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The Dispatcher

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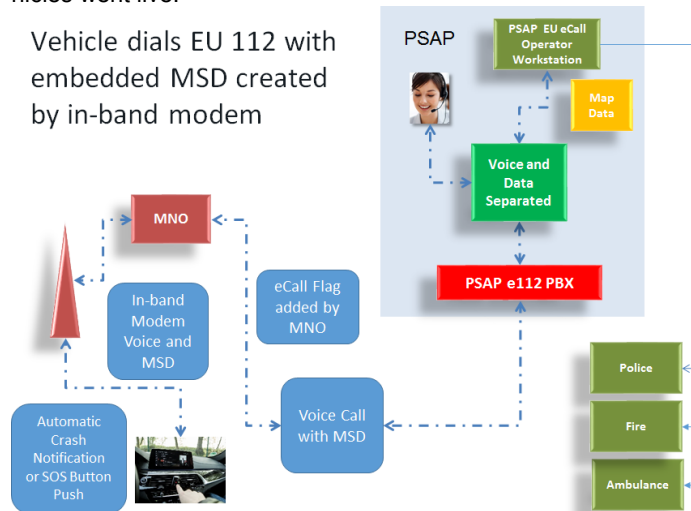
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European Union 112 eCall Officially Begins

FINALLY. ON APRIL 1st 2018, EU 112 eCall officially enters into effect in 27 European Union countries along with Norway, Switzerland and Iceland, three non-EU Member States that signed a Memorandum of Understanding with the EU to adopt the standard.^{1,2} All passenger cars and light vehicles (i.e. pick-ups and vans) that are European type approved for market introduction after the 31st of March must be equipped with an approved EU eCall system. In addition, all public safety answering points (PSAPs) in the 30 countries must be prepared to receive the voice and data messages sent from the vehicles equipped with the EU eCall system. The PSAPs had an October 2017 deadline for implementing their services to make sure everything was working when the vehicles went live.

Vehicle dials EU 112 with embedded MSD created by in-band modem



First proposals for a standard-equipped automatic emergency system were made in 2002 by the vehicle industry and public officials. The European Commission set up a study group that two years later resulted in what is essentially being implemented: a 112 voice call with a short text message (called the Minimum Set of Data or MSD) embedded by in-band modem providing the location of the vehicle, its VIN, vehicle type and a few other details. This proposal caused the vehicle industry to see red in large part because it was such a complete departure from the SMS/GPRS systems they were developing for data messaging with separate voice calls. And worse, the Commission dug its heels in and said that these alternative systems, labelled Third Party Services, would not be allowed, plus there would be no money forthcoming for either the OEMs or the PSAPs to implement the systems.

It took eleven years after the first proposal for the EC to come to its senses and allow third party services at the discretion of the customer, and to allocate funds for the PSAPs to adapt their systems for receiving the voice calls with the embedded messages. It didn't have to take this long, but it's good that is finally here.

Dispatch Central

Turn Autopilot Off

The driver of this Tesla Model X did not survive the crash into a concrete barrier while Autopilot was engaged. The fatal collision occurred in Mountain View, CA on March 23rd, four days after an Uber taxi running in autonomous mode ran into and killed a woman in Tempe, AZ.



Here is what Tesla said:

"The driver had received several visual and one audible hands-on warning earlier in the drive. The driver's hands were not detected on the wheel for six seconds prior to the collision. The driver had about five seconds and 150m (490ft) of unobstructed view of the concrete divider... but the vehicle logs show that no action was taken."

Post-crash, the lithium ion batteries under the floor of the entire vehicle continued to burn for six hours. The Mountain View fire department finally decided to call Tesla so that its engineers could come to the scene and determine how to best deal with the situation.

Following the death of Joshua Brown in Florida in July 2016, I said Autopilot should be disabled on all Teslas. I'll say it again.

Continued next page

Dispatch Central (cont.) San Francisco Bans Furs

I read that the San Francisco City Board of Supervisors passed an ordinance banning the selling of fur coats. Remember what I wrote in April's Musings? Yes, beef is next. Imagine if SF's Supervisors were around when Detroit was just getting started back in the fur trading days. The city never would have gotten off the starting block and we would have no cars today. Chew on that cud for a while. By the way, the average monthly temperatures in San Francisco are between 10-and-15 Centigrade (50-57 Fahrenheit), so why would you need a fur coat there anyway? Black Jelly Bean Syndrome (see page 3).

⌘

In late March, **DAIMLER** and **BMW** announced they are merging their car sharing operations, respectively **CAR2GO** and **DRIVENOW**. Together they claim they will have four million users. **DRIVENOW** lost €34 million, or \$42 million, on sales of €142 million in 2017, according to BMW's annual report. There was nothing about **CAR2GO**'s financials in the **DAIMLER** 2017 annual report, but there were plenty of references to it as a pioneer (they're the ones with the arrows in their backs lying face down in puddles).

Continued next page

China's One Belt One Road Initiative

One massive project; many names

THE SILK ROAD ECONOMIC BELT and the 21ST-CENTURY MARITIME SILK ROAD, also known as the ONE BELT AND ONE ROAD INITIATIVE, (OBOR), THE BELT AND ROAD, (B&R) and THE BELT AND ROAD INITIATIVE, (BRI, official translation) is a development strategy that is being implemented by the Chinese government that intends to connect the People's Republic of China (PRC) with other Asian countries, Europe and Africa. OBOR is as much a policy as it is a massive transport infrastructure construction project. It has two parts:

- The Belt – the land-based routes comprising roads and rail links; and,
- The Road – the maritime routes

It was launched by the Chinese government in 2013 and will eventually connect sixty-five countries. In physical terms, it will enable goods from China to be delivered to markets in the north, south and east more quickly and less expensively than they can today with only ships and planes. But it is not just goods transport that is the ultimate goal of OBOR. China has made no secret of its intention to become a world power, and OBOR is a keystone in the leadership's strategy to project Chinese power far beyond its borders.

OBOR is being compared to the post-WWII *Marshall Plan*, officially known as the *Economic Co-operation Act*. It was named after George Marshall, the U.S. Secretary of State at the end of the War who initiated the plan that was intended to revive Europe's war-torn

economies. Comparisons between the two plans make little sense. There are major differences between the post-War U.S. endeavor and the Chinese initiative, both in terms of scale and purpose. Depending on how calculations are made, the Marshall Plan provided in today's dollars something in the vicinity of \$110 to \$130 billion worth of food, equipment and raw materials, of which 90% was a gift, not a loan, and it all came from the U.S. government. The receiving countries were desperate. That is not the situation today. OBOR money will total around ten times the Marshall Plan amount—estimates put it at \$1 trillion—but over 90% of this will be either loans from Chinese banks or investments from companies that are intended to earn a profit.

There was a catch with the Marshall Plan dollars: the receiving governments had to spend an equal amount of their own money, and what it was spent on had to be approved by the U.S. government. The goal of this policy was to dismantle price controls and trade barriers, and it worked.

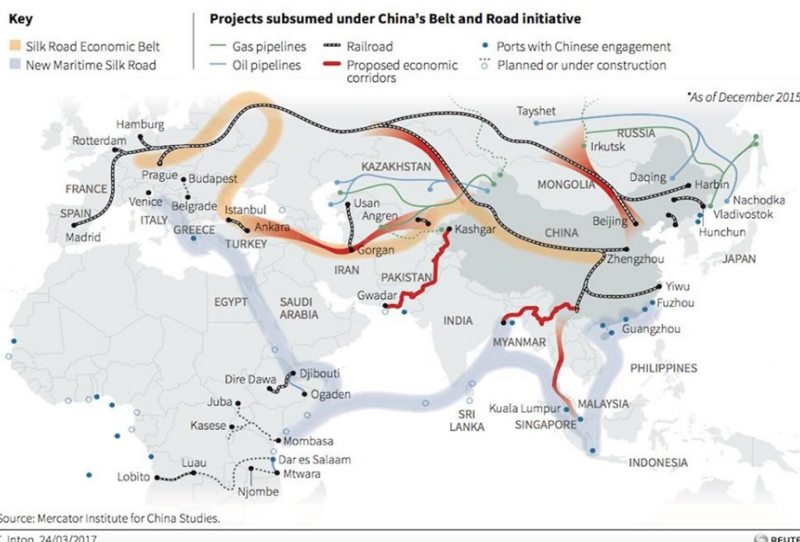
Hard, Soft and Sharp Power

There are three ways for a country to gain influence beyond its borders. From the time the first country, Egypt, was founded five thousand years ago, the most common way to extend a country's influence was by employing the *hard power* of war backed up with economic might. *Soft power* is the ability to "attract and co-opt, rather than coerce," according to Joseph Nye, who coined the term in 1990 in the book, *Bound to Lead: The Changing Nature of American Power*. The idea is to make other countries want what you want by making what you offer irresistible. In 2014, when Xi Jinping was taking over the reins of government, he stated that it was a national goal to "build our country into a socialist cultural superpower by increasing China's *soft power*, give a good Chinese narrative and better communicate China's messages to the world." *Sharp power* is the third method. Other terms for sharp power are 'bullying' or 'intimidation', as in when Norway was punished economically after the Nobel Peace Prize, which is decided by the Norwegian contingent of the Nobel Committee, was awarded to a Chinese pro-democracy advocate, ...

OBOR provides increasing opportunities for China to exert all three power-projection options. Sometimes building a road is more than just pouring concrete.

Reviving the Silk Road

Announced by Chinese President Xi Jinping in 2013, the Silk Road initiative, also known as China's Belt and Road Initiative, aims to invest in infrastructure projects including railways and power grids in central, west and southern Asia, as well as Africa and Europe.



High-speed Rail: Out of the Clear Blue Sky

THE HIGH-SPEED RAIL (HSR) push by environmental/green parties in Europe has an ulterior motive: Get airplanes out of the sky. To come to this conclusion I have not infiltrated a green party congress, and I have no secret informants. I have simply connected the dots. The HSR movement wasn't gaining enough traction because, quite simply, there is not much motivation for most regular people (i.e. not politicians) to support it. By the time a high-speed rail line is built at large cost and major inconvenience to those who live along the new right-of-way, most people who travel today will be gone or in retirement homes. But if you eliminate the competition (i.e., air travel), you gain a major advantage.

What has the miracle of flight done to deserve such cruel treatment, you may wonder. Airplanes emit a lot of CO₂, 2-3 tons per person on a trip from New York to Paris. The average European is responsible for emitting 10 tons of CO₂ per year; it's 19 for Americans. During the four-year period I was traveling to the U.S. and China every other week, I was on the Green Party's ten most-wanted list. On the other hand, a lot of people don't travel by plane compared to cars, so the total CO₂ impact of planes is only around 5% of the total. In any case, every 5% counts, so planes are a target.

What exactly is a high-speed train and how does it differ from other trains? The simple explanation is they move faster and stop less often. I took the *Shinkansen* from Tokyo to Kyoto a few years ago, and it was fast!



In October 1964, Japan launched the Shinkansen High-speed Train Service. Sometimes better known as "bullet trains", these high-speed trains initially ran at 210 km/h. With new rolling stock and improved technology, they now run at 320 km/h on some sections.

HSR service has been introduced in many countries to connect large cities separated by reasonably long distances (e.g. 500-1000 kms). Only in Europe does HSR cross international borders. China, with 22,000 kms (14,000 miles) of HSR in December 2016, accounts for two-thirds of the world's total.

High-speed rail functions best when using an integrated system of specialized rolling stock and dedicated tracks. They normally operate on standard gauge tracks of continuously welded rail on grade-separated rights-of-way that incorporate a large turning radius. The X2000 in Sweden consists of specially-designed trains that run on the same tracks as intercity trains. There is no single standard that applies worldwide. Speeds at the high end range from 250 km/h (160 mph) to 320 km/h (190 mph) and at the low end of around 200 km/h (120 mph).

Every two weeks I travel from Strängnäs (80 kms west of Stockholm) to Göteborg and spend three days there. I have three choices for getting there and back: train, plane or automobile. Door-to-door by train takes four hours in each direction and costs €250, including a taxi to and from the train station. Door-to-door by plane takes four hours in each direction and costs €350, including three days of parking at the airport. Door-to-door by automobile takes six hours in each direction, including a half-hour pit stop going and coming, and costs €300 (fuel, mileage charge and three days of parking in Göteborg). I can work comfortably for three of the four-hour train trip, uncomfortably for one hour of the plane trip and not at all for the six hours of the car trip. I don't fly, and rarely drive. I just did the math. Train wins.

Today, a non-stop train trip between Stockholm Central and Göteborg Central on the X2000 at a quite-good-enough-speed takes 3 hours and 9 minutes. Swedish transport authorities say that the same trip by high-speed train will take two hours. For me, who has to get to and from Stockholm instead of hopping on at a station south of Stockholm, in Södertälje (home of Scania), it would cut maybe half an hour. If I could fly from a local air strip fifteen minutes from our home, a trip, door-to-door to Göteborg could be made in two hours.

People who say they are giving up flying as a sacrifice to save the Planet remind me of the kids who gave up eating black jelly beans as their Lenten sacrifice. They didn't eat the black jelly beans during the rest of the year either. Telling people they have to give up their annual vacation to a place where they can only fly is cruel. Politicians of all colors and business people will continue to fly because they have to. Laying a guilt trip on people and ruining peoples' livelihoods is, unfortunately, standard practice for *besserwissers*. Let's address the problem and reduce emissions from planes.

Dispatch Central (cont.)

NUMBERS TELL THE TRUTH

Transit ridership fell in 31 of 35 major metropolitan areas in the United States last year, including the seven cities that serve the majority of riders. The analysis was made by the New York-based TransitCenter advocacy group using data from the U.S. Department of Transportation's National Transit Database. Why the drop? According to the study, "lower fuel costs, increased teleworking, higher car ownership and the rise of alternatives such as Uber and Lyft are pulling people off trains and buses at record levels."

Transit ridership fell in 9 of 10 largest markets in 2017
 Researchers attributed the decline to ride-hailing services, cheap fuel, and the increase of car ownership, among other factors.

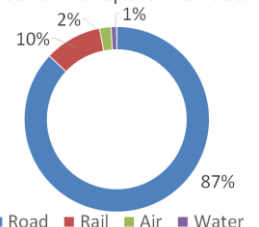


Source: TransitCenter, National Transit Database GABRIEL FLORIDI/THE WASHINGTON POST

The average age of cars in the U.S. is 11.5 years according to the AUTO ALLIANCE. In Florida, where you might think cars would last longer, the average age is 10.2. In Sweden, it's a whopping 17.5 years, and after 25 years, there are 10-15% of cars from a given year still on the road.

The average share of taxes on fuel at the pump in the U.S. rises and falls with the price of crude oil because the amount charged per gallon (Federal and State) is a fixed sum. Between 2000 and 2012, the percentage share for tax ranged from 38% to 12%. Currently in the U.K., 65% of a liter of gasoline is tax. It is made up of a fixed amount of 57.95p (€0.65) and 20% Value Added Tax.

Personal Transport in Sweden



Averages in U.S. are 85% road, 0.2% rail and 11% air.

Continued next page

Dispatch Central (cont.)
More Numbers - NYC

A study by Bruce Schaller, consultant and former New York City Deputy Commissioner for Traffic and Planning, found that daytime traffic in Manhattan's busiest areas now moves almost 20% slower than five years ago. During the past four years, the number of Uber/Lyft-type vehicles in Manhattan has increased 81% to 68,000. That is five times the number of yellow cabs licensed to operate. According to the study findings, the Uber/Lyft-type vehicles spend 45% of their time empty. The damaging effects of adding so many additional unregulated taxis to an already overly congested urban area are similar to the London findings. (See **THE DISPATCHER** November 2017.)

Add to this the boom in deliveries of all kinds to on-line shoppers. In New York City, deliveries to residential areas have gone up 30 percent over the last five years. This is a place where you can buy almost anything within walking distance of your home.



What are we thinking?

There was an article in the Swedish business daily about Virtual Assistants, like Apple's Siri, Google's Assistant and Amazon's Alexa. There was a photo of (Ms.) Toni Reid, product manager for Alexa, with a huge smile on her face. She was speaking at a conference and was delighted to tell the audience that many users of Alexa talk to 'her' about their feelings—and even propose marriage to 'her'. I could maybe understand this behavior if it was Ava in *EX MACHINA* we were talking about, but this?! Get a life.



And, by the way, how do the people at Amazon, including Ms. Reid, know what their Alexa customers are saying? Haven't they heard about data privacy?

Beating Traffic Ten Years Later

BEATING TRAFFIC: TIME TO GET UNSTUCK was published in 2007. It is only 136 pages, but it took me two years to write (I had a day job). My reason for writing it was that everyone, from pundits to punters, was saying that traffic congestion would be eliminated if only cities charged cars for the privilege of entry and if all highways were converted to toll roads. London started its charge in February, 2003, and Stockholm turned on its control points in August, 2007. My simple message was that if you don't address the reasons that traffic congestion exists in the first place, you will not fix the problem by forcing people to pay even more money than they already do to put their lives' daily puzzles together. People will just be poorer and congestion will still be there. As we have seen, they are and it is.

I began writing THE DISPATCHER in late 2013 because the same pundits and punters were saying that almost all deaths on our roads could be eliminated if we took humans out from behind the steering wheel and substituted a robot. My message is that there is much that can be done—and, indeed has already been done (see chart below)—to reduce fatalities on our roads without spending huge sums of money on a technology that is far from being ready for use and could put motorists and pedestrians at risk. As we have seen, it has. I continue my work.

One of the publications that continues to ruffle my feathers with its congestion charging rhetoric is THE ECONOMIST. The March 3rd 2018 issue had a 12-page section and a Leader page just on Autonomous Vehicles (their term for humanless-driven vehicles, or H-DVs). In addition to the standard claim that AV's will save a million lives a year, it made many other

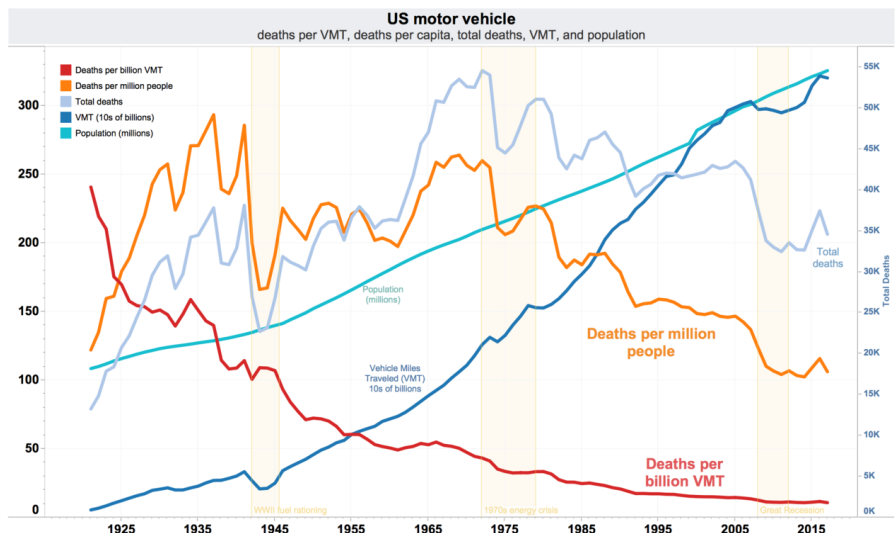
statements about the benefits. So I thought I would use my recommendations for 'beating traffic' and see how whether H-DVs could potentially solve the problems I identified as the main reasons why we get stuck in traffic.

Roots of Congestion

Some say the reason for traffic congestion is that there are too many vehicles in the same place at the same time. That's an effect, not a cause. The cause is that our land transport networks (roads and rails) are out of sync with the distribution and sizes of the places where people live, work, shop, recreate, and educate. This problem is exacerbated in successful city regions experiencing growth, like Los Angeles, New York and London. Allowing workplaces and retail centers to spread out of the central cities into greenfield³ sites was the biggest mistake that politicians made. Building ring roads around cities, like I95 and I495 around Boston just asked for trouble.

Let the Kids Walk to School

When many of us grew up, we walked to our small, local grade schools and even to middle and high schools. Today, communities, large and small, have consolidated their schools ostensibly to save money on building operations and maintenance and to provide better facilities. Even if the school is close enough for some kids to walk, their parents worry about traffic and predators. Add to this the growing trend to allow students the choice of which school they wish to attend, and you have children commuting to school like their parents commute to work. School buses, parents driving their own and other children older teens driving themselves create heavy traffic in the morning and afternoon on roads that were not built to carry it.



Beating Traffic Ten Years Later (continued from p.1)

What can H-DVs do for this problem? Save money on bus drivers, maybe? Imagine a school bus full of kids of any age with no driver/supervisor on board. The problem was caused by increasing the catchment areas of schools, and it will only be solved by reducing that catchment area, and addressing the predator problem, to allow children obtain a good education and socializing experience without having to use any form of transport. This is what I wrote in 2007, so no change.

Separate Transportation from Recreation

It wasn't one of the examples given by Toyota for its *e-Palette Concept Vehicle*, the fully autonomous BEV, but why not a gym-in-the-box where you could spend your commute doing your exercises. I guess that wouldn't go very well with seat belt laws. Ride sharing to the gym would get a few cars off the roads, although a better option would be to have more gyms so that everyone who can could simply walk. Not much to gain here from H-DVs.

Shop Locally

When I wrote *BEATING TRAFFIC*, it was at the height of the Big Box Store Boom. The U.S. had been 'Walmarted', and many European communities' retail facilities were on their way to being abandoned in favor of the out-of-town shopping mall. What a difference a decade can make. Today, shopping has been 'Amazoned'. Instead of driving to the mall, the mall is driving to everyone in the form of delivery trucks. Instead of congestion around the malls we have truck traffic on our residential streets. As far as congestion is concerned, it won't matter a hoot if the trucks are driven by humans or robots. Stop home deliveries, especially of stuff that people can buy in local stores, like groceries and pizzas. Establish pick-up points and deliver goods there during the night.

Give Commuting a Rest

In my book I devote a lot of space to the physics of traffic congestion. It's a lot like Whack-a-Mole: you stop it in one place and it pops up in another. If people all switched overnight to taking a bus or train—which given our current settlement patterns would not be possible, but just for argument's sake—the buses and trains would be unable to cope. So people would simply start switching back to taking their cars until there was equilibrium. If some people stayed home from work, including people who would normally drive or take public transport, then there would be more seats on the bus or

train and more space on the roads at the same time, so people would not have an incentive to switch modes.

Those who advocate H-DVs say they will be capable of driving more closely together, thereby improving flow and adding capacity to roads. There is plenty of evidence to show that adding capacity to roads simply encourages more users until the road becomes overcrowded. My advice still holds: take a day or two off the commuting treadmill each week and work from home. There has never been a better time to do it.

Accept Some Friendly Advice

In 2007, we had a little over ten years of experience with on-board navigation systems. Personal navigation devices (PNDs) from companies like TomTom and Garmin had been on the market for three years. These devices were capable of providing good route guidance with decent traffic information. Map-based Advanced Driver Assistance Systems (ADAS) using the 'Electronic Horizon' concept were just starting to be taken off the test bench and put into vehicles. The iPhone arrived in 2007 and opened up many new possibilities for driver information and assistance. Today, with much more powerful sensors, more detailed and accurate map data and Cellular-V2X starting to come on line, we can provide more and better information to drivers and directly to on-board systems that assist in the driving tasks. These advances will also be useful for H-DVs.

The question is whether these improved information systems will help to reduce traffic congestion. Incidents, which include accidents, comprise 25% of the reason for traffic congestion, so to the extent that the systems can help to avoid collisions, they will help. Maybe they can help with weather-related crashes (15% of total) by providing early warnings and better vision in snow and heavy rain.

What's the verdict?

As I wrote at the close of *BEATING TRAFFIC*, "From the time the idea for the book first entered my mind until the time I sent the manuscript to the publisher, I have seen my position change on some issues as new facts were presented and old information became discredited. I went into the book as a firm believer in educational vouchers, and came out of it as a total supporter of small, local schools." When I started *THE DISPATCHER*, I was curious about H-DVs. I still am. But I am convinced—for now—that they will not help beat traffic.

Mapbox – What Is It?

I read the following quote from the CEO of a company I had never heard of and thought, What have I missed?

"We (Mapbox) have more sensors on the road today than the entire connected car space will have by 2020," said Chief Executive Officer Eric Gundersen.

So I visited its site and sent a few notes around to friends to find out more. Its site says the following:

"Mapbox is the location data platform for mobile and web applications. We provide building blocks to add location features like maps, search, and navigation into any experience you create."

Barry Glick, founder of MapQuest and a standard-bearer for the digital mapping movement, said to me of Mapbox: "I have been quite amazed and impressed at how successful they've been, given the competition from Google Maps API and many others. They are pretty much dominating the market now for non-Google mapping toolkits used by app developers. Their initial focus was clearly on the visualization aspect (i.e., cartography), but now they've added other map-related functionality as well. One thing that's helped them is they've had plenty of investment."

The company is filling gaps left by the sales of MapQuest to AOL (2000), Telmap to Intel (2011) and deCarta to Uber (2015). Tesla paid \$5 million to Mapbox for a two-year licensing deal in December 2015, according to a regulatory filing to help them assemble their on-board maps. But its pitch goes beyond map display and processing. It is using location data as a base layer for future maps—pairing it with camera systems, such as Mobileye's, or its own sensor data.

This is what interests automakers and investors. SoftBank Vision Fund is among Mapbox's major investors. SoftBank led a \$164 million financing round in October, 2017. Through its software installed on phones, Mapbox said it plots some 220 million miles of road data globally a day, providing an updated snapshot of basic features like street lanes.

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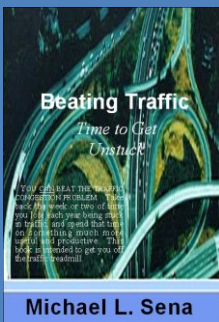
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Footnotes:

1. The U.K. had stated before it voted for Brexit that it would continue to use its own method of handling vehicle-based emergency calls that has been operational since 2004.
2. There are 50 countries in Europe, even though the EU has appropriated the designation of the continent for its members.
3. The U.S. Environmental Protection Agency defines a Greenfield Site as "an area of agricultural or forest land, or some other undeveloped site earmarked for commercial development or industrial projects."
4. The original quote was in the book *A Passion for Excellence* by Thomas Peters. In a study of an airplane maintenance staff, a General asks a crew chief to give his opinion about the current organization that distributes responsibility for plane maintenance versus the former in which the crew chief 'owned' the plane. The crew chief responded: "General, when's the last time you washed a rental car?"

This newsletter touches on the principal themes of the motorized road transport industry, highlighting what is happening and attempting to explain the hows and whys so that you can develop your own strategies for meeting the challenges of the future.



Michael L. Sena

Download your copy of Beating

Traffic by visiting

www.michaellsena.com/books

Musings of a Dispatcher: Who washes a rental car?

DOES ANYBODY WASH their rental car? I am reacting to the predictions that in the future the majority of us will become tenants in megalopolises, renting the tools and services we need to move and work. In this dystopic future, ownership is restricted to the very few who will see to it that the tools are serviced and the vehicles in which we move are sufficiently clean. Ownership for the rent-takers is deemed to be fine, but ownership for the masses is equated with waste: cars are idle, houses are empty and tools are hung on hooks for most of their life cycles.

Thomas L. Friedman in his recent book, *Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations*, states: "In the history of the world, no one has ever washed a rented car."⁴ Friedman is an author and weekly columnist for the NEW YORK TIMES, and has worked as a journalist for that newspaper since 1981. The book is actually two in one, as the subtitle hints. In meticulous detail, Friedman first describes the forces that are causing the world to spin at an accelerating pace, similar to Harari's descriptions in *Homo Deus* and Tegmark's in *Life 3.0*. These forces, he says, are causing massive upheavals for individuals, industries and countries that we have yet to acknowledge, let alone effectively address.

Then he takes us to his home town, St. Louis Park, Minnesota, to describe what it was like to grow up in a place and at a time when the world was not spinning out of control. He uses his experiences with family and friends, in school and community activities, to explain why it is essential to "reconstruct social ties so that people feel respected and welcomed...and this is the way to make America great again," as Laura Vanderkam wrote in her review of the book in the WALL STREET JOURNAL. What he says rings very true for me.

It is in the chapter *Mother Nature as Political Mentor* that the 'washing the rental car' reference is made. By 'Mother Nature' he means Earth, as a "bio-geophysical, rationally functioning, complex system of oceans, atmosphere, forests, rivers, soils, plants and animals that has evolved since the first hints of life emerged." He is looking for a model to identify a way to survive and even thrive in a period when everything, including the climate, is changing so quickly. Over the course of its 4.54 billion years, Earth has adapted "through a variety of mechanisms, beginning with evolution through natural

selection and the use of constant feedback loops. *Mother Nature* is a lifelong learner, and now we humans must become lifelong learners as well.

"There is no perfect human analog to the way nature unconsciously evolves a sense of belonging in ecosystems, but there is a rough parallel—and that is promoting a culture of ownership in human societies, which always creates more resilience," writes Friedman. He quotes an education expert, Stefanie Sanford of the College Board: "Ownership is the one thing that fixes more things so other things can be made easier to fix. When citizens feel a sense of ownership over their country, when teachers feel a sense of ownership over their classrooms, when students feel a sense of ownership over their education, more good things tend to happen than bad." Amen.

I personally find it strange that so many people seem to be bent on giving up ownership as a way of life in favor of buying services as they go. My maternal grandfather's family were tenant farmers for centuries, and my maternal grandmother's family were day laborers, both living in the same village in central Italy. When they came to America in 1914-15, already married and with two children (my mom came a year later), they lived in an abandoned U.S. Army barracks close to the mine shaft my grandfather walked into every day for the next forty years. After four years of saving, they were able to buy a house lot in the neighborhood where their friends and family had already settled. Their neighbors helped them build a house, just as my grandparents would help those neighbors build theirs. As soon as he could afford it, my grandfather bought a car that he drove himself and his two brothers-in-law to the mine every day so that they didn't have to travel on the trolley where the mafia collected its daily dues, the Fascists spread their propaganda and the plain clothes Pinkertons, who were paid by the mine owners, spied on everyone.

In Europe, we are only a little more than a century away from a time when men and women were fighting for the right to own the plot of ground where they lived and farmed, for the right to keep what they grew rather than giving it all to the landlord in return for the privilege of working and living on that landowner's property. It wasn't until 1856 that the last state (North

Carolina) eliminated the law that only land owning 'free' men could vote in the United States. And now we are just going to give up all of those rights in order to be free to choose whatever tools and services that are on offer from the folks (Google; Amazon; Facebook) who will decide for us what is on offer? That's not my cup of tea.

If we don't continue to exercise our ancestors' hard-won rights of ownership, who will own everything that we use? To whom or to what will be paying our rents? It used to be priests and the emperors, then the Church and the kings, then the industrial and financial barons. You can be certain that the one-percenters, those who own more than half of the world's wealth, will be sleeping in beds they own, so you will probably be sleeping in one owned by them as well.

No. Sorry. I am taking those reports on the death of ownership with a very large grain of salt. We do not have to re-adopt the tenant farmer lifestyle and the subservient mentality of the peasant class in order to avoid the cataclysmic end of the Planet due to climate change. But we do need to take ownership of the problem in a way that we have not done so thus far, and we have to do this together in our communities. This means we need to allow other people to take ownership of the problem as well, at their own pace and in their own way. We need to stop telling them that they are too uninformed, too uneducated, too uninvolved to see what we see. If there is a need for better proof that this 'I-know-best' attitude creates a huge tsunami-like backlash we only need to look at what happened on the 8th of November, 2016 in the U.S.A.

Everything-as-a-service is taking the so-called 'sharing economy' a thousand steps too far. Sharing is not riding in the same taxi with a stranger or paying to use a stranger's car while they are working or sleeping in a stranger's bed that they have offered to you for the night for a fee. Sharing is giving your neighbor tomatoes from your garden, shoveling the snow off the old neighbor's sidewalk and giving him a lift to the doctor—all for free. That's sharing. The rest is just a gig for profit.