



**CENTRAL TEXAS  
Regional Mobility Authority**

## AGENDA ITEM #13 SUMMARY

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Briefing on procedures to establish the speed limit for Mobility Authority roadways.

Strategic Plan Relevance: Regional Mobility given that the posted speed limit conveys traveler information to the driver to facilitate safe passage.

Department: Engineering

Associated Costs: N/A

Funding Source: N/A

Board Action Required: No

Description of Matter:

This briefing will outline the authority and procedures for establishing speed limits on turnpike facilities constructed and maintained by the Mobility Authority as enumerated in Section 545.354 of the Texas Transportation Code which additionally references TxDOT's Procedures for Establishing Speed Zones.

Reference documentation:

Texas Transportation Code Section 545.354; Powerpoint presentation, "How Speed Limits are Established."

Contact for further information:

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# Briefing on How Speed Limits are Established

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February 26, 2014



- **Shall be determined and posted before opening highway to traffic**
- **Traffic and engineering investigation required for determination**



## Investigation will include review of:

- **Statutory prima facie applicable**
- **Design speed**
- **Trial-run speed study**





## **Statutory Prima Facie (for passenger cars):**

- **City street – 30 mph**
- **County roads – 60 mph**
- **State highways – 70 mph\***

**\*RMA's can establish speed limits up to 75 mph/TTC up to 85 mph**







## Design Speeds:

Facility	Minimum
Mainlanes - Urban	50 mph
Mainlanes - Rural	70 mph



## Trial Run:

- **A drive through of the roadway at various chosen speeds near and at the prima facie speed to determine if the speeds are appropriate for the area**



- **Interim speed limit shall be posted based on those factors using engineering judgment (prior to opening)**
- **Once speeds have stabilized, 85<sup>th</sup> percentile speed study should be conducted**





## Speed checks should:

- **Be made on avg week day at off-peak**
- **Be made during good weather**
- **Include only free flowing vehicles**
- **Include 125 vehicles minimum each direction**





**Examples of factors that allow up to a 12 mph adjustment \* to the 85<sup>th</sup> percentile speed:**

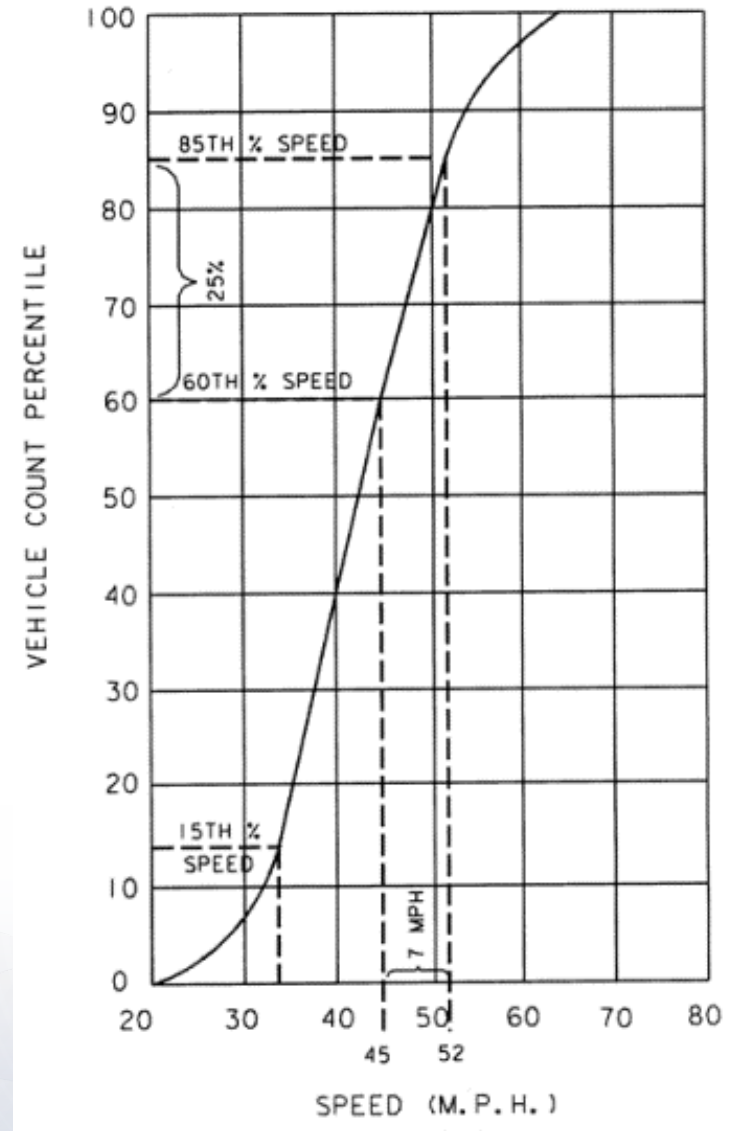
- **Narrow lane widths**
- **High driveway density**
- **Crash history exceeding statewide norm**
- **Lack of shoulders**
- **Limited sight distance**

**(\* maximum adjustment allowed would penalize over 50% of drivers)**


# 85<sup>th</sup> Percentile Speed Limits



- **Breaks in speed distribution curve at 15% and 85% indicate lack of normality (i.e. unreasonably fast or slow drivers)**
- **85% of drivers are safe and prudent (in theory)**
- **A 7 mph reduction below the 85<sup>th</sup> percentile penalizes 25% of drivers**





- **A trial run at the 85<sup>th</sup> percentile speed should then be conducted for length of roadway to look for irregularities that might require advisory signing (i.e. curves, etc.)**
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- **Finally, the signs should be replaced where 85<sup>th</sup> percentile speed differs from the interim speed posted**





## **Responsibility for setting speed limits:**

- **Main lanes – Mobility Authority**
- **Frontage Roads – TxDOT\***

## **Action to codify:**

- **Mobility Authority resolution**

**\* assumes TxDOT will maintain frontage roads**





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