

Alcohol Levels And The Need For Driving Impairment Devices

Alcohol consumption throughout our global communities has climbed since the early 1900's as people partake of it as an entertainment beverage and wine a subtle dining preference. The types of alcohol have also expanded as time allots for creativity and science the diversification of it's chemical composition and aging processes. Though the primary ingredient is 'ethanol', liquor is a combination of additives, especially fruit, which lend to a widely urgent smoother, sweeter tastes and colors. These good improvements have increased interest and hence sales added over the years to the portion of our populations who consume these beverages. Some have bleed into the challenge in cultural customs, such as the Irish St. Patty's Day or New Year's an a host of other celebrations or functions which permit and require the availability of alcoholic drinks. The up hill journey into today's liquor marts provides a wide array in choices for purchase in retail outlets, online, and restaurant bars who add their brand of mixed drinks as an customer attraction. This is a economic staple as industry's depend of these sales for income as much as a crowd pleaser and social device.

It too had become the reason for a loss of life, severe bodily injury, and the security in insurance policies. As in the days of old, over consumption is proven problematic and a danger to those dually inebriated and those victimized in close proximity of an drunk person. It had upset the teenage life and lifestyle, as a primary drug of choice, since the 1950's. Although it was ostracised by adults creating an awareness of the harm and danger of drinking and drinking when driving, it had a sense of belonging socially as a accompaniment to cigarette smoking. Our society's have fought for decades to lower the smoking rates across the age board and deter the desire for alcohol with media depictions of the undesirables both leave a residue within our bodies. Smoking leads to cancer as alcohol takes control of our minds and actions leaving us and others vulnerable. As the song says, 'blame it on the alcohol' that exactly what many did for each negative infraction they caused others to suffer through and from. Yet, the interest in it's use did not transform us as better quality products from brands made for continued market and revenue growth.

Alcohol, once ingested, is absorbed by our body into our blood stream and other organs well before it's remnants are excreted as a by product of urine. This rapid uptake is what generates a biological change as drinkers mentally transform with a loss of judgment, lowered self-awareness, emotional stability and coordination. This has a direct injury to the physiological effects and inherent predictable effects upon individuals driving ability. A decreased state that has been found since the 1920's to cause incidents provoking the 'Driving under the influence



prohibited laws' in New York City. In 1941, New York became the first state to allow Blood Alcohol Concentrations (BAC) to stand as proof of intoxication.

As the problem of 'drunk drivers' prevailed, concerns were furthered with the founding of the MADD organization in 1980. As recognized body, MADD became one of the most influential oppositions to alcohol consumptions, alcoholism, underage drinking and drinking when driving. The annual body count of adults and of greater anger, children, victimized by alcoholism became the focal zone in deterring the need and use of liquor. As minimizing it's use would change the dynamics of automobile incidents within the U.S.. This spurned on the development of DWI Child Endangerment Laws. And could only be enforced with the collection of BAC rates which were typically taken from drivers at hospitals after accidents as cause of injury or during an autopsy as a indicator of cause of accident and death. BAC can be measured in blood, urine, breath, perspiration, vitreous humor or tissues of the liver & spleen. Blood Alcohol Concentrations (BAC) is the number of grams of alcohol per every 100 milliliters of blood. 20% of alcohol consumed is absorbed into the blood stream from the stomach and 80% into the small intestines. Women tend to distribute alcohol faster then men.

A study found that lowering BAC in conjunction with administrative and other sanctions was an effective deterrent among high-risk drivers. BAC's are in standard use here and abroad to countries such as Australia, Africa, Europe, New Zealand, Germany and others.

In 1998, the original BAC was 0.10% compared to today's specified Adult 0.08% or higher as proof of drunkenness as visual and auditory stimuli are adversely affected. Research suggest that the standard ongoing of 0.08% in drivers who are most likely to be involved in a crash. Drivers under 21 are expected to hold rates of 0.0% to 0.02%. The rate of fatal crashes remained unchanged between 1996 -2007. Here also, concerned bodies were interested in reducing the proportion of drivers with positive BAC measures. This could only be accomplished using responses such as: fines, license revocation or restriction (ALS/ ALR), mandatory treatment, arrest, conducting driver training, frequent sobriety checkpoints, increasing police presence, and demanding bars and other alcohol outlets take responsibility for their alcohol beverage content.

It was science, bars and restaurants who confirmed ingesting us with the use of 'coffee' or caffeinated beverages to reduce the biological impact of alcohol. Mixing caffeine with alcohol has been shown to decrease awareness of impairment without decreasing the actual level of impairment keeping a person awake longer and giving the opportunity to drink more alcohol and or drive. A 'customary' approach currently preferred at the 'Reserve' a Starbucks subsidiary located around the U.S..



BAC CHECKPOINTS



The late eighties and nineties would see the full use of 'Checkpoints' around cities and towns is two forms. First as a random selective checkpoint which proved culture appropriate, provided publicity and high visibility for sobriety and as a social marketing method. Secondly, checkpoints are when a vehicle is stopped under the suspicion of impairment (legal) and tools applied such as walking and breath test. There was the associated expense for such campaigns ranging from $5000 to $7000 dollars with added increase for media exposure of $2500 to $433000. This enabled real declines in alcohol related fatalities, but ignited attention to other matters. Immigration and Customs Enforcement began to screen for immigration status, unlicensed drivers were disclosed, Tow companies and law enforcement agency's profit financially contributed to racial profiling and generated targets and some states recognized millions in revenue. This is not allowed nor legal in every state.

ALTERNATIVES TO CHECKPOINTS SUFFERAGE

Over the years, officials, organizationS and concerned citizens have explored a variety of 'smart' approaches to saving lives through the instillation of travel networked social systems. These systems include:

1. Designated driver
2. Alternative transportation
3. Public transportation [mass transit]
4. Smart phone enabled ride sharing
5. Safe Ride programs: taxis, limousines, private cars, trolley's, scooters, shuttles

Until recent technological advancements, the use of BAC's, the travel social networks, Seatbelt laws and DWI Laws were the most reliable means of curving the rate of drunk driving accidents and fatalities. Researchers, law makers, and activist have turned toward technology for it's newly defined means of controlling the number of 'Alcohol-Impaired Drivers' on our roadways. Unlike the 1970's when Congress defeated one such device, this may befall the current use of ignition-interlock devices with breath alyzers which prevent driver from starting cars some



'Convicted' Drunk Driver are obligated to us. We this as well with the Amazon imposed machine-vision nannies on workers who drive for them.

Self-driving cars, which fell prey to electronic glitches in recent years, are undergoing research and testing. And as 'self-driving' cars continue to be road tested, slated as the ultimate anti-impairment device, others had more personal thoughts behind their science based developments.

The concept of drunk-driver detection was first introduced to the public in 2011. In 2013 and 2015, the first research vehicles were created as TruTouch and Sense Air products focused upon detection of the 'breath of the driver'. The touch based its concept upon alcohol concentration in skin tissue-finger contact sensor surface as an 'Optimal Touch Pad'. Then in 2017, a 3rd Vehicle was introduced with is DADSS (Driver Alcohol Detection System for Safety).

Nissan has designed a 2007 'concept' car which could sense inebriated passengers/ drivers on the shifter sensors or in the air system monitoring drivers for signs of drunken driving. The "Fuga Sedan" uses a hi-sensitivity sensor in the transmission shift knob for detection in driver perspiration. This technology also 'keeps and eye on the drivers' and figures out whether or not they're in condition to drive. 'In Condition' encompasses being to tired behind the wheel, being under the influence of some other substance then alcohol, being distracted for unspecified reasons, swerving, eating food, or calling on a cell phone. With the car in motion the seatbelts tighten, slows down, and bring vehicle to a complete stop. It thence, immobilizes the car and provides a 'drunk driving' alert over the sound system. Even the mirrors monitor drive behavior. This may be the 'end-game' against impaired drivers and has therefore gained momentum in Congress as part of the 2022 trillion-dollar Infrastructure Bill.

If and when this bill passes, it is said it stated that this "Technology" standard becomes law and would go into effect three years after the bill is signed requiring all new vehicles to have the technology of built-in ability to detect drunk drivers and disable their cars later in the decade. It give DOT latitude for it's implementation.

Although this project is backed by Representatives, surely scrutiny is to come with inventions and use. There is the cost projections both federal and consumer relative and the design plausible flaws and interest which may present behind the development and use of such scientific and emotion consumptive devices. Areas which will be plausibly explored include:

1. Expense to the consumer for technology or government grants which revert back to the consumer indirectly
2. Profitability by vendors, investors, and others



3. Maintenance of the technology as denoted by the brand corporation
4. Alternative Medical conditions influencing false positive detection or behaviors
5. Reporting ability, access potential, and controls
6. Failure to detect odors, perspiration composition accurately
7. Visual detection reliability and accuracy
8. Video Analytics: based upon emotion recognition 'algorithms' poorly functioning problematic

ORGANIZATIONS ASSOCIATED WITH DRIVER SAFETY INITIATIVES

A. Insurance for Highway Safety- study takes time to materialize – reduction of deaths by 2026 citing new vehicle production . Automakers 2 yrs. production after 3yrs for finalized rules
B. Automotive Coalition for Traffic safety (ACTS)
C. Alliance for Automotive Innovation : prefers breath sensors & blood vs. cameras (driver backlash)
D. MADD
E. Automotive Coalition for Traffic Safety (ACTS)
F. Insurance Highway Safety
G. Alliance for Automotive Innovation



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