

# SMART DRIVING CARS

[http://smartdrivingcar.com/It's Time!-042316](http://smartdrivingcar.com/It's_Time!-042316)  
Saturday, April 23, 2016



## [N.J. superintendent killed while jogging was struck by student late for trip](#)

K. Shea, April 19, "...The Robbinsville High School student who was driving the car that [struck and killed the district's superintendent Tuesday](#) morning was late for a school trip when the crash occurred, according to two sources involved in the investigation...."

*[Read more](#) Hmmm...Most tragic in so many dimensions!!! HOWEVER, it was NOT the student that STRUCK the Superintendent, it was the CAR. AND the CAR needs to start being held responsible for ALLOWING such tragedies to ruin so many lives. It is very likely that this tragedy could have been averted had the car been equipped with an automated collision avoidance system and/or lane-keeping system. Given the availability of these "tragedy avoidance systems", we should all be asking why this CAR wasn't equipped with such a system and why all cars aren't so equipped. Certainly innocent runners and dogs need to be asking such questions. So too, that young lady's car insurance company; it must be muttering: "shouda bought her that upgrade". What about the car companies themselves who are largely just sitting on the technology or the dealerships that don't feel compelled to espouse the benefits of such technology while pushing more "horsepower" and "Corinthian Leather" (and worse yet: "AoolleCarXYZ" that distracts drivers). We all know that Washington is broken. Them staying out of the way is probably best (although aggressively applying better human-visible paint/laneMarkings and human-readable signs would go a long way to helping both attentive drivers and automated lane-keeping systems). Everyone else has fundamental self-interest at stake and each needs to stop pointing the finger to the frail human driver. We have the technology and the the self-interest to make mobility substantially safer. Let's really get on with it. It's time! Alain*



## [Make American Transportation Great Again: Autonomous Taxi Fleet Management Strategies](#)

S. Zhu, Thesis, "...Using a fleet of vehicles of varied sizes and a data set of synthesized travel demand for the state of New Jersey, this thesis analyzes the benefits of ridesharing for New Jersey and explores various fleet management strategies and the costs associated with these strategies. Ridesharing is able to increase average vehicle occupancy from 1 to 1.74 and reduces total vehicle miles traveled by 43%. Even in an upper bound case, the total number of vehicles needed to serve all of New Jersey's travel demand is less than 50% of the number of vehicles

currently on the road today in New Jersey, which would have significant benefits in terms of congestion and pollution...." [Read more](#) *Hmmm..Very interesting. Alain*



### [Quantifying the Potential for Dynamic Ride-Sharing of New York City's Taxicabs](#)

S. Baht, Thesis, "...This study confirms the existing potential for ride-sharing in the New York City Area, with ride-sharing simulations exhibiting a significantly higher average vehicle occupancy and requiring a lower fleet size than "direct" or non-ride-sharing schemes..." [Read more](#)  
*Hmmm..Very interesting. Alain*



### [A Ridesharing Analysis with a Hitchhiking Modification Applied to Taxi Trips in New York](#)

A. Schindele, Thesis, "...This thesis supplements the analysis with the addition of a "hitchhiking" policy. With such a policy in place, a taxi would, in addition to the original ridesharing mechanics, pick up passengers en route to its destination or destinations...." [Read more](#)  
*Hmmm..Very interesting. Alain*

## **EXTREME**TECH [Autonomous taxis: Why you may never own a self-driving car](#)

D. Cardinal, April 18, "As the once unimaginable self-driving car moves closer to becoming a reality, the next question is "When can I buy one?" At the same time, some researchers, like Princeton's Alain Kornhauser, and the University of Texas's Kara Kockelman, have started to wonder whether you'll ever need to. ..." [Read more](#) *Hmmm..Very nice summary. Also read comments ( I like Koll-Aid). Alain*

## **EXTREME**TECH [Nvidia goes all-in on self-driving cars, including a robotic car racing league](#)

D. Cardinal, April 6, "...Jealous? You too can build a (small) self-driving car!...Startup JetsonHacks has taken MIT's RACECAR autonomous car learning platform and made it accessible to the DIY community with detailed assembly instructions, and cost-saving hardware options to make it more affordable than the University's original version. The RACECAR is a massive kit bash of an off-the-shelf RC vehicle — a Traxxas Rally — so that all the DIY fun is concentrated on the control and programming. The brain is (naturally) a Jetson TK1, running Robot OS (ROS)..." [Read more](#) *Hmmm...Interesting. Alain*



### ['Door to Door,' by Edward Humes](#)

Book review, M. Roach, "DOOR TO DOOR: The Magnificent, Maddening, Mysterious World of Transportation By Edward Humes, 372 pp. Harper/HarperCollins Publishers. \$27.99....In the

1920s, drivers plowed into oncoming traffic and bicyclists and trees just as they do now, but no one talked about automobile accidents. Back then, notes Edward Humes... these events were known as "motor killings." And citizens were outraged. They rioted and demanded reforms. They staged "massive parades" in protest. It was the kind of civil unrest that would come to be associated with social injustice and the Vietnam War.... [Read more](#) *Hmmm...I/we should read the book. Sounds very timely. Alain*

## The Japan Times

[Self-driving vehicle tests won't need permission to use public roads, say NPA guidelines](#)

National, April 2016, "Japan will not impose time and place restrictions on autonomous driving tests on public roads, according to draft guidelines released by the National Police Agency last week.

Those hoping to experiment using self-driving cars will be allowed to do so without obtaining permission to use public roads as long as they comply with rules such as having a driver and passenger in the car..The NPA will finalize the guidelines after seeking public feedback until May 7." [Read more](#) *Hmmm...Encouraging. Alain*



[IDT and 5G Lab Germany Collaborate on Technology to Enable Network-Connected Autonomous Vehicles](#)

Press release, Feb 24, "...IDT's RapidIO technology will be used to explore two key elements of the network. First, the 100ns latency RapidIO switching and interconnect technology will be used to realize 5G Lab Germany's vision of transforming the vehicle into a connected appliance by networking it with a 5G base station's "edge computing" server. Second, it is planned for RapidIO technology to be evaluated to connect multiple vehicle sensors in real time for the mission-critical sensor fusion network essential for the self-driving or computer-assisted driving experience. A RapidIO-connected heterogeneous computer network will run real-time analytics to assist various network devices, including vehicles.." [Read more](#) *Hmmm... Encouraging. Alain*



[Singapore to welcome its first fleet of driverless pods this year](#)

E. Loi, April 21, "...SMRT is teaming with Dutch automated-vehicle makers 2getthere to bring its systems to Singapore..." [Read more](#) *Hmmm... Nice seeing 2Getthere making progress beyond Masdar. Alain*



## [Self-Driving Car Completes 1,200-Mile Roadtrip Across China](#)

April 17, "Chongqing Changan Automobile Co., Ford Motor Co.'s partner in China, said it completed a 1,200-mile road trip to test a [self-driving car](#) as part of its ambitions to produce highly automated vehicles by 2020.

The car set off from the company's headquarters in Chongqing and reached Beijing after six days, the automaker said in a statement to the Shenzhen stock exchange. The driverless car employed cameras and radar to test automatic cruising, lane-keeping and changing, assisted driving during traffic congestion, and speed reduction through traffic sign recognition and voice control, according to the company..." [Read more](#) *Hmmm...Sounds like a good test. Hopefully they'll publish the results/findings. Alain*

### Some other thoughts that deserve your attention

#### [On the More Technical Side](#)

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

### Recompiled Old News & Smiles:

#### Half-baked stuff that probably doesn't deserve your time:



#### [Driving to Safety: How Many Miles of Driving Would It Take to Demonstrate Autonomous Vehicle Reliability?](#)

N. Kalra and S. Paddock. April 2016, "How safe are autonomous vehicles? The answer is crucial for developing sound policies to govern their deployment. One proposal to assess safety is to test-drive autonomous vehicles in real traffic, observe their performance, and make statistical comparisons to human driver performance. This approach is logical, but is it practical?... [Read more](#) *Hmmm...Worth reading the whole report. (So maybe it is slightly better than Half-baked). It lays out what everyone already knows. The 4 questions that it asks are appropriate ONLY if one realizes that the safety implications of a driven-mile vary enormously over many dimensions! The safety implications of "a mile-driven" here under these circumstances is not necessarily anywhere close to the same as "a mile driven" under different circumstances. Everyone knows that. Luckily, "policy-oriented deployment" is not what is going to lead to development and market adoption of this technology. It will be the realization that one only need this technology to work during the miles when drivers are inattentive which is obvious to even the most casual policy maker. C'mon Rand! Alain*



### [U-M, Toyota announce plan to equip 5,000 Ann Arbor cars for connected vehicle research](#)

M. Durr, April 13, "The partnership aims to help the newly launched Ann Arbor Connected Vehicle Test Environment (AACVTE) deploy 5,000 vehicles in the area that are equipped with a vehicle awareness device that will transmit speed and positioning data to other vehicles that are equipped with the same device as well as the surrounding environment where research equipment will be located on the roadside and at intersections...Plans are to add 1,500 vehicles a year to the program." [Read more](#) *Hmmm... While 1,500 vehicles a year is substantial for V2I, it doesn't begin to scratch the surface for V2V. Will all these cars also have Automated Collision Avoidance and Lane Keeping? It would be nice to see V2I get beyond the "back-seat driver" mode. Alain*



### [Nauto raises \\$12 million for driverless car technology that's street-legal today](#)

L. Kolodny, Apr 13, "The latest company to attract a round of funding for driverless car technology is Palo Alto-based NAUTO, co-founded in 2015 by CEO Stefan Heck and CTO Frederick Soo.

Andy Rubin's hardware focused venture fund, Playground Global, led the \$12 million investment in Nauto, joined by Draper Nexus. Heck explained, "Our systems today help humans drive better, safer, smarter and faster in terms of avoiding congestion and traffic. They retrofit into existing cars, and eventually will enable true autonomy in new or older vehicles."...Nauto also automatically understands when a collision is about to happen, and records the scene inside and outside of the car then.

Images and data about the incident are stored in the cloud, and can be shared with a fleet manager or driver via Nauto's mobile app, which proves handy for resolving questions of liability [Read more](#) *Hmmm... Driverless, really??? Sounds like a dashCam warning a driver. Hmmm??Alain*



### [Hyundai Motor Group Announces Roadmap for Connected Car Development](#)

Press release, April 5, "...Along with the roadmap, Hyundai Motor Group plans to embark on a new era of connecting the 'Car to Life', as cars are increasingly at the center of our lifestyles...Autonomous driving provides utmost safety by connecting a vehicle to city and road infrastructure..." [Read more](#) *Hmmm... Excuse me, but "connecting a Hyundai to city and road infrastructure" does NOT provide "utmost safety". Something must have been lost in translation. Alain*

# MEN'S JOURNAL

## [The Far-Out Near Future of Cars](#)

J. Will, Apr 2016, "...t will likely be a decade or more before armies of legislators untangle the legal issues such vehicles raise. In the meantime, you can drive a car off the lot today — or soon, anyway — packed with features that sound like they were cooked up by a nerdy screenwriter: cars that can see around corners, smart windshields that highlight a stray pedestrian, and cars that know how you're feeling. Here's the stuff you should be excited about now." [Read more](#) *Hmmm... Way too much testosterone when one's just trying to get someplace. :-)* *Alain*

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



<http://www.autonomoustrucksevent.com/agenda-mc>

[Workshop on Automated Vehicle Policy and Regulation:  
A State Perspective](#)

**The National Transportation Center, University of Maryland**

May 18, 2016

[Preliminary Program](#)