

A NONSTOP FREEWAY VASTLY SAFER MERGE REFORM  
Statement to Greater Washington TPB 10/20/10 by Carroll George

Mr. Chairman, honorable members of the Board. My name is Carroll George, driving since 1936, career commuting by car in Baltimore, Boston, and New York metro areas, a veteran at the Battle of Okinawa, WWII.

In prior years I proposed two versions of an alternate yield merge reform that you dutifully submitted to FHWA, VDOT, AND VTRC for evaluation. From your record on that evaluation, memo dated May 10, 2005 from your Technical Task Force Chair this quote: "The alternate yield concept merits no further consideration."

Add these two negative quotes to me directly by letter from Dr. Gary Allen, Chief, Research, Technology, and Innovation, VTRC:

1. "Drivers tend to behave selfishly, rather than seek to optimize overall system performance."
2. "Drivers generally cannot accurately judge risk to themselves or others."

I completely agree with all of the above and use Dr. Allen's description of the merge disfunctional problems to design a reform that eliminates the stopping safety hazard, even the opportunity for selfish behavior or risky actions for advantage. Prevailing speed drivers will be looking forward instead entering drivers looking behind via blind spot side mirror, providing 10 or more times the available time to evaluate and take the necessary far less evasive action like tweeking one's speed a bit to merge in behind driver just yielded to.

The proposal I present today is definitely not, I repeat "not, an alternate yield concept" as previously submitted and evaluated. In fact, all drivers have only one legal choice. Gone is the stressfull choice by entering drivers of "shall I merge in front of faster traffic or come to an abrupt stop. Incoming drivers ending lane has been replaced by a through lane by continuing the lane line between merging lanes through the taper parallel to the outer solid lane line completely eliminating any hesitation about accelerating up to prevailing speed for the safest possible merging environment, all vehicles within close proximity at or near the same speed.

All qualified drivers should know a prevailing speed car striking a stopped one does so with 100 times the impact energy of striking one traveling 10% slower, the energy being proportional to the square of the speed difference. Qualified drivers should also know the evaluation and evasive action time is proportional directly to the speed difference, the prevailing speed vehicle not only has 10 times more evaluation time to simply, looking ahead instead of behind via blind spot side mirror, tweek one's speed to merge in behind driver just yielded to or migrate left to the next lane, all vehicles in close proximity at or near the same speed, no stopping.

The stopping hazard, that per a 2 year 4,447 accident record resulted in 85% of over 6 reported accidents per day on the Capital Beltway occurred within 1,000ft of entrance ramps, will have been vastly reduced if not eliminated. VTRC made a FRESIM analysis of the standard merge at the time of my original proposals that showed that when traffic reached the 2200vph manual designated lane capacity, when 2 lanes are merged into 1 the merge causes about a 30% drop in throughput and a 70% drop in prevailing average speeds.

A companion and I, driving side by side at 40 mph paced evening peak traffic after the last Gearge Washington Parkway light south of Old Town Alexandria, and companions counted the lane throughputs 5 times that resulted in a repeated lane capacity without merge interference of 2891vph at 40mph, a very easy test to repeat. I also observed on I-80 at Route 15 interchange in New Jersey flow rates during the near 3 hour morning peak east were repeatedly about 40% of the 2880vph in the last 10 minutes after the down stream congestion cleared and the upstream backup traffic was free of the stopping at merg.

Perhaps the Greater Washington Transportation Board in its mission will choose to bring to the nation's commuters vast benefits quickly at normal operating costs with this

