# MORE FROM THE 1998 FEDERAL REGISTER, DOCKET # 4124...

(Link to #4124 - http://dmses.dot.gov/docimages/pdf29/41090\_web.pdf)

**Bottom Line**: "NHTSA explained that: The two chief considerations in this regard are that the <u>lamps not create excessive glare</u>, and that <u>their use</u> <u>does not mask the ability of the front turn signal to</u> <u>send its message</u>." (page 42348, paragraph 14)

"...the agency (NHTSA) believes that practical and low cost solutions can be achieved that permit manufacturers to modify their DRL modules, <u>and</u> <u>use more turn signal lamps as DRLs</u>." (page 42352, paragraph 6)

"However, NHTSA does not want to discourage the installation of DRLs. <u>Research indicates that</u> <u>DRLs do improve vehicle conspicuity</u>..." (page 42356, paragraph 2)

"In response to these [public<sup>°</sup>] comments, NHTSA sought to find a middle ground that would achieve the agency's goal of preventing excessive glare and masking of turn signals, and accommodating the commentators desire for <u>harmonization and the chance to use the simplest DRL system</u>." (page 42349, paragraph 5)

"However the glare limits in this proposed amendment may well <u>move manufacturers to choose turn</u> <u>lamps or dedicated DRL lamps as the preferred</u> <u>DRL option.</u>" (page 42357, paragraph 4)

"Additionally, NHTSA notes that DRLs that use turn signal lamps, lamps intentionally designed to provide wide angle conspicuity, would address Canada's concern for assuring the maintenance of DRL peripheral detection benefits." (page 42358, paragraph 3)

Conclusion: \*Seems like even NHTSA is on record as wanting to encourage motor vehicle manufacturers to use more Turn Signal lamps as DRLs. AllQuality believes the DRL-2005 is the simplest system mentioned above, and <u>the</u> long term solution to DRLs in North America.

\*Disclaimer: By way of federal law, the US Government can not and will not endorse any individual product or company. This is only NHTSA's acknowledgement nearly 8 years ago of an emerging technology and its potential benefits to the automotive world and mankind. LIGHTS 'ON' IN THE DAYTIME MAKE SOME PEOPLE ASK:

## "SO JUST WHAT IS THE LOGIC BEHIND DAYTIME RUNNING LIGHTS?"

The logic behind DRLs is that keeping lights 'on' during the day <u>makes a vehicle that much more conspicu-</u> <u>ous</u>. Studies show that the earlier you detect another vehicle on the roadway and can estimate its distance and speed, the less likely you will be involved in a crash with that vehicle. Subsequently, <u>the presence of DRLs</u> <u>simply improves human detection</u>.

AMBER° DRLs not only improve human detection over white light types or headlight operation, but they also counteract a "<u>latitude effect</u>," by which <u>white</u> <u>light's effectiveness diminishes the closer one is with</u> <u>respect to the Earth's equator</u>.



2004 Honda Civic® with the AllQuality PlanetSafe DRL-2005 Controller acting on the AMBER<sup>°</sup> Turn Signal Lamps built into Custom Aftermarket Projector Headlight Assemblies

IN THE BOOK "*EVER WONDER WHY*?" BY DOUGLAS B. SMITH (1991, Random House), THE FOLLOWING QUESTION IS POSED:

## "EVER WONDER WHY MOST TRAFFIC SIGNALS AND MARKERS ARE YELLOW?"

<u>Answer</u>: "Yellow is the most visible of all the colors in the spectrum. <u>It can be seen from the farthest distance</u> <u>and is conspicuous in all lighting conditions</u>. This makes it a natural choice for traffic signals, which must be seen from great distances." (pg. 52)

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### WHAT THE EXPERTS & OTHERS ARE SAYING ABOUT DAYTIME RUNNING LIGHTS (DRLs) & EFFECTIVENESS

BELOW ARE ACTUAL QUOTES:

"A key point is that most [DRL<sup>°</sup>] effectiveness studies are based on a large proportion of vehicles with low beam headlight DRLs, but <u>photometric</u> <u>analysis</u> suggests that these are only marginally <u>effective</u> on all but very dull days. Recent U.S. research... has shown that bright <u>turn signal</u> [AMBER<sup>°</sup>] <u>DRLs are more effective than headlight DRLs</u>...

Michael Paine Australia's Leading DRL Expert (http://www4.tpg.com.au/users/mpaine/drl.html; paragraph 4 & elsewhere)

"Or in short, forty years on from the [1961°] Texas 'Light up and Live' [low beam headlight°] campaign, to date there is still <u>no satisfactory scientific</u> <u>evidence from the monitoring studies of motorcar</u> <u>daytime lights that have been conducted since then</u> <u>that</u> [white headlight°] <u>daytime lights have reduced</u> <u>accidents</u>."

Antonio Perlot Federation of European Motorcyclists Associations Stephen Prower British Motorcyclists Federation March 2003 Study (http://dmses.dot.gov/docimages/pdf85/239101\_web.pdf; page 16)

"From a lighting safety perspective, <u>the use of</u> [AMBER<sup>°</sup>] <u>front turn signals as DRLs is desirable</u>, because it:

- <u>eliminates all possibility of turn-signal masking</u> by other [headlight/white light<sup>°</sup>] DRLs,
- increases the angles at which the DRL can be seen (visible at 45 degrees) which should increase the benefit at intersections,
- <u>virtually eliminates glare</u> [with respect<sup>°</sup>] <u>to other</u> <u>motorists</u>,
- prevents incidents where drivers forget to turn on full headlights (with tail lamps) in inclement weather or at twilight because the headlamp DRLs provide so much light, and
- allows motorcycles (with headlights 'on') to keep a unique conspicuity signature.

Additionally, non-safety benefits are that turn signal [AMBER°] DRLs offer:

- <u>a fuel economy benefit of up to 0.5 m.p.g.</u> <u>compared to headlamp DRLs</u> (according to 1990 test data),
- lower cost of replacement bulbs (compared with replacement costs for headlamps or head-lamp bulbs), and
- <u>lower cost than reduced intensity lower beam</u> <u>headlamps</u>, according to the 1995 Economic Evaluation of DRLs performed by Transport Canada."

Federal Register / Vol. 63, No. 152 Docket NHTSA 98-4124; pg 42357, paragraph 2 (http://dmses.dot.gov/docimages/pdf29/41090\_web.pdf)

STUDY: Daytime Running Lamps (DRLs) for Pedestrian Protection [SAE #203-01-2072]

Study Results: DRL Types - Reduction in Collision Rates:

Full Intensity Low Beam Headlights3.23%AMBER° Turn Signal DRLs12.40%Paul A Thompson

(http://www.sae.org/servlets/productDetail? PROD\_TYP=PAPER&PROD\_CD=2003-01-2072)

"The daytime AMBER<sup>°</sup> running lights are great and should be the only DRLs allowed. They are eye-friendly with no annoyances, irritations, distractions, rear view mirror adjustments, or hazards. <u>Smart</u>, sensible, effective, and most important, the safety you [the National Highway Traffic Safety Administration (NHTSA)<sup>°</sup>] are striving to achieve."

> Terry Quesnel Comments to NHTSA Docket 98-4124 (http://dmses.dot.gov/docimages/pdf84/213299\_web.pdf)

"When are you [DOT/NHTSA<sup>°</sup>] going to make all daytime running lights AMBER<sup>°</sup>. <u>They actu-</u> <u>ally stand out better in the daylight then white</u> <u>lights</u> especially under certain conditions and this is all done without the glare associated with white lights... I have no problem with all cars and trucks having AMBER<sup>°</sup> daytime running lights..."

> Anonymous: 2-20-05 Comments to NHTSA Docket 98-4124 (http://dmses.dot.gov/docimages/pdf91/326145\_web.pdf)

"Daytime running lights - <u>it is time for the DOT</u> to establish a UNIFORM STANDARD. DRLs are now a random accessory, some use parking lights\*\* (AMBER°, very nice)... I would like to see a DRL standard requiring AMBER° parking lights\*\* only and on all vehicles." [\*\*these are actually 21 Watt Turn Signal lamps°]

> James M. Ungerman Comments to NHTSA Docket 98-4124 (http://dmses.dot.gov/docimages/pdf81/167669\_web.pdf)

"The other alternative I've seen used is the AMBER° marker [Turn Signal°] lights as DRLs. This approach is used on Chevrolet Corvette® and Oldsmobile Intrigue®. The lights are visible, yet are not distracting."

Brian Erne Comments to NHTSA Docket 98-4124 (http://dmses.dot.gov/docimages/pdf75/145608\_web.pdf)

"The only daytime running light that I find is acceptable is what is used on the new Corvettes®. They use an AMBER<sup>°</sup> parking light\*\* in the bumper... which does not cause a glare problem." [\*\*these are Turn Signal lamps<sup>°</sup>]

> Gordon Lavrick Comments to NHTSA Docket 98-4124 (http://dmses.dot.gov/docimages/p75/240051.doc)

"I urge you (DOT/NHTSA) to... retrofit each US vehicle with a proper DRL system, consisting of: Turn signal based DRLs, or discrete (preferably 21W AMBER<sup>°</sup>) DRLs... and install a separate shutoff switch for drivers that KNOW when to turn their lights on/off."

> Edward F. Cooke Comments to NHTSA Docket 98-4124 (http://dmses.dot.gov/docimages/pdf80/160908\_web.pdf)

\*\*Parking Lights (7 Watt bulbs) are not legal for use as DRLs in the U.S., as they are deemed by the DOT (the U.S. Department of Transportation) "too dim" in daylight hours to be effective.

AMBER capitalized & [Brackets] added for emphasis / Front turn signals req'd Amber by law

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