

# SMART DRIVING CARS



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**[Monday, May 8, 2017](#)**

**Los Angeles Times**

**[Walt Disney World plans to deploy driverless shuttles in Florida](#)**

R. Mitchell, Apr 28, "Walt Disney World in Florida appears poised to launch the highest-profile commercial deployment of driverless passenger vehicles to date, testing a fleet of driverless shuttles that could cart passengers through parking lots and around its theme parks.

According to sources with direct knowledge of Disney's plans, the company is in late-stage negotiation with at least two manufacturers of autonomous shuttles – Local Motors, based in Phoenix, and Navya, based in Paris. It's unclear whether contracts would go to both or just one of the companies...." [Read More](#) *Hmmmm...This is exciting and substantial especially if it will be justified purely on its ability to deliver mobility, not entertainment, and will be financially self-sufficient. Since it will be operating on Disney property, Disney can pretty much do as Disney wishes without having to be burdened by regulation meant to alleviate anxiety about the new and unfamiliar. This is really exciting! Alain*



### [How Self-Driving Cars Could End Uber](#)

C. Mins, May 7, " If Uber Technologies Inc. ever collapses, historians may trace its undoing not to its troubles with labor relations, intellectual property, regulatory conflicts or sexual-harassment allegations, but to technological disruption. This would be the same technological disruption the company itself pledged to use to upend the auto industry and the \$2 trillion a year tied to it. ...

Owing to all these factors, Uber, Lyft and their imitators will eventually cease to exist as stand-alone companies, either going out of business or being acquired by car makers, says Sam Abuelsamid, a senior analyst with Navigant research who specializes in mobility. "It's a lot easier for an auto manufacturer to replicate what Uber or Lyft or Gett has done than it is for an Uber or Lyft to get into either manufacturing or even just buying vehicles and having to maintain them," he adds...." [Read More](#) *Hmmmm...True! but the article mixes up Self-driving & Driverless and there is an enormous difference. Uber/Lyft MUST have Driverless. Self-driving doesn't cut it for them. Car companies want Self-driving (the new 'chrome & fins' that perpetuates their basic personal ownership model and NOT Driverless that completely disrupts their basic business model. It will take an enormous amount of work and fortitude to get all of the nitty-gritty details right in order to evolve Self-driving to Driverless. And, it will be so easy to simply throw up one's hands and give up while throwing roadblocks at others that it is unlikely that any traditional auto company will evolve their Self-driving efforts to Driverless. Much more likely is an outside disrupter who doesn't have a 100 year legacy to protect, doesn't know how to sell Chrome & Fins, but can finance not only the R&D, but the manufacturing, the ownership, the maintenance and the operation of a capital intensive fleet. It will take deep pockets for the R&D and manufacturing, but once made, these Driverless products become cash machines. The evolution of this revolution will be very interesting to watch. Alain*



### [RethinkX: Self-Driving Electric Cars Will Dominate Roads by](#)

[2030](#)

M. Anderson, May 4, "...The rapid, Facebook-like or smartphone-like adoption curve, the report says, will be driven largely by market forces. Self-driving electric car share plans, in which consumers "subscribe" to a self-driving service much like they subscribe to a cellphone plan today, will be cheaper and more convenient for many people than owning a vehicle. ..." [Read more](#) *Hmmm.... What continues to bother me about these reports is the basic sloppy headline terminology which places context and concepts in the reader's mind that is contrary to the substance that is contained in the actual work. Case in point...*

*The headline is "self-driving" electric car... whereas the substance, being the report's dramatic conclusion, hinges of "driverless" (Level 5 ). This is important because there is an enormous technological/psychological hurdle that must be negotiated to get from "self-driving" to "driverless" which this writer does not appreciate and can't be assumed to be anything but monumental. As far as I know, only one state (California) has even begun to deal with empty vehicles sharing roads with with conventionally driven vehicles.*

*So... I agree with the meteoric rise in the adoption and eventual popularity of "driverless electric vehicles" (yes, they will be electric because the corporate entity(ies) that provide that service will be more profitable if electric is used rather than anything else and they will not suffer from "range anxiety" which completely dampens any future savings or even "greenness" that an electric might offer individual car buyers. (The whole car buying experience is dominated by "anxiety relief"... "getting-stuck" anxiety (why we buy one in the first place. It is ours.; always at our beck and call)... "haul-stuff" anxiety (why we buy Ford F-150s maxi-cabs and SUVs. We might want to go to the beach one summer day and we'll need to bring beach chairs, yet most of the time there is just one person in car going to and from or from someplace)... "range" anxiety (I may have to go to grandma's house 150 miles away yet rarely do. A person's 90th percentile of daily travel for all trips is way under 50 miles.) ...*

*If we only do "self-driving" (can't travel empty sharing roads with conventionally driven vehicles) then the future is completely different. It is more of what we have now for which there is essentially zero car sharing, that is growing glacially and unlikely electric because electric have little resale value and requires the car-share provider to install rechargers at EVERY car-share location. If car-share electrics was such a great idea without the need for "driverless" they'd already be the "RethinkX 2030" because they've been around for 13 years.*

*So it is all about "driverless", please! and only Google was doing "driverless", but one wonders what Waymo is really doing since they seem to have abandoned the bug, gone to minivans and John Krafcik has stated..."we're in the business of making better drivers" which can be achieved by Safe-driving cars and doesn't even need self, let alone driverless, cars to achieve. Oh well, maybe Apple will jump in and save the day???* Alain

## The Dispatcher

[Report from Dispatch Central](#)

M. Sena, May 2017, Vol 4, Issue 6, "...It is very interesting that these same lawmakers are now falling all over themselves to open their roads to robot-driven vehicles that will, in principle, obey the very laws that humans have difficulty accepting and dwindling police forces struggle to enforce. We do not need government task forces. The vehicle industry simply needs to be told to make their cars follow the rules of the road even when their drivers have other thoughts. It is not a matter of turning our vehicles over to robots, but making our vehicles safe to drive by humans." [Read more](#) *Hmmm.... Lots to read and ponder here including...* "...Herein lies the conundrum. The more successful a city or region becomes, the more people it attracts until it cracks under the weight of its own growth. Government officials and citizens pray for new miracles, like driverless, electric cars, when the answer lies in front of their noses: put things in the right places." *...Alain*

## Bloomberg Technology

[Another Group of Google Veterans Starts a Self-Driving Technology](#)

[Company](#)

A. Webb, May 4, "A mile away from where Google builds the maps used by people around the world, a 25-person startup is trying to do something similar for robots. DeepMap Inc., which was founded by mapping veterans of Alphabet Inc., is building systems enabling self-driving cars to steer through complex cityscapes. DeepMap plans to license its map-building software to

automakers and technology companies looking to teach cars how to drive...." [Read More](#)  
*Hmmmm...Limitation of the detailed maps is that they don't contain any information about the other moving objects that a SmartDrivingCar is trying to avoid hitting. So I'm going to need something else. In the end, why not just use that something else to also do the permanent objects too. Alain*



### [Computer Vision for Autonomous Vehicles: Problems, Datasets and State-of-the-Art](#)

J. Janai, " ..This paper attempts to narrow this gap by providing a state-of-the-art survey on this topic. Our survey includes both the historically most relevant literature as well as the current state-of-the-art on several specific topics, including recognition, reconstruction, motion estimation, tracking, scene understanding and end-to-end learning....[Read More](#) *Hmmmm... Excellent State-of-the-Art survey. Must reading. Alain*



### [Trump Transportation Secretary Elaine Chao Seems Confused About Self-Driving Cars](#)

W. Courtney, May 2, "...We have now self-driving cars," Chao told FOX Business's Maria Bartiromo in an interview. "We have Level 2 self-driving cars. They can drive on the highway, follow the white lines on the highway, and there's really no need for any person to be seated and controlling any of the instruments. And now we're also seeing self-driving trains that are possible, self-driving planes."

The secretary's description of Level 2 autonomy, however, conflicts the traditional definition set by the National Highway Traffic Safety Administration. That standard is based on the Society of Automotive Engineers standards for vehicle automation, which defines Level 2 autonomy as "partial automation," in which a human driver must remain attentive to the driving environment. [Read More](#) *Hmmmm...Of course she is confused, the whole level-thing is totally confused. The whole article is confused. You already know my solution... Since she is confused she should change it so that it is clear. Alain*



### [Don't Look Now, But Even Buses Are Going Autonomous](#)

A. Marshall, May 2, "...On Tuesday, the University of Nevada, Reno announced the start of a three-phase project to get a real, live autonomous bus on the road by as early as 2019. The first stage starts June 1 when a sensor-laden, passenger-carrying electric bus built by California company Proterra, starts trawling a 3-mile route along busy Virginia Street. To start, a human driver will do all the work as the bus collects the data needed to navigate this first stretch. In stage two, researchers will use that info to build self-driving systems. By the third phase, they hope to commercialize and license the tech, and conquer even the craziest city streets...." [Read More](#) *Hmmmm... Another start. Alain*

## BOSTON BUSINESS JOURNAL

### [Transit startup Bridj shuts down, cites collapse of 'major car company' deal](#)

D. Harris, Apr 30, "Bridj, a data-driven, venture-backed bus startup based in Boston, said Sunday it's winding down operations after a deal with a "major car company" fell through....The company, which operated in Boston, Kansas City, Washington, D.C. and Austin, Texas and describes itself as a "pop-up" urban transportation system, officially shut down last Friday...." [Read More](#) *Hmmmm... Not all Cruise and Otto. Alain*

Some other thoughts that deserve your attention

## Los Angeles Times

### [China signals new era as first homegrown jetliner takes off](#)

J. Meyers, May 5, "China's first home-built large passenger jet glided into Shanghai skies on Friday, a breakthrough in its soaring ambitions to launch a new era in aviation and upend the dominance of American-produced airplanes...." [Read More](#) *Hmmmm...This is NOT good news for the US balance of trade. We can't lose Boeing and the Driverless vehicle industries. Alain*

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

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



Artur Filipowicz'17, [Virtual Environments as Driving Schools for Deep Learning Vision-Based Sensors in Self-Driving Cars](#), April 2017

Nayan Bhat'17, [DeepFollowing: Vision-Based Distance Estimation on Synthetically-Generated Driving Video using 3D Convolution](#), April 2017

Antigone Hope Valen'17, [The ATaxi Revolution: Autonomous Vehicle Implementation and Ride-Sharing Optimization in the United States and China](#), April 2017

Keith Gladstone'17, [The Search for the Sustainable Fleet: Driverless Taxi System Simulations](#), April 2017

Rebeca De La Espriella'17, [Developing the Regulatory Environment for Autonomous Vehicles: Historical Lessons for the Socio-technical Transition](#), April 2017

Thomas P. Byrne '17, [Commercial Auto Insurance Risk Management Strategies](#), April 2017



Kara Kockelman, [An Assessment of Autonomous Vehicles Traffic: Impacts and Infrastructure Needs](#), April 2017

Kara Kockelman, [Appendices, Ensuring the Benefits of a Connected and Auto](#), April 2017

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

**Forbes**

[Even Before Self-Driving Cars Hit The Road, Auto Insurance Faces Big Challenges](#)

F. Khayatt, May 2, "...Another pivotal necessity for insurers as they enter this new world will be developing the ability to analyze and act on real-time data. Since there will be little to no history to inform risk models, insurers will have to become vacuum cleaners for relevant stats and develop rapid-fire analytics to decipher them. Their goal is to put a value on what it means to have half of the cars on the road with lane departure warnings systems and another third with automatic braking systems and how that information impacts their pricing calculation. This is even further complicated by that fact that systems are being produced by different manufacturers, with some more effective than others. ..." [Read More](#) *Hmmmm...This is just wrong. They know how to analyze real-time data. That's what the actuarials do. What they'll need to do is be able to anticipate the liability exposure of the software and systems from pre-release test data. That should be doable because these things take the most unreliable/unforeseeable element the driver. The other element that is missing is that insurance is an incremental business built on each insured individual. The benefit of Automated Collision Avoidance systems is that their ability to avoid collisions is also incrementally built on each vehicle so equipped. Thus, even if only one vehicle is equipped, that vehicle will see the "50%" reduction in its liability exposure. So for an insurance company, they need only look at their own book of customers. Alain*

**LEXOLOGY**

[How to Investigate Liability in Cases Involving Self-Driving Cars](#)

M. Thompson, May 3, "...If drivers do not meet their end of the bargain, the well-known statistic that 90% of crashes are caused by human error will continue to hold true even in cases involving self-driving cars." [Read More](#) *Hmmmm... Even if drivers meet their end of the bargain essentially 90% of crashes will involve human error... the 90% of those for which the non-self-drive are at fault (e.g. the truck in the Florida crash) plus the 0% of the 90% fewer crashes that the self-driving cars avoided. Now 82% of the crashes are 'causer' by human error. Alain*

**Calendar of Upcoming Events:**



[AV Policy Series](#)

**May 15, 2017**

**American Institute of Architects,  
1735 New York Ave. NW, Washington, D.C.**



**Princeton SmartDrivingCar Summit**

**May 17 & 18, 2017**

**Princeton University**

**Princeton, NJ**

**Save the Date**