

SMART DRIVING CARS



<http://smartdrivingcar.com/Finally-012017>

Friday, January 20, 2017



Fiscal Year 2016 SRD Program Grant Selections

Public Announcement, Jan 22: "Pierce Transit will receive \$1,664,894 to deploy buses equipped with collision avoidance warning systems or automatic braking features. The objective of this project is to deploy and demonstrate collision avoidance technology in partnership with the Washington State Transit Insurance Pool (WSTIP), a collaborative organization of 25 Washington public transit agencies that combine their resources to provide and purchase insurance coverage, manage claims and litigation, and receive risk management and training. Pierce Transit will work with WSTIP to accurately determine the business case for investing in these technologies." [Read more](#) *Hmmm... Finally!! More than 3 years since Lou Sanders of APTA, Jerome Lutin and I first proposed to FTA to do such a thing for the benefit of the entire bus transit industry (which FTA deemed as non-worthy) the FTA has finally turned around and jumped on-board. The unfortunate news: we lost 3 years. The fortunate news: the process of substantially reducing bus crashes is finally underway thanks to the hard work in the interim by Jerome Lutin and Jerry Spears (formerly of WSTIP). This and the good news below from Tesla may finally enlighten the insurance industry to play a leadership role in the market adoption of SafeDrivingCars/Buses/Trucks. Congratulations Jerome & Jerry! Alain*



Serving the Nation's Personal Mobility Needs with the Casual Sharing of autonomousTaxis & Today's Urban Rail, Amtrak and Air Transport Systems ODI

A. Kornhauser, Jan 14, "Orf467F16 Final Project Symposium quantifying implications of such a Nation-wide mobility system on [Average Vehicle Occupancy \(AVO\)](#), [energy, environment and congestion](#), including estimates of [fleet size](#), [needed empty vehicle repositioning](#), and ridership implications on existing rail transit systems ([west](#), [east](#), [NYC](#)) and [Amtrak](#) of a system that would

efficiently and effectively perform their '1st mile'/'last-mile' mobility needs. [Read more](#)
Hmmm... Linked are powerPoint summaries of these elements. Draft reports on each topic will be available soon, to be followed by a complete Final Report in early February. Alain



[ODI \(Office of Defects Investigation\) Findings on Tesla AEB & AutoPilot](#)

Jan 19, "... Summary: ... NHTSA's examination did not identify any defects in the design or performance of the AEB or Autopilot systems of the subject vehicles nor any incidents in which the systems did not perform as designed. AEB systems used in the automotive industry through MY 2016 are rear-end collision avoidance technologies that are not designed to reliably perform in all crash modes, including crossing path collisions. The Autopilot system is an Advanced Driver Assistance System (ADAS) that requires the continual and full attention of the driver to monitor the traffic environment and be prepared to take action to avoid crashes. Tesla's design included a hands-on the steering wheel system for monitoring driver engagement...

... ODI analyzed data from crashes of Tesla Model S and Model X vehicles involving airbag deployments that occurred while operating in, or within 15 seconds of transitioning from, Autopilot mode. Some crashes involved impacts from other vehicles striking the Tesla from various directions with little to no warning to the Tesla driver. Other crashes involved scenarios known to be outside of the state-of-technology for current-generation Level 1 or 2 systems, such as cut-ins, cut-outs and crossing path collisions....

...The Florida fatal crash appears to have involved a period of extended distraction (at least 7 seconds)..." *Hmmm... nothing else is written about this nor is a basis given for the 'at least 7 seconds'. Possibly the most important information revealed in this summary is Figure 11, p11: "... Figure 11 shows the rates calculated by ODI for airbag deployment crashes in the subject Tesla vehicles before and after Autosteer installation. The data show that the Tesla vehicles crash rate dropped by almost 40 percent after Autosteer installation...*

...A safety-related defect trend has not been identified at this time and further examination of this issue does not appear to be warranted. Accordingly, this investigation is closed. " [Read more](#) *Hmmm... **WOW!!!** . Every word of this Finding is worth reading. It basically exonerates Tesla, states that AEBs (Automated Emergency Braking) systems don't really work and aren't designed to work in some scenarios (straight crossing path (SCP) and left turn across path (LTAP), see p 2,3). ...which suggests, to me, that DoT/NHTSA should be placing substantial efforts on making these systems really work in more scenarios. And... there is the **solid** data that 'AutoSteer' reduced Tesla crashes by almost 40%!!! **WOW!!** Will Insurance now finally get on-board and lead? Alain*

Techstination [Accelerating the arrival of self driving cars: Princeton's Alain Kornhauser](#)

Fred Fishkin, Jan 19, [Listen to this interview:](#) [Watch the video](#) *Hmmm... Love Fred! Alain*



[Bringing Smart Transport to Texans: Ensuring the Benefits of a Connected and Autonomous Transport System in Texas](#)

FHWA/TX-16/0-6838-2, K. Kockelman et al. "This project develops and demonstrates a variety of smart-transport technologies, policies, and practices for highways and freeways using connected autonomous vehicles (CAVs), smartphones, roadside equipment, and related technologies. The intent is to maximize the benefit of these technologies in terms of improved driver safety, reduced congestion, and agency cost savings. For example, in a well-implemented system, advanced CAV technologies may reduce current crash costs by at least \$390 billion per year. A poorly implemented system could significantly detract from or reverse these benefits..."

[Read more](#) *Hmmm... An extensive report that covers essentially all of the topics and does so very well but does suffer from too much influence of obsolete Fed DoT perspectives such as consistently using the term CAV which implicitly places 'Connected' before/above 'Automated'. My view is that 'Connected' is great, once market penetration gets above 70%, but until then everyone needs to be holding their breath; whereas, automation delivers substantial value to each customer, even the very first. Delivering value from the very start is what makes automation so attractive; while, in-feasibility until market dominance, makes 'Connected' an 'stepchild of an overburdened public sector that has way many more worthy dependents'.*

There is a significant effort and emphasis placed on surveys and focus groups which is laudable; however, there are so much misconceptions and misunderstandings about this technology, its implications on our individual lives and it is changing so fast that it is extremely challenging to reach any substantive conclusions. The right questions are being asked, but are these questions and their ramifications really understood by the respondents?

Similarly, the simulations are good but are they representative of the future reality. This is always the fundamental question in interpreting the results of any simulation. It is especially challenging here because 'we don't know what we don't know'. In any event, this is a very strong effort to gauge this technology and is highly recommended reading to all. Alain

SCIENTIFIC AMERICAN

[When It Comes to Safety, Autonomous Cars Are Still "Teen Drivers"](#)

J. Hsu, Jan 18, "Automakers ask drivers to trust and share the nation's roadways with autonomous vehicles, but there is no easy answer as to when they will be considered "safe" ...[Read more](#) *Hmmm... While we may not be able to declare them safe, they certainly, to date, have not been unsafe. Maybe we should simply continue to be at least as careful as we have been to date and let it play out. Certainly there isn't much at risk and the existing conventional system is, by at least some measures, unsafe. So let's remain vigilant, careful and stay out of the way. Alain*



[BusinessWire](#) [Neurala Announces \\$14 Million Series A to Bring Deep Learning Neural Network AI Software to Drones, Self-Driving Cars, Toys and Cameras](#)

Jan 17, "Neurala, the software company that has invented The Neurala Brain, a deep learning neural networks platform that is making smart products like toys, cameras and self-driving cars more autonomous, interactive and useful, today announced the closing of a \$14 million series A funding round....[Read more](#) *Hmmm... Congratulations! Alain*



[electrek](#) [Tesla's new VP of Autopilot Software explains why he made the move from Apple](#)

F. Lambert, Jan 18 "Earlier this month, Chris Lattner announced that [he was leaving Apple](#) to lead Tesla's Autopilot software team after a decade at the Cupertino company where he led the development of the Swift programming language and developer tools...."I've been writing code for more than 30 years, and 16 of those years have been in the developer tools space. I love it, but I am ready to move on to something else. Autopilot is clearly incredibly important to the world because of its ability to save people's lives (and increase convenience). It is also a very, very hard technology problem and my experience building large scale software and team building is useful. Of course, I've also been a huge Tesla fan for some time."...[Read more](#) *Hmmm... Congratulations! Alain*

[On the More Technical Side](#)

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

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



Engineering News-Record

[RoadX Program Paves the Way for Smarter Mobility](#)

J. Seward, Jan 17, "Roadways that communicate with and charge the electric vehicles that drive on them. Smart freeway ramps that direct cars away from traffic jams...But, first, those technologies must be tested under real-time road conditions. That's where the Colorado Dept. of Transportation's new program comes into play. Dubbed RoadX, it seeks to revolutionize transportation systems and implement a slew of bold mobility concepts within the next 10 years.... [Read more](#) *Hmmm... maybe, but don't read the part about "...Tube Travel If Colorado is chosen to host the new Hyperloop network, construction of the first Rocky Mountain phase would feature a 40-mile segment, running north from Denver International Airport to Greeley, Colo..." Totally 'Off-the wall' I guess the infrastructure guys just want to build stuff with OPM (Other People's Money). Has ENR become the CNN of Engineering? Alain*

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

B

[Mass. law would tax autonomous vehicles by the mile](#)

D. Adams, Jan 9 "A bill set to be introduced in the Massachusetts Legislature Friday would allow self-driving cars on public roads, but impose a mileage-based tax on their use, allow some large municipalities to ban them, and require all such cars to be zero-emissions vehicles.

The measure, sponsored by Representative Tricia Farley-Bouvier, a Pittsfield Democrat, and Senator Jason Lewis, a Winchester Democrat, is the latest attempt to enact statewide rules for autonomous vehicles after several similar bills failed to advance last year..." [Read more](#)
Hmmm... C'mon Boston. There's barely a handful of these entities on the road and you are already trying to crush them. You should be worrying more about crushing the Steelers than SmartDrivingCars. C'mon Man!! Alain

The Daily Dot

[New York transportation group seeks 50-year ban on driverless](#)

[cars](#)

P. Tracy, Jan 17 "New York's Upstate Transportation Association (UTA) and Independent Drivers Guild (the IDG is the first labor group recognized by Uber) are working to ban self-driving vehicles in the state to prevent the potential loss of thousands of jobs. And UTA, which represents taxi, livery, medical transportation, and paratransit drivers, is asking for a 50-year ban on self-driving cars.

"It doesn't do anything for the local economy to have driverless cars," John Tomassi, the president of the Upstate Transportation Association, told CNN. "I'm sure there's a little bit of job creation, but nothing that will match the number of jobs lost..." [Read more](#)
Hmmm... Where was John Tomassi a hundred year ago to save the jobs of elevator operators. The automation of elevators helped change city skylines around the world. There are about 80,000 elevators in NYC. The support/maintenance of those elevators likely require way more workers than the peak in operator employment. There are only 13,237 taxi cabs that serve less than 1% of today's trips. Fleets of driverless cars could readily serve an order of magnitude more trips. Very likely that the maintenance and operation of that fleet would create jobs that would more than employ every current driver.

Plus, if John is successful, the innovations will occur outside of New York, much as if he would have been around and successful 100 years ago. NYC's, skyline might now be in Boston or New Jersey or ??? and Manhattan would be like Martha's Vineyard, C'Mon Man! ... :-) Alain