

## Statement by Terry Liittschwager to EWEB Board Meeting, Tuesday, 1 Sep 2015

I'm going to be using the quite similar words 'bumps' and 'humps' a lot, so I've color coded them to help avoid confusion. 'Bumps' are red, 'humps' are blue.

Some months back EWEB removed the four speed bumps on the Leaburg Dam roadway for construction. When that phase of construction was complete, you installed four new speed bumps. The bumps removed had a travel length of one foot. The new ones have a travel length of three feet, and are less objectionable than the old. For that I indeed thank you, as I am sure does everyone who has to cross the Dam regularly, especially those pulling trailers.

The day after the new speed bumps were installed, as I was walking through the Leaburg Fish Hatchery to my mail box, the Hatchery superintendent told me that an EWEB engineer had taken pains to tell him that the new devices were speed humps. That made me feel pretty good, but when I arrived at the Dam, to my great disappointment, I saw not speed humps, but speed bumps.

I later had an opportunity myself to ask an EWEB employee about the new devices, and he replied that they were speed humps. I demurred, and explained why, to the best of my knowledge, they were actually speed bumps. He patiently and courteously listened to me, and then said that they had been represented to him as speed humps. So, it would appear that there might be confusion among some at EWEB as to the difference between speed bumps and speed humps.

There's no need for confusion. The difference between the two is straightforward. In terms of travel length, speed bumps are 1 to 3 feet across, speed humps 10 to 15 feet. In operational terms, if the front axle of your car gets across the bump before your rear axle reaches it, it is indeed a speed bump. If your rear axle reaches it before your front axle is completely across it, you're crossing a speed hump. Clearly, the speed control devices on the Leaburg Dam roadway are speed bumps.

Supporting documentation for these definitions is on the subsequent pages of this handout. The documentation has been taken from the online library of The Institute of Transportation Engineers (ITE), the preeminent professional organization for traffic engineers.

I hope you will take the time to read the documentation, including that which I'm providing on CDs. I believe that a reasonable reader will conclude that it would be better to use speed humps rather than speed bumps on the Leaburg Dam roadway.

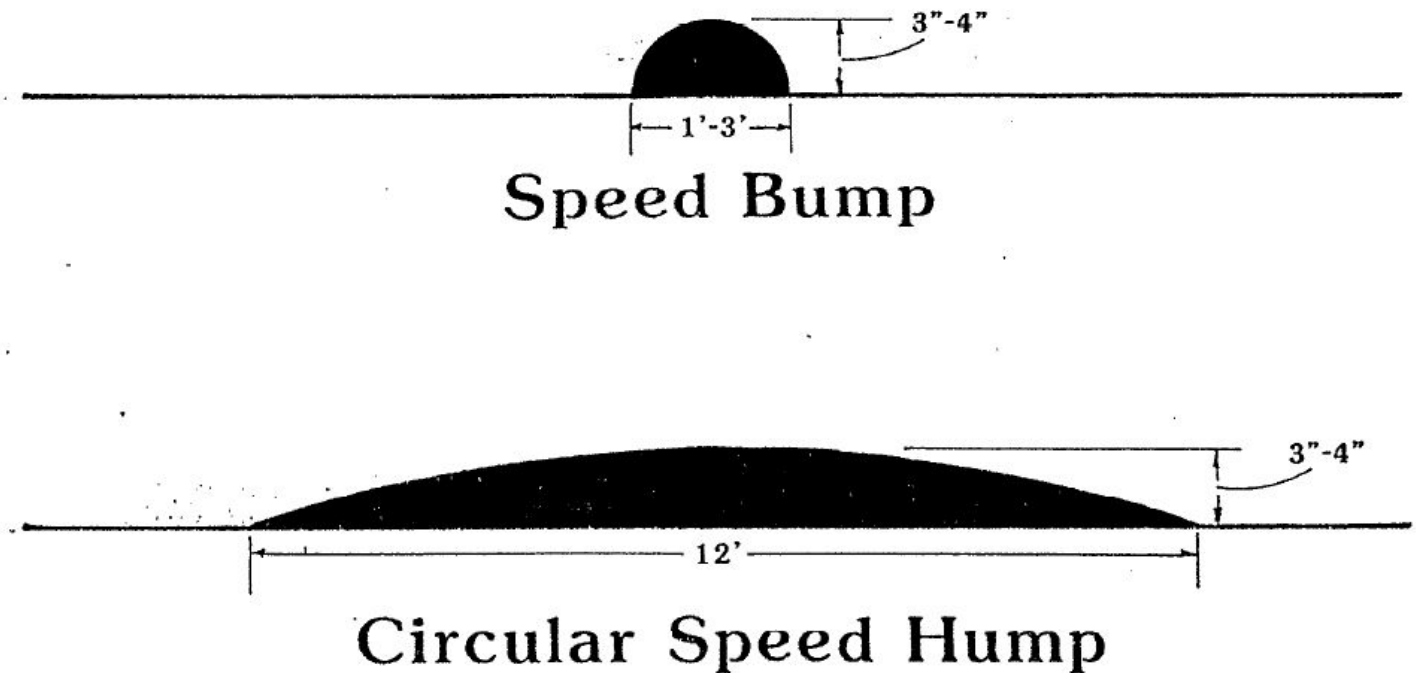
Thank you for having given me the opportunity to speak. I'm available by phone, email, Skype, or in person should anyone have any questions.

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The illustration below is from a PDF at the ITE library at <http://library.ite.org/pub/e2717e67-2354-d714-5155-6208f12a2dab>. It's the best single image I've been able to find showing the difference between a speed **bump** and a speed **hump**. Clearly, using the standards shown, the speed **bumps** on Leaburg Dam are just that, speed **bumps**, not speed **humps**.

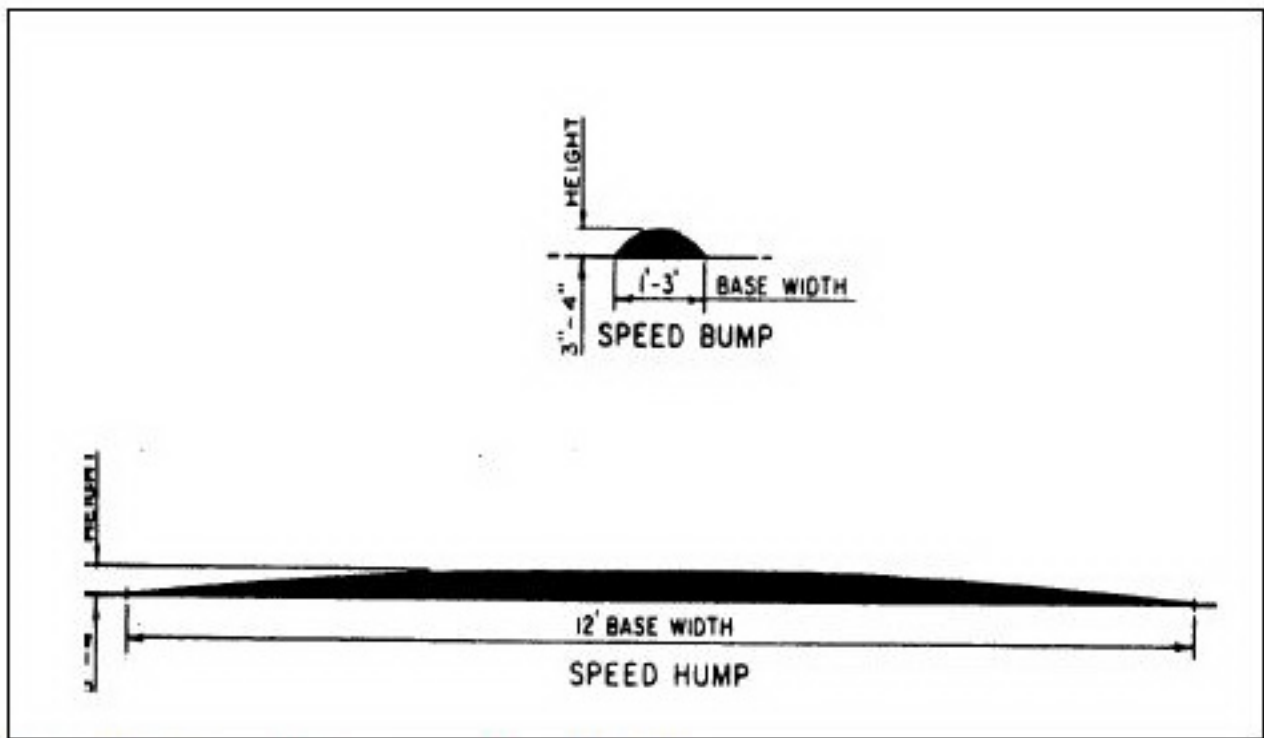


The next page in its entirety is an excerpt from the PDF at <http://library.ite.org/pub/e27834ad-2354-d714-5110-7536dcc4a8c0>. More interesting than its illustration is the text before and after.

From the text, not just the illustration, we see that the speed control devices on Leaburg Dam, with a travel length of 3', are classified as speed **bumps**.

Additionally, it points out that some courts have found speed **bumps** to be patently unsafe when applied to public streets. I realize that the Dam is owned by EWEB, but as I understand it, those of us living across the Dam have a deeded right to use the roadway, it is the only public route we have to the highway, and the public has used it for years.

There may be one exception to government discretion in the choice of traffic calming measures. One physical measure has been found by some courts to be patently unsafe when applied to public streets. It is the speed bump, as opposed to the longer speed hump.<sup>7</sup> Speed bumps are abrupt features that rise and fall 3 to 4 inches over a span of 1 to 3 feet (see figure 6.6). Bumps have comfortable crossing speeds of 5 mph or less, which relegates them to



**Figure 6.6. Bump Profile versus Hump Profile.**

Source: H.S. Chadda and S.E. Cross, "Speed (Road) Bumps: Issues and Opinions," *Journal of Transportation Engineering*, Vol. 111, 1985, pp. 410-418. Reproduced with permission of the publisher.

parking lots and private driveways as opposed to public roadways with higher posted speed limits.<sup>8</sup>

In *Vicksburg v. Harrellton*, a landmark case, the Mississippi Supreme Court ruled that speed bumps constituted an inherent danger to motorists. The Connecticut courts reached the same conclusion, but had another reason for declaring them a public nuisance: Their low design speeds could so delay emergency vehicles as to cause serious injury or loss of life.<sup>9</sup> An occasional bump can still be found on a public roadway.

Finally, insofar as excerpts, the paragraph below is from a PDF at the ITE library at <http://library.ite.org/pub/e27834ad-2354-d714-5110-7536dcc4a8c0>.

The 12-foot length guarantees that a passenger vehicle cannot straddle a hump, thereby reducing the likelihood of bottoming out. While humps as short as 6 to 8 feet have been tested, they tend to function more like speed bumps. Bumps produce their greatest driver discomfort at relatively low speeds. At higher speeds, the suspension quickly absorbs all impact before the vehicle body has time to react. Also at higher speeds, damage to the suspension or loss of control can result (not a problem with common humps). See “Legal Authority and Liability” (chapter 6) for more on humps versus bumps.

While the paragraph above is from a section discussing speed **humps**, the more interesting information is what it has to say about speed **bumps**. Drivers can minimize their discomfort by crossing a speed **bump** at a higher speed if they're so inclined. Speed **humps**, by the very nature of their design, cannot be defeated by speeding up.

For your convenience, I've put the full PDFs from which the excerpts on the previous pages were taken on the CD included with this handout. The file names are:

- ITE\_Austin\_Bump\_Hump.pdf from which the first excerpt was taken
- ITE\_Chapter\_6.pdf from which the second excerpt was taken
- ITE\_Chapter\_3.pdf from which the third excerpt was taken

Also on the CD is the Manual on Uniform Traffic Control Devices in the MUTCD.pdf file. Please note that by Federal law, the two roads that the Leaburg Dam road way connects must conform to the MUTCD, and that manual does not permit the use of speed **bumps** on roadways.

Finally, a copy of this document is on the CD.

Thank you for your reading time.