Re: 20,000−lb. Bus vs. Pedestrian −− Analogy Sought

Source: http://sci.tech−archive.net/Archive/sci.physics/2004−07/9576.html

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Date: 07/29/04

Date: Thu, 29 Jul 2004 17:23:58 −0500

"Jeekay2004" <garystuartkaplan@yahoo−dot−com.no−spam.invalid> wrote in message news:41096c03$1_2@127.0.0.1...
> Hi,
>
> Here's a true scenario: A 50 year−old female of average height and
> weighing 165−lbs. steps off a curb and is hit square−on by a
> 20,000−lb. bus going a steady 10−mph. The bus impacts the woman at
> 10−mph, then stops. The woman is first knocked up into the
> windshield of the bus, then "bounces" off the windshield and lands in
> the street (an unknown distance from the front of the bus). She
> survives the accident, sustaining a fractured arm, rib and skull.
>
> Here's my question: Can someone come up with a real−world, more
> human−sized physical analogy for this incident? In other words, in
> terms of impact force, can this pedestrian−vs−bus scenario be
> reasonably equated to, say, someone being hit by a football
> linebacker of X weight and running at X speed? If so, what would
> that linebacker's weight be and what would his speed be? Or perhaps
> there's a better, more illuminating physical analogy that someone
> could come up with. I realize the variables at play in the
> bus−vs−pedestrian situation are myriad, but I am just seeking a
> reasonable analogy.
>
> My powers of forensic force analysis pretty much end at KE = 1/2 m
> v^2, so I'm looking for some help here.
>
> Thanks in advance for any input. :D
>

Scale the problem use a 2,000 pound (very small car) going at 10 mph and a Tomato weighting 1.65 pounds suspended by a string in front of the bus and see what happens.