USLIMITS: Expert Speed Zone Advisor

New

www2.uslimits.org

Problem: Speeding is a significant threat to public safety and warrants priority attention

The management of speed through appropriate speed limits is an essential element of highway safety. The Manual on Uniform Traffic Control Devices (MUTCD) recommends that speed limits be set within 8.05 km/h (5 mi/h) of the 85th percentile speed. The MUTCD also specifies other factors (e.g pedestrian activity and crash history) to consider but does not provide guidance on how to account for these factors. Because procedures for setting speed limits are subjective, speed limits may be established that are inconsistent and ineffective in managing speed and crash risk.

Solution: USLIMITS is a Web-based expert advisor system designed to assist practitioners in determining appropriate speed limits in speed zones

USLIMITS is a user friendly, logical, and objective approach for setting credible, safer, enforceable, and consistent speed limits.

USLIMITS calculates the appropriate speed limit for a section of road based on the information input by the practitioner:

- Type of surrounding development.
- Access frequency (e.g., the number of access points, driveways, intersections, and traffic signals).
- Road function (e.g., traffic movement versus access to abutting properties).
- Road characteristics (e.g., divided or undivided, number of lanes, sight restrictions, and roadside hazards).

Putting It in Perspective

Speeding is a significant threat to public safety and warrants priority attention. Nationally, over 30 percent (13,000 plus deaths) of all traffic fatalities annually are classified as speed related. These tragic and senseless deaths are only a small part of the total safety picture— in additional hundreds of thousands Americans receive life-altering injures as a resulted of speed-related traffic crashes.

- Freeway conditions and important high-speed road characteristics (e.g., interchange spacing, annual average daily traffic (AADT), and shoulders).
- Existing vehicle operating speeds.
- Pedestrian activity.
- Crash history.
- Any special conditions existing on the road section (e.g., adverse alignment and parking).

The output from USLIMITS includes a recommended speed and a list of issues that might be further investigated.

USLIMITS is limited to determining appropriate speed limits in speed zones. USLIMITS does not address work zone speed limits, school zone speed limits, or variable speed limits that change based on traffic and weather conditions.

Successful Applications: Implementing USLIMITS based on effectiveness of other speed zone advisors

The first version of USLIMITS was based on expert speed zone advisors used by many

Benefits

The benefits of USLIMITS are

- Increases likelihood of consistent speed limits among similarly zoned roads.
- Encourages consistent speed limits for specific road and traffic characteristics.
- Improves the consistency of speed limits within states and between states.
- Supports motorists' acceptance and compliance of speed limits.
- Reduces the speed differences within the traffic stream, leading to reduction in crashes.
- Serves as a tool for public awareness and education and in responding to public and political concerns.
- Supports the integrity of speed enforcement and adjudication.

USLIMITS will be of particular benefit to local communities and agencies that do not have ready access to engineers with speed limit setting expertise. For experienced engineers, USLIMITS can provide an objective second opinion and increase confidence in speed limit setting decisions.

Australian state road authorities. Version 2 of USLIMITS, released in June 2007, is based on U.S. experts. As of 2007, there were registered users of USLIMITS in 20 State DOTs, 10 county public works departments, 25 cities, and 5 law enforcement agencies.

Deployment Statement

USLIMITS has the potential to reduce the number and severity of speed-related traffic crashes.

Deployment Goal

USLIMITS will prove successful if there is a reduction in the number and severity of speed-related traffic crashes resulting from speed limits that are credible, consistent and enforceable.

A short-time (1 year) goal is to obtain at least 100 users of USLIMITS in State and local agencies and to further refine the system based on user feedback, to be completed by the end of 2008.

The ultimate goal is for USLIMITS to be adopted by the Institute of Transportation Engineers as a recommended practice for setting speed limits by 2010.

Deployment Status

The Office of Safety has committed to providing technical support of USLIMITS including continued Web hosting, troubleshooting problems, minor enhancements, Web training, and demonstrations. Because USLIMITS is a Web application, all users will benefit immediately from enhancements and updates.

The Resource Center has specifically committed time and financial resources in fiscal year 2008 to deployment and dissemination speed management technologies.

The only tools required to run USLIMITS are a computer with a Web browser and access to the Internet. First time users register with the system by providing contact information (name, affiliation, and email address) and create a username and password for future access. There are no charges or fees to use the web-based USLIMITS at http://www2.uslimits.org.

The USLIMITS Web application uses a relational data base that can provide reports on useage. The administrator of USLIMITS will provide FHWA with quarterly updates on number of users by agency type (e.g., state, county, city, DOT, police, consultant, university).

The Office of Safety and Resource Center will promote this technology to Federal, State, and local agencies though the Regional, State, and local speed management workshops, Webinars, conferences, and on-site meetings.

In addition, Resource Center staff will disseminate this technology when conducting pedestrian safety, intersection safety, road safety audits, and low-cost safety improvements workshops.

Additional Resources

To learn more about AASHTO-Technology Implementation Group's approved technologies, visit http://tig.transportation.org.

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