

[REDACTED]

July 7, 2018

Heather Lowe, Project Manager the MDTA
2310 Broening Highway
Baltimore, MD 21224

Dear Ms. Lowe:

Re: MDTA Bay crossing Study.COM

Study Needs: The Bay Crossing function is to facilitate improved crossing of the Bay from the Western to Eastern portions of Maryland. As the future transportation is likely to be more non-automotive, such as electrically-powered mass transit, the need will be to provide mass-transit on the existing corridors rather than developing a new transportation corridor to support outgoing forms of transportation such as automotive. Thus the study should not be limited to placement of another automotive bay crossing bridge, but consideration of other transportation motives should be considered. This is noted below.

Considerations If the Bay Crossing function is to support the twenty-first century, it is likely that the need for more bay crossing capability is not more automobile lanes, but supporting new methods of transportation. I suggest that mass transit on steel wheels or maglev on rails will be the transportation need, as the cost of automotive travel will become more expensive due to taxes on CO₂ and other gases. Accordingly there should be a connecting mass transit from the corridor of Washington to Annapolis and farther to Ocean City, MD, so that crossing the Bay will need mass-transit rather than more automotive lanes.

Given that automotive transportation is expected to become less desirable and more expensive, adding a new corridor across the Bay into Kent County, and developing a larger more expensive highway corridor within Kent County that would damage the character of the county without improving the corridor now in use, there should not be a new automotive bridge crossing to any part of Kent County.

Yours truly

[REDACTED]

RECEIVED
JUL 12 2018

Date: July 8, 2018

From: [REDACTED]
[REDACTED]
[REDACTED]

To: Heather Lowe, Project Manager
MDTA
2310 Broening Highway
Baltimore, MD 21224

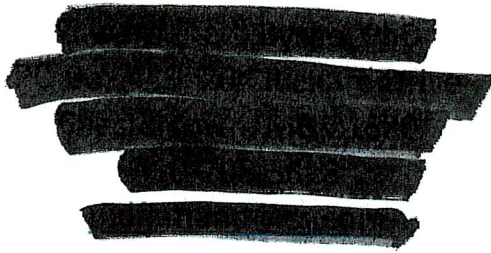
Please accept the following as our comment on the bay crossing study. We attempted to enter it in your online comment page, without success.

We are absolutely opposed to any new bay crossing that would have its eastern end in Kent County. We have family who have lived in Chestertown for many years, and we often visit them.

The historical character of Kent County and the unspoiled wildlife habitat found there are a great asset for the economy of the county and the whole state of Maryland. Visitors seek those values and spend good money to be able to enjoy them. Those visitors come from western shore Maryland and from Delaware, Pennsylvania and New Jersey. A new bridge to Kent County would spoil that irreplaceable resource. Please don't do it! If another bay crossing is needed, it should be sited in areas already disturbed by development.

Thank you for considering our thoughts.

Sincerely,
[REDACTED]



July 24, 2018

Bay Crossing Study
Maryland Transportation Authority
Div. of Planning & Program Development
2310 Broening Highway
Baltimore, MD 21224

LETTER Number 3

Greetings,

In November, 2017 the Maryland Transportation Administration, MdTA, began a project to determine the best location for another bridge across Chesapeake Bay. The public was asked to recommend one of six segments across the bay as their choice for a new bridge. Of course it will take 20 to 30 years for a new bridge to open for traffic.

The project was started now because the present bridge at Annapolis, actually two parallel bridges, are almost at saturation today. The Maryland Transportation Administration, MdTA, did an estimate of traffic needs, based on extrapolation of today's traffic.

This letter is my third letter to MdTA and is in response to the May, 2018 briefings. It considers the nature of travel across Chesapeake Bay but not the amount of such traffic.

The purpose of this letter is to emphasize that MdTA is not just building a bridge; it is participating in a major social upheaval in the United States.

MdTA is basing its future estimates on extrapolations of present conditions. But extrapolation only works in a no-surprise future. And the next 20/30 years is anything but a no-surprise future.

There are several reasons why we know that the future 20 to 30 years will indeed include surprises. This paper describes several of these upcoming culture changes.

Trend 1: Electric cars.

One change we are all familiar with, is the development and increased use of electric cars. Electric cars have existed for many years. They:

- Are less expensive
- Cause almost no pollution

- Are very quiet
- Have limited range

The US moved toward electric cars because of its dependence on gasoline imports. But two events altered the course of this evolution:

- The discovery of and development of petroleum tar sands in North America, to the extent that the US no longer has a shortage of petroleum.
- The realization that battery technology, while it has improved greatly, has not moved forward enough to allow an electric car to compete with the range of a gasoline car.

Thus the electric car, as a replacement for the gasoline-powered car has been a failure.

Today most of the effort has been diverted toward gas electric hybrid cars, which increase gasoline efficiency by allowing the gas engine to operate at its most efficient speed to charge batteries, and the batteries to handle the stop-start, speed-up, slow-down of typical auto operation.

The electric vehicle people are also working on electric trucks and buses because they realize that is the first area for profit. Reference New York Times June 22, 2018 "Electrics next frontier: the workhorses of the road".

Today electric car technology is stalled. It is looking for a partner to allow it to go mainstream. The other two trends below will provide that option.

Trend 2: The end of the private automobile era.

Futurists agree that the era of private automobiles is coming to an end. This era began in the early 1900s and caused the end of the horse and buggy era. Then automobiles were called toys, expensive, dirty, noisy and uncomfortable. All these complaints were true. But private automobiles did take over.

A major step was when Henry Ford adopted the production line to reduce the price of his cars so that his employees could afford to buy one. He introduced the concept of every family owning an automobile.

The wall street journal (6/20/17) stated "Cars are going to undergo a lot of changes in the coming years. One of the biggest: you probably won't own one. Thanks to ridesharing and the looming introduction of self-driving vehicles, the entire model of car ownership is being upended and very soon may not look anything like it has for the past century".

Bob Lutz, the former vice chairman of General Motors, believes the auto industry is not long for this world. (Automotive News) "It saddens me to say it, but we are approaching the end of the automobile era. Our daily travel will migrate to standardized passenger modules as the demolition of the traditional auto industry accelerates. Within five years, people will start selling their cars for scrap . . ."

Okay, this is what futurists say, but are there any facts? The US Department of Transportation predicts that private car ownership will start to decrease about 2020 and will have almost disappeared by 2030.

The Wall Street Journal says the average age of new vehicle buyers increased by almost 7 years from 2000 to 2015, due partly to aging population but also to changes in buying patterns.

In New York City the price of a taxi medallion (license) has dropped from \$1 million to \$175,000. Several taxi owners have committed suicide as their retirement disappeared. The same decline is happening in Chicago.

Ford Motor Company recently announced that is planning to stop making the Focus, the Fusion, and other sedans in the North American market. By 2020, almost 90 percent of its portfolio in the region will be pickups, SUVs, and commercial vehicles.

General Motors is also cutting back its new models. Next year they are starting the development of self-driving cars. What are these companies doing? They are gearing up to support new style vehicles. Whatever happens, they want to be part of it.

The concept of owning an automobile, which costs considerable money, often the biggest expenditure of a family, and requires insurance, fuel and garage space is ridiculous. It is silly to own an automobile that sits idle 23 hours a day, either in its garage or in a work location parking lot. A reasonable total automobile cost is \$15,000 per year per family. That includes:

- Replacement/upgrade every two or three years
- Cost of licensing
- Cost of insurance, two kinds
- Cost of fuel and other consumables
- Cost of garaging/parking

But \$15,000 per year is \$40 per day. Does the average family want to pay that much for making a few trips?

There are four reasons why we do this:

- There is no better option. So far the only options are car rentals or taxicabs. They are inconvenient and expensive.
- We have immediate access to the car. It is sitting idle in the garage, but we know it is there.
- We have adopted an automobile psychology.
- We are advertised to death.

I recall, when I was in high school, every high school boy lived for the day when he was old enough to get a driver's license and a car. A car meant you were an adult and could control your own life.

Every high school girl preferred dating boys with cars. This is powerful pro- psychology.

Over the past 100 years we have been subjected to continuous and relentless advertising:

- Trade in your car
- Get a newer car
- Get a bigger car
- Get a better model car
- This is the month to trade in your car
- Get another car

That advertising continues today. Imagine how the automobile commercials that we see every day on television would sound, if they referred to refrigerators or lawnmowers. They only sound reasonable because we have heard them all our lives.

The self-owned automobile, a capital purchase, is being replaced by an expense, namely the cost of an Uber or Lyft trip. To avoid using commercial names, I will refer to these as Robocars.

It turns out these are destroying the taxi industries in large cities because they are inexpensive and quickly available. This is like other utilities, you don't buy the gas company or the water works; you just rent the service.

Trend 3: Self driving vehicles.

Unlike the previous trend, which is sneaking up on us, self-driving vehicles are in the headlines every week. So far it has been more frosting than cake.

We do not see self-driving cars in Maryland because they are legal only in Washington, DC, Nevada, Florida, Michigan, and California.

Lyft predicts they will supply 1 billion self-driving rides per year by 2025.

There have been two deaths caused by self-driving vehicles so far. One was the self-driving car driver; the other was a pedestrian. Both of these occurred in typical traffic.

Of course two deaths happen every hour with human drivers. Everyone agrees the self-driving car is much safer. It does not get distracted, it does not fall asleep, it does not drink too much.

The revolution will happen when fleets of battery-powered self-driving Robocars are widely available. They will be:

- Available on 15 minute call
- More reliable
- Less expensive

The self-driving car will really come into its own when it has dedicated traffic lanes. Then it could drive twice as fast and cars can be spaced closer together. So it will increase the traffic capacity of these roads.

People would have to perceive this is preferable to driving. Not just cost but also convenience. You could read the paper, make phone calls, or take a nap to add time to your day. There will no doubt be a startup Interval during which it will lose money. To trust it today, you have to believe it will be here tomorrow.

All new society-changing ideas have a tough job:

- Everyone tied to the old ways is against them.
- They have to fit into the previous environment.

But they shine when they get frequent enough that the environment has to change to accept them.

You can anticipate the time when all one digit and two digit interstate highways will have one or more lanes dedicated to self-driving vehicles.

We will know when self-driving vehicles are viable when we see trucking companies starting to use them because it will be a tremendous cost saving for them.

The big difference with a self-driving vehicle is that the drive to work becomes useful work time and not a worthless commute time.

The biggest problem with self-driving cars is their cost. No doubt it will decrease in the future but may never get to the level where it is a feature on the standard new car. That is not a problem with the Robocar because the car can be kept busy and productive.

Each of these trends is being held back by something. Usually it is progress in another trend. Once these trends start to support each other, they will soar.

Okay so people movers are just another kind of car.

Yes, but they have important differences:

- Rent, don't buy
- Ride, don't drive
- Release, don't park

When the Robocar becomes driverless, there are two large advantages:

- The cost goes down because there is no driver cost.
- The cars become more available because they can be staged in nests around the area so one is always close when ordered.

Conclusions

None of these evolving trends master the task of moving people across Chesapeake Bay. But they do change the characteristics of the new demand. So the Chesapeake Bay Bridge project needs to incorporate these trends in its plans,

Challenge 1: The MdTA 2007 report that rejects transit systems is wrong. Its result is not wrong; its Contrary to the question is wrong. It did not consider the new transit systems that have no route and no

schedule. MBTA 2007 report, the largest peak bridge load will not be the western shore family heading across the bridge to Ocean City or some other summer recreation or gambling casino. This is because the family will not own a family car. Instead they will call for a car service to take them to a hub across the bridge. Then they will transfer for another car to take them to their destination, perhaps after picking up their beach supplies from their storage locker at the hub.

Challenge 2: This is a major change in American society so it will not proceed smoothly and will have some familiar problems such as labor unions, unemployment etc. Ford and GM are not going away. They will push for law changes that favor them. The Maryland transportation plan has to be flexible to respond to these challenges.

Attached to this letter is a very recent report from the New York Times that tells other people's assessment of the future. It is interesting reading.

On the other hand, we have no way to anticipate other ideas that will appear, such as Robocars that can connect themselves together like poppet beads to create temporary Robobuses, that can platoon in traffic.

Challenge 3: Science fiction writer William Gibson said "the future is already here. It's just not evenly distributed yet". The changes described here will take over urban areas first. Parts of the Eastern Shore may see family cars for a long time

New Problems

- People movers are probably more susceptible to wind on a bridge.
- More electronics means more susceptibility to software hacking. The manufacturers won't solve it.
- Maryland may need to require more security for these systems.
- Who pays for insurance?
- People may have problems with privacy when they ride computer-controlled vehicles.

The next question is how to design a system that uses these concepts. That is the subject of my Letter 4.

NEW YORK TIMES July 21, 2018

Driverless Cars? Transit Leaders See Yellow Light.

Autonomous vehicles that will outperform buses, cost less than ever and travel faster than cars stuck in traffic today are two years away. Or 10 or 30.

But visions of the future they'll bring have already crept into the city Council meetings, political campaigns, state legislation and decisions about what cities should build today. That unnerves some transportation planners and transit advocates, who fear unrealistic hopes for driverless cars - and how soon they'll get here - could lead cities to mortgage the present for something better they haven't seen.

"They have imbued autonomous vehicles with the possibility to solve every problem that was ever created in transportation since the beginning of time" said Beth Osborne, a senior policy advisor with the advocacy group Transportation for America. That might be a tad bit unrealistic.

In Indianapolis, Detroit and Nashville, opponents of major transit investments have argued that buses and trains will soon seem antiquated. In Silicon Valley, politicians have suggested something better and cheaper is on the way. As New York subway demands repairs, futurists have proposed paving over all that rail instead for underground highways.

Autonomous cars have entered policy debates - if not car lots - with remarkable speed. And everyone agrees that making the wrong bets now would be costly. Cities that abandon transit will come to regret it, advocates warn. Driverless car boosters counter that officials wedded to "19th century technology" block innovation and waste billions.

"We are definitely going to have pushback" said Brad Templeton, a long time Silicon Valley software architect who preaches the potential of "Robocars". He believes the subway paved over in concrete for autonomous vehicles could transport more passengers than rail can. "I regularly run into people who even when they see the efficiency numbers just believe there is something pure and good about riding together, that must be the right answer."

His advice to cities: "Infrastructure plans for 2030 are sure to be obsolete."

In some ways, this is a choice we've faced before. The marketing simulations at autonomous car conferences remind Jeffrey Tumlin, a transportation consultant of Futurama, the 1939 world's fair exhibit sponsored by General Motors that introduced the public to a future of "magic motorways."

Nothing has changed at all said Mr. Tumlin, a principal with the firm Nelson\Nygaard. "It is the 1939 world's fair and it is so exciting. There is the model, and traffic is flowing smoothly. And there is this promise of limitless free mobility."

Please, Please, Please, Please Don't

If you believe that autonomous cars will compete with transit rather than complement it - or that autonomous ride-hailing will give cities that never built transit something like it - there is appeal in holding out now.

"Don't build a light rail system now. Please, please, please, please don't." said Frank Chen, a partner with the venture-capital firm Andreessen Horowitz. "We don't understand the economics of self driving cars because we haven't experienced them yet. Let's see how it plays out."

Theoretically, when companies like Uber and Lyft no longer have to pay drivers, rides could be as cheap as bus fare. And when autonomous vehicles platoon, they could squeeze more capacity and speed out of roadways, eroding some of the time-saving advantages of railways.

Technologists also draw an analogy to the Internet, infrastructure that was conceived to be simple and uniform, compatible with any application. The intelligence lay in what was built on the Internet, not the Internet itself. For cities, Mr. Templeton suggests this means smart cars and stupid roads." Just lay concrete and let innovators design what rides on top of it. By definition, he said, rail precludes all possibilities other than the train.

Inherent in this idea is the fear that cities will lock in the wrong future, or that they'll prevent better ideas from arriving. They'll bet, for example, on docked bike-sharing systems, and then be caught off-guard when Dockless scooters arrive.

"I get very nervous when city planners or municipal bus operators are making technology bets." Mr. Chen said. "That's hard enough for us, and we live and die by the quality of the technology bets we make."

Public transportation agencies can certainly be inflexible. Frank Martz, the city manager of Altamonte Springs Florida, envisioned a service in the late 1990s that was basically Uber before smartphones. He wanted to allow riders to use computers or kiosks to order smaller vehicles with optimized roads. The local transit agency struggled to bring his idea to life.

They just could not think about anything other than buses and bus lanes drivers and unions Mr. Martz said. They could not think about the user.

This month Altamonte Springs finished a two-year pilot offering discounts on Uber rides instead, a model that appeals to the belief that private companies can provide these services better anyway

"I expect by 2030 most transit agencies are going to be zombie agencies that exist mainly to collect taxes from people to pay down their debt," said Randal O'Toole, a senior fellow with the

libertarian Cato Institute who blogs provocatively as the Anti-planner. In the meantime, he argues that cities should put no new money into infrastructure.

He acknowledged that he believed transit was wasteful for taxpayers Long before anyone got excited about driverless cars. But now he and others who say no to transit also have something positive to say. Something better is coming.

Las Vegas isn't in a gambling mood

Las Vegas has been preparing to build precisely the thing these critics say they shouldn't. The regions first light rail line. The city is running several autonomous pilots too but officials aren't sold on the imminent driverless future.

"It's very easy to get caught up in these sensationalist visions," said Tina Quigley, general manager of the Regional Transportation Commission of Southern Nevada. "Some of these visions may eventually come to fruition. But we are not talking about them happening in the next five years, even, some of them in the next 10 years."

Many potential benefits of driverless cars won't kick in until there is mass adoption. Even in that distant future, Ms. Quigley said, there simply won't be enough space in the busiest corridors for everyone to ride in an autonomous vehicle.

Highways today can carry about 2,000 cars per lane per hour: Autonomous vehicles might quadruple that. The best rail systems can carry more than 50,000 passengers per lane per hour. They move the most people using the least space. No technology can overcome the geometry, said Jarrett Walker, a Portland-based transportation consultant.

"Let's talk about what we can predict," he said. The problem of the city is a problem of sharing space. In 2100 the problem with the city will still be a problem of sharing space.

By that logic, cities should invest even more in high-capacity rail and dedicated bus lanes in key corridors. Autonomous vehicles might handle other kinds of trips - rides from the train station home, or through suburban neighborhoods, or across the parts of Las Vegas without rail.

This possibility is not radically different from today. Uber and Lyft offer the closest approximation to how people will behave in an autonomous future, when consumers use cars they don't own. Both companies are frequently cited by opponents of transit. But they also now back big transit investments, without which their riders in congested cities would be stuck in even worse traffic.

No system of autonomous cars could be more efficient than the New York subway said Andrew Salzberg, Uber's head of transportation policy and research. Uber needs that transit, just as it will need electric scooters and bikes and the congestion pricing it also supports in New York to ensure that cheaper transportation doesn't simply lead to more traffic.

The efficiency that autonomous vehicles promise is more likely if people share them - and don't use them for every trip.

Cities fixated on that future, however, could be making another risky bet. New forms of transportation like Uber and Lyft are heavily subsidized by Venture-capital today, and so cities that expect private services to replace public transit are counting on those subsidies, too. They're betting that driverless cars will get here, changing the economics of transportation, before the Venture Capitalists lose patience.

End of: NEW YORK TIMES July 21, 2018