

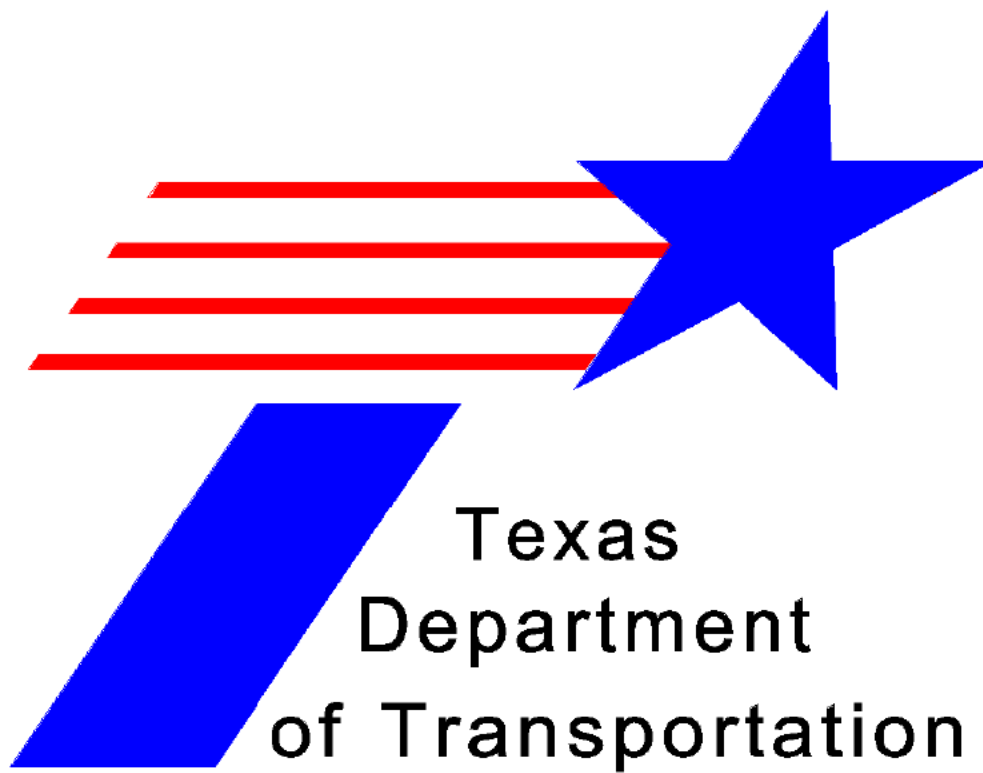


**Highway Attachment -TXDOT Procedures for Establishing Speed Zones**

**HWY22FH001**

(15 pages)

# Procedures for Establishing Speed Zones



Revised August 2015

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## Manual Notice 2015-1

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**Manual:** *Procedures for Establishing Speed Zones*

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### Purpose

The purpose of this revision is to update information in Chapter 3 of *Procedures for Establishing Speed Zones* pertaining to the establishment of lower than 85<sup>th</sup> percentile speeds on sections of highways with crash rates greater than the statewide average for similar roadways. The update specifies criteria and procedures used to make this determination, and is issued as a response to a recent rule change by the Texas Transportation Commission.

### Contents

The only content change made at this time, described in the paragraph above, appears on pages 3-18 and 3-19 of this manual.

### Supersedes

This manual supersedes all prior editions of *Procedures for Establishing Speed Zones*.

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### Archives

Past manual notices are available in a [PDF archive](#).

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# Table of Contents

## Chapter 1 — Introduction

Section 1 — Overview .....	1-2
Purpose of Manual .....	1-2
Users of Manual .....	1-2
Responsibilities .....	1-2
Section 2 — Background .....	1-4
Basic Speed Law .....	1-4
Prima Facie Concept .....	1-5
Authority to Set Speed Zones .....	1-5
Higher Maximum Speed Limit .....	1-5
Local Authority and TxDOT .....	1-5
Value of Speed Zoning .....	1-7
Guidelines for Selecting Speed Limits .....	1-8
Section 3 — Factors Affecting Safe Speed .....	1-9
Introduction .....	1-9
Design and Physical Factors of the Roadway .....	1-9
The Vehicle .....	1-9
The Driver .....	1-10
Traffic .....	1-10
Weather and Visibility .....	1-10
Accident Reconstruction Speed Limits .....	1-10

## Chapter 2 — Regulatory and Advisory Speeds

Section 1 — Application of Regulatory and Advisory Speeds .....	2-2
Introduction .....	2-2
Regulatory Speeds .....	2-2
Advisory Speeds .....	2-3
Advisory Speed Sections in Regulatory Zones .....	2-3
Regulatory Versus Advisory Speeds .....	2-3
Section 2 — Regulatory Speed Zones .....	2-5
Introduction .....	2-5
Within Incorporated Cities or Towns .....	2-5
Highway Approaches to Incorporated Municipalities .....	2-5
Minimum Speed Limits .....	2-6
Regulatory Speed Signs (R2 Series) .....	2-6
Signs Within Cities and Towns .....	2-7
Section 3 — Construction Regulatory and Advisory Speeds .....	2-8

---

Introduction .....	2-8
Advisory Construction Speeds .....	2-8
Regulatory Construction Speed Zones .....	2-8
Request for Regulatory Construction Speed Zones .....	2-9
Advisory Speed Construction Warning Plates (CW13-1) .....	2-10
Regulatory Construction Speed Limit Signs .....	2-10
Covering or Removing Temporarily Unnecessary Reduced Speed Signs .....	2-11
Signs Installed by the Contractor .....	2-12
Section 4 — School Speed Zones .....	2-13
Introduction .....	2-13
Planning .....	2-13
Prompt Installation Important .....	2-13
Signs .....	2-13
Intervals of Operation .....	2-14
More Information .....	2-14
Section 5 — Private Road Speed Zones .....	2-15
Introduction .....	2-15
Eligibility Requirements .....	2-15
Process Initiation .....	2-15
Procedure .....	2-15

**Chapter 3 — Speed Zone Studies**

Section 1 — Overview .....	3-2
Engineering and Traffic Investigation .....	3-2
Interim Speed Limits for New or Reconstructed Highways .....	3-2
Scope of Study .....	3-2
Section 2 — Determining the 85th Percentile Speed .....	3-4
General Concepts .....	3-4
Theory .....	3-4
Statistical Rationale .....	3-4
Speed Checks for Existing Highways .....	3-5
Speed Checks for New or Reconstructed Highways .....	3-6
Operation of Speed Check Stations .....	3-6
Location of Speed Check Stations .....	3-6
Measuring Speeds .....	3-7
Recording Measured Speeds .....	3-7
Calculating 85th Percentile Speed .....	3-7
Recording the Information .....	3-8
Incomplete Data .....	3-9

---

Section 3 — Developing Strip Maps . . . . .	3-10
Strip Map Blanks . . . . .	3-10
Scale for Strip Map . . . . .	3-10
Field Entry Data . . . . .	3-11
City Limits . . . . .	3-14
Schools . . . . .	3-15
Showing Crashes on Strip Maps . . . . .	3-16
Section 4 — Speed Zone Design . . . . .	3-17
Zone Length . . . . .	3-17
Transitions . . . . .	3-17
Urban Areas . . . . .	3-17
Directional Differences . . . . .	3-17
Variation from 85th Percentile . . . . .	3-18
Blanket Lowering of Maximum Speed Limits . . . . .	3-20
Trial Runs . . . . .	3-20
Location of Regulatory Speed Limit Signs . . . . .	3-21
Section 5 — Rechecks of Speed Zones . . . . .	3-23
Introduction . . . . .	3-23
Frequency of Rechecks . . . . .	3-23
Procedure . . . . .	3-23
Section 6 — Environmental Speed Limits . . . . .	3-24
Introduction . . . . .	3-24
Existing Environmental Speed Limits . . . . .	3-24
New Environmental Speed Limits Prohibited . . . . .	3-24

**Chapter 4 — Speed Zone Approval**

Section 1 — Overview . . . . .	4-2
Introduction . . . . .	4-2
Regional Mobility Authorities and Regional Tollway Authorities . . . . .	4-2
Section 2 — Approval Process . . . . .	4-4
Outside an Incorporated City . . . . .	4-4
Within an Incorporated City . . . . .	4-4
Adjacent Portions Within and Outside an Incorporated City . . . . .	4-4
Speed Zones Unacceptable to a City . . . . .	4-4
Filing of Strip Maps . . . . .	4-5
Transportation Commission Minute Order . . . . .	4-5

**Chapter 5 — Application of Advisory Speeds**

Section 1 — Overview . . . . .	5-2
Introduction . . . . .	5-2

---

Advisory Speed Sign Posting .....	5-2
Section 2 — Curves and Turns .....	5-4
Introduction .....	5-4
Objective .....	5-4
Methods to Establish Curve Warning Advisory Speeds .....	5-5
Direct Method .....	5-5
GPS Method .....	5-8
Design Method .....	5-13
Ball-Bank Method .....	5-14
Calculated Speed .....	5-15
Selection of Car and Mounting of Bank Indicator .....	5-16
Before Conducting Test Runs .....	5-17
Calibrating Speedometer .....	5-17
Zeroing the Bank Indicator .....	5-18
Conducting Bank Indicator Test Runs .....	5-18
Alternate Ball-Bank Indicator Test Run Method .....	5-19
Selecting Speed for Posting .....	5-20
Section 3 — Intersections .....	5-21
Introduction .....	5-21
View Obstructions .....	5-21
Section 4 — Narrow and One-Lane Bridges .....	5-22
Introduction .....	5-22
Placement of Signs .....	5-22
Section 5 — Descending Grades of Six Percent or Greater .....	5-23
Introduction .....	5-23
Determining Minimum Sight Distances .....	5-23
Calculation .....	5-23
If a Curve is Involved .....	5-23
Section 6 — Dips, Bumps, and Exit Ramps .....	5-24
Dips and Bumps .....	5-24
Exit Ramps .....	5-24

**Appendix A — Forms**

Introduction .....	A-1
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**Appendix B — Glossary**

# Chapter 1 — Introduction

## Contents:

[Section 1 — Overview](#)

[Section 2 — Background](#)

[Section 3 — Factors Affecting Safe Speed](#)



## Section 1 — Overview

### Purpose of Manual

The purpose of this manual is to provide the information and procedures necessary for establishing speed zones and advisory speeds on the state highway system.

### Users of Manual

This manual is intended for use by entities with authority to set speed zones. It is only required to be used by the Texas Department of Transportation (TxDOT) and cities when establishing speed zones on the state highway system.

### Responsibilities

**The Traffic Operations Division (TRF)** will:

- ◆ prepare procedures for establishing speed zones and advisory speeds
- ◆ assist districts as necessary with speed zone studies
- ◆ review and approve district recommendations for speed zoning and prepare minute orders for Transportation Commission action.

**TxDOT districts** will:

- ◆ conduct engineering and traffic studies associated with the establishment of speed zones and advisory speeds
- ◆ submit recommendations for speed zoning, along with results of studies to the Traffic Operations Division (TRF)
- ◆ request cities to pass ordinances establishing speed zones when necessary
- ◆ erect and maintain necessary speed limit and advisory speed signs and notify local enforcement authorities upon installation of the signs.

**Cities** will:

- ◆ request that the district conduct engineering and traffic studies associated with the establishment of speed zones on the state highway system, or conduct the studies themselves
- ◆ upon approval by TRF, prepare and pass city ordinances establishing speed zones.

**A commissioners court of a county** may by resolution request, through the local TxDOT district office, that the Texas Transportation Commission determine and declare a reasonable and safe *prima facie* speed limit lower than that established by Section 545.352 of the Transportation Code

on any part of a farm-to-market or ranch-to-market road without improved shoulders located in that county.

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## Section 2 — Background

### Basic Speed Law

Transportation Code, Chapter 545, Subchapter H, “Speed Restrictions,” contains the following sections governing speeds in the state:

- ◆ Section 545.351, Maximum Speed Requirements
- ◆ Section 545.352, Prima Facie Speed Limits (see also Transportation Code, Section 623.101, Speed Limit: for Manufactured House or House Trailer Being Towed)
- ◆ Section 545.353, Authority of Texas Transportation Commission to Alter Speed Limits
- ◆ Section 545.3531, (repealed by L 2011, Chap 259(14). eff 6/17/11)
- ◆ Section 545.3535, Authority of Texas Transportation Commission to Alter Speed Limits on Certain Roads
- ◆ Section 545.354, Authority of Regional Tollway Authorities to Alter Speed Limits on Turnpike Projects
- ◆ Section 545.355, Authority of County Commissioners Court to Alter Speed Limits (see also Transportation Code, Section 251.154, Maximum Reasonable and Prudent Speeds on County Roads)
- ◆ Section 545.356, Authority of Municipality to Alter Speed Limits
- ◆ Section 545.357, Public Hearing to Consider Speed Limits where Certain Schools Are Located
- ◆ Section 545.358, Authority of Commanding Officer of United States Military Reservation to Alter Speed Limits
- ◆ Section 545.359, Conflicting Designated Speed Limits
- ◆ Section 545.360, Duty of Texas Transportation Commission and State Board of Education to Provide Information and Assistance
- ◆ Section 545.361, Special Speed Limitations
- ◆ Section 545.362, Temporary Speed Limits
- ◆ Section 545.3625, Confidentiality of Violation Information: Fuel Conservation Speed Limit
- ◆ Section 545.363, Minimum Speed Regulations
- ◆ Section 545.364, (repealed by L. 1999, Chap. 1346(3), eff 9/1/99)
- ◆ Section 545.365, Speed Limit Exception for Emergencies; Municipal Regulation.

Collectively, these sections are referred to as the “basic speed law.” The basic speed law is founded on the belief that the majority of motorists are willing to modify their driving behavior properly, as

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long as they are aware of the conditions around them. Speed zone regulations are based on Section 545.351, which states in part: “An operator may not drive at a speed greater than is reasonable or prudent under the circumstances then existing.”

### **Prima Facie Concept**

In Texas, all speed limits are considered *prima facie* limits. *Prima facie* limits are those limits that, “on the face of it,” are reasonable and prudent under normal conditions. To exceed a *prima facie* speed limit does not automatically constitute an infraction of the law, as reasonable and prudent driving behavior is, at times, possible at speeds in excess of the posted limit. However, the burden of proof of reasonable and prudent conduct under the existing conditions rests with the driver. To afford a driver this opportunity to exceed a *prima facie* speed limit recognizes the fact that any posted speed limit cannot adequately reflect the many different road conditions confronting the driver on the same highways at different times.

### **Authority to Set Speed Zones**

The provisions of the Transportation Code, Chapter 545, Subchapter H, Section 545.353, give the Texas Transportation Commission the authority to alter maximum speed limits on highway routes both within and outside of cities, provided the *Procedures for Establishing Speed Zones* are followed and the Commission determines that the speed being established on a part of a highway system is a safe and reasonable speed for that part of the highway.

### **Higher Maximum Speed Limit**

The Commission may establish a speed limit of:

- ◆ 75 miles per hour on any portion of the state highway system.
- ◆ 80 miles per hour on parts of Interstate Highway 10 and Interstate Highway 20 in Crockett, Culberson, Hudspeth, Jeff Davis, Kerr, Kimble, Pecos, Reeves, Sutton, and Ward counties, or
- ◆ Up to 85 miles per hour on a highway designed to accommodate travel at the speed being established.

### **Local Authority and TxDOT**

The altering of the general statewide maximum speed limits to fit existing traffic and physical conditions of the highway constitutes the basic principle of speed zoning.

Transportation Code, Chapter 545, Subchapter H, Sections 545.355 and 545.356, give counties and cities the same authority within their respective jurisdictions. Counties with a population of more than 2.8 million and cities have the authority to establish a *prima facie* maximum speed limit of 75 miles per hour. The law also provides that any speed zone on highway routes in cities established

### Variation from 85th Percentile

The posted speed selected is the nearest value ending in 5 or 0. The final speed limit may be lowered or raised by as much as 5 miles per hour from the 85th percentile speed or trial-run speed (if 125 cars cannot be checked during the two- or four-hour speed check) determined by the study, based on the professional judgment of the supervising engineer. Only under special conditions would the zone speed vary further from the 85th percentile. Explanations of such conditions follow.

**Different Results at Adjacent Speed Check Stations.** If the 85th percentile speeds for adjacent speed check stations are approximately the same, they may be averaged to determine the zone speed. Any 85th percentile speed should **not** be included in such averages if it varies more than 7 miles per hour from the speed derived from the average.

### Crash Rate Greater than the Statewide Average Crash Rate for Similar Types of Roadways.

When establishing a speed within an existing zone on the state highway system, the speed limit may be reduced by up to 12 miles per hour below the 85th percentile speed if the crash rate in the section of the roadway is greater than the statewide average crash rate for similar roadways. The latest speed study that has been performed on the roadway should be evaluated to determine if the information is still relevant based on the roadway traffic and characteristics. If so, then this can be used as the basis for lowering the speed limit. If the existing speed study is not valid, the district has three options:

- ◆ perform a full 85th percentile speed study
- ◆ perform an 85th percentile study at one or more locations within the segment
- ◆ perform a trial run speed study within the segment.

After determination of the 85th percentile speed, the following factors should also be considered to determine the total speed reduction up to 12 mph:

- ◆ narrow roadway pavement
- ◆ horizontal and vertical curves
- ◆ high driveway density
- ◆ lack of striped, improved shoulders
- ◆ crash history within the speed zone.

The final decision on the amount of variation should be based on the engineering judgment of the supervising engineer. Under this process, a strip map is not required. All other speed zoning rules within this manual apply for this section.

TRF will routinely provide information to the districts for roadways that meet the criteria for using this process.

**Light Traffic Volumes.** At locations where traffic volumes are light and 125 cars cannot be checked in the two or four hours that the speed check station is operated, the 85th percentile speed may not be reliable. Trial runs need to be made and documented in the study. (“Trial runs” are defined and explained later in this section.) Trial runs may be documented using the Summary of Trial Run for Speed Zones (TxDOT Form [1929](#)), to supplement a strip map. (The form is available via hyperlink — click on the form number above — or from the Traffic Operations Division.) Figure 3-10, [“Example of completed Summary of Trial Run for Speed Zones.”](#) shows an example of a completed Summary of Trial Run for Speed Zones.

**Legislative or Congressional Action.** Notwithstanding the volume of traffic, if legislative or congressional action results in the immediate increase in statewide maximum legal speed limits, then reasonable and prudent speed zones may be established by trial runs and engineering judgment in lieu of other speed check procedures provided in this manual. (“Trial runs” are defined and explained later in this section.) Trial runs may be documented using the Summary of Trial Run for Speed Zones (TxDOT Form [1929](#)) instead of a strip map. (The form is available via hyperlink — click on the form number above — or from the Traffic Operations Division.) Figure 3-10, [“Example of completed Summary of Trial Run for Speed Zones.”](#) shows an example of a completed Summary of Trial Run for Speed Zones. Speed zones established through this process should be rechecked in accordance with the procedure in Section 5 of this chapter.

**Provisional Traffic and Engineering Investigation Requirements.** When increasing the speed limit from 70 to 75 miles per hour as authorized by the legislature, the speed zone study may be limited to the determination of the 85th percentile speed at one or more speed check locations within the established speed zone. Because the boundaries of the speed zone have been established for the 70 mile per hour zone, a strip map is not required for the increase. All other speed zoning rules within this manual apply to the provisional traffic and engineering investigations.

**Additional Roadway Factors.** The posted speed limit may be reduced by as much as 10 miles per hour (12 miles per hour for locations with crash rates higher than the statewide average) below the 85th percentile speed or trial-run speed (if 125 cars cannot be checked during the two- or four-hour speed check), based on sound and generally accepted engineering judgment that includes consideration of the following factors:

- ◆ narrow roadway pavement widths (20 feet or less, for example)
- ◆ horizontal and vertical curves (possible limited sight distance)

- ◆ hidden driveways and other developments (possible limited sight distance)
- ◆ high driveway density (the higher the number of driveways, the higher the potential for encountering entering and turning vehicles)
- ◆ crash history along the location
- ◆ rural residential or developed areas (higher potential for pedestrian and bicycle traffic)
- ◆ lack of striped, improved shoulders (constricted lateral movement).

Local public opinion may also be considered on farm-to-market and ranch-to-market roads without improved shoulders (Transportation Code, Section 545.3535(b)).

The final decision on the amount of variation from the 85th percentile speed for a specific roadway should be based on the engineering judgment of the supervising engineer. If additional roadway factors are used to reduce the speed limit, include the factor or factors on the speed zone strip map.

Speed limits should not be posted more than 10 miles per hour (12 miles per hour for locations with crash rates higher than the statewide average) below the 85th percentile or trial-run speed (if 125 cars cannot be checked during the two- or four-hour speed check), since unreasonably low speed limits have not been shown to be an effective way to control speeding. Allowing too great a variation would risk losing motorist respect for speed limits and traffic control devices.

### Blanket Lowering of Maximum Speed Limits

A blanket lowering of maximum speed limits may be justified:

- ◆ during either state or national emergencies or disasters, such as war or energy crisis, where an authoritative study indicates that a reduction of speeds will result in a significant reduction in the consumption of fuel and energy and will promote fuel and energy conservation
- ◆ to avoid non-compliance with direct requests from the federal government to lower the statewide maximum speed limit to a speed equal to or below the national speed limit.

### Trial Runs

A “trial run” is a drive through the speed zoned section of roadway at the chosen speed(s) to determine if the speeds are appropriate for the area.

After the 85th percentile speeds and zone lengths have been selected, several trial runs should be made through the area in both directions driving at the selected speeds. This should show any irregularities in the zoning which need correction.

**Documentation.** Trial runs may be documented using the Summary of Trial Run for Speed Zones (TxDOT Form [1929](#)) to supplement a strip map. (The form is available via hyperlink — click on the form number above — or from the Traffic Operations Division.) Figure 3-10 [“Example of com-](#)