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The June 2022 Issue in Brief **A Critical Look at NHTSA's NCAP**

There are good reasons for providing safety information to consumers, but there are better reasons for ensuring that all cars allowed on the roads are good as they can be. Having two sets of requirements does not meet both objectives.

Dispatch Central

U.S. Department of Justice is now looking at Google Maps. They should be frying bigger fish.

Will New Jersey be the last state to keep gas station attendants? It looks that way.

Road authorities have decided to retire their toll attendants: I felt like Charlie on the MTA when I didn't have enough change to pay the toll.

BMW and Mercedes-Benz are throwing in the car sharing towel. It's been a waste of time and money.

If governments can give away our tax money to rich folks to buy electric cars, rich folks can give away their money to financially strapped people to fill up their cars' gas tanks, says Chicago millionaire.

While China readies its C-V2X champions to invade the West, Austria continues to promote DSRC at home and abroad.

Stellantis CEO, Carlos Tavares, asks the questions that other automotive OEMs are avoiding: Is it really possible or even desirable to get to 100% BEVs?



5TH ANNUAL PRINCETON SMARTDRIVINGCAR SUMMIT 2-4 JUNE 2022 – TRENTON, NEW JERSEY

See the program and register at: <https://www.cartsmobility.com/summit>

The focus of the 5th Annual Princeton SmartDrivingCar Summit is deployment of Safe, Equitable, Affordable, Sustainable, High-quality Mobility seeded in a Trenton Operational Design Domain that is readily expandable, once successful, throughout Mercer County, NJ. It is repeatable in the entire State of New Jersey, delivering a service that can readily serve many of New Jersey's daily 30+ million non-walking person trips.

The Summit is organized by PRINCETON UNIVERSITY Professor Alain Kornhauser with cooperation of the CITY OF TRENTON, the N.J. DEPT. OF TRANSPORTATION, and the OFFICE OF GOVERNOR MURPHY. The goal is to facilitate the scalable deployment of highly-assisted driving and driverless mobility of people and goods for safer streets, stronger communities, and more opportunities.

Date – 2-4 June 2022

Place - Princeton University's Lewis Center for Diversity Thursday evening: Setting the stage for Equitable Autonomy.

NHTSA's New Car Assessment Program: A Critical Look

Read This First

The lead article this month is about whether NHTSA's New Car Assessment Program (NCAP) is creating a separate and not-so-equal set of standards for vehicle safety that must be followed by the automotive OEMs in addition to the Federal Motor Vehicle Safety Standards. Why has this happened, is it a good idea that should be continued, or should there be more discussion about the consequences of the parallel tracks?

1.

<https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-03/NCAP-ADAS-RFC-03-03-2022-web.pdf>

2. The four technologies currently included in NCAP are forward collision warning, lane departure warning, crash imminent braking, and dynamic brake support.

3. There was one exception: NHTSA issued a proposal for *Occupant Protection for Automated Driving Systems* on March 30, 2020. A Final Rule was issued on April 3, 2022 (NHTSA-2021-0003) - <https://www.regulations.gov/document/NHTSA-2021-0003-0003>

4. Pete Buttigieg is forty years old. He has had a total of fifteen years of non-academic work life. Eight of those years were spent as mayor of South Bend, Indiana, a city of 101,000, three were spent at consulting company McKinsey, seven months were spent in Afghanistan on active duty in the Naval Reserve, and the rest were spent working for various candidates (e.g. John Kerry) running for political offices. He was briefly a candidate in the 2020 Presidential primaries.

How does it fit into the standards framework?

Now he's gone too far, you might be thinking. He's criticizing the one government initiative that is truly attempting to increase the safety of cars driving on the roads of the U.S. Actually, I turned my attention to NHTSA's New Car Assessment Program NCAP only after those who had started it over forty years ago claimed that it had outlived its usefulness. Every car is now getting a four- or five-star rating, they claimed. What's the point of grading a class if everyone gets an 'A'? What happened to the bell curve? My question is: Why do we have safety standards that do not require all vehicles allowed on the roads to be as safe as they possibly can be? Why haven't there been two grades, an 'A' and an 'F', for the past forty years? Why allow a car that receives a 'B', 'C', or 'F' to be sold and driven? Why did NHTSA allow NCAP in the first place if it had standards that cars had to meet, the Federal Motor Vehicle Safety Standards?

STEVEN S. CLIFF, Deputy Administrator of the NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA), signed a *Request for Comment (RFC)* on the 3rd of March 2022 which proposes significant upgrades to NHTSA's *NEW CAR ASSESSMENT PROGRAM (NCAP)*.¹ It proposes to add four more advanced driver assistance system (ADAS) technologies to those NHTSA currently recommends.² These new technologies are blind spot detection, blind spot intervention, lane keeping support, and pedestrian automatic emergency braking. The notice also proposes changes (including an increase in stringency) to the test procedures and performance criteria for the four currently recommended ADAS technologies in NCAP to enable enhanced evaluation of their capabilities in current vehicle models and to harmonize with other consumer information programs.

It's about time, many must have thought, when this notice was made public in the *FEDERAL REGISTER* on the 9th of March 2022. Not much has happened at NHTSA during the past five years.³ That's how long it has been since NHTSA had a

permanent Administrator/Director. He was Mark R. Rosekind, who was sworn in on the 22nd of December 2014 and served for a year until January 2016 when the ‘former guy’ assumed the Office of President and Elaine “Let’s Not Rock the Boat” Chao became Secretary of Transportation. There was no permanent NHTSA Administrator/Director during her tenure. Pete Buttigieg⁴ was sworn in as Secretary of Transportation in February 2021, and Steven Cliff was appointed as NHTSA’s ‘Acting’ Deputy Director in January 2021. At this writing, Cliff has still not been confirmed as the official Administrator/Director. In any case, it is the first deliberate step in five years to be taken by NHTSA on getting the government back into the safety regulation business.

The *RFC* notice goes further. It describes how NHTSA could rate vehicles equipped with these ADAS technologies and requests comment on how best to develop a rating system. It also seeks to provide a crash avoidance rating at the point of sale on a vehicle’s window sticker (the so-called Monroney Label⁵), which would be consistent with the *2015 Fixing America’s Surface Transportation (FAST) Act*, and it outlines ways of implementing this point-of-sale program, including a potential process for updating such information. As part of a new NHTSA approach to *NCAP*, NHTSA is proposing a “roadmap” of the Agency’s plans to upgrade *NCAP* in phases over the next several years. It presents the roadmap in the *RFC* for comment. NHTSA says that it is considering utilizing *NCAP* to raise consumer awareness of certain safety technologies that may have the potential to help people make safe driving choices. Finally, this *RFC* discusses NHTSA’s ideas for updating several programmatic aspects of *NCAP* to improve the program.

NHTSA says that these initiatives “pave the way for the Agency to focus on a much broader safety strategy, including not only fulfilling the *2015 FAST Act* directive, but also carrying out the recent mandates included in Section 24213 of the November *2021 Bipartisan Infrastructure Law*, enacted as the *Infrastructure Investment and Jobs Act*, to improve road safety for motor vehicle occupants as well as other vulnerable road users”.

Whew! That is certainly heaping a lot on the *NCAP* plate, eh?

How does *NCAP* fit into the global framework?

All of this sounds quite positive. But as I was reading the *RFC*, the references I saw to the *Federal Motor Vehicle Safety Standards (FMVSS)*,⁶ which are the U.S. equivalent to the regulations estab-

5. Monroney Label – The Automobile Information Disclosure Act passed in 1958. It required all new automobiles to carry a sticker on the window (the Monroney Label) containing important information about the vehicle, including the manufacturer’s suggested retail price, engine and transmission specifications and standard equipment and warranty details. Monroney was named after Almer Stillwell “Mike” Monroney, United States Senator from Oklahoma. Monroney sponsored the Automobile Information Disclosure Act of 1958, which mandated the disclosure of equipment and pricing information on new automobiles.

6. The NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA) has a legislative mandate under Title 49 of the United States Code, Chapter 301, Motor Vehicle Safety, to issue *Federal Motor Vehicle Safety Standards (FMVSS)* and Regulations to which manufacturers of motor vehicles and items of motor vehicle equipment must conform and certify compliance. *FMVSS 209, Seat Belt Assemblies*, was the first standard to become effective on March 1, 1967. A number of *FMVSS* became effective for vehicles manufactured on and after January 1, 1968. New standards and amendments to existing standards are published in the Federal Register. These Federal safety standards are regulations written in terms of minimum safety performance requirements for motor vehicles or items of motor vehicle equipment. These requirements are specified in such a manner that the public is protected against unreasonable risk of crashes occurring as a result of the design, construction, or performance of motor vehicles and is also protected against unreasonable risk of death or injury in the event crashes do occur.

lished by the UNITED NATIONS UNECE WP.29 and used in Type Approval within the EU, UK, Japan and other jurisdictions, were as *alternatives* or *complements* to NCAP test performance criteria. In the [May 2022 issue of THE DISPATCHER](#), I wrote that there is an international framework for preparing requirements, passing legislation, and distributing liability for introducing improved safety systems in vehicles, and it applies in both the Type Approval and Self-certification countries, the latter including the U.S. and Canada. If there are additional or different hoops an automotive OEM must jump through in order to have a seal of approval which is actually used by consumers to make a buying choice, then the framework has a flaw. If there are parallel and different “test procedures and performance criteria” that the automotive OEMs must not only be aware of, but follow, then they will have to choose the most stringent from the different lists. The chances are high that the different lists will diverge and stand in conflict with each other, which they do already.

To decide how this happened and whether it is a positive or negative development, we need to look at what NCAP actually is, how and why it was started, how it functions, and what it is intended, by law, to do.

The origins of the world’s first NCAP are in NHTSA

For consumers, NCAP is stars; for those in and around the car industry, NCAP is crash dummies. Let’s start at the beginning. How and why was NCAP established?

Systematic motor-vehicle safety efforts in the U.S. began during the 1960s with Ralph Nader leading the charge toward safer cars (See the [December 2017 issue of The Dispatcher](#)). There were two Acts, both passed in 1966 and signed by President Lyndon B. Johnson, which provided the bases for vehicle and road safety in the U.S. The first of these, *National Traffic and Motor Vehicle Safety Act (49 U.S.C. chapter 301)*, required automobile manufacturers to institute safety standards to protect the public from an “unreasonable risk of accidents occurring as a result of design, construction, or operation of automobiles”. The *National Traffic and Motor Vehicle Safety Act of 1966* mandated the *Federal Motor Vehicle Safety Standards (FMVSS)* as uniform safety standards. FMVSS came before both NHTSA and NCAP. **Remember that.**

The second Act, the *Highway Safety Act*, included nonoperational safety factors, such as highway design, and it created the NATIONAL HIGHWAY SAFETY BUREAU (NHSB). NHSB in 1970 became the NATIONAL

The National Highway Traffic Safety Administration released a Notice of Request for Comment regarding upgrades to the New Car Assessment Program (NCAP) on March 9, 2022. The notice discusses how NCAP can address vehicle safety involving motor vehicle occupants, other road users, and safe driving choices to further reduce injuries and fatalities. The notice focuses on ways to increase safety through potential changes to the advanced driver assistance system (ADAS) technologies program.

<https://www.jdsupra.com/legal-news/nhtsa-upgrades-new-car-assessment-9730834/>



<https://www.nhtsa.gov/fmvss/stars-cars-new-car-assessment-program-ncap-safety-labeling>

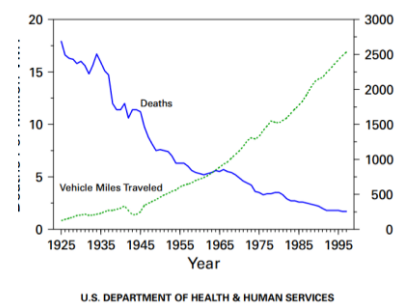
HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA). NHTSA, and then NHTSA, was given the responsibility to develop and enforce the FMVSS pursuant to the statutory authorization from the *National Traffic and Motor Vehicle Safety Act of 1966*.⁷

These two Acts signaled the beginning of a new era in both vehicle and highway design. Vehicles, which were referred to as ‘agents of injury’, started to be built with new safety features, such as headrests, energy-absorbing steering wheels, shatter-resistant windshields, and, most importantly, with seat belts. Roads, the ‘driving environment’, were designed with better delineation of lanes and curves, edge and lane reflectors were added, breakaway poles were deployed, illumination was improved, guardrails were added, and road surface research started in earnest. Within a decade of the Acts, deaths per million vehicle mile travelled were halved from 1965 to 1975, from 5 to 2.5. Enactment and enforcement of traffic safety laws, reinforced by improved public education, have led to safer behavior choices on the part of drivers, the ‘hosts’. These include enforcement of driving while intoxicated penalties, greater use of seatbelts and child safety seats, and increased use of helmets by motorcyclists.

The *Federal Motor Vehicle Safety Standards* are U.S. Federal vehicle regulations specifying design, construction, performance, and durability requirements for motor vehicles and regulated automobile safety-related components, systems, and design features.⁸ They are the U.S. counterpart to the UN Regulations developed by the *WORLD FORUM FOR HARMONIZATION OF VEHICLE REGULATIONS* which are recognized to varying degree by most countries except the United States, Canada, China and several others. Canada has a system of analogous rules called the *Canada Motor Vehicle Safety Standards (CMVSS)*, which overlap substantially but not completely in content and structure with the FMVSS. The FMVSS/CMVSS requirements differ from the international UN requirements, so private import of foreign vehicles not originally manufactured to North American specifications is difficult or impossible. It works the other way around as well. It was costly to adapt my 1983 Saab 900, purchased in the U.S. and shipped to Sweden seven years later, to Swedish road regulations.

FMVSS are divided into three categories: crash avoidance (100-series), crashworthiness (200-series), and post-crash survivability (300-series). FMVSS are codified in *Title 49 of the Code of Federal Regulations, Part 571, Subpart B*, with each FMVSS standard as a section of *Part 571*.⁹ For example, FMVSS No. 208: *Occupant*

7. NHTSA (NATIONAL TRAFFIC SAFETY AGENCY) and NHTSA (NATIONAL HIGHWAY SAFETY AGENCY) concurrently established in the Office of the Under Secretary for Transportation, Department of Commerce, by the *Motor Vehicle Safety Act* and the *National Highway Safety Act* (80 Stat. 718 and 80 Stat. 731), September 9, 1966. Transferred to the DEPARTMENT OF TRANSPORTATION and assigned to the newly established FHWA (Fed. Highway Admin) by the *Department of Transportation Act*, October 15, 1966, effective April 1, 1967. NHTSA and NHTSA consolidated to form NHTSA, FHWA by EO 11357, June 6, 1967. NHTSA designated an autonomous operating unit under the DEPARTMENT OF TRANSPORTATION, March 22, 1970. Abolished in 1970, with functions to NHTSA, 1970.



8. Sample: 571.101 Standard No. 101; Controls and displays.

S1. Scope. This standard specifies performance requirements for location, identification, color, and illumination of motor vehicle controls, telltales and indicators.

S2. Purpose. The purpose of this standard is to ensure the accessibility, visibility and recognition of motor vehicle controls, telltales and indicators, and to facilitate the proper selection of controls under daylight and nighttime conditions, in order to reduce the safety hazards caused by the diversion of the driver's attention from the driving task, and by mistakes in selecting controls.

S3. Application. This standard applies to passenger cars, multipurpose passenger vehicles, trucks, and buses.

9. <https://www.ecfr.gov/current/title-49/subtitle-B/chapter-V/part-571>

crash protection is the standard which specifies the performance requirements for the protection of vehicle occupants in crashes. *“The purpose of this standard is to reduce the number of deaths of vehicle occupants, and the severity of injuries, by specifying vehicle crashworthiness requirements in terms of forces and accelerations measured on anthropomorphic dummies in test crashes, and by specifying equipment requirements for active and passive restraint systems.”*¹⁰

All of the requirements are detailed and lengthy. They include the criteria and testing methods for ensuring that vehicles travelling on U.S. roads have a minimum, but sufficient level of safety. But someone decided they were not enough to accomplish another task Congress mandated, which was to inform consumers how safe cars are compared to one another. I searched for and found who this was, as you will see below.

What is NCAP’s legal remit and what are its limits

The first NCAP was created in 1979 by NHTSA.¹¹ It was established in response to *Title II of the Motor Vehicle Information and Cost Savings Act of 1972*, to encourage manufacturers to build safer vehicles and consumers to buy them. It was promoted by and signed into law by then-President, Richard M. Nixon.

October 21, 1972 –“It gives me great pleasure to have signed into law S. 976, the Motor Vehicle Information and Cost Savings Act. This legislation represents another significant victory for the American consumer, this time in the effort to roll back the soaring costs of automobile repair. I am particularly gratified that this act adopts this philosophy. Under title II of the act, the Secretary of Transportation is directed to conduct a study of the damage susceptibility, crashworthiness, and ease of diagnosis and repair among the various car makes and models. The Secretary shall develop procedures whereby auto dealers shall distribute information from this study to prospective purchasers so that they will have a better understanding of the differences between various models.... An additional consumer cost-saving provision authorizes the Secretary of Transportation to assist the States in developing demonstration projects to explore and develop improved methods of diagnosing both mechanical problems and collision damage... This act is an important and overdue initiative to aid the American consumer in the fight against the high cost of automobile repairs--and against faulty or unnecessary repairs. It reflects this Administration's commitment that our free market system shall work for the benefit of the American consumer, and I am pleased to sign it into law. (As enacted, S. 976, approved October 20, 1972, is Public Law 92-513 (86 Stat. 947)

Richard Nixon

37th President of the United States: 1969 - 1974

10. <https://www.ecfr.gov/current/title-49/subtitle-B/chapter-V/part-571/subpart-B/section-571.208>

11. By first I mean the first in the world. New Car Assessment Programs followed in Europe (Euro-NCAP), Japan (JNCAP), Australia (ANCAP), Korea (KNCAP), South Asia (ASEAN NCAP), China (C-NCAP), and Latin America (Latin NCAP). They all give credit to the NHTSA NCAP as being the model for their programs.

The first goal of *NCAP* was to give consumers a measure of the “relative safety potential” of automobiles. The second goal was “to establish market forces to encourage vehicle manufacturers to design higher levels of safety into their vehicles”. Over time, NHTSA improved the Program by adding rating programs, facilitating access to test results, and revising the format of the information to make it easier for consumers to understand. NHTSA asserts the Program has influenced manufacturers to build vehicles that consistently achieve high ratings.

The head of NHTSA at the time *NCAP* was initiated was **Joan Claybrook**, who had been appointed in 1977 by President Jimmy Carter. She served until January 1981, which was the end of Carter’s first and only term. The reason for her appointment to this position was not dissimilar to the appointments of many administrators who serve during a President’s administration and leave when he leaves: past service and party loyalty. Subject experts need not apply. After graduating from college in 1959 with a Bachelor of Arts degree, she got a job in Washington, DC in the SOCIAL SECURITY ADMINISTRATION, and then was a staffer in Walter Mondale’s office. Mondale was Carter’s Vice President. And like many aspirants for higher places, she returned to academia to obtain a law degree, which she earned in 1973 from GEORGETOWN UNIVERSITY LAW CENTER. Apparently, her qualification for heading NHTSA was her association with Ralf Nader, who is credited with getting the *1966 Safety Acts* passed. It’s not clear what she did for to assist Nader’s efforts, but it seems that it was enough for President Carter to appoint her to the NHTSA position.

NHTSA began assessing the occupant protection capabilities of new cars in 1978, just before the official start of *NCAP*, by conducting frontal barrier crash tests at a high speed, writes Lawrence L. Hershman, a NHTSA staff member, in his condensed history of *NCAP*.¹² NHTSA established a frontal impact test protocol based on FMVSS 208 (“Occupant Crash Protection”). So far so good. But this was not deemed good enough by Claybrook, or more importantly, by one of the NHTSA staffers, **Jack Gillis**, a 30-something former public relations worker at WESTERN UNION who found a job at NHTSA in the fuel economy division. Claybrook liked his PR credentials because what *NCAP* was going to be was for the public. A journalist who wrote an article featuring criticisms made by Claybrook of *NCAP* just one year ago said she had been receiving about 200,000 letters a year from people asking for safety information. NHTSA had information about which companies



12. Hershman, Lawrence L. The U.S. New Car Assessment Program (NCAP): Past, Present and Future. NHTSA. Paper Number 390. (2000). In 2018, Lawrence, L. Hershman was a Manager and Program Analyst at the National Highway Traffic Safety Administration in Washington. <https://www-nrd.nhtsa.dot.gov/pdf/ESV/esv17/Proceed/00245.pdf>

passed the FMVSS 208 tests, but she wanted to do more. She did not feel the FMVSS speed requirement of 30 mph was high enough.¹³ She told the journalist that NHTSA “*could have merely continued the expensive and laborious process of responding to as many of those letters as it could with the detailed, jargon-laden reports the engineers wrote. She couldn’t force car companies to make their cars safe enough to pass the tests at higher speeds, or conduct different kinds of crash tests on her own. That would require a time-consuming rule change process or a new law.*”¹⁴

Claybrook decided to do her own tests with her own criteria, and no one told her she couldn’t to them. She directed her staff to do additional tests at 35 mph. She told Gillis to come up with a way to package the new test results, and he decided on what became known as The Car Book. The first standardized, 35 mph front crash test was conducted by NHTSA on the 21st of May 1979, and the first results were released on the 15th of October of that year. Manufacturers could request a test or retest of a particular model based on design changes or the introduction of what they considered innovative safety features. From the beginning, it has been the manufacturer who pays the cost of the NHTSA NCAP tests. NHTSA, on behalf of NCAP, designates approved sites where tests are performed. The vehicles are purchased by NHTSA off a new car dealer’s lot so that they cannot be modified by the manufacturer. To repeat, the cars in the U.S. NCAP tests are not supplied by the vehicle manufacturers.

Right from the beginning, NHTSA decided that it was fine for NCAP to diverge from FMVSS. In its *Frontal 4 NCAP* test in which a vehicle is crashed head-on into a fixed barrier, the speed of the vehicle is set to 56.3 km/h (35 mph), versus 48.3 km/h (30 mph) in the FMVSS No. 208 compliance tests performed by the manufacturers to confirm that they meet the FMVSS specification. Hershman writes: “*Compared to the 48.3 km/h FMVSS tests, the 8 km/h faster NCAP crash tests produce a 36% increase in crash energy. A primary reason for testing at the higher speed is that little crashworthiness difference exists between vehicles for restrained occupants in crashes with changes in velocity below the FMVSS No. 208 test speed. Raising the speed to 56.3 km/h enables us to more easily distinguish any crashworthiness differences.*”

In 1990, NHTSA implemented a dynamic side impact compliance test, FMVSS No. 214. It simulates a 90 degree side impact in

13. Gordon, Aaron. The U.S. Invented Life-saving Car Safety Ratings: Now They Are Useless. Vice Media. March 2021.

14. Either Gordon misrepresented what Claybrook said, or Claybrook was not clear about what she meant by saying that following the FMVSS process would require a rule change or a new law. It is NHTSA that defines the specifications in the FMVSS. There was nothing preventing NHTSA from changing the speed of the tests or from adding new tests. It did require a consultation process, but that takes months, not years.

which a moving deformable barrier, representing the striking vehicle, moves at 53.9 km/h (33.5 mph) into the stationary struck vehicle. *NCAP* began testing passenger cars in side impact 1997. In the *NCAP* side impact test, the striking vehicle is towed at an 8 km/h (5 mph) higher speed than in the FMVSS compliance test.

In 1994, *NCAP* started using star ratings in order to give consumers a quick, simplified single point of comparison between different vehicles. The star scale, 1-to-5, was based on a “Level of Protection Scale” which NHTSA developed to relate the probability of sustaining an injury to the level of protection from injury that a vehicle provides its occupants. Hershman explains that NHTSA mathematically combines the head and chest injury measurements and produces a rating of one-to-five, with five stars indicating the relatively highest level of protection within the vehicle’s weight class.

☆☆☆☆☆ - 10% or less chance of serious injury

☆☆☆☆ - 11% - 20% chance of serious injury

☆☆☆ - 21% - 35% chance of serious injury

☆☆ - 36% - 45% chance of serious injury

☆ - 46% or greater chance of serious injury

It didn't stop with tests and stars

Beginning with model year 1995 vehicles, NHTSA has published the Buying a Safer Car brochure. It contains the *NCAP* crash test results and safety feature information for new cars. Then it started publishing Buying a Safer Car for Children that explains that some safety equipment, like air bags, isn't all that great for kids in child seats.

Around 2000, *NCAP* began to provide safety feature charts on its Internet web site and in its publications to inform consumers about which safety features were included in different car models.¹⁵ Are the seat belts adjustable; do they have pretensioners; are there belts in the rear center seat? Does the model include side air bags; is there a child seat attachment system; is there head injury

SAFETY TESTS

The 5-Star Safety Ratings evaluate how well vehicles perform in crash tests to help consumers make smart decisions about safety when purchasing a vehicle. NHTSA conducts frontal, side and rollover tests because they account for the majority of crashes on America's roadways. In each of the crash tests described, data from crash test dummies indicate the seriousness of the injuries that could occur in the type of crash involved.

The Frontal Crash Test

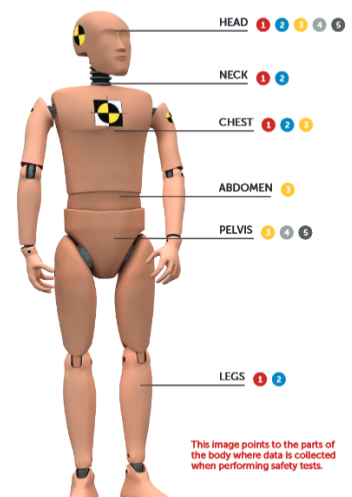
- 1 Average-size adult male dummy (Driver)
- 2 Small-size adult female dummy (Front passenger)

The Side Barrier Crash Test

- 3 Average-size adult male dummy (Driver)
- 4 Small-size adult female dummy (Rear passenger)

The Side Pole Crash Test

- 5 Small-size adult female dummy (Driver)



15. <file:///C:/Users/MLSENA/Downloads/811091.pdf>

protection with padding or air bags; are there dynamic head restraints, rear seat head restraints? Is there an anti-lock braking system; does it have brake assist; is there electronic stability control, does the model have daytime running lights? And more.

IN MY OPINION, it is remarkable that NHTSA went along with NCAP having their own tests, their own rating systems, their own feature/system lists and brochures, their Internet sites and telephone hot lines, but those who have been reporting on it appear to be matter-of-fact about all of this. On the other hand, the “Five Star” brochures don’t mention NCAP; they refer to “Government 5-star Safety Ratings” and state that it is NHTSA which conducts the safety tests, which is technically correct. *“Each year, NHTSA tests new cars, trucks, sport utility vehicles (SUVs) and vans and rates them using the 5-Star Safety Ratings system. Five stars indicate the highest safety rating and one star the lowest.”*

Hershman writes that *“although NCAP has no mandatory safety performance criteria, industry personnel have expressed the opinion that NCAP has become a de facto regulation in that manufacturers, fearful that consumers would perceive vehicles that got poor NCAP scores to be unsafe, are forced to design their vehicles to perform well at the more demanding NCAP levels than at the established (FMVSS) standard levels”*.

Creating the divide between FMVSS and NCAP

Why did NHTSA allow NCAP to develop new tests and criteria for evaluating the results of the tests NCAP performed, rather than committing to establishing FMVSS as the basis for all vehicle evaluations? Why did it feel that it was perfectly acceptable to have a “de facto regulation” on top of its de jure FMVSS? Claybrook answered that question. She said the FMVSS test criteria were not strict enough to distinguish between the best and the worst, and, since she was in charge of NHTSA at the time NCAP was started, she got to set it up. I cannot find any references to anyone complaining. There is only praise for providing safety information.

I believe there are two answers to why Claybrook could fly under the radar with NCAP having its own test criteria. First, companies agreeing to have their cars tested were those that knew their cars already exceeded the FMVSS criteria. Take a look at the crash test charts in the 2009 NHTSA Buying a Safer Car brochure.¹⁶ You will see mostly four and five stars for the cars that have been bought by NHTSA for testing. There are mostly three stars for the rollover tests of SUVs and pickups, but these models were getting the



16. <file:///C:/Users/MLSENA/Downloads/BASC2009.pdf>

same four and five stars for frontal and side crashes. There are no tests performed for the most expensive cars, like *Mercedes-Benz Maybach*, *Bentley* or *BMW 7 Series*, since the number of people who purchased these cars were very limited—and NHTSA could buy half-a-dozen other cars for the price of one of them. Companies like VOLVO, TOYOTA, and SUBARU wanted to position their cars as high in safety, so they played up the results of their test scores in their own ads, and the U.S. brands wanted to show that their cars were high on safety as well as being affordable, so there were no complaints from them.

Second, NHTSA must have realized that if they changed their FMVSS to match the NCAP criteria, the cost of the least expensive cars would have to increase. Even though the prices of new cars have managed to stay below the rise in inflation, the costs of adding even the minimum levels of safety have added significantly to their retail costs while margins on the lowest priced cars have shrunk.¹⁷

As the years passed, Claybrook, who became president of a non-profit consumer advocacy group called PUBLIC CITIZEN¹⁸ in 1982, a position she held until 2009, grew critical of her creation. At a 2007 meeting arranged by NHTSA and DOT for the purpose of entertaining suggestions for enhancements to NCAP, Claybrook said: *“NCAP has helped educate consumers about the safety of available vehicles, empowering consumers to make educated choices about the vehicles they choose to purchase for themselves and their families. NCAP’s success has even led to many other countries launching similar programs. Embarrassingly, however, many of these other programs are more comprehensive than NHTSA’s NCAP program... NCAP must be updated to ensure that auto manufacturers continue to be challenged.”* She suggested that NCAP be expanded by requiring OEMs to do the NCAP tests (in addition to the FMVSS tests) because “the agency does not have enough funds” to test all vehicles. She said:

“NHTSA has the authority to restructure NCAP and require auto manufacturers to crash test vehicle models before making them available for sale. I urge NHSTA to use this authority and transfer the responsibility of testing vehicles through NCAP to the manufacturers. All manufacturers currently administer these tests at their own testing facilities where they are already required to administer Federal Motor Vehicle Safety Standards (FMVSS) tests, so this additional mandated responsibility would not be overly burdensome. Through this new system, NHTSA would also be able to

17. My 1983 Saab 900 Turbo cost \$15,000 in 1983. That would be equivalent to \$43,298.80 today. Saabs are no longer sold, but a 2022 Subaru Forester, which has taken Saab’s place in hearts and minds sells for around \$35,000.

18. PUBLIC CITIZEN was founded in 1971 by **Ralph Nader**.

hold manufacturer NCAP testing accountable by running its own tests at random to independently verify manufacturer results.

By transferring NCAP testing responsibilities to manufacturers, NHTSA will ensure that all new vehicle models have crash test ratings available on the vehicle window sticker and in the owner's manual when the new models become available for sale. This change will be incredibly valuable for consumers, and it will empower them to make educated decisions about the vehicles they purchase for themselves and their families."

On the 15th of January 2016, as a board member of another Nader organization, THE CENTER FOR AUTO SAFETY,¹⁹ Claybrook issued a statement on the U.S. Department of Transportation's *Proactive Safety Principles*. She had changed her mind about DOT cooperating with the auto industry as she suggested nine years earlier. She stated: *"Today's announcement that the U.S. Department of Transportation (DOT) is collaborating with the auto industry to develop "Proactive Safety Principles" is a dramatic step in the wrong direction... The safety of the American public will not be best protected with a kumbaya between the federal agency charged with issuing regulation and the industry seeking to avoid regulation. Also completely absent from this "Best Friends Forever (BFF) moment" between DOT and the auto industry are the people NHTSA was created to protect—car users."*

Then in 2019, Claybrook, in a 2019 interview in connection with the 40th anniversary celebration of NCAP's start, said that NCAP is *"a mere shell of its former self, (and) is easily manipulated by auto makers seeking a five-star rating, which is nearly irrelevant today because of a reliance on outdated metrics and insufficient types of tests. As a result, consumers are ill-served by a program that at one time provided invaluable auto safety information. What we have learned over the 40-year history of NCAP, is that automakers will respond to higher, more comprehensive ratings by manufacturing safer vehicles"*. Her colleague at NHTSA, Jack Gillis, said on the same occasion: *"Today, with virtually every vehicle getting a 5-star rating, (NCAP) desperately needs a revamping. To overcome 'starflation' and give consumers the information they need to buy a car that protects both their families and pedestrians, NHTSA needs to add more precision to reporting crash test results so consumers can truly separate the lemons from the peaches. In addition, NHTSA needs to provide information comparing the effectiveness of various automatic crash*

19. The Center for Auto Safety is a Washington, D.C.-based 501(c)(3) consumer advocacy non-profit group focused on the United States automotive industry. Founded in 1970 by Consumers Union and Ralph Nader, the group focuses its efforts on enacting reform through public advocacy and pressuring NHTSA and automakers through litigation.

protection features in new vehicles. Not giving consumers information they need to make safe choices will have deadly consequences. On the other hand, providing comparative performance information will set the carmakers on a path to competing for the top safety ratings. It's happening everywhere else, why not in the USA?"

On the 3rd of March 2022, Joan Claybrook and Jack Gillis were joined by Cathy Chase, President of ADVOCATES FOR HIGHWAY AND AUTO SAFETY, in a joint statement on the subject of the proposed update of the U.S. New Car Assessment Program by NHTSA. The three said that "the program has not kept pace with changes to vehicle safety systems, resulting in a devolution (degeneration) of its usefulness. The ease of attaining the highest five-star rating undermines the original goal of NCAP". It is worth noting that the CENTER FOR AUTO SAFETY took over the publication of The Car Book in 1980 along with Jack Gillis and the CONSUMER FEDERATION OF AMERICA (CFA). Gillis became CFA's press relations director after leaving NHTSA, and is currently president of the board of directors for the CENTER FOR AUTO SAFETY. Talk about best friends forever.²⁰

The pair have made a number of references to NCAPs in other regions doing more than their own creation. Let's take a look at *Euro NCAP* to see if this is really a valid criticism or if it is just an attempt to shame NHTSA into accepting their many and varied recommendations.

How do they do NCAP in Europe?

The *European New Car Assessment Programme (Euro NCAP)* was formed in 1996 when the UK TRANSPORT RESEARCH LABORATORY was tasked with setting up a copy of the U.S. NCAP within NHTSA. Within a very short while, other countries decided that they wanted to participate in *Euro NCAP*. In February 1997, the first test results were presented at a press conference with the announcement of *Euro NCAP* being established as a voluntary non-profit organization owned and run by its members (see sidebar) with headquarters in Leuven, Belgium. On the timeline section of *Euro NCAP's* web site, it is claimed that the automakers were extremely critical of the tests, saying that no car could meet the requirements and achieve four stars. It was in June 2001 when the *Renault Laguna* became the first European car to receive five stars.




20. [\(https://www.automotivesafety.org/about-cas/\)](https://www.automotivesafety.org/about-cas/)



Members of EuroNCAP

- ADAC
- German Federal Ministry of Transport and Digital Infrastructure
- UK Department for Transport
- Dutch Ministry of Infrastructure and Water Management
- Luxembourgish Ministry of the Economy
- Government of Catalonia
- International Consumer Research & Testing
- FIA
- Swedish Transport Administration
- Thatcham Research
- French Ministry for the Ecological Transition
- Automobile Club d'Italia
- DEKRA Automobil
- Unfallforschung der Versicherer
- Austrian Ministry for Climate Action



As in the U.S., testing is not mandatory. But there is a major difference between how cars are chosen and provided. Each member of *Euro NCAP* pays to have at least one car model tested each year. (That's only fourteen cars.) Car manufacturers can also request that their cars are tested, and they can pay for the testing. *Euro NCAP* says the OEMs have no control over the publishing of the results. *Euro NCAP* makes all efforts to ensure that the cars are built to normal production standards, but they are not buying them off a lot as is the case with the U.S. NCAP. *"Each manufacturer is told of the choice of car, variant and options. Preferably vehicles for the tests are acquired anonymously, but if this is not possible they are randomly selected. Manufacturers are asked to provide test set up information, to recommend child seats and to make any general comments. They are invited to witness the tests and to say whether they are satisfied with the way the test is run. After the test, they are given the test results and invited to comment on any anomalies when compared with their own data."*

Concerning the tests, just as in the U.S., *Euro NCAP* has established its own criteria. Here is what they have to say to the question of why they do not use legislation (i.e., Type Approval specifications) to perform the tests: *"Legislation sets a minimum compulsory standard whilst Euro NCAP is concerned with best possible current practice. Progress with vehicle safety legislation can be slow, particularly as all EU Member States' views have to be taken into account. Also, once in place, legislation provides no further incentive to improve, whereas Euro NCAP provides a continuing incentive by regularly enhancing its assessment procedures to stimulate further improvements in vehicle safety. All vehicles sold within the EU must meet the requirements of European Whole Vehicle Type Approval. Type approval is the process where a car is shown to meet all of the requirements of European legislation regarding safety, emissions, noise etc. The frontal and side impact crash tests used by Euro NCAP are based on those used in European legislation. However, much higher performance requirements are used by Euro NCAP. The frontal impact speed used by Euro NCAP is 64 km/h compared 56 km/h for legislation."*

So what is so special about *Euro NCAP* that Claybrook and Gillis point to it as the shining example while they disparage their own creation? Maybe it's the *Euro NCAP Advanced Reward System* that was launched in 2010. It recognizes cars that have new safety technologies and demonstrate a "scientifically proven safety benefit for consumers and society," according to *Euro NCAP*. Perhaps

it's the new rating scheme that was implemented in February 2009 which incorporates safety for all of a vehicle's occupants and other road users while baking these additional features into their 5-star rating. Could it be China's inclusion of C-V2X systems in 2024 as part of China's *NCAP* rating system, or *Euro NCAP*'s initiatives on pedestrian and cyclist safety, which it added in 2018? Maybe it's just looking at your friend's half-full glass and wishing you could trade your half-empty glass for his or hers.

What is certain is that Claybrook's and Gillis's "other *NCAP* envy" has nothing to do with which requirements are used for testing. It seems that all the *NCAP*s develop their own.

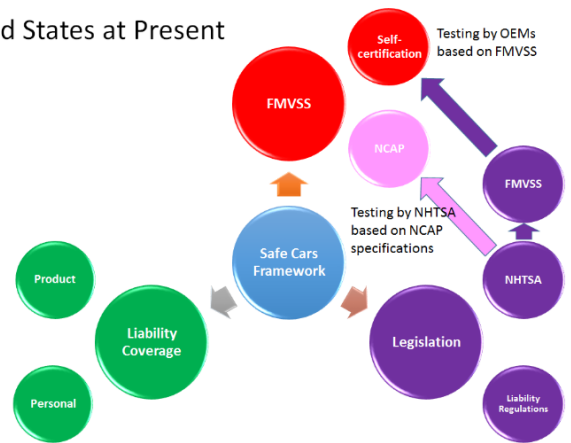
Time to up the *NCAP* game and use one standard

Both the U.S. and the EU have created two separate and unequal new car assessment processes, one to put the cars on the road (type approval or self certification) and the other to inform prospective customers of the merits of each model (*NCAP*). There is no good reason for this dichotomy. It began in the U.S. because the instigators of the *NCAP* project did not think about the consequences. They apparently viewed the two activities as independent of one another, designed for two different and mutually exclusive purposes. If the test criteria were not sufficient to show how poorly a car performed in a crash, why on earth not change the criteria so that all cars would deliver a suitable level of safety. It wasn't inevitable that the EU would follow the lead of the U.S., but, regrettably, the founding organizations did.

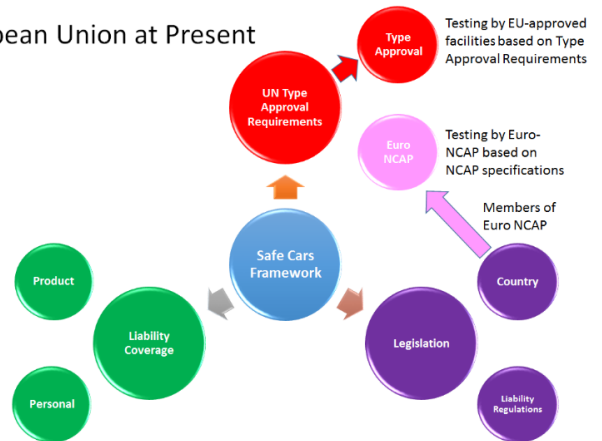
There is no reason to continue along this path, neither for the U.S., EU or any of the other countries with *NCAP*s. With its *Request for Comment* on proposed updates for *NCAP*, NHTSA has opened the door wide in the U.S. for suggesting a truly positive change, one that will save money and save lives. NHTSA can start by changing its *Federal Motor Vehicle Safety Standards* to align with the stricter testing criteria for its *NCAP* tests. If it is the case that all cars are now receiving 4 or 5 stars, there is no need to keep the lower speeds for the crash tests in FMVSS. What



United States at Present

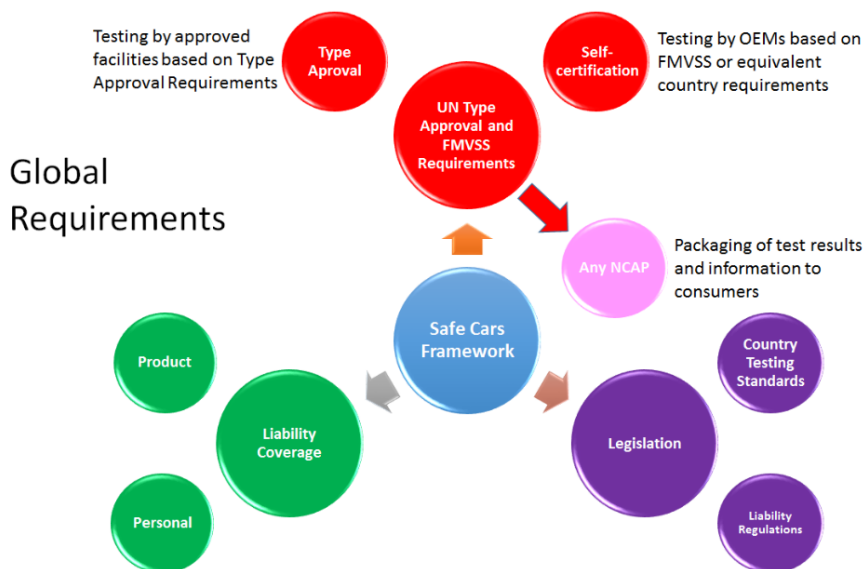


European Union at Present



is preventing NHTSA from adding *FMVSS* specifications for pedestrians and cyclists if it going to add them to *NCAP*? The same logic applies to updating the Type Approval regulations within the EU.

Concerning adding more ADAS and self-driving features to information provided by *NCAPs* to consumers, it surely is a good idea to list them as being available in the vehicle. But creating tests for them should follow the standardization process. Just as with *Automatic Lane Keeping Systems (ALKS)*, wait until the UN activities in WP.29 are completed, the standards are developed, and they are added to the Type Approval and *FMVSS* specifications. *NCAPs* inventing tests and performing them according to their own whims is absolutely the last thing that is needed.



As the diagram above shows, even with differences between those countries which have adopted the UN Type Approval requirements and those which have their own motor vehicle safety standards, there can be one international framework for preparing requirements, passing legislation, and distributing liability for introducing improved safety systems in vehicles that can apply to both processes. All that is required is that the *NCAPs* use the same requirements as the ones used for self-certification and type approval.

Perhaps, one day, the U.S., Canada, China will take the giant leap and fully adopt the UN Type Approval standards directly. In the meantime, consolidating the requirements for certifying vehicles for the roads and providing consumer safety information would be a small, but extremely positive step in the right direction.



21. The Antitrust Division of the DOJ had 782 positions in fiscal year 2021, which was 87 more than in 2020. Its budget for 2021 was \$188.5 million. Its mission is to “promote economic competition through enforcing and providing guidance on antitrust laws and principles”. Its stated strategy is to “continue its efforts in essential areas in U.S. and global markets to ensure that American consumers and businesses are left with a vibrant and appropriately competitive marketplace”. (Ed. Who snuck the adjective “appropriately” in there, and what does it mean to be “left with”? The implication is that something will be taken away rather than added.)

DOJ targeting Google Maps

I WONDER IF the U.S. DEPARTMENT OF JUSTICE (DOJ) Antitrust Division has too large a budget with too many idle staff sitting around with nothing to do.²¹ The DOJ has decided to re-open an investigation of Google Maps, an Alphabet business unit, to determine if bundling its maps with other Google software illegally stifles competition. With this, it is opening up another line of attack on Alphabet from the one initiated by the previous administration, just before the ‘former guy’ was voted out of office and the executives in the department had to look for new jobs. This investigation is aimed directly at Google Maps.

There are two parts to the new investigation. Part one involves Google Automotive Services, which Google Maps provides to automotive OEMs who have decided that they prefer a frozen dinner to buying the ingredients and making a meal from scratch. VOLVO CARS is one of them. *“Immerse yourself in an experience that’s more intuitive, more familiar, more responsive and more personalised than ever. Your Volvo with Google built in seamlessly integrates you, your car and your life, like never before.”* The fact that there are people (like me) who wouldn’t get closer than a barge pole to anything with the Google name on it does not seem to faze VOLVO CARS. My choice; their choice. Why does the DOJ want to have a choice too?

It appears DOJ’s Antitrust Division doesn’t like the idea that Google restricts the in-car application to its own maps, its own Google Play app store, its own Google Assistant and “other Google services”. Once a car company chooses to integrate Google Automotive Services, it can’t choose APPLE’s *Siri* or AMAZON’s *Alexa* as its voice assistant operating with Google Maps, search, etc. Isn’t that sort of like saying that I can’t watch Premier League Soccer on my TV if I have chosen and paid for the package of channels that does not include the channel with Premier League Soccer? If I, as a consumer, want *Siri* or *Alexa* to work with my map application, I don’t buy a car made by VOLVO. My choice; VOLVO’s loss. I guess the DOJ has a twist that I am missing. Let’s go to part two.

Should it be possible for an application developer, one who is providing an app for any type of device, including a car, to be able to use one or more of Google Maps' functions/services, such as location search, and then use functions/services from another company, one that competes in certain areas with Google Maps? The example given is mixing Google Maps location search with maps from a "rival". So you do the search for a location with Google Search, which uses Google Maps, take the location, and push it into your navigation system that uses other maps. That's what Google doesn't allow you to do. There are many good reasons for that, as anyone who has tried to match POIs from one map supplier to the map of another map supplier knows. You searched for a MCDONALDS and wind up in the take-out line of BURGER KING, which is next door. Most map data used in automotive applications come from HERE or TOMTOM, and they have done a very good job of incorporating POIs. During the 2020 investigation, an antitrust panel stated in a report that Google "effectively forces developers to choose whether they will use all of Google's mapping services or none of them". At the time, Google effectively said we're selling a frozen dinner, not a bag of groceries.

At this writing, Jonathan Kanter's troops have not decided whether they will sue Google Maps for being a monopolistic scourge. Maybe they should survey all of the owners of Volvos and other cars which have built their infotainment systems around Google Automotive Services and ask them if they believe they are experiencing a "vibrant and appropriately competitive marketplace". Maybe they should survey all of the car OEMs that have decided to "seamlessly integrate their car buyers, their cars and their lives, like never before" and ask them if they believe they are encouraging an inappropriately competitive marketplace. When the results come in and they find that folks are happy with the way things are working, they can get to work on some important business.²²

Honey, can you pump my gas one last time

QUICK, WHICH STATE is the only one in the U.S. that still does not allow you to pump your own fuel anywhere within its borders? There is only one with a complete ban, so even if you have not driven in all 50 states and do not live in this one, if you have dropped off a rental car at Newark's LIBERTY AIRPORT and topped up the tank, you know the answer: New Jersey. If you guessed Oregon, you get the consolation prize because self-service is only



22. "I believe that the growing share of the economic pie going to shareholders and the declining share going to workers has contributed to this inequality. Like them, I believe that better public policies can go a long way to fixing these problems, if only we can find the political will to enact them. Like them, I believe that antitrust enforcement has been too lax."
<https://faculty.haas.berkeley.edu/shapiro/fixingantitrust.pdf>



Service attendant jobs are a good way to enter the workforce, but there just don't seem to be enough people who need a job to fill the positions.

allowed in specified, rural locations. It's been 73 years since anyone other than a gasoline station operator or an employee of the operator could handle the controls of a fuel pump in the Garden State. In 1949, the New Jersey Legislature passed the *Retail Gasoline Dispensing Safety Act*.²³ Here are a few extracts from the Act:

- Because of the fire hazards directly associated with dispensing fuel, it is in the public interest that gasoline station operators have the control needed over that activity to ensure compliance with appropriate safety procedures, including turning off vehicle engines and refraining from smoking while fuel is dispensed;
- At self-service gasoline stations in other states, cashiers are often unable to maintain a clear view of the activities of customers dispensing gasoline, or to give their undivided attention to observing customers; therefore, when customers, rather than attendants, are permitted to dispense fuel, it is far more difficult to enforce compliance with safety procedures;
- The higher general liability insurance premium rates charged to self-service stations reflect the fact that customers who leave their vehicles to dispense gasoline or other inflammable liquids face significant inconveniences and dangers, including the risks of crime and fall-related personal injury, which are a special burden to drivers with physical infirmities, such as the handicapped and some senior citizens;
- Exposure to toxic gasoline fumes represents a health hazard when customers dispense their own gasoline, particularly in the case of pregnant women (Editor's underline);
- The significantly higher prices usually charged for full-service gasoline in states where self-service is permitted results in discrimination against low income individuals, who are under greater economic pressure to undergo the inconvenience and hazards of dispensing their own gasoline;
- The increasing use of self-service has contributed to the diminished availability of repair facilities and maintenance services at gasoline stations;
- Even in filling stations which offer both self-service and full-service gasoline, customers are less likely, because of the much higher price usually charged for full service, to have attendants make needed maintenance checks, thus causing significant neglect of maintenance and danger both to the customers and to other motorists, as well as the unneeded costly repairs which often result from deferred maintenance;
- The prohibition of customer self-service does not constitute a restraint of trade in derogation of the general public interest because the Legislature finds no conclusive evidence that self-service gasoline provides a sustained reduction in gasoline prices charged to customers; and
- A prohibition of self-service gasoline will therefore promote the common welfare by providing increased safety and convenience without causing economic harm to the public in general.

23. <https://nj.gov/labor/safetyandhealth/resources-support/laws-regulations/gasact.shtml#3A-4>

Branded product sales and service attendants

What surprises me, after reading all of these reasons for prohibiting self-service pumps, is why self-service pumps were allowed anywhere in the first place. In the beginning, at the turn of the 20th century, curbside or grocery store gasoline pumps were operated mostly by drivers. The S.F. BOWSER's Self-Measuring Gasoline Storage Pumps became known as 'filling stations', and these were in use well into the 1920s. The first drive-in filling station



with attendants was built by GULF REFINING COMPANY in December 1913 in Pittsburgh, PA. GULF was founded in Pittsburgh in 1901, so it is little wonder that it built its first 'service station' in its hometown. It was staffed with a manager and attendants who helped with refueling and repairs. The facility was optimized to provide air, water, crankcase service, and tire and tube installation as well as fuel. It was brightly illuminated and offered shelter from the elements. The drive-in station sold 30 gallons of gasoline at 27 cents per gallon on its first day, according to the Pennsylvania Historical and Museum Commission. It is said that this GULF station also sold the very first commercial roadmaps in the U.S. This was in 1920 when Rand McNally began publishing road maps for GULF to be freely distributed at its service stations.

By 1929, there were 143,000 filling stations in the U.S. and the major oil companies owned most of them. By 1933, there were 170,000 and by 1940 there were 231,000. An attendant filled the tank, washed the windshield, and checked the oil level and tire pressure. Unless you had to use the toilets or pick up a map, you stayed in your car while all this was going on, paid the attendant and went on your way. I never recall my father tipping the attendant, and I do not recall ever doing it either.



Self-service eases out full-service filling stations

Several sources claim that the first self-service filling station opened in 1947 in Los Angeles, and it was the enterprising Frank Ulrich who came up with the idea.²⁴ He figured if people pumped their own gasoline, he could save five cents per gallon. Instead of a crew of attendants, he paid only one attendant to take money from customers and turn the pumps back to zero for the next customer. It was a success for Frank, but it didn't really catch on until the early sixties when two innovations merged. Herb Timms invented the remote access pump, the first innovation. This allowed an attendant inside to activate the pumps outside. Customers for fuel would now come into a store, the second innovation, and the person activating the pumps could also mind the store till. The filling station convenience store was born.²⁵

The next innovation was pay-at-the-pump, which was first seen in Abilene, Texas in 1973. These pumps were expensive, around \$10,000 each, so installing them did not happen overnight. Most states still had fire code laws prohibiting self-service stations. Gradually, states began to change their laws, and by 1981, all but two of the fifty states allowed self-service. The two were New Jersey and Oregon. By 2002, 80% of the fuel that was pumped self-served.

Can New Jersey hold out; will Oregon give in?

The New Jersey *Motorist Fueling Choice and Convenience Act* would allow all filling stations in New Jersey to offer self-service. Those with more than four pumps would still be required to have a full-service option between 8 a.m. and 8 p.m. The bill would also allow stations to lower the price for customers who pump their own gasoline. New Jersey filling station owners argue that self-service would help ease a labor shortage and bring prices down. "Every day is a predicament whether the employee will show up or not," said Roger Verma, who owns 11 filling stations in Pennsylvania and New Jersey. COVID-19 has made an already difficult to fill job much harder, said Sal Risalvato, executive director with the NEW JERSEY GASOLINE-CONVENIENCE-AUTOMOTIVE ASSOCIATION. "I have members on busy highways that have to close sometimes during the day for a couple of hours because a shift ends and they don't have anybody to cover it," he said.

Most NJ drivers and many State politicians remain unconvinced. Changing a practice that has become a point of pride for the State is not going to be easy. New Jersey residents continue to say "fill 'er up" and that's the way they want to keep it. A 2012 FARLEIGH

24. <https://petroleumservicecompany.com/blog/brief-history-self-serve-gas-stations/>

25. During the summers of 1964 and 1965, I worked as a yard hand in a lumber yard in Old Forge, PA. The owners of the lumber yard had a construction business, and during those two summers their construction business built convenience store filling stations with self-service pumps all around the Scranton/Wilkes-Barre area. Within two years, you had to look hard to find a full-service station.



DICKINSON UNIVERSITY poll found that approximately 63% of NJ residents prefer not to pump their own gasoline. Just 23% of those who responded said they absolutely wanted to fill up their own tanks, and the final 14% said they are not sure or have mixed views. Females are 72% in favor of keeping the attendants and 15% opposed, while it is 55% and 31% for males.

Politicians of all flavors are in favor. Self-described conservatives support the rule 55% to 29%, while liberals approve it by a larger margin of 70% to 21%. Republicans approve by 61% to 25%, while Democrats support it by 72% to 19%. How can there be such a disconnect between voters and their representatives?

The FAIRLEIGH DICKINSON UNIVERSITY poll of 800 registered voters statewide was conducted by telephone using both landlines and cell phones from the 2nd through the 8th of January. The pollsters plan to repeat it again in this summer.²⁶

Oregon's bill did not make it out of committee before this year's short legislative session ended.

Driving on uncrewed toll roads in a foreign land

IT HAD BEEN six years since I had been in Washington, DC and drove on the Dulles Toll Road. They asked me at the Avis car rental counter if I wanted an EZ-Pass, but since the Dulles Toll Road was the only toll road I planned to drive on during my twelve-day stay, I declined. My exit happened to be the first toll area. I scanned the twenty-or-so lanes. There was only one for non-EZ-pass holders, but the digital sign announced: NO BILLS. NO TOLL ATTENDANT. I pulled up to the coin basket. The toll fee of \$3.25 displayed in front of the car. I took out all the change I had in my plastic money holder (I have one for every country where I have travelled) where there was also over one hundred dollars in bills. I threw in all the silver (no pennies allowed). When the jingling stopped, the display showed I had put in \$2.35. There was a car behind me, waiting impatiently. What's a driver to do? I drove through.

I managed to get through Pennsylvania without hitting another toll, but my luck ran out crossing the Delaware and then the Hudson rivers. This time I was greeted with a sign: "Don't worry if you don't have EZ-Pass. We'll bill you at home." On the last leg of my trip, between New Brunswick, NJ and the Newark Liberty Airport, I travelled on the NJ Turnpike. I received a toll ticket when I entered the toll road. There was a toll collector. I paid her the \$4.10 toll with the coins I had been storing in the hope that I would eventually be able to use them to pay a toll. The toll collector



Your Editor (that's my hand in the lower left of the frame) was low on fuel on his way to Princeton on the 2nd of May, so he stopped in Bernardsville, NJ to fill up. The attendant had something more interesting to watch than the pump.

26. <https://eu.courierpostonline.com/story/news/local/new-jersey/2015/05/25/-new-jersey-pump-gas/27941701/>

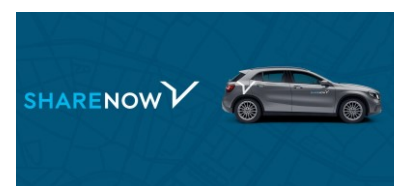
groaned when I handed her the full amount in change. “How many quarters am I going to have to roll when my shift is over?” she complained. When I arrived at the Avis rental return line at Newark Liberty Airport, I told the attendant I had not paid several tolls because I did not have EZ-Pass. He quickly explained that I would receive a bill in two weeks along with a phone number I could call to have the fines removed. I will just need to pay the tolls that were due, he said. I felt the scofflaw weight lifting from my shoulders, tempered by a twinge of guilt that the sole remaining toll collector on the U.S. highway system would have more work to do because of me. Sorry.

BMW and M-B: We’re not sharing anymore

STELLANTIS IS BUYING BMW’S and MERCEDES-BENZ’S *Share Now* car sharing business. In the May 2018 issue of *The Dispatcher* I wrote: *In late March (2018) DAIMLER and BMW announced they are merging their car sharing operations, respectively CAR2GO and DRIVENOW. Together they claim they will have four million users. DRIVENOW lost €34 million, or \$42 million, on sales of €142 million in 2017, according to BMW’s annual report. There was nothing about CAR2GO’s financials in the DAIMLER 2017 annual report, but there were plenty of references to it as a pioneer (they’re the ones with the arrows in their backs lying face down in puddles).*

BMW started car sharing in 2011. MERCEDES-BENZ was even earlier, starting in 2008. I recall visiting the M-B team setting up their first service in Ulm, Germany. Both companies bought into the idea that car sharing would attract younger drivers to try their brands. Pundits were starting to talk about new trends in mobility needs resulting from the new urban renaissance. Mobility would be a service, they said, and car ownership would soon be a faint memory. It did not work out so well for either of the car sharing services, but they were confident that by merging the two, the math would change. Their joint statement stated: *“The previously independent services car2go and DriveNow thus merged to form the joint car-sharing service Share Now. Car-sharing members now profit from the merger of both services, with simpler access to a joint fleet and a larger selection of cars as well as cities via a fully integrated car-sharing app.”*

STELLANTIS believes it has a better recipe for the secret such that will make car sharing a success. Rather than having access to boring BMW and MERCEDES-BENZ vehicles, customers will have exciting CHRYSLER and JEEP brands in North America and Peugeot, Opel, Vauxhall and Citroen brands in Europe. And by 2030 in Europe and



2035 in the U.S., customers will be able to have the added pleasure of plugging them in for the next user. I'm sorry for the ironic tone, but I don't believe Stellantis has any better of a chance of succeeding with a flawed concept than BMW and M-B. The two companies will now focus on the two remaining parts of their mobility cooperation: *Free Now*, an app that enables booking cars, taxis, e-scooters and e-bikes, and the charging infrastructure booking app *Charge Now*.

BANKHAUS METZLER was referenced in articles announcing the sale.²⁷ It said the deal was worth well below €500 million (\$525 million), and probably no more than €250 million. The Italian daily newspaper, *LA REPUBBLICA* said the deal was worth about €100 million. BANKHAUS METZLER estimates *Share Now* has lost around €200 million annually during its three years in operation. "*Maybe Stellantis, with its low financial investment and a leaner cost structure, can make more out of it,*" said BANKHAUS METZLER. I would not hold my breath on that.

Freebees to EVs matched by cash for gas

ELECTRIC VEHICLE BUYERS have gotten used to being on the receiving end of both government and business largesse. They receive five-figure tax credits in the U.S. and five-to-ten thousand Euro off the purchase price in the EU, there are VAT and excise tax reductions or eliminations, there is free parking, access to restricted lanes, no toll fees, free charging at business locations and public charging stations, all with the aim of convincing car buyers to make the switch to battery electric and plug-in electric vehicles. The fact that BEVs and PHEVs are not priced for the 'everyman' has not phased lawmakers.

Battery electric vehicle buyers have had another perk which could also be viewed as a government giveaway: they pay no taxes that are collected at the gas pump. In Sweden, 49% of the cost of a liter of gasoline (petrol) is tax. On the 9th of May, the price of a liter of gasoline was \$2.07. That is equal to \$7.82 per gallon. My RAV4 has a 60-liter tank, which, when I filled it up on the 9th of May, separated me from \$124.20. If my RAV4 were a BEV, the government of Sweden would have lost \$61.00 on the 9th of May. (Yes, the price of fuel and the amount of tax we pay is unreal in Sweden. One American friend used the word "horrendous".) To use a more realistic example, the price of regular gas was around \$4.25 in Pennsylvania when I was there in late April. Federal tax in every state is \$0.184 per gallon. State tax in PA is \$0.576 per gallon (the highest of any state in the U.S). That works out to be a

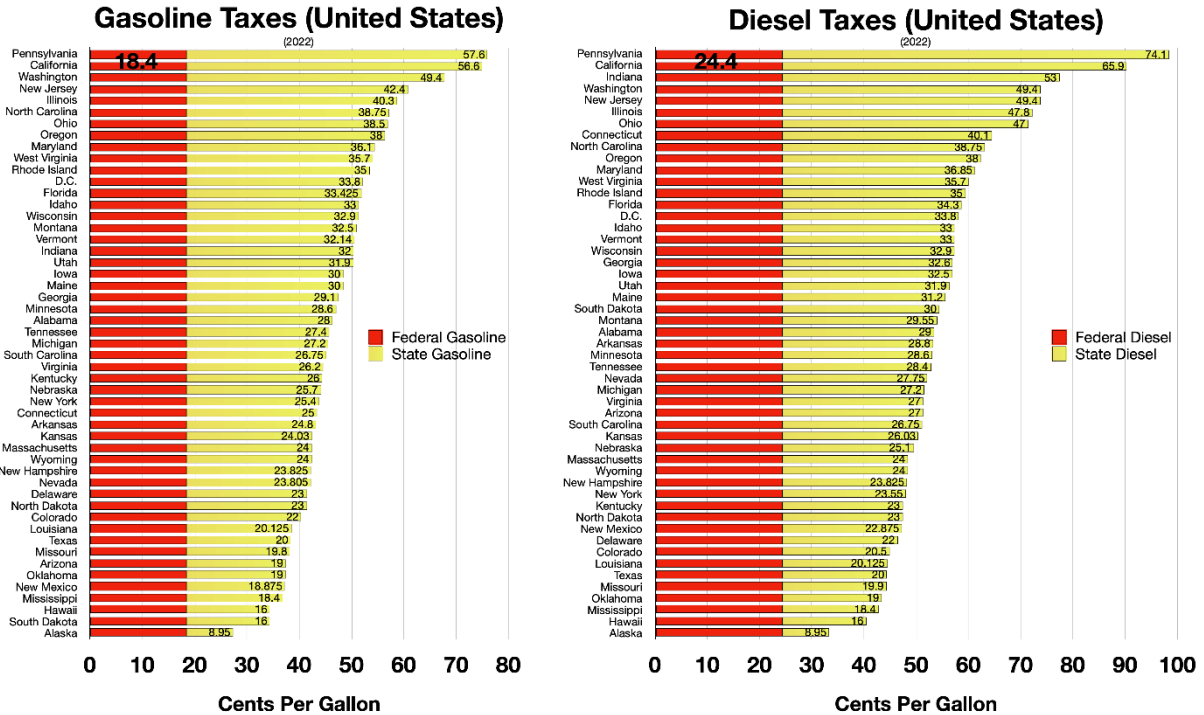
27. The B. Metzler seel. Sohn & Co. AG is a private banking company in Frankfurt, Germany. Metzler traces its origins to a trading company established 1674 by Benjamin Metzler in Frankfurt and is Germany's second oldest bank and the world's 5th oldest.

VW Survey of BEV Buyers

Volkswagen surveyed 1,200 of their I.D. battery electric vehicles to get a sense of what they find good and what they find not so good. They found that 46% of them leave their I.D. at home when they take a long drive. Their reasons are the insufficient number of charging stations and the ineffectiveness of those charging stations which do exist. Only one in ten answered that the 50Kw quick chargers at the stations work properly. Over 80% want to have new fast charging stations located at existing filling stations and rest stops where there are places to eat.

total of \$00.76 per gallon in tax, or 17.8% of the total price of a gallon. My RAV4's tank is 15.9 gallons, so it would cost \$67.58 to fill it up, of which \$2.93 would go to the Federal government and \$9.16 to the Commonwealth of Pennsylvania.

Even before the price of both fuel and electricity began to go



through the roof, in the name of fairness, voices began to be raised that BEV buyers should pay something toward the upkeep of the road infrastructure. After all, BEVs are approximately one-third heavier than an equivalent sized ICE vehicle and are therefore responsible for more road wear and tear.²⁸ So far, there has been no sign anywhere that politicians at any level are willing to take this logical step. At the same time, any attempt to get relief for higher prices at the gas pump have been met with outcries by green lobbyists, who say such a concession would simply be delaying the inevitable and necessary shift away from fossil fuels.

28. <https://www.cars.co.za/motoring-news/bevs-are-too-heavy-and-too-expensive/122401/>

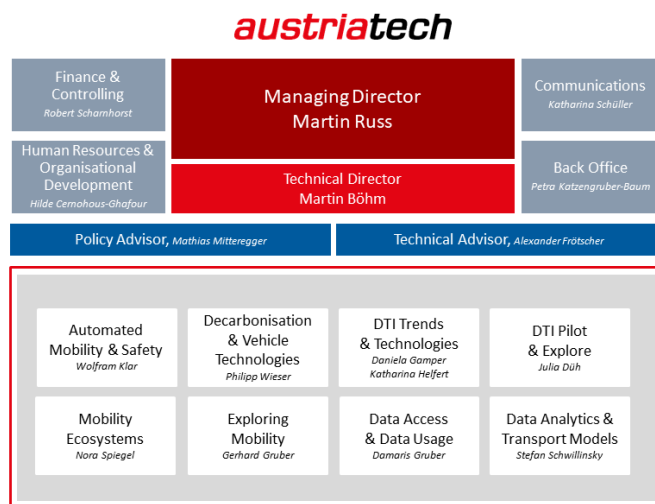
One perennial political hopeful, Chicago millionaire Willie Wilson, has decided that well-healed BEV owners have been coddled too much. He is giving away \$50 of free fuel (gasoline or diesel) to anyone who is willing to wait in line at any one of 26 filling stations in the City of Chicago and near-by suburbs, all of which are in neighborhoods with a majority of lower-income residents. If someone decides to drive down from Winnetka, with a per capita income of \$98,139, in their Range Rover, they were free to do so. "It's a good use of the dollar to help a lot of families," said Wilson to the *CHICAGO SUN TIMES*. He points out that the rising cost of fuel for their cars is of a particular concern to people who live in the

neighborhoods he has targeted because public transport is often poor. So far, his generosity has cost him \$2.2 million. Chicago's current mayor has been put on the defensive. She pushed the City Council to approve her plan to distribute 50,000 pre-paid cards for fuel and public transport, at a cost of \$12.5 million. Voters are not fooled. "She's using the city's money, he's using his own money," one resident was quoted in the *SUN TIMES* article.

Expect to see a little more sharing with and caring for those who are not endowed with the financial wherewithal to purchase a BEV and have the possibility to charge one up in the garage. The BEV lobby—and those who are buying them—would be doing themselves and society a favor by volunteering to pay their share for using the roads and not expecting to be treated like VIPs who receive free parking, use high occupancy lanes and get a pass on tolls. As part of a subsidy package to residents of Sweden resulting from the increase in fuel prices that have resulted from Russia's heinous invasion of Ukraine, the government has proposed a temporary reduction of gasoline and diesel taxes, a one-time minimum payout of 1,000 kronor (\$104, 95 euros) to car owners.

Austria follows its own nose on ITS issues

LIKE MANY COUNTRIES, Austria doesn't have an official motto. I would like to suggest one: *Sicut pisces, contra hodiernam natamus* (Like a fish, we swim against the current). Austria has taken a unique—some might say questionable—approach to its ITS activities. Most, if not all ITS national organizations are member-run societies established as non-profit corporations with member dues paying for the society's activities. This is the case with *ITS America*, *ITS Japan* and the ITS organizations in Europe, including *ERTICO ITS Europe*. *ITS Austria* is run by *AUSTRIA TECH*. *AUSTRIA TECH* is a non-profit organization established fifteen years ago as a 100% subsidiary of the FEDERAL MINISTRY OF THE REPUBLIC OF AUSTRIA FOR CLIMATE ACTION, ENVIRONMENT, ENERGY, MOBILITY, INNOVATION AND TECHNOLOGY. This Ministry is in charge of traffic, research, innovation, energy, and environmental protection. Until 2020, it



was the MINISTRY FOR TRANSPORT, INNOVATION AND TECHNOLOGY. Martin Russ has been Managing Director of *AUSTRIA TECH* since 2011, and its Technical Director and “authorized signatory”, Martin Böhm, has been with the company since its founding. Its Advisory Board chair is Jacqueline Erhart. She is employed by ASFINAG, the AUSTRIAN OPERATORS OF THE HIGH-LEVEL ROAD NETWORK. ASFINAG is 100% owned by the Republic of Austria, and is responsible for the entire management of Austria’s motorway network. Its financing comes from tolls collected on the motorways. ASFINAG’s core tasks, performed by its 3,000 employees, include motorway operation, maintenance, construction management and toll collection as well as traffic management.²⁹

The bottom line is that *ITS Austria* is owned, run by and staffed with government employees. In other countries, the ITS organization serves as a neutral mediator between government functions and private, commercial interests. In Austria, there is no neutral mediator. The government has placed *AUSTRIA TECH* in the position of both deciding the ITS direction for the country and executing the strategy. This is most probably the reason why Austria has been able to push forward on two ITS points that have proved difficult in other countries: road tolling and 802.11p/ITS-G5/Wi-Fi-based DSRC roadside units. If a country wants to place tolls on its roads, bridges or entries to its cities, it’s their prerogative. It’s up to a country’s citizens to decide whether the government is acting in its best interests and vote them out if they are not. The same is not the case with pushing car companies to install systems in vehicles to communicate with each other and with roadside units. You are not going to see this issue on the party platforms, either for or against.

Why should other countries, especially those in Europe, care whether Austria is pushing the DSRC alternative for V2X communication? The answer is simple. As long as the European Commission believes there is support among EU member countries for its preferred solution, which is ITS-G5 based on 802.11p, it will continue to press the automakers to incorporate DSRC into vehicles sold in Europe. Motorway operators in countries where tolls are collected, such as Austria, have also been unwavering supporters of DSRC because most automatic tolling systems are DSRC-based (although these systems operate outside the ITS-allocated spectrum). In 2019, when 21 countries voted down the Commission’s Delegated Act that would have mandated ITS-G5 for V2X, the Commission allowed for shared use

29.
<https://www.asecap.com/members-partners/9-en/40-austria.html>

of its 40MHz ITS spectrum between DSRC and C-V2X. But this is hardly an approach that is going to encourage enthusiastic cooperation among all parties.

The U.S. moved closer to a full-throated shout in favor of C-V2X in November 2020 when the US Federal Communications Commission (FCC) issued a draft ruling to split and reallocate the 75MHz of spectrum in the 5.9GHz band, earlier reserved for DSRC in 1999, citing failed mass deployment of the technology. Under the revised arrangements, the lower 45MHz from 5.850GHz to 5.895GHz would be allocated to WiFi and other unlicensed services and the remaining 30MHz was set aside for vehicle-safety technology; at the same time, the agency selected C-V2X as the new US standard for vehicle safety technologies and the sole ITS technology that can operate within the band, shutting out DSRC entirely.³⁰ DSRC supporters are not giving up, but GM, FORD, AUDI, BMW, and TOYOTA are moving forward with tests they see as essential to meet the challenge posed by China.

CHINA, INC. is doing with V2X exactly what it has done with battery electric vehicles, to leapfrog the dominant industry solutions in which it is not competitive (i.e., internal combustion engine technology) and carve out a new space where it has ready solutions to introduce. While the U.S. and EU countries dawdle—and surely, this is exactly what they have been doing— China is 100% committed to C-V2X, having allocated 25MHz to LTE V2X. China has attained a leadership position in C-V2X technology by developing and following a six-step process:³¹

1. Early (2017) formulation of a national strategy followed by clear guidelines supportive of regulations to develop and grow Internet of Vehicles in China;
2. Timely allocation of dedicated C-V2X spectrum;
3. Accelerated C-V2X commercialization and promotion of interoperability through cross-industry collaborations;
4. Phased rollout for the effective deployment of C-V2X technology in China;
5. Technical trials and advancements followed by mass-production programs; and
6. Active participation by the three state-owned telecom operators.

If you want to see more examples of how CHINA, INC. works, look at solar panels, wind turbines, city buses showing up on European streets, and now the string of BEVs beginning to appear in the automotive reviews you are reading. As a result of China's total



30. <https://www.sae.org/news/2020/11/fcc-5.9-ghz-cv2x-decision>

31. Harman Whitepaper. What China Knows About C-V2X That US Companies and Governments Need To Find Out.

support of C-V2X, western automotive, wireless telecoms and technology companies that want to stay competitive in the future, and are certain that C-V2X defines that future, must be present in China. This further strengthens CHINA INC.'s hold on key technologies and business supply chains.

Is it for the sake of Kapsch?

Does AUSTRIA TECH's fixation on DSRC have to do with its dependency on tolls to finance its operations? Or is it simply determined to back its national champion, KAPSCH, a €1.4 billion Austrian manufacturer of information and telecommunications technology? Its €731 million TRAFFICOM subsidiary focuses on electronic toll collection systems, which have been mostly based on DSRC. KAPSCH has been making the rounds of European capitals and national road administrations to promote its ITS-G5 compliant roadside unit technology. But now KAPSCH seems to have seen the writing on the wall and is promoting tolling solutions based on smartphones and in-vehicle infotainment systems. KAPSCH says of itself: *"Smartphones and connected vehicles equipped with 4G (and up) can interact with backend systems to process transactions, while GNSS can provide the requisite location data if and where it is required. Compliance will similarly be controlled via GNSS and video rather than DSRC."*³²

It's time for both Austria and the European Commission to consider the damage it is already causing its automotive manufacturing and supplier industries with its stubborn demands to support both 802.11p and C-V2X in parallel for V2X. Perhaps having an independent (meaning not government-controlled) ITS Austria would help to move the country's ITS communications strategy in a more neutral direction.

A notable quote on the move to BEVs

"What's next? Where is the clean energy? Where is the charging infrastructure? Where are the raw materials? Where are the geopolitical risks of sourcing those raw materials? Who is looking at the full picture of this transformation?"

STELLANTIS CEO Carlos Tavares on the implications of the push for electric vehicles



32. <https://www.kapsch.net/en/solutions/tolling-services>

A Last Word for the Month



*A 1955 Mercedes-Benz, one of only two such versions in existence, was auctioned off in May 2022 for \$143 million, making it the world's most expensive car ever sold, RM Sotheby's announced Thursday. The **300 SLR Uhlenhaut Coupe** was sold to a private collector for almost triple the previous record, which was set in 2018 by a 1962 Ferrari 250 GTO that brought in over \$48 million.*

About Michael L. Sena

Through my writing, speaking and client work, I have attempted to bring clarity to an often opaque world of highly automated and connected vehicles. I have not just studied the technologies and analyzed the services. I have developed and implemented them, and have worked to shape visions and followed through to delivering them. What drives me—why do what I do—is my desire to move the industry forward: to see accident statistics fall because of safety improvements related to advanced driver assistance systems; to see congestion on all roads reduced because of better traffic information and improved route selection; to see global emissions from transport eliminated because of designing the most fuel efficient vehicles.

This newsletter touches on the principal themes of the industry, highlighting what, how and why developments are occurring so that you can develop your own strategies for the future. Most importantly, I put vehicles into their context. It's not just roads; it's communities, large and small. Vehicles are tools, and people use these tools to make their lives and the lives of their family members easier, more enjoyable and safer. Businesses and services use these tools to deliver what people need. Transport is intertwined with the environment in which it operates, and the two must be developed in concert.



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