

SMART DRIVING CARS

<http://smartdrivingcar.com/5.19-GM??-061217>
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G.M. Wants to Drive the Future of Cars That Drive Themselves

B. Vlasic, June 4, "... How would it react, for example, when it reached an intersection as a light turned yellow? Driving in a situation like that, "you have to make a decision," she recalled in a recent interview. "Generally if you decide to go, you decide to speed up. Or you stop." If the technology works, she said, it will make the right decision: "The car knows."

In beginning (sic) to assemble fully automated Bolts in January, G.M. was a step ahead of Google and Uber, which are converting mass-market minivans and sedans into driverless models. It went beyond what Tesla has achieved with autonomous controls on its own models. And it reflected the feverish competition underway..." [Read more](#) *Hmmmm... C'mon Bill, GM might be a step ahead of Google (who is not in this anymore) , but it is nowhere near Waymo. And what is a "fully automated" Bolt? It is certainly NOT "fully" anything. Seems like the same-old GM but now with new 'Corinthian Leather' to sell to consumers through their network of dealers. That leather will boost sales in the short run, and decrease the carnage on our roadways , which is great while keeping everyone in their same-old comfort zone of owning their own. Unfortunately, the Bolt's "Corinthian Leather" turns to Flea & Moth Infested Burlap during parts of every trip, thus requiring a human driver to be ready to come to the rescue. Consequently, the Bolt does NOT deliver the elevator-like mobility that some/many envision when someone says "cars that drive themselves" without explicitly adding in bold "**only some of the time**. It won't be able to provide mobility to the young, those under the influence, those that don't have a driver's license,... The Bolt is of no real help to Lyft or Uber or Didi or ...but many people will buy Bolts! Alain*



How Mercedes Plans to Recapture Its Early Lead in Robo-Cars

E. Behrman, June 4, "Three decades ago, an experimental Mercedes-Benz van managed to steer, brake and accelerate on its own. But after the technology was refined enough to put an S-Class sedan through its paces on a highway around Paris in 1994, it was largely set aside as commercially unviable. Now, the prospect of autonomous vehicles is threatening to upend the auto industry, and instead of an enviable head start, Mercedes is just part of the pack in the

race to roll out robo-cars....In 2015, he unveiled the futuristic self-driving F 015 concept car and prodded developers by moving forward targets for introducing the technology several times in recent years..." [Read more](#) *Hmmmm... Unfortunately, there really isn't much more to read. Mercedes is at best only doing Self-driving and not doing that well because they, unlike Tesla, have not embraced their customers. As I've written, I purchased a 2014 S-550 with the 997 package that gives me 7 seconds of "self-driving", a "1st of its kind" 3 years ago. In those 3 years, has MB reached out to me and asked for any feedback, no! Have they "over-the-air updated" the really marginal lane-centering control system, no! (They haven't even done anything in the pricy major service visits.) Have they corrected the, enormously unsafe in my opinion, turning off the intelligent cruise control (ICC) braking function simply because I tapped the brakes, no! (Why did they interpret that as signal that I want to disengage the ICC braking function? A signal that I want to turn off the acceleration function, yes!: braking function, no!!! (Oh just because this is a way one turned off the whole system when it was stupid cruise control was NOT the proper interpretation of my action at that time, either. I wanted the acceleration function turned off! Just because that was the only function, therefore you simply turned everything (one thing) off should NOT be taken as a "turn everything off signal" from the driver. Please!!!! Has all of this been fixed? I don't know. I've given up on MB and there is nothing in this article that suggests that MB has any viable plans to "recapture its early lead" in Self-driving. There is also no hint that they are really serious about Driverless because they remain focused on the 1%ers buying what they make using their 100+ year old business model. :-(-
Alain*



[Lyft teams up with NuTonomy to put 'thousands' of self-driving cars on the road](#)

A. Hawkins, June 6, "Lyft announced a new partnership today with Boston-based self-driving car startup NuTonomy to eventually put "thousands" of on-demand, autonomous vehicles on the road. In the meantime, the two companies said they intend to launch a limited pilot in Boston within the next few months, in which Lyft users will be able to hail one of NuTonomy's driverless vehicles by using Lyft's app..." [Read more](#) *Hmmmm... The benefit to Lyft is that it responds to what Uber has been doing (which may just be a publicity stunt). "Self-driving" has little if any value to Lyft, Uber or ... Today, these vehicles are more expensive and require trained drivers, not something that tends to exist in the "Gig economy".*

The benefit to NuTonomy is that its technology gets a customer (who is picking up the tab is ???) and automated driving systems get to experience more miles. Miles are of some importance but not really. Most miles are repetitive and in a sense very "boring". "every" automated driving system can drive them safely. The issue is finding the situations, likely spanning very short distances, feet not miles, that are rare and present challenges to automated driving systems. The main issue is how to experience these rare situations where the automated systems are challenged and capture the data that can be used to "fill these holes" (called 'corner cases') in the automated driving algorithms. One could just happen to "trip over them" and that's the benefit of accumulating a lot of miles... maybe you'll encounter one, two or a few and that experience will be really valuable in one's efforts to continue to improve the safety of automated driving systems. Consequently the partnership between Lyft and NuTonomy helps NuTonomy's algorithm experience more miles and possibly uncover some important corner cases.

There are of course other ways to also accumulate such information using even more aggressive crowd sourcing. MobilEye has its cameras and other sensors on numerous cars, as has Tesla, Mercedes, BMW, Volvo and others. These systems could be and hopefully are, recording and preserving the few minutes or even just seconds before and after every crash or near crash that they are experiencing. This is the really valuable experience and "feet" that need to be captured and, in my opinion, shared among everyone in the field.. NuTonomy, Tesla, MobilEye, Mercedes, VW, GM, Toyota, etc. These data are critical for everyone to improve the safety of each of their automated driving systems. The objective should be to make them all as safe as possible. NuTonomy should NOT be competing with Argo or Waymo or Tesla to be the safest or to "secretly handle that tragic situation that everyone else is going to eventually trip over." Each should be warning all others.. "Wow, we just uncovered this one. Everyone, be careful here!" That's the purpose of accumulating the miles. Everyone has so many other things to compete over, safety or the handling of these corner case should NOT be one of them. That is simply just good societal responsibility that this industry should and must embrace. Alain

The Dispatcher

[Telematics Industry Insights by Michael L. Sena](#)

Vol4, I7, June 2017, "The Swedish Connected Vehicle Factory: WHAT IS IT ABOUT SWEDEN? The country's companies and citizens not only compete on the global stage; they often win....

The End of Mobility: How on-line shopping will contribute to the end of the need to move.

Why we travel:

- 45% of daily trips in the U.S. are taken for shopping and errands
- 27% are social and recreational, such as visiting friends and family
- 15% are for commuting to and from work
- 91% of people commuting to work use person vehicles
- More daily trips are taken between 12.00-13.00 (7.4%) than any other time
- The average driver spends 55 min/day behind the wheel and drives 29 miles (46 kms)...

What was Jeff Bezos thinking? He is definitely not a flashy car guy. He drives a '96 Honda Accord. It is said that his wife drops him off at work after they have delivered their kids to school in her car. Did he think the company he and his wife founded back in 1994 would eventually contribute to the demise of the car industry? He earned a degree in electrical engineering and computer science at Princeton and was president of a space exploration club. He's a pretty smart guy. Amazon's business is decreasing the distance between you and any product you want to buy. It must have crossed his mind that the end result would be fewer daily trips for shopping. In any case, he has probably figured it out by now. Maybe that \$35 million placement in Uber isn't such a good investment after all, Jeff....[Read more](#) *Hmmmm... With lots more in between Alain*

FORTUNE

[What Does a Management Shakeup Mean For Uber \(and Silicon Valley\)?](#)

E. Griffith, June 12, "Sunday was a critical day for Uber, the world's most valuable venture-backed startup. The company's board held a 10 a.m. meeting in Los Angeles to go over the findings of attorney Eric Holder's investigation into the company's workplace issues. Reporters

covering the event went into scoop mode...." [Read more](#) *Hmmmm... Great unanswered questions! Be sure to read all of the linked "scoops" including..NYT: [Uber Weighs Leave of Absence for Chief Executive](#) etc... Alain*

select*all* [Uber, But for Meltdowns](#)

R. Wiefeman. May 29, "...One former Uber manager who oversaw growth in a number of smaller, non-coastal cities where the cost of owning a car is low told me that the business there was almost exclusively taking people to and from bars. But McClendon argued that for people in urban areas, the cost of Ubering was beginning to make as much financial sense as owning a car, especially if riders were willing to use Uber Pool, Uber says that Pool now makes up a quarter of all rides in New York....

So far as Horan could tell, there was only one possible path for Uber to meet that \$68 billion valuation: eliminate competition....Recent events have made a monopoly harder to imagine, to say nothing of how regulators might react....

Uber has expanded into a variety of industries tangentially related to its core business. In 2015, the company launched Uber Everything, an initiative to figure out how it could move things in addition to people...It turned out that food delivery was the only area that made much sense, though even that was difficult....

Uber's expansion into an ever-widening gyre of business interests makes sense for a company looking to justify a huge valuation, but it has drawn criticism from some who wonder why the company is moving into so many different markets without becoming profitable in its first one. "It's a Ponzi scheme of ambition," Anand Sanwal, a venture-capital analyst, told me. " 'We're gonna raise money on the promise of dominating an industry to come in order to pay for this thing that doesn't make us money right now.' " ...

Back on land, Kalanick had already discovered perhaps his company's biggest opportunity and gravest threat: self-driving cars. On the one hand, getting rid of "the other dude in the car," as Kalanick once callously referred to the drivers on whose backs he built the company, would cut out Uber's biggest costs. On the other, he realized the technology was "basically existential for us": If Google, or another tech company, or an automaker, developed a driverless car, there was no guarantee they would offer the cars to Uber's network rather than develop their own....

I always thought the biggest threat to Uber was if Google bought Lyft," one engineer told me in May. A few days later, Waymo announced a partnership with Lyft...

Does all that mean Uber — so synonymous with this tech boom, and with the modern city itself — is going to become a relic of this decade? Will it be an app that you delete less out of protest than simply because your phone gets too crowded? "I don't think it's doomed," Erik Gordon, a business professor at the University of Michigan, told me recently. "But I think it's stunted. It was within an arm's length of absolute dominance — of being Microsoft in Microsoft's best days — but I think it's going to be a case study we teach in business school of a company that could

have crushed all comers but because of their repeated botch-ups, they aren't in that position and will not be in that position." ..."[Read more](#) *Hmmmm... With lots more in between* *Alain*



[Uber Fired Its Robocar Guru, But Its Legal Fight With Google Goes On](#)

A. Marshall, May 30, "On Tuesday Uber fired Anthony Levandowski, the engineer at the center of its legal battle with Waymo, Google's self-driving car company. Uber said Levandowski failed to cooperate with the company's internal investigation into allegations asserted in a lawsuit Waymo brought against Uber: mainly, that Levandowski, who previously worked at Google and spent years working on the company's robocar effort, stole reams of intellectual property before he quit in early 2016, and that when he joined Uber six months later, used the illicit know-how to advance his new employer's technology..." [Read more](#) *Hmmmm... What are the implications on the \$680M Otto deal?? Is this about Google or about \$680M? or both?* *Alain*



[Jaguar Land Rover gives Lyft \\$25 million and a fleet of vehicles for autonomous testing](#)

A. Hawkins, June 12, "UK-automaker Jaguar Land Rover is investing \$25 million in Lyft to support the ride-hail company's autonomous and connected vehicle activities, the two companies announced today. The money was invested through InMotion, Jaguar Land Rover's mobility services subsidiary, and was included in Lyft's latest round of fundraising, which ended in April. ..." [Read more](#) *Hmmmm... I guess this makes some sense???? Depends on the terms and valuation which aren't mentioned.* *Alain*



Consulting Group

["Have you tried turning it off and on again?"](#)

T. Hallauer, June 1, "...Yes, it will become more difficult to get locked out of the car or run out of fuel for example. Crashes are expected to come down – requiring fewer tows – but it won't affect breakdown assistance due to flat tyres, batteries or being stuck in a ditch. (OK, Autonomous vehicles should at least avoid the last one.)..." [Read more](#) *Hmmmm... Nice focus on ADAS.* *Alain*



[First drive with Tesla Autopilot 2.0's new 'silky smooth' control algorithm and Autopark](#)

F. Lambert, June 12, "While the rollout of Tesla's latest Autopilot 2.0 update has yet to go wide, some owners have reported getting the update early and they are now testing the new features for the first time. We get our first look at the latest version of Autopilot 2.0 in a new video. [Read more](#) *Hmmmm... Mostly straight road and who really cares about parking (if it is so tight, do you really want to park there???)*. *Alain*



[Regulatory options to assure automated vehicle safety in Australia: Discussion paper](#)

June 2017 "...The purpose of this paper is to seek feedback on:

- whether there is a need for explicit regulation of automated driving functions, above existing transport and consumer law
- if there is a need for regulation, what form this should take.

We are seeking feedback from governments, road safety experts, automated vehicle manufacturers, technology providers, insurers and other stakeholders on these questions. This paper examines:

- how safety of automated vehicle functions should be assessed
- the options for a safety assurance system
- the criteria that should be used to decide among those options
- institutional arrangements, road access and compliance...."

[Read more](#) *Hmmm... A good and thorough presentation of the issues but my main complaint is the broad brush on "Automated Vehicles". Having one set of regulations on ALL AVs is as silly as having one set of regulations on cars, trucks and trains. There are such fundamental differences between a Safe-driving AV whose purpose is to compensate for human frailties in driving , to Self-driving whose purpose is to provide comfort and convenience to human drivers and to Driverless whose purpose is to replace the human driver. Attempts to set regulations serve all will end up stifling all and serving none. Alain*



[Delphi, the Auto Parts Supplier, Embarks on a High-Tech Overhaul](#)

N. Boudette, June 9, "...But with new technologies turning automobiles into supercomputers on wheels, Delphi is trying to reinvent itself. Over the last several years, it has shed almost all of its old operations, and begun acquiring and investing in high-tech businesses that in many ways are more like [Intel than G.M....](#)" [Read more](#) *Hmmm... Maybe. Alain*



[Australian guidelines for automated vehicle trials invite nationwide testing of new-era technology](#)

Press release, May 24, " Australian governments are taking steps to move to a new era of mobility, with today's launch of national guidelines for trials of automated vehicles. [Guidelines for trials of automated vehicles in Australia](#) is a joint publication of the National Transport Commission (NTC) and Austroads. The guidelines support state and territory road agencies in providing exemptions or permits for trials, and give greater certainty to industry on conditions for trials...." [Read more](#) *Hmmm... Read the just released Guidelines. However, see the supporting materials because there really isn't much substance here. Alain*

Some other thoughts that deserve your attention



[Optimal Prediction in the Retina and Natural Motion Statistics](#)

J. Salisbury, March 2016, " Almost all behaviors involve making predictions. Whether an organism is trying to catch prey, avoid predators, or simply move through a complex environment, the organism uses the data it collects through its senses to guide its actions by

extracting from these data information about the future state of the world. A key aspect of the prediction problem is that not all features of the past sensory input have predictive power, and representing all features of the external sensory world is prohibitively costly both due to space and metabolic constraints. This leads to the hypothesis that neural systems are optimized for prediction. Here we describe theoretical and computational efforts to define and quantify the efficient representation of the predictive information by the brain. ..." [Read more](#) *Hmmmm... Very interesting. See also [S. Palmer video](#).*



[Tech's Backyard: The Most Well-Funded Bay Area Tech](#)

[Startups By City In One Map](#)

June 8, "Collectively, the startups on our map have raised approximately \$17B in disclosed equity funding to date. ..." [Read more](#) *Hmmmm... Informative graphic. Alain*

[On the More Technical Side](#)

<http://orfe.princeton.edu/~alaink/SmartDrivingCars/Papers/>

[Half-baked stuff that probably doesn't deserve your time](#)



[Yandex's on-demand taxi service debuts its self-driving car project](#)

D. Etherington, May 30, "Russia search and internet technology giant Yandex is showing off the self-driving vehicle prototype developed by its Yandex.Taxi on-demand ride service for the first time, and the video above is the first footage of the car in action....The vehicle in the video isn't yet navigating real city streets, but Yandex says that testing is coming on public roads within a year, if all goes as planned..." [Read more](#) *Hmmmm... Always nice to have Russian Smoke & Mirrors in the competition. :-)* Alain

[C'mon Man! \(These folks didn't get/read the memo](#)



[Apply for an Autonomous Vehicle Technology Demonstration /](#)

[Testing Permit](#)

The [law permitting the demonstrations or tests](#) is set to expire April 1, 2018. *That link states... "...For the purposes of this act, the term "autonomous vehicle technology" shall mean the hardware and software that are collectively capable of performing part or all of the dynamic driving task on a sustained basis, and the term "dynamic driving task" shall mean all of the real time operational and tactical functions required to operate a vehicle in on-road traffic, excluding the strategic functions such as trip scheduling and selection of destinations and waypoints...." My car ('14MB s550) and a Tesla w/autopilot certainly fall under that definition. I guess I can drive it but NOT test it???*

"...How to apply... Complete

[Autonomous Vehicle Technology Demonstration/Testing Application Form \(AV-1\)](#)

[Autonomous Vehicle Technology Demonstration/Testing Addendum \(AV-2\)](#)..." *...This link states*

"...The entity named above shall reimburse the New York State Police for direct supervision of each demonstration/test according to the following schedule: Regular Hourly Rate: \$92.73, Overtime Hourly Rate: \$131.67, Mileage cost \$0.535 per mile.

[Read more](#) *Hmmmm... Wow!! This one takes your breath away. Can't wait until April Fools, 2018 when this expires. Can't imagine anyone testing in New York State. This MUST have been written by GM. It has all of the Sears/Craftsman's monkey wrenches in it. Doesn't the NY State Police have something better to do with all of their training, expertise and dedication to serve and protect. Waymo has tested over 3 million miles and let's assume an average speed of 30 mph to guesstimate a test duration of 100k hours. Further assume a blended regular/overtime rate of \$100/hour. That's \$11.5M. Certainly Google/Waymo can afford it, but.. absolutely ZERO would have been contributed to improving the safety. If NY State wants to tax the test, fine!; but...maybe the tax should go to feeding, housing and providing mobility for the poor rather than wasting the time and squandering the opportunity of those Highly Trained Police Officers. [C'mon NY State!](#) This is really embarrassing and even worse than New Jersey. Alain*

Calendar of Upcoming Events:



2nd Annual Princeton SmartDrivingCar Summit

May 16 & 17, 2018

Princeton University

Princeton, NJ

Save the Date