



CITY OF SOMERVILLE, MASSACHUSETTS  
LAW DEPARTMENT

March 2, 2017

Honorable Board of Aldermen  
Attn: Traffic and Parking Committee  
City Hall  
93 Highland Avenue  
Somerville, MA 02143

Re: Posting of Official Speed Limits Signs

Dear Honorable Board Members:

At the Committee of the Whole meeting on February 2, 2017, the Traffic & Parking Committee asked whether the City is permitted to post official speed limit signs setting forth the prima facie statutory speed limit, in the absence of a traffic engineering study. In my opinion, for the reasons stated below, the City is not permitted to do so.

Official speed limit signs may only be posted upon the establishment of a regulatory speed limit in accordance with the procedure set forth in G. L. c. 90, § 18. (See Frequently Asked Questions on Speed Limits, Mass DOT, Q.8.). Prima facie statutory speed limits do not include posted signs. (Id., Q. 4).

According to the Massachusetts Department of Transportation,

“Chapter 90, Section 18 authorizes the posting of numerical speed limits on all roadways in Massachusetts. The foundation for the actual posting of a speed limit is a thorough traffic engineering study. After a study has been completed, a Special Speed Regulation is drafted and approved by the governing authority of the roadway, the Registry of Motor Vehicles and MassDOT. All posted regulatory signs must adhere to this approval process. If a speed limit is posted without this procedure, it is in violation of Chapter 90, Section 18, and is therefore considered illegal and unenforceable.”

(See Procedures for Speed Zoning on State and Municipal Roadways, Mass DOT, 2012; See also Massachusetts Amendments to the MUTCD, January 2012, Section 10-8 (procedure for establishment of legal speed zones requires a study, Mass DOT review, prior to installation of official speed signs)).

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Therefore, in my opinion, the City may not lawfully post official speed limit signs, in the absence of a traffic engineering study.

Attached to this opinion is a copy of all cited authority.

Please feel free to contact me with any additional questions.

Very truly yours,

David P. Shapiro  
Assistant City Solicitor

cc: Francis X. Wright, Jr., City Solicitor



## Frequently Asked Questions

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## Frequently Asked Questions on Speed Limits

### Q1. What are the laws and regulations that govern speed limits in Massachusetts?

A1. [Section 17](#) and [Section 18](#) of [Chapter 90 of the Massachusetts General Laws](#) (MGL c. 90 §§ 17 and 18) dictates the requirements for establishing posted speed limits and the statutory speed limits on all other streets and highways. In addition, MassDOT and all municipalities are required by [MGL c. 85 § 2](#) to follow the standards stated [Manual on Uniform Traffic Control Devices \(MUTCD\)](#) for the posting of speed limit signage.

### Q2. What is a regulatory speed limit?

A2. With certain exceptions noted below, a regulatory speed limit is one that has a Special Speed Regulation and speed limit signs posted per [MGL c. 90 § 18](#). A special speed regulation is established by conducting an engineering study, having the authority responsible for legislating municipal traffic code approve the proposed speed zones (city- and town-owned ways, only), submitting the study and proposed speed zones to MassDOT, having a special speed regulation duly approved by the MassDOT Traffic and Safety Engineering Section and the Registry of Motor Vehicles, and, lastly, erecting [standard speed limit signage](#).

The [Section 2B.13](#) of the MUTCD also states that, "Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles." To comply with this statement, MassDOT has established Procedures for Speed Zoning, where all of the details for the required engineering study may be found.

### Q3. How does a municipality create a Special Speed Regulation on a city- or town-owned way?

A3. Full details on the procedure for creating Special Speed Regulations may be found in the MassDOT Procedures for Speed Zoning. The following is a summary of the process:

1. Request sent by city/town to MassDOT District Office.
2. MassDOT will meet with city/town for detailed explanation of procedures (if requested).
3. City/town will submit proposed speed zones along with engineering justification and backup data.
4. Submittal reviewed by MassDOT District Office and Traffic & Safety Engineering Section.
5. If approved by MassDOT, special speed regulation prepared by MassDOT Traffic & Safety Engineering Section.
6. Regulation approved by city/town body that governs the municipal traffic code.
7. MassDOT Traffic & Safety Engineering Section and Registry of Motor Vehicles signs off on approved regulation.
8. Speed limit signs are erected by city/town. Speed limit is now enforceable.

### Q4. What is a statutory speed limit?

A4. Statutory speed limits exist in the absence of special speed regulations and official posted speed limits. [MGL c. 90 § 17](#) requires that drivers operate motor vehicles at a rate of speed that is no greater than reasonable and proper with regard to the use of the road and safety of the public. Reasonable and proper speeds are defined as:

- ▶ 20 mph in a school zone;
- ▶ 30 mph in thickly settled or business district for at least 1/8 of a mile;
- ▶ 40 mph on an undivided way outside of a thickly settled or business district for at least 1/4 of a mile; and
- ▶ 50 mph on a divided way outside of a thickly settled or business district for at least 1/4 of a mile.

[Section 2B.13](#) of the MUTCD does not require an engineering study to establish a statutory speed limit since they are set based upon geographic criteria in the absence of a speed regulation. However, with the exception to the types noted in [Question 8](#), statutory speed limits do not include [posted signs](#).

### Q5. What is a thickly settled or business district?

A5. MGL c. 90 § 1 of the MGL defines a thickly settled or business district as, "the territory contiguous to any way which is built up with structures devoted to business, or the territory contiguous to any way where dwelling houses are situated at such distances as will average less than two hundred feet between them for a distance of a quarter of a mile or over."

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**Q6. How does the new speed limit legislation passed in 2016 affect my town?**

A6. Sections 193 and 194 of Chapter 218 of the Acts of 2016 creates two new sections to Chapter 90 of the MGL:

- ▶ Section 193 allows the municipality to opt-in to MGL c. 90 § 17C, thereby reducing the statutory speed limit from 30 mph to 25 mph on any or all city- or town-owned roadways within a thickly settled or business district. The legislation also requires cities and towns to notify MassDOT of these changes.
- ▶ Section 194 creates MGL c. 90 § 18B, allowing municipalities to establish regulatory 20 mph safety zones. Since this creates a regulatory speed limit, the MUTCD requires an engineering study prior to the establishment of the the safety zone and it should conform to the guidance found in the MassDOT Procedures for Speed Zoning.

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**Q7. If a city or town opts-in to Section 193 of Chapter 218 of the Acts of 2016, will that supersede any existing posted speed limit?**

A7. No. This legislation only affects streets that are currently governed by a statutory speed limit. If an existing special speed regulation is in place, it will continue to govern.

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**Q8. Can cities and towns post their own speed limits?**

A8. Standard speed limit signs may only be posted upon the establishment of a regulatory speed limit per MGL c. 90 § 18 and the MassDOT Procedures for Speed Zoning. However, there are other speed-related signs that cities and towns may elect to post upon completion of proper engineering studies:

- ▶ Municipalities that opt-in to Section 193 of Chapter 218 of the Acts of 2016 on a city- or town-wide basis may post Thickly Settled Speed Limit 25 Unless Otherwise Posted (MassDOT code MA-R2-9A or MA-R2-9B) signs at jurisdictional boundaries. MassDOT recommends that, if a city or town is considering opting-in to this legislation, that it is done so for the entire municipality to avoid potential confusion for drivers.
- ▶ Municipalities that opt-in to Section 193 of Chapter 218 of the Acts of 2016 on a street-by-street basis may post Thickly Settled District 25 MPH (MassDOT code MA-W13-4) signs at the upstream ends of street.
- ▶ School Zone speed limits may be posted if established under the standards of the MA Amendments to the MUTCD.
- ▶ Safety Zone speed limits may be posted and should follow MassDOT guidelines, as described in Q9.

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**Q9. What is the process for establishing Safety Zone speed limits?**

Safety Zone speed limits are the only regulatory speed limits that municipalities can adopt without prior approval from MassDOT. Safety Zones cannot, however, be placed on State Highway without MassDOT approval.

Speed limits within a Safety Zone must be set at 20 mph and are intended to be used in areas where vulnerable road users are likely to be present. Examples of such areas are: parks and playgrounds, senior citizen housing and centers, hospitals or other medical facilities, high schools and higher education centers, and daycare facilities. Note that Safety Zones should not be used in place of School Zones for streets adjacent to grades 1-8 schools.

To establish a Safety Zone, MassDOT has developed the following minimum criteria:

- ▶ The street should be adjacent to a land use that is likely to attract vulnerable road users.
- ▶ The Safety Zone should contain one or more areas that have potential conflicts between motor vehicles and vulnerable road users that warrant a reduction in speeds such as crosswalks, driveways, or side streets.
- ▶ The minimum length of the Safety Zone should be at least 1/4 of a mile and it should not extend more than 500' beyond a side street unless an applicable land use continues along the adjacent block.

Regulatory speed limit signs are required to conform to the MUTCD, per MGL c. 85 § 2. Therefore, an engineering study must be performed to validate the posting of signage. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles.

In an area where a legal Special Speed Regulation has been enacted, the Safety Zone should be terminated with a Speed Limit (MUTCD code R2-1) sign that corresponds to the regulatory limit shown in the regulation. If the Safety Zone is in an area that has no Special Speed Regulation, it should be terminated with an End Speed Zone (MassDOT code MA-R2-Z) sign.

Cities and towns are also responsible for modifying their Municipal Traffic Code to reflect the locations of all Safety Zones prior to the posting any signage.

**Q10. Can speed limits be added or modified on city or town ways that have been constructed or reconstructed through a Federal Aid Project?**

A10. All Federal Aid Projects in Massachusetts should have an executed Traffic Control Agreement signed between the municipality and MassDOT. The Traffic Control Agreement requires the city or town to maintain all traffic control devices, including signage, in accordance to the approved plans for that project. Any modifications, including the addition of new signage, must be approved in advance by MassDOT. To request a modification to a Traffic Control Agreement, please contact:

*Massachusetts Department of Transportation  
Highway Division - Traffic & Safety Engineering  
Attention: Regulations Engineer  
10 Park Plaza, Room 7210  
Boston, MA 02116*

**Q11. Are design drawings available for fabricating speed limit signs?**

A11. MassDOT has created the following sign face drawings:

- ▶ [MA-R2-7 \(End Speed Zone\)](#);
- ▶ [MA-R2-8 \(Safety Zone Speed Limit 20\)](#);
- ▶ [MA-R2-9A or MA-R2-9B \(Thickly Settling Speed Limit 25 Unless Otherwise Posted\)](#); and
- ▶ [MA-W13-4 \(Thickly Settled District 25 MPH\)](#).

Other MassDOT standard sign designs may be found on the Traffic & Safety Engineering's [Signs page](#). All other sign designs may be found in FHWA's [Standard Highway Signs and Markings](#) book.

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### MASSACHUSETTS SPEED LAW

Speed laws in Massachusetts are based on Chapter 90, Sections 17, 17A and 18 of the Massachusetts General Laws. (Appendix 1)

Chapter 90, Section 17 governs the speed of motor vehicles on unposted roadways. The speed limits on roadways that fall into this category are often referred to as "prima facie" speed limits. The present prima facie speed limits according to Chapter 90, Section 17 are condensed below

.....it shall be prima facie evidence of a rate of speed greater than is reasonable and proper if a motor vehicle is operated in excess of:

1. 50 miles per hour on a divided highway outside of a thickly settled or business district for a distance of  $\frac{1}{4}$  of a mile.
2. 40 miles per hour on an undivided highway outside of a thickly settled or business district for a distance of  $\frac{1}{4}$  of a mile.
3. 30 miles per hour in a thickly settled or business district for a distance of  $\frac{1}{8}$  of a mile.
4. 20 miles per hour in a legally established school zone.

Note the distance requirements associated with the enforcement of Chapter 90, Section 17. Instantaneous radar or laser readings are not adequate. The motor vehicle must be shown to have been in excess of these speed limits for the entire distance associated with each respective speed limit. Also, prima facie speed limits cannot be posted, with the exception of a legally established school zone.

The definition of a "thickly settled or business district" is as follows: "The territory contiguous to any way which is built up with structures devoted to business, or the territory contiguous to any way where dwelling houses are situated at such distances as will average less than two hundred feet between them for a distance of a quarter of a mile or over."

Chapter 90, Section 18 authorizes the posting of numerical speed limits on all roadways in Massachusetts. The foundation for the actual posting of a speed limit is a

thorough traffic engineering study. After a study has been completed, a Special Speed Regulation is drafted and approved by the governing authority of the roadway, the Registry of Motor Vehicles and MassDOT. All posted regulatory speed limit signs must adhere to this approval process. If a speed limit is posted without this procedure, it is in violation of Chapter 90, Section 18, and is therefore considered illegal and unenforceable.

Chapter 90, Section 17 dictates the basic speed law, which is "No person operating a motor vehicle shall run it at a rate of speed greater than is reasonable and proper, having regard to traffic and the use of the way and the safety of the public." Note "reasonable and proper", for this is the fundamental speed law. No form of regulation, control, or restriction can supersede it. No matter what speed is posted, "reasonable and proper" is always the fundamental rule. On a highway posted 55 miles per hour, reasonable and proper may mean five miles per hour depending on conditions.

### **ENGINEERING STUDIES AND SPEED ZONING**

A prerequisite to establishing speed regulations and posting speed limits is a comprehensive engineering study at each location where speed control is contemplated. The purpose of the study is to establish a speed limit that is safe, reasonable and self-enforcing. The most important step is measuring the prevailing speeds of motorists on a particular section of a roadway under ideal conditions. The speed at or below which 85 percent of the motorists travel is the principle value used for establishing speed control. This is commonly referred to as the 85<sup>th</sup> percentile speed. This method is based on numerous studies which indicate that the majority of motorists are prudent and capable of selecting safe speeds. The 85<sup>th</sup> percentile speed is the national standard for establishing safe speed limits.

In Massachusetts, numerical limits are based on ideal conditions. More specifically, the posted speed limits represent the maximum safe speed under ideal driving conditions. It is the responsibility of each motorist to reduce his\her speed for unfavorable weather

### **Section 10A-6 Pedestrian Regulations**

Chapter 90, Section 18A of the General Laws authorizes the Department and cities and towns to regulate the use by pedestrians of ways within their respective control. Pedestrian control regulations have been adopted by the Department for all State Highways. A sample regulation suitable for adoption by the municipalities is shown in Appendix B, "Sample Pedestrian Regulations." This regulation may be expanded to cover special situations in the larger cities. Particular attention is directed to the fact that municipalities that do not have these regulations will no longer receive traffic control signal permits that contain a pedestrian period in the cycle. This is necessitated by the discontinuance as standard of the red-yellow indication shown together and in its place the substitution of the WALK and DON'T WALK pedestrian control indications.

In order that cities and towns may legally control pedestrians, the following steps are necessary:

- (1) Acceptance of the enabling act.
- (2) Adoption of pedestrian control regulations.
- (3) Approval of the regulations by the Department.
- (4) Advertisement of the regulations.

### **Section 10A-7 Towing on City and Town Ways**

Under the provisions of Chapter 40, Section 22D of the General Laws (Tercentenary Edition) cities and towns are enabled to adopt regulation providing for the towing of vehicles parked in violation of a regulation prohibiting parking or in such manner as to impede snow cleaning operations. A sample regulation suitable for adoption by these municipalities is shown in Appendix C. (TOW-AWAY ZONE REGULATIONS). The steps to be followed for implementation are:

- (1) Acceptance of the law by the city or town.
- (2) Adoption of the regulations by the rule making body.
- (3) Posting of signs in certain specified areas.
- (4) Advertisement of the regulation.

### **Section 10A-8 Speed Control**

Of the special regulations adopted by municipalities under the provisions of Chapter 90, Section 18 of the General Laws, the most commonly used is the special regulation of the speed of motor vehicles. Considerable data including speed observations and trial runs must be obtained by municipal officials, usually the Police Department. The final determination is based upon the 85-percentile method, which is that speed at or below which 85% of the vehicles observed were actually traveling. Department representatives are available to demonstrate the proper method for conducting the necessary studies and drafting the covering regulation, upon written request of local officials.

Procedure for Establishment of Legal Speed Zones

- (1) The municipality is to conduct proper studies and submit data to the Department.  
(Municipalities usually accept the available services of the Department in conducting studies and assembling the data).

- (2) After the speed zones, proposed by the local authorities, are reviewed by the Department, they are returned to the municipality for formal adoption by the rule-making body. During this time, the municipality is responsible for any and all hearings required for adoption.
- (3) Upon receipt of notice of formal adoption by the municipality, the Department, acting jointly with the Registry, will certify and approve.
- (4) Certified regulation is returned to municipality.
- (5) Official Speed Limit signs may then be installed in accordance with the specific provisions of the approved speed regulation.
- (6) The Special Speed Regulation is then enforceable against violators.

### **Section 10A-9 Heavy Commercial Vehicle Exclusion**

A truck exclusion from a municipal way may be authorized provided a suitable alternate route is available. The alternate route shall have an effective width and pavement structure which can safely accommodate the additional truck traffic. In addition the alternate route must meet one of the following conditions:

- (1) Lie wholly within the community making application,
- (2) Lie partially in an adjacent community but only on State Highway, or
- (3) Lie partially in an adjacent community but have the adjacent community's written approval.

Numbered routes are ineligible for heavy commercial vehicle exclusions, per Board of Commissioners, November 22, 1995.

An engineering study, as outlined in the Data requested below, must be made. In addition, one or more of the following may be sufficient justification for truck exclusion:

#### **1. Warrants**

- A. A volume of heavy commercial vehicles, which usually is in the range of five (5) to eight (8) percent, reduces the utilization of the facility and is cause for a substantial reduction in capacity or safety.
- B. The condition of the pavement structure of the route to be excluded indicates that further repeated heavy wheel loads will result in severe deterioration of the roadway. (subject to Department review)
- C. Notwithstanding the foregoing, in certain instances where land use is primarily residential in nature and a municipality has requested exclusion only during hours of darkness, a specific night exclusion may be granted.

## 2. Data

Before the Department can consider an exclusion proposal, the following data must be submitted by the municipality:

- A. A twenty-four hour consecutive count of all vehicles using the subject street. (If the exclusion is requested for only twelve hours, a twelve-hour count will suffice.) The count shall be broken into one-half hour intervals showing:
  - (1) Commercial vehicles with a carrying capacity over 2½ tons
  - (2) Other vehicles
- B. Map of the area, with the excluded street marked in red, the alternate route in green.
- C. Physical characteristics of excluded and alternate streets in question, i.e, length, width, type and condition of surface and sidewalk.
- D. Types of buildings or property abutting street (Residential, Business, School, Playground, etc).
- E. Zoning of Street (Residential, Industrial, etc.).
- F. Proximity of probable alternate route to the proposed excluded route and the additional distance to be traveled using the alternate route.
- G. Types of traffic control existing on street.
- H. Hours during which exclusion is to be in effect.
- I. A written statement from the municipality as to the need for the exclusion, and acknowledgement of acceptance of the responsibility for installation and maintenance of appropriate signage.

**EXEMPTIONS:** Exclusions shall not apply to heavy commercial vehicles going to or coming from places upon said streets for the purpose of making deliveries of goods, materials, or merchandise to or similar collections from abutting land or buildings or adjacent streets or ways to which access cannot otherwise be gained; or to vehicles used in connection with the construction, maintenance and repair of said streets or public utilities therein; or to Federal, State, Municipal or public service corporation owned vehicles.