Speed Management for Safety

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We know speeds effect all road users...

If hit by a person driving at:

- **20 MPH**
  - 90% Person Survives the Collision
  - 10% Results in a Fatality

- **30 MPH**
  - 60% Person Survives the Collision
  - 40% Results in a Fatality

- **40 MPH**
  - 20% Person Survives the Collision
  - 80% Results in a Fatality
ITE Speed Management for Safety Resource Hub

- ITE created a resource hub to pull together all existing resources other there related to speed management for transportation professionals.
- The resource hub covers for topic areas:
  - Speed as a Safety Problem
  - Setting Speed Limits
  - Measures for Managing Speed
  - Creating a Speed Management Program

https://www.ite.org/technical-resources/topics/speed-management-for-safety/
Speed Related Definitions

- What is design speed?
- What is operating speed?
- What is target speed?

How should these 3 speeds work together?
Methods for evaluating and setting speed limits

- And [Methods and Practices for Setting Speed Limits](#)

- **Engineering approach** - a process where a base speed limit is set according to 85th percentile, the road design, and other conditions.

- **Expert system approach** - speeds suggested by computer program with inference procedures

- **Safe system approach** - speeds set according to entire road system being evaluated based on crash types
Setting Speed Limits – USLIMITS2

Expert system developed by FHWA to assist in determining appropriate speed limits for specific road sections

Input Data
Surrounding development
Access points
Road function
Road characteristics (e.g. divided or undivided, # of lanes, AADT, roadside hazards, segment length, traffic signals, driveways
Existing vehicle operating speeds (50th and 85th percentile)
Ped / Bike Activity
Crash History
Special Conditions (e.g. adverse alignment, parking)
NCUTCD Recommendation on Speed Limit Procedures

- NCUTCD is an independent non-profit that make recommendations to FHWA on the Manual for Uniform Traffic Control Devices (MUTCD).

- MUTCD currently says speed zones (other than statutory speed limits) shall only be established on basis of engineering study...analysis of speed distribution of free-flowing traffic.

- NCUTCD recommendations is to also recognize crash experience, road characteristics, road context, and road users in setting speed limits, and encourages speed studies with road changes.

Setting Speed Limits - What Does the MUTCD Currently Say?

Standard:
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.

Guidance:
When a speed limit within a speed zone is posted, it should be within 5 mph of the 85th-percentile speed of free-flowing traffic.

Option:
Other factors that may be considered when establishing or reevaluating speed limits are the following:
Road characteristics, shoulder condition, grade, alignment, and sight distance
The pace
Roadside development and environment
Parking practices and pedestrian activity
Reported crash experience for at least a 12-month period
Setting Speed Limits - What Might the MUTCD Say Soon?

Standard:
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.

Guidance:
When a speed limit within a speed zone is posted on freeways, expressways or rural highways, it should maximize the percentage of vehicles in the pace and should be within 5 mph of the 85th-percentile speed of free-flowing traffic vehicles.

Option Guidance:
Other factors that may should be considered when establishing or reevaluating speed limits within speed zones are the following:

- Speed distribution of free-flowing vehicles (such as current 85\textsuperscript{th} percentile, the pace, review of past speed studies)
- Reported crash experience for at least a 12-month period relative to similar roadways
- Road characteristics, such as lane widths, curb/shoulder condition, grade, alignment, median type, sight distance
- Road context (such as roadside development and environment, including number of driveways and land use, functional classification, parking practices, presence of sidewalks/bicycle facilities)
- Road users (such as pedestrian activity and bicycle activity)
FHWA Speed Management Action Plan Template

- Step by step guide to creating a comprehensive speed management action plan.

- A speed management plan should be actions toward reducing speeding as a cause of crashes in Austin.

- An introduction to an action plan should include:
  - Crashes and injuries related to speeding
  - Prevalence of speeding
FHWA Speed Management Action Plan Template

- A speed management plan should identify and create actions on:
  - Speed Limit Setting Issues
  - Planning, Design and Engineering
  - Enforcement Issues
  - Public Information and Education
- With clear steps toward resolving the above challenges...
- FHWA also offers technical assistance on speed management via roadway safety capacity building.
Additional opportunities on speed management

- **Read the April ITE Journal on Safety Through Speed Management**
- **Register for ITE Webinar on June 26 at 1pm EDT on Safe Systems Approach to Speed Mgmt**
- **Subscribe to ITE hosted Google Group to discuss Speed Management**