

SMART DRIVING CARS

<http://smartdrivingcar.com/Infrastructure-012717>

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Trump team compiles infrastructure priority list

L. Horsley, Jan 24, "President Donald Trump's team has compiled a list of about 50 infrastructure projects nationwide, totaling at least \$137.5 billion, as the new White House tries to determine its investment priorities,... Among the projects could be a new terminal for the Kansas City airport, upgrades to Interstate 95 in North Carolina (*Hmmm... NC again, maybe some of Foxx's down home projects will make it to the new administration*) and a proposal to replace the nation's radar-based air traffic control system with one called NextGen, based on satellites....a list of about 50 infrastructure projects nationwide, totaling at least \$137.5 billion. [Read more](#) *Hmmm... which produce 193,350 'Direct' job years and 241,700 'Indirect' job years. Doing the arithmetic, that's \$711K per direct job-year (or \$316K per combined job-year.). Those are expensive job-years! What is built had better be something that doesn't require a Washington (or other public-sector) subsidy to keep it operating once it is built; else it would be better just create 3 times as many (1.375M) \$100K welfare jobs-year and not be forever begging for operating subsidies.*

Well what's on the list...# 13 Texas Central RR, #23 Maryland Purple Line, #24 M-1 Rail, Detroit, #24 MBTA Green Line Extension... all projects that, at best, have no hope of being able to operate without perpetual public subsidies. Moreover, each is likely to have been made totally obsolete by driverless MaaS systems before they serve their first customer. Seems like some of these infrastructure projects will be filling rather than draining the swamp. So sad! 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... Now linked are 1st Drafts of the chapters and the powerPoint summaries of these*

elements. Final Report should be available by early February. The major finding is, nationwide there exists sufficient casual ridesharing potential that a well--managed Nationwide Fleet of about 30M aTaxis (in conjunction with the existing air, Amtrak and Urban fixed-rail systems) could serve the vehicular mobility needs of the whole nation with VMT 40% less than today's automobiles while providing a Level-of-Service (LoS) largely equivalent and in many ways superior than is delivered by the personal automobile today. Also interesting are the findings as to the substantial increased patronage opportunities available to Amtrak and each of the fixed rail transit systems around the country because the aTaxis solve the '1st and last mile' problem. While all of this is extremely good news, the challenging news is that since all of these fixed rail systems currently lose money on each passenger served, the additional patronage would likely mean that they'll lose even more money in the future. :-) Alain



[Uber Hires Google's Former Head of Search, Stoking a Rivalry](#)

M. Issac, Jan 20, "Uber and Google have long been bitter rivals in the race to build the autonomous vehicles that appear integral to the future of transportation. Soon, Uber will have a bit of help in that effort from a man who has played a key role in Google's history. Amit Singhal, a 15-year Google veteran and a former senior vice president for search at the company, said on Friday that he planned to join Uber as senior vice president for engineering. ...will lead the company's mapping division as well as a unit that runs the dispatching, marketing and pricing of Uber cars. ..."I love Amit's excitement for solving complex computer science problems and his passion for helping improve people's lives through technology," Mr. Kalanick,..." [Read more](#) *Hmmm... I thought 'dispatching' was a Complex Operations Research Problem? Whatever! (Keith Gladstone'17 ORFE thesis is addressing the dispatching issue) :-) Alain*



[New Mobility Directions & Models at #CES2017](#)

K. Pyle, Jan 21, "Vehicles are increasingly becoming consumer electronic items, as evidenced by the number of companies and booths at International CES 2017 that were dedicated to creating the next great ride. The embedded electronics allow even the most utilitarian vehicle to become an extension of its rider. Of course, there was the 21st century version of the muscle car, from Faraday Future and many others, that harkens back to an earlier time when the open road and the freedom of driving were the dream of many.

But, it is no longer about muscle, as vehicles of all levels are becoming intelligent. Whether this means an improved Human-Machine interface or an operating system embedded with and connected to Artificial Intelligence that allows the car to think and act without the aid of a human, mobility is changing, and changing fast. And the latest features aren't just the latest gee-whiz, as safety was a recurring theme throughout the exhibits...." [Read more](#) *Hmmm... Be sure to watch the embedded video. Ken, very nice summary. :-) Alain*

FORTUNE [Here's Where the 10 Federal Self-Driving Car Test Sites Are](#)

K. Korosec, Jan 20, "The U.S. Department of Transportation picked 10 official sites for developing and testing self-driving car technology, one of the last actions the agency made under the leadership of former U.S. Transportation Secretary Anthony Foxx.

The DOT made the announcement Thursday, Foxx's last day as secretary. On Friday, Donald Trump was sworn in as president and a new administration took over. ..." [Read more](#) *Hmmm... Congratulations to Pittsburgh, Florida, Michigan and Contra Costa; however, this should probably be in the 'Half-Baked' section because this pronouncement 'has no clothes'. What chance in surviving does anything done on the last day, especially when there is no money behind this announcement and US DoT has been, at best, lukewarm about Automated/Self-driving and has essentially 'no skin in this game'. Also North Carolina ??? and not Virginia??? Oh yes, Foxx is from NC! maybe this should be C'mon Man! Alain*



[A Testing Environment for Mobility & Transportation Innovation](#)

Jan 2017, "SunTrax is a large-scale facility that will be developed jointly by FDOT, Florida Polytechnic University and Industry partners. This cutting-edge facility will offer unique opportunities for the testing of emerging transportation technologies in safe controlled environments. ..." [Read more](#) *Hmmm... Maybe... but why bother with the long straightaways and oval parts. Lots of those in lots of places and this shouldn't be 'Daytona2'. What is needed is an 'infinitely variable' town environment where the real world 'corner cases' can be tested in safe controlled environments. Alain*

SFGATE [Lidar factory for self-driving cars opens in Silicon Valley](#)

D. Baker, Jan 17, "...With a few notable exceptions, most of the companies developing self-driving vehicles use lidar to scan the roadway environment with high precision. And while truly autonomous cars capable of driving themselves in all situations remain several years away, Velodyne is banking on rapid growth in the number of test vehicles on the road

"People often ask, 'When will I see autonomous cars?' They're on the road today, but just in small quantities, and how this will emerge is the number will increase month after month over time," said Mike Jellen, Velodyne's president and chief operating officer. "We will need to have the capacity ready to support a tremendous increase starting in 2018 and moving into 2019." ...

[Read more](#) *Hmmm... Congratulations Mike! :-) Alain*



[Lucid Motors Unveils Lucid Air](#)

Dec. 19, "[Lucid Motors](#) officially unveiled its first high-end electric vehicle, a sleek, sunlit sedan called the Lucid Air that executives expect will roll off the assembly line starting late 2018. But as advancements in automotive innovation - autonomous driving, electric vehicle batteries and ride-sharing, among others - continue to progress at a rapid clip, it's unclear exactly how

different the car market will look when the Lucid Air finally hits the road. Indeed, the 'alpha prototype' car that Lucid Motors put on display this week promises to be fully electric and allow for completely autonomous driving. The company claims the car will feature a 100 kilowatt hour battery - and eventually a 130 kilowatt hour battery - that can travel up to 400 miles (643.7kms) on a single charge. The top-tier Tesla Model S can get up to 330 miles (482 kms), according to the company. [Read more](#) *Hmmm... And the hits keep coming!! :-)* Alain



[Driverless Cars Set to Save World Economies Billions – World Study](#)

January 2017, "Traffic accidents cost world economies billions each year, but with the development of autonomous driving technologies these costs could be reduced dramatically. Autonomous driving technologies are revolutionising the automotive industry with their promise to improve vehicle safety and reduce traffic accidents, but what is the monetary impact of this on GDP?...The US topped the list of 73 countries, where over \$340bn is lost to traffic accidents each year, ..." [Read more](#) *Hmmm... I like to quote [the NHTSA study](#) that claims that crashes (better term than 'accident') cause \$871B/yr in economic loss, of which about 1/3 is 'audit-able cash' (which compares favorably with this study's \$340B) and 2/3rds is 'pain & suffering economic loss'; meaning this study's global annual \$1T might be as high as \$3T/yr in global economic loss. What is interesting to me is that ~50% of this loss is avoided by the world-wide penetration of Safe-driving technology that is essentially in-hand. We don't have to wait for 'Driverless'. Given that Insurance pays for about 1/6th of the NHTSA number suggests that \$0.5T/yr. in reduced insurance LOSS is on the table to be saved world-wide. That is 0.5 times ten to the 13th power US dollars per year! How insurance is not all-in promoting Safe-Driving Cars Trucks & Buses and thereby putting much of that \$0.5T/yr in their own pocket is beyond me? I don't get it!?! Alain*

GEO Informatics [TomTom acquires Autonomos](#)

Jan 18, "TomTom announced that it has acquired Autonomos, a Berlin-based autonomous driving start-up.

The acquisition strengthens TomTom's position in autonomous driving. Autonomos has provided Research & Development consultancy services for automated vehicle assistance systems and has built up expertise and technologies in the process, including a full demonstration-level autonomous driving software stack, 3D sensor technology, and digital image processing. The company was established in 2012 after the founders had worked for several years in successful autonomous driving research projects at the Free University of Berlin...." [Read more](#) *Hmmm... Navigation and its digital maps are necessary parts in the reality of robust autonomous driving. The extent to which additional precision in digital maps benefits the robust reality of precise stopping, collision avoidance and lane centering remains up in the air. Alain*