than 20 years of Federal involvement in the states' establishment of speed limits and ended the requirements for

Time-Distance Operator Training

states' submission of speed compliance data to the Federal Highway Administration (FHWA). Section 347 of the NHS Act required the

Secretary of Transportation to study the impact of states' actions to raise speed limits above 55/65 MPH and report to the Congress by September 30, 1997. (See Exhibits 1, 2 and 3)

In a study conducted by the National Highway Traffic Safety Administration it was determined that as historical trends had shown fatalities would increase. Based upon an analyses conducted in this study on the first year of experience with higher speed limits, it is estimated that Interstate fatalities in the states that increased speed limits experienced approximately 350 more fatalities than would have been expected based on historical trends, about a 9 percent above expectations. Based on economic cost models used by the National Highway Traffic Safety Administration, the total economic cost of 350 additional fatalities and associated injuries and crashes is more than \$820 million in 1996 dollars.

Note: Instructor should emphasize that this coincides with the projected increase in fatalities that was concluded in the study by NHTSA in 1977.

In North Carolina, speeding remains a major factor in highway deaths and serious injuries. In 2009, the National Highway Safety Administration Traffic Safety Facts (TSF) illustrated that speed attributed to 39% of all highway deaths. We find in the TSF for 2014 in North Carolina that 38.7% of all highway deaths were attributed to speed. On a national level, the TSF also indicates that for the full year of 2013, 42% of speeding drivers in fatal crashes also had blood alcohol concentrations of .08 grams per deciliter or higher. Therefore, speed enforcement could result in even more hazardous behaviors being removed from the roadways.

It is through these statistics that law enforcement must recognize the paramount importance of enforcing the speed laws of North Carolina. Every stop is about far more than just issuing citations – it is having a tangible effect on saving lives.

F. State and Local Speed Limits

Note: Show Slide, "State and Local Speed Limits"

Time-Distance Operator Training

The preceding discussion has emphasized the National Speed Limit 55 mph which, of course, applies essentially to the Interstate Highway system and to major state highways. The student can certainly ask: does the enforcement of local speed limits (state, county or municipal) have a benefit or payoff comparable to that realized from enforcement of the higher speed limits? The answer is an unqualified "yes."

The reason for that answer is that at any speed, the factors we talked about earlier - driver reaction time, total stopping time, the severity of a crash and the likelihood of a fatal crash are operative. The faster a car is driven, the worse each of these factors becomes. For example, the vehicle travels farther during the driver's reaction time and more fuel is used than at lower speeds. Obviously, the changes in these factors between, say, 30 mph and 40 mph are not as dramatic as the changes between 55 mph and 65 mph. Nevertheless, the changes do occur and effective speed enforcement will help reduce the impact on crash frequency and severity.

Note: Provide Handout: Traffic Safety Facts "Speeding" published by the US Department of Transportation, National Highway Traffic Safety Administration.

There is another reason for stressing enforcement of local speed limits. A very substantial number (approximately 25%) of fatal crashes in North Carolina occur in local jurisdictions. An opportunity exists to affect crash severity and frequency in these areas that is at least as great as the opportunity at the state level. Since sections of the state highway are also under local jurisdiction, a large portion of crashes come under local enforcement. This fact alone argues for improved effectiveness of local speed enforcement.

III. Conclusion

- A. Summary
- B. Questions
- C. Closing Statement

NOTES

1. “Statistics from the National Highway Traffic Safety Administration.” Available at: http://www.nhtsa.dot.gov/STSI/State_Info.cfm?Year=2001&State=NC [11/12/03].
2. U.S. Department of Transportation. *Traffic Safety Facts; 2009*. Washington, DC: National Highway Traffic Safety Administration, 2011. p.174

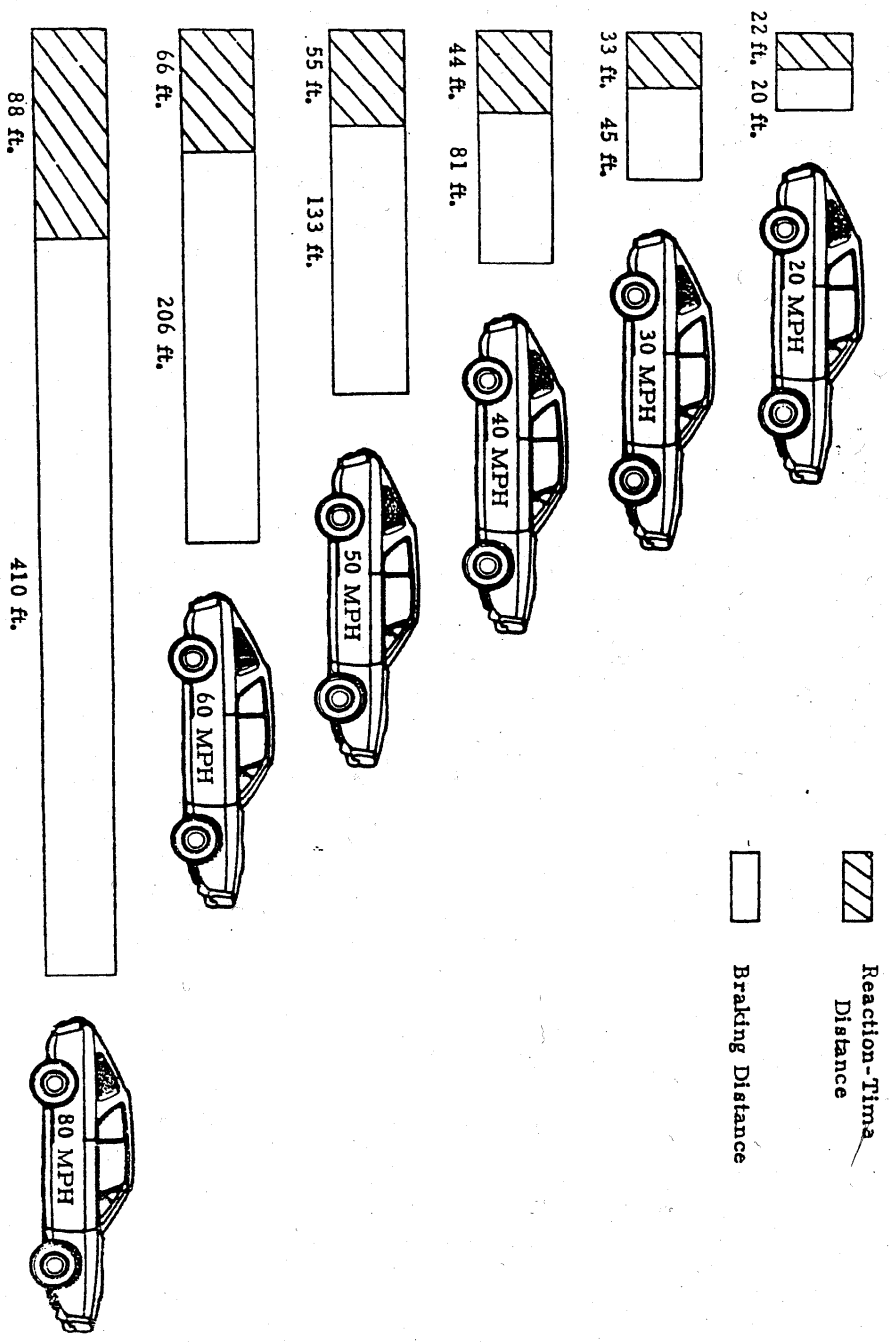


Figure 3-1. Distance Required to Bring Vehicle to Complete Stop

Elements	Absolute Speed Law	Basic Speed Law	Prima Facie
Driver Identification	Accused must be shown to have been the driver at time of the infraction.	(Same)	(Same)
Location	Any place to which the public has right of access for vehicular use.	(Same)	(Same)
Speed	In excess of specified limit	Unreasonable or imprudent	In excess of posted limit and thus presumed unreasonable or imprudent
Conditions	(Not applicable)	Having regard to actual and potential hazards	Same as Basic

Figure 3-2 Elements of the Speeding Offense

Exhibit I - Continued
Fatalities by State - 1995 vs. 1996

State	Fatalities		1996 vs. 1995	
	1995	1996	Chg	% Chg
Ohio	1360	1395	35	3%
Oklahoma	669	772	103	15%
Oregon	574	524	-50	-9%
Pennsylvania	1480	1469	-11	-1%
Rhode Island	69	69	0	0%
South Carolina	881	930	49	6%
South Dakota	158	175	17	11%
Tennessee	1259	1239	-20	-2%
Texas	3183	3741	558	18%
Utah	325	321	-4	-1%
Vermont	106	88	-18	-17%
Virginia	900	875	-25	-3%
Washington	653	712	59	9%
West Virginia	376	345	-31	-8%
Wisconsin	745	761	16	2%
Wyoming	170	143	-27	-16%

Exhibit 2
Interstate/Non-Interstate Fatalities by State
by Timing of States' Speed Limit Changes-1995 vs. 1996

	Interstate			Non-Interstate			% of Fatalities on Interstate		
	1995	1996	% Change	1995	1996	% Change	1995	1996	% Change
Early Change									
Arizona	168	168	0.0%	846	808	-4.5%	16.6%	17.2%	3.9%
California	548	572	4.4%	3,644	3,417	-6.2%	13.1%	14.3%	9.7%
Delaware	10	13	30.0%	111	103	-7.2%	8.3%	11.2%	35.6%
Illinois	181	198	9.4%	1,405	1,279	-9.0%	11.4%	13.4%	17.5%
Massachusetts	51	68	33.3%	393	349	-11.2%	11.5%	16.3%	42.0%
Montana	39	46	17.9%	176	154	-12.5%	18.1%	23.0%	26.8%
Nevada	67	79	17.9%	246	269	9.4%	21.4%	22.7%	6.1%
Oklahoma	88	118	34.1%	581	654	12.6%	13.2%	15.3%	16.2%
Pennsylvania	129	120	-7.0%	1,351	1,349	-0.1%	8.7%	8.2%	-6.3%
Texas	539	619	14.8%	2,639	3,122	18.3%	17.0%	16.5%	-2.4%
Wyoming	54	37	-31.5%	114	101	-11.4%	32.1%	26.8%	-16.6%
Total	1,874	2,038	8.8%	11,506	11,605	0.9%	14.0%	14.9%	6.7%
	Interstate			Non-Interstate			% of Fatalities on Interstate		
	1995	1996	% Change	1995	1996	% Change	1995	1996	% Change
Late Change									
Alabama	98	122	24.5%	1,006	1,020	1.4%	8.9%	10.7%	20.3%
Arkansas	46	65	41.3%	585	550	-6.0%	7.3%	10.6%	45.0%
Colorado	136	110	-19.1%	509	507	-0.4%	21.1%	17.8%	-15.4%
Florida	257	278	8.2%	2,546	2,231	-12.4%	9.2%	11.1%	20.8%
Georgia	165	218	32.1%	1,319	1,341	1.7%	11.1%	14.0%	25.8%
Idaho	39	32	-17.9%	219	226	3.2%	15.1%	12.4%	-17.9%
Iowa	29	41	41.4%	495	424	-14.3%	5.5%	8.8%	59.3%
Kansas	45	39	-13.3%	397	452	13.9%	10.2%	7.9%	-22.0%
Maryland	55	54	-1.8%	596	513	-13.9%	8.4%	9.5%	12.7%
Michigan	140	129	-7.9%	1,383	1,370	-0.9%	9.2%	8.6%	-6.4%
Mississippi	85	100	17.6%	782	710	-9.2%	9.8%	12.3%	25.9%
Missouri	138	208	50.7%	969	939	-3.1%	12.5%	18.1%	45.5%
Nebraska	24	39	62.5%	230	254	10.4%	9.4%	13.3%	40.9%
New Mexico	117	121	3.4%	368	360	-2.2%	24.1%	25.2%	4.3%
North Carolina	112	118	5.4%	1,336	1,375	2.9%	7.7%	7.9%	2.2%
Ohio	127	129	1.6%	1,232	1,261	2.4%	9.3%	9.3%	-0.7%
Rhode Island	11	13	18.2%	58	56	-3.4%	15.9%	18.8%	18.2%
South Dakota	18	22	22.2%	140	153	9.3%	11.4%	12.6%	10.3%
Tennessee	149	155	4.0%	1,110	1,084	-2.3%	11.8%	12.5%	5.7%
Utah	96	105	9.4%	225	216	-4.0%	29.9%	32.7%	9.4%
Washington	67	90	34.3%	586	621	6.0%	10.3%	12.7%	23.4%
Total	1954	2188	12.0%	16091	15663	-2.7%	10.8%	12.3%	13.2%

Exhibit 2 - Continued
Interstate/Non-Interstate Fatalities by State
by Timing of States' Speed Limit Changes-1995 vs. 1996

No Change	Interstate			Non-Interstate			% of Fatalities on Interstate		
	1995	1996	% Change	1995	1996	% Change	1995	1996	% Change
Alaska	31	22	-29.0%	54	55	1.9%	36.5%	28.6%	-21.7%
Connecticut	45	43	-4.4%	272	267	-1.8%	14.2%	13.9%	-2.3%
Dist of Columbia	5	1	-80.0%	53	61	15.1%	8.6%	1.6%	-81.3%
Hawaii	8	6	-25.0%	122	142	16.4%	6.2%	4.1%	-34.1%
Indiana	106	92	-13.2%	696	781	12.2%	13.2%	10.5%	-20.3%
Kentucky	88	91	3.4%	761	750	-1.4%	10.4%	10.8%	4.4%
Louisiana	93	88	-5.4%	801	687	-14.2%	10.4%	11.4%	9.2%
Maine	14	12	-14.3%	162	154	-4.9%	8.0%	7.2%	-9.1%
Minnesota	37	41	10.8%	560	535	-4.5%	6.2%	7.1%	14.9%
New Hampshire	20	16	-20.0%	91	114	25.3%	18.0%	12.3%	-31.7%
New Jersey	59	85	44.1%	712	730	2.5%	7.7%	10.4%	36.3%
New York	124	112	-9.7%	1,549	1,435	-7.4%	7.4%	7.2%	-2.3%
North Dakota	4	2	-50.0%	70	83	18.6%	5.4%	2.4%	-56.5%
Oregon	61	51	-16.4%	512	472	-7.8%	10.6%	9.8%	-8.4%
South Carolina	78	103	32.1%	803	825	2.7%	8.9%	11.1%	25.4%
Vermont	17	10	-41.2%	89	78	-12.4%	16.0%	11.4%	-29.1%
Virginia	132	120	-9.1%	767	749	-2.3%	14.7%	13.8%	-6.0%
West Virginia	56	69	23.2%	320	275	-14.1%	14.9%	20.1%	34.7%
Wisconsin	29	41	41.4%	708	713	0.7%	3.9%	5.4%	38.2%
Total	1,007	1,005	-0.2%	9,102	8,906	-2.2%	10.0%	10.1%	1.8%

As seen in Exhibit 2, Interstate fatalities increased for eight of the 11 states (about 73 percent of the states) in the early change group and increased for seventeen of the 21 states (about 80 percent of the states) in the later change group, while increased for only six of the 19 states whose limits did not change in 1996 (about 31 percent of the states). The difference between the proportion of states in the early change group with increases in Interstate fatalities, 73%, is statistically significant when compared to the proportion of states in the no change group, 31%, with increases in Interstate fatalities ($\chi^2 = 4.739$, 1 d.f., $p = 0.029$). Similarly, the difference between the proportion of states in the later change group, 80 percent, compared to the no change group, was also statistically significant ($\chi^2 = 9.950$, 1 d.f., $p = 0.002$). In other words, both Interstate and non-Interstate fatalities for the no change states either remained steady or slightly declined in 1996 compared to 1995, while fatalities on Interstates increased for the majority of the early and later change states.

EXHIBIT-3 (page 1)

August 15, 1997

State	Pre NMSL Max (mph)	Exceeds Old NMSL Provisions	Cars		Trucks		NOTES: The following is provided for information purposes only. Every effort has been made to ensure that the information is accurate as of the above date. Some States may have made administrative or other changes that are not reflected here. Please contact the individual State for the latest information.
			Interstate	Other	Interstate	Other	
Alabama	70	Y	70	55	70	55	Eff 5/9/96 - 70 mph on Interstates, 65 mph on other 4 lane highways
Alaska	70	N	65	55	65	55	Eff 12/8/95 - 75 rural Interstates, urban Interstates remain 55
Arizona	75	Y	75/55+	55	75/55	55	Eff 7/1/96 - AR Hwy. Commission raised speed limit from 65 to 70 mph on rural four-lane divided highways (passenger vehicles only - trucks stay 65 mph). Restriction includes any truck that weighs more than 26,000 and requires a commercial driver's license to operate. Will not take effect for approximately one month to give the state time to post the new speed limit signs statewide.
Arkansas	75	Y	70	55	65	55	Freeways and expressways to 65 mph (12/10/95). Freeways and expressways to 65 mph and 70 mph (rural) (1/7/96). Other city, county and State roadways remain at 55 mph until 3/30/96, after which, based on engineering and traffic surveys they may go to 65 mph.
California	70	Y	70	65	55	55	Eff 5/28/96 - Prima facie is 55 mph for 2 lane, 65 mph for 4 lane divided. Maximum can now be 75 mph for any highway. CO DOT engineering study will determine maximum limits for all road segments within one year.
Colorado	70	Y	75	55	75	55	Raised I-495 and part of US 1 to 65 (1/26/96)
Connecticut	60	N	55	55	55	55	Only part of Woodrow Wilson bridge eligible. No changes considered at this time.
Delaware	60	Y	65	50	65	50	Eff 4/8/96 - Only on part of Interstate 10 (Jacksonville to Pensacola); additional segments of I-75 and I-95 pending. Eff 1/1/96 Some non-interstate 4 lane divided segments posted at 65 mph.
Dist. of Col.	60	N	55+	50	50	50	Eff 7/1/96 - 70 mph on Interstate and look-alike; 65 mph urban Interstates; 65 mph physically divided w/out controlled access. Based on engineering and traffic investigation studies.
Florida	70	Y	70	55	65	55	Eff 5/1/96 - 75 mph Interstates (cars and trucks); 65 mph other primary (cars and trucks)
Georgia	70	Y	70	55	70	55	Gov action - some urban Interstates 65 mph (11/29/95); restricted unmarked county and township roads to 55 (1/25/96)
Hawaii	70	N	55	55	55	55	Legislation to raise defeated in House (1/96)
Idaho	70	Y	75	65	75	65	
Illinois	70	Y	65/55+	55	55	55	
Indiana	70	N	65	55	60	55	

EXHIBIT 3 (page 2)

August 15, 1997

State	Pre NMSL Max (mph)	Exceeds Old NMSL Provisions	Cars		Trucks		NOTES: The following is provided for information purposes only. Every effort has been made to ensure that the information is accurate as of the above date. Some States may have made administrative or other changes that are not reflected here. Please contact the individual State for the latest information.
			Interstate	Other Primary	Interstate	Other Primary	
Iowa	75	Y	65	55	65	55	Gov signed legislation on 5/16/96 giving IOWA DOT authority to raise limits up to 65 mph on selected 4-lane divided. Rural and urban interstates remain at 65 and 55 respectively. Only portions of US 20 have been increased.
Kansas	75	Y	70	65	70	65	Eff 3/22/96
Kentucky	70	N	65	55	65	55	No bills passed. Gov stated he would veto any bills to raise S/L.
Louisiana	70	N	70	65	70	65	Eff 8/15/97 - Interstate or controlled access highway 70 MPH; multi-lane divided highway with partial or no controlled access 65 MPH. LA DOT to develop criteria to determine which portions of a highway warrant a speed limit lower than the speed limits established by new law.
Maine	70	N	65	55	65	55	
Maryland	70	Y	65	55	65	55	Eff 7/18/96 - Gov approved speed limit increases on 85 additional miles of highway currently posted at 55 mph. Limits will be increased to 60 mph on 65 miles of highway and to 65 mph on 20 miles of highway. (total mileage posted above 55 mph will be 333 miles). Includes: Interstate 81 near the West Virginia and Pennsylvania state lines (to 65 mph), and Interstate 81 in the vicinity of Hagerstown (to 60 mph).
Massachusetts	65	Y	65	55	65	55	(1/29/96) Raised to 65 mph on 13 major interstates and highways, 2 sections of Turnpike(1/29/96). (7/1/96) Massachusetts Turnpike, Interstate 90, between I-95/Route 128 and the New York State line had several sections raised from 55 mph to 65 mph (the entire turnpike is now 65 mph from I-95 to the New York State line on the turnpike).
Michigan	70	Y	65	55	65	55	Eff 12/18/96 70 mph permanent on about 500 miles of roads after safety study which began 8/96. Includes parts of I-94, I-69, I-96, I-75, US-131. Currently, most highways posted at 65 mph; 170 miles of urban highways at 55 mph; 500 mostly rural at 70 mph.
Minnesota	65	Y	70	70	65	95	Eff 7/1/87 - Increase 70 mph on approximately 650 miles of interstate freeway in Greater Minnesota (I-35, I-94 and I-90). Increase from 55 mph to 65 mph on approx. 660 miles of non-interstate freeway and expressways (4-lane divided highways). Approximately 120 miles of non-interstate freeway and expressways will remain at 55 mph. All two-lane state highways (approx. 10,000 miles) will remain 55 mph.
Mississippi	70	Y	70	65	70	65	Eff 3/12/96
Missouri	70	Y	70/60	65	70/60	65	Eff 3/13/96 - State can raise any road to 70 mph with safety study.

EXHIBIT -3 (page 3)

State	Pre NMSL Max (mph)	Exceeds Old NMSL Provisions	Cars		Trucks		NOTES: The following is provided for information purposes only. Every effort has been made to ensure that the information is accurate as of the above date. Some States may have made administrative or other changes that are not reflected here. Please contact the individual State for the latest information.
			Interstate	Other Primary	Interstate	Other Primary	
Montana	unlimited	Y	*	*	65*	60*	Eff 12/8/95 - No max posted limit "reasonable and prudent" (cars/day); 65 mph interstate, 55 mph all other (cars/night). Trucks max 65 day/night on interstate. Triple truck comb. 55 mph (day/night) all roads.
Nebraska	75	Y	75	60	75	60	4/15/96 Gov signed - Eff 6/1/96 increase interstates to 75 mph (urban 60 mph); Eff 9/1/96 - 2 lane roads 60 mph; 4 lane expressways 65 mph with some exceptions (unless Dept. Of Roads determines otherwise)
							Substantial increase in fines.
Nevada	unlimited	Y	75	70	75	55	75 and 70 (12/8/95)
New Hampshire	70	N	65	55	65	55	
New Jersey	70	N	55	50	55	50	
New Mexico	70	Y	75	60	75	60	Eff 5/13/96 - 75 mph on interstates; 70 mph on 4 lane with shoulders; 65 on 2 lanes with shoulders; 60 mph on 2 lane highways without shoulders.
New York	55	N	65	55	65	55	August, 1996 approximately 400 miles of interstate to 70 MPH. Effective Oct. 1, 1996, 340 miles of non-interstate controlled access to 70 MPH based on DOT studies.
North Carolina	70	Y	70	55	70	55	Eff 7/1/97 - Speed limits (subject to review by NDDOT) of 70 mph on interstates (day and night); 65 mph on 2-lane (day) and multi-lane highways (day and night); and 55 mph on gravel roads (day and night) and two-lane highways (night)
North Dakota	75	Y	70	65	70	65	Eff 2/29/96 Implement 5/29/96 - Buses to 65; maintains S/L for cars and trucks for 120 days; can automatically raise interstate and freeways to 65 after 120 days if OH DOT, OH DPS and local municipality agree to geometry and traffic patterns. After 360 days raise or lower S/L to 65 for rural, divided, multi-lane hwy with same conditions as 120 day option
Ohio	70	Y	65	55	55	55	
Oklahoma	70	Y	75/70*	65/55*	75/70*	55	*Gov raised to 70 on interstates (60 for urban) and other 4 lane divided; 65 other state roads and hwy; 55 on state roads and other hwy's night. Turnpike auth raised to 75 rural (min 50); 65 urban (min 40) (6/13/96)
Oregon	75	N	65	55	55	55	
Pennsylvania	65	Y	65	65	65	65	Parts of US 15, 22/232, 119, 220, 222, 422, PA 43 to 65 mph (7/13/95)
Rhode Island	60	Y	65	55	65	55	Eff 5/12/96 - Increase to 65 mph on approx 45 miles of interstate highways.

EXHIBIT 3 (page 4)

August 15, 1997

State	Pre NMSL Max (mph)	Exceeds Old NMSL Provisions	Cars		Trucks		NOTES: The following is provided for information purposes only. Every effort has been made to ensure that the information is accurate as of the above date. Some States may have made administrative or other changes that are not reflected here. Please contact the individual State for the latest information.
			Interstate	Other Primary	Interstate	Other Primary	
Puerto Rico	65	N	55	55	55	55	No change expected
South Carolina	70	N	65	55	65	55	Bill to raise Interstate to 70 passed House and in Senate.
South Dakota	75	Y	75	65	75	65	Eff 4/1/96 - 75 mph Interstates, 65 mph major 2 lane highways (40 counties will keep 55 mph, 11 to 65 mph, rest undecided (3/25/96)
Tennessee	75	Y	65	55	65	55	Eff 4/22/86 - Legislature approved raising some urban Interstates to 65 mph. (Memphis, Jackson, Knoxville, Chattanooga, Tri-Cities areas) Eff 07/01/96 - divided 4-lane limited access to 65 mph.
Texas	70	Y	70	70	65	60	Eff 12/8/85 - Cars - 70 day/65 night; 60 day/55 night for trucks - on all roads. (3/25/96) TX DOT studies indicate about 23,000 miles will be 70 mph (7/15/96) Texas Transportation Commission approved speed limits lower than the state maximum of 70 mph on about half of the State's 40,748 farm-to-market system.
Utah	70	Y	75	55	75	55	Gov signed bill 3/13/96 - Pending UT DOT posting signs
Vermont	65	N	65	50	65	50	Dulles Greenway (private, urban, controlled access toll road) raised to 65. Other increases defeated (2/96)
Virginia	70	Y	65	55	65	55	Eff 3/1/96
Washington	70	Y	70	55	60	55	Legislation introduced to allow Commissioner to raise to 70 mph (2/96)
West Virginia	70	N	65	55	65	55	Bill sent to Gov - Increase to 65 on multilane roads after safety study.
Wisconsin	70	N	65	55	65	55	75 rural Interstates; 60 urban Interstates; 65 on 4 and 2 lane roads; some secondary and mountainous roads remain at 55. (being studied)
Wyoming	75	Y	75	65	75	65	1/24/96

