

# VERMONT TRANSPORTATION BOARD MEETING FEBRUARY 22, 2018

---

## **Board Members Present:**

David Coen, term expires 2/28/21  
Richard Bailey, term expires 2/28/21  
T. Faith Terry, term expires 2/28/19  
Tim Hayward, term expires 2/28/2020  
Wendy Harrison, term expires 2/28/19  
Vanessa Kittell, term expires 2/28/19

## **Board Members Absent:**

Larry Bruce, term expires 2/28/2018

## **Others Present:**

John Zicconi, Board Executive Secretary  
Scott Fortney, VTrans Aviation Operations Specialist  
Dan Dutcher: VTrans Environmental Policy Manager  
Joe Segale, VTrans Policy, Planning & Research Bureau Director

## **Call to Order:**

Chair Vanessa Kittell called the Thursday, February 22, 2018 meeting to order at 10 a.m., which was held in the Davis N313 Conference Room in the National Life Building at 1 National Life Drive in Montpelier, VT.

## **1. NEW BUSINESS**

### ***1.1 Review/Approve Minutes of the January 31, 2018 Meeting***

**On a motion by Mr. Coen seconded by Mr. Bailey, the Board unanimously voted to approve the minutes of the January 31, 2018 Board meeting with corrections.**

### ***1.2 TB-462 Mather Airstrip Application, 490 Shadow Glen Road, Panton, VT***

Mr. Zicconi explained the Board received an application From Charles Mather for an airstrip in Panton that has been in existence since 1991 but never permitted. Mr. Coen said the airstrip has been in existence longer than 1991. Mr. Fortney said he believed that to be correct, but that the municipal paperwork associated with the airstrip only goes back to 1991.

Mr. Zicconi said Mr. Mather purchased the property a couple of years ago and when he learned that the airstrip had never been permitted. Wanting to do the right thing, Mr. Mather contacted both the town and VTrans wishing to bring the facility into compliance. Earlier in the month the town approved the project, but did so administratively without holding a local hearing. Mr. Mather has now applied to the Board for a Certificate of Approval. Mr. Zicconi said he believed the application to be complete, and asked the Board to make a ruling.

Mr. Coen asked if the applicant was applying to use a specific aircraft, which was mentioned in the application. Mr. Fortney said the application covers all aircraft of a similar class, but he was not sure if the application was solely for Mr. Mather's personal use. Mr. Zicconi said whether Mr. Mather seeks permission for others to use the landing area, and the extent of how often others could use the airstrip, is something that Mr. Mather will address at hearing. Mr. Fortney said Mr. Mather owns his own airplane, and is a retired Airforce officer who currently lives in Maryland and wishes to move to Vermont and land his plane on his property.

Ms. Terry asked if Mr. Mather wished a permit to run with the land? Mr. Zicconi said a Board permit would run with the land unless the Board specifically restricts the permit to run with the owner. Ms. Harrison asked if prior to Mr. Mather's ownership had the airstrip been in continual use. Ms. Terry, who lives in the area, said she believed there was a hiatus for 10-15 years. Mr. Fortney said it was likely that the previous owner "aged out of flying" and stopped using the facility.

Ms. Harrison said the application seeks to allow a Cessna 206 to use the airstrip. Mr. Fortney said the critical component in relation to landings is the aircraft's approach speed, and that it may be tight for such an aircraft to use the facility. He said this is certainly something to broach during the hearing.

Mr. Coen said it was his understanding that the previous owner used the airstrip to spray an apple orchard, which no longer exists. The property has also been subdivided over the years, so the airstrip now has neighbors living closer to it than in the past. Ms. Kittell asked if there is another example of an historic airstrip somewhere in the state that had fallen dormant but years later sought to be reinstated, and if so would that case be something that could provide the Board guidance as to lessons learned? Mr. Fortney said he was not aware of one.

Mr. Coen said there were other airstrips in Addison County, including one at the nearby Basin Harbor Club, and asked prior to the hearing if the Board could receive a map showing all the nearby facilities. Mr. Fortney said the Agency was working on such a map for the entire state and would share it with the Board once complete.

The Board decided not to waive the hearing elements associated with 5 V.S.A. § 207(d) and scheduled a site visit and hearing in Panton for June 7, 2018.

*Following the meeting, the Board changed the hearing date to June 6.*

### ***1.3 Autonomous Vehicle Presentation by Joe Segale***

Mr. Segale gave a PowerPoint presentation regarding Autonomous vehicles. During that presentation, he provided the following information:

The Vermont Legislature gave VTrans direction regarding AVs for first time last year. A group of stakeholders convened in November for first time to talk policy. The group included law enforcement,

emergency responders, planners, and engineers. They discussed regulatory issues, driver education and safety, and what AV infrastructure needs are.

Aside from AVs, we also have Connected Vehicles on our roads: Human still control these vehicles, but the vehicles provide certain information to the driver including:

- Vehicle to vehicle information so that the driver can get advance warning that vehicles ahead of them are breaking or if another vehicle is running an intersection.
- Vehicle to infrastructure information such as connecting to traffic signals. This info is valuable because when you hit a red light you are supposed to stop. But if you knew when to expect a red ball you may drop your speed so that instead you will hit the green. The vehicle may also connect to roadway weather stations so the driver is aware of what to expect down the road.
- Vehicle may be connected to other Devices and sensors. Best example is connecting the car to pedestrian cell phones. This can save lives as well as usher in efficiencies.

While a Connected Vehicle still requires a driver, an AV has to be able to self drive. These vehicles are equipped with sensors, both long and short range radar, cameras and maybe lidar which reads the topography and ultrasound technology. AV's also must have artificial intelligence, which is key, so that the car can process all the information that it collects. For the car to be self-contained and drive itself it has to be able to do more than process what ifs. It needs to learn and drive the way we learn and drive.

The future also likely will have connected automated vehicles because AVs will have to be able to speak to each other and to infrastructure to be effective. But in Vermont we will not be able to completely rely on that connectivity because Vermont has about 8,000 miles of gravel roads so a vehicle will have to be able to drive without being connected to infrastructure. If this cannot happen, the proliferation of self-driving cars in Vermont not going to happen very fast.

There are different levels of automation:

- Driver Assistance – features such as cruise control.
- Partial Automation – features such as adaptive cruise control which we have now. Adaptive cruise control slows your speed when behind a car but once you are clear of the car it speeds back up. So human still engaged and in control.
- Conditional Automation – the car can drive itself, but a human has to be ready to take control. This is the level that gives engineers heartburn. The issue here is the driver can become complacent. Some of the crashes involve AVs that we have seen so far are because of this, which is really driver error because the driver was not using the technology properly. But this is part of the evolution to get to total automation.
- High Automation – the vehicle can drive itself completely, but will only be used in designated domains. So we may in Vermont say the Interstates are self-driving corridors. So as long as you are on the interstate the vehicle has full control and driver does not need to be aware of the surrounding environment. But once off the Interstate, the driver has to take control. And if the

driver is not ready the vehicle will be aware and default to a safe condition like pulling over to the side of the road and stopping.

- Full Automation – complete self-driving vehicles. Human is only a passenger and car will do everything.

The technology is already being built, so the key question is how fast will it be deployed. Deployed has to do with market forces. In Vermont, the average age of a car is 10 years, but it takes 25 years to have a complete turnover of the fleet. So even if Full Automation was available tomorrow, people have paid for their car so they are probably going to hold on to it and drive it into the ground.

One forecast is that by 2020 about 1 percent to 2 percent of cars will have some form of automation. After 2050 it will be between 40-60 percent. The key take away here is that we will be dealing with a mix of on vehicles types on the road and varying degrees of automation as well as mixing with conventional drivers.

A more aggressive forecast believes that within 10 years 95 percent of all vehicle miles will be traveled by an automated vehicle. The key to this assumption is that self-driving cars will be shared or contracted as part of service. Under this scenario, most people won't own a car anymore. Instead, they will pay for service, and there will be different plans. So if you don't mind sharing or getting into cars with strangers, it will cost less than if you want my own a vehicle. The theory is that this will save the average household about \$5,600 per year, with the high end closer to \$10,000 per year. So if the technology is just as convenient as today's cars and it will save \$5,000 to \$10,000 per year that it will penetrate the market much faster than the more conservative estimate. So this remains to be seen. No one knows for sure. But the truth is probably somewhere in the middle of the two forecasts.

The impacts of automated vehicles will depend on the ownership models. Will it be a service or individual ownership. Vehicle miles traveled is expected to increase if we all own our own car. Under this model it will probably be more expensive, but it will be more convenient and be available to more people than driving is now as people with disabilities, older people who are no longer comfortable driving, and younger people who do not have licenses will be able to use an automobile. One question is what is the age at which you are willing to put a kid in the car unsupervised? While VMT is expected to increase highest if everyone still owns their own car, the thought is that VMT will go up either way – whether we see shared or individual ownership.

As for safety, We know that over 90 percent of crashes are caused by human behavior. The rest are related to roadway or vehicle issues. And we know we have plateaued with reducing crashes, so the thought is if you remove the human from the equation then we can now make real progress again towards eliminating crashes.

In terms of greenhouse gas emissions: the theory is that AVs will facilitated the transition to electric vehicles because the vehicle can drop off its passenger and then go get charged up. The vehicle that drops you off may not be the vehicle that picks you up so this eliminates the worry of running out of charge. Gas-powered AVs also could get gassed up in between passengers, but the thought is that

automation will usher in an EV jump. If not, automation will increase greenhouse gasses as VMT will likely rise.

Parking: Cars are parked for about 95 percent of the time so if vehicles are shared then they won't be parked as much.

Sprawl: if using an AV cost less and is just as convenient as cars our now, then you can be productive in your vehicle if you don't have to drive. So the thought is you will be willing to commute longer distances which could lead to sprawl. The shared model works best in a high density, mixed use environment, which is not a lot of Vermont.

Roadway infrastructure is a big question. We really don't yet know what the AV manufacturers need from us. There has been some talk of line striping initially, but cars in the long term cannot depend on line striping because we don't have line striping everywhere. So we need some direction as well as standards, which is what many have told the Feds. But in an industry that is based on innovation, the manufacturers do not want to hear about standards yet. They want to be able to try whatever to see what works best.

Quality of life improvements for vulnerable populations is a real plus as AVs provide mobility. It can even help with transit. One of the large costs of transit is the driver. So if you remove the driver, transit can become more feasible in more locations so you can start to serve more vulnerable populations. Theoretically, we can get more service for the same dollar amount. Might even make private transit services more attractive. So not only more service, but more frequent service.

Federal and state roles: On the state level, we issue licenses, registration, make traffic laws and enforcing traffic laws, conduct inspections, and build and operate infrastructure. On the federal level, we regulate the equipment and do some broader education. Thought is these roles would pretty much stay the same. The US House of Representatives passed the Self-Driving Act in 2017 which basically said you cannot ban self-driving cars. Cannot put any unreasonable restrictions on them – licensing, registrations, etc. The Senate version is expected to do the same thing. This is why we need to get ready.

VTrans has authority over about 3,000 miles of roadway while municipalities have about 11,000 miles. We have over 250 municipalities, so they have an important role in this.

What VTrans is going to do in the near future is initiate legislation that will allow testing on Vermont public roads. The Legislature needs to pass legislation that will allow vehicles on VT roads and eliminate all the statutory barriers. But it's hard to regulate what we don't understand so there is a little bit of a chicken-and-egg issue going on right now.

The message is the public is that this is real, this is coming, what are your concerns? AVs will become important to business, especially as they proliferate in more urban areas. The analogy is cell service. We already know some business won't come to VT because of spotty cell service. We don't want that to happen with cars and be behind another eight ball.

Should we require a permit for testing? We don't want to be onerous, but also people have a right to know if we are being guinea pigs. If we take the position to let others test it, we will lose the ability to

have AVs experience Vermont and learn from Vermont, as well as we want Vermonters to also experience the technology and have our citizens become more familiar with it so that we understand it better and hopefully gain confidence in it.

The public is skeptical about this right now. But the legislative Transportation Committees have said go forth and develop something and come back to us in 2019.

Insurance questions are more about who is responsible? Who accepts the responsibility? Could be manufacture, could be private insurance company, could be the owner. Don't know yet. But not our focus right now. What we do know is that the Vermont Department of Financial Regulation, which oversees the insurance industry, is at the table advising VTrans.

Trucking and truck platooning is being watched and coordinated with neighboring states. Don't want truck platooning on rural roads, but could designate an Interstate Highway. Also could limit trucks to running at night as drivers are no longer an issue. So shipping routes could change.

#### ***1.4 Electric Vehicle Presentation by Dan Dutcher***

Mr. Dutcher gave a PowerPoint presentation regarding Autonomous vehicles. During that presentation, he provided the following information:

By all forecasts, vehicle electrification is coming, and it's coming fast. But it is not coming fast enough to meet our climate goals. So there is room for policymakers and government agencies to do things to increase market share until market forces can take over on their own.

We have lots of gaps in our fast charging system. Have some fast charging stations throughout Vermont, but we have five or so gaps to fill before we have a fast charging station in enough locations to have one within about 30 miles of almost everyone in the state.

Even if the state pays to install these stations, it would be hard to even give them away because the cost of maintaining them currently is more than the amount of revenues that are coming in because traffic volume is too small. But this is a chicken-and-egg situation because people are not going to make the switch to EVs unless the charging stations are there. Policy makers are working on this.

VW settlement money. Vermont got \$5 million in a state settlement, which was put into the general fund and just vanished. There also is a nationwide settlement that has four appendices. Appendix A & B are the buyback provisions for people to sell back to VW, so we have no role as this was between the consumer and VW. But the state is involved in trying to influence how the money is distributed under appendices C & D.

Appendix D involves how the money is going to be distributed to the states based on the number of cars in each state. VW was popular in VT. And we will end up with \$18.7 million. And up to 15 percent – about \$2.7 million – of that can be spent on electric vehicle charging infrastructure. This likely will happen. The Agency of Natural Resources is in charge of administering this. The rest of this money is

supposed to reduce Nox emissions as that is the Environmental offense that grew out of the VW scandal. We cannot use the rest of the money on charging stations or buying electric vehicles. But we can use it to purchase electric busses, including school busses, and newer diesel engine vehicles because they run cleaner.

Under Appendix C, VW is required to spend over \$2 billion over next 10 years to promote vehicle electrification. So this money can be used for charging infrastructure and consumer education. About \$800 million of this was dedicated to California. The rest is to be distributed nationwide. But none has to be spent in VT. VW has put a subsidiary together called Electrify America to deal with this. They are planning four funding cycles. The first funding cycle is over and VT got nothing as the effort focused on major metro areas and highway corridors that connect major metro areas. Electrify Americas has been very clear that it plans to set up a system of charging stations that will be profitable. They want to launch a business. So the focus is not just about what is good for the people and to spread the money around. They want to put these charging stations in to make money. We are trying to make a Vermont pitch for funding cycle 2, and Vermont is working with its neighboring states.

Charging stations are not standardized. They are kind of like Beta and VHS. Tesla has their own and they can only fit Tesla vehicles. At other charging stations you can buy an adapter to fit a Tesla. But other vehicles cannot use Tesla station.

Level one charging is 140 volts – which is a basic plug. Level two is 240 volts, which is equivalent to what you need for a clothes drier. You can set up level 2 at home and buy equipment. Fast stations, however, are different.

One car is expected to use as much electricity as a house, so potential for utilities to make a lot of money, especially as these vehicles get more powerful. Vehicles can also act as storage for the grid. They will contain all kinds of complicated software for you to program your needs so that it can communicate with the grid to make sure you do not have no juice when you need it. Utilities want to use rate design so they can encourage charging off peak. This way they can sell all this electricity to all these cars without building new infrastructure. So the money would be pure profit. Utilities are regulated so this has the potential to drive rates down for everyone.

Two sections of new T-Bill relate to EVs. One asks the public utility commission to look into how we get revenue from EVs, which are like 2 percent of the fleet. So they are not putting a dent into state transportation revenues yet as they are more expensive than other vehicles so we get more purchase-and-use tax. No real guidance in the bill so far. The PUC can look at everything.

VTrans seems to support a fee on charging. If you add a 3 to 4 cent fee for a kilowatt hour at the charging station, it would be comparable to a 30 mpg gas tax. VTrans is opposed to increasing vehicle registration fees as a revenue source for EVs as that will only act to depress the market when we are trying to incentivize the market. The kilowatt fee could go on your electric bill as the charging software is sophisticated enough to know when you are charging your car vs household usage.

Applying a Vehicle Miles Travel tax has been talked about nationwide, but this concept does not seem to want to launch.

Vermont is way behind the goal of 10 percent of the market being EVs by 2025, which is what is in the state's comprehensive energy plan. We have about 2,300 EVs on the road now, while 10 percent of the market is 50,000. So it will be hard to get there. The combustion engine has a lifespan of 12-14 years on average and they are 98 percent of our market right now, so will be really hard to turn this around quickly.

The Chevy Volt gets about 220 miles per charge. Thought is within a few years 300 won't be uncommon. Ford is working on an electric F-150 truck, which could be useful in VT. So SUVs and pickup trucks are being designed now.

There are about 42,000 gas stations nationwide and we now have about 16,000 charging stations as of the summer.

### *1.5 Executive Secretary's Report*

**Twin Farms Helipad:** Mr. Zicconi told the Board that Twin Farms, which had been allowing guests to arrive and depart via helicopter without a permit, decided it would eliminate this option rather than seek a permit.

**TB-445 Winterset Contractor Claim:** prehearing briefs are due in March and the case is supposed to be ready for hearing early in the summer. Mr. Zicconi said the hearing is expected to last two day, but he needs to check in with the attorney's to find out if they are still on target.

**TB-463 Request for Railroad Clearance Variance in Proctor:** Mr. Zicconi said just yesterday he received a joint petition from VTrans, Vermont Rail Systems and the Town of Proctor requesting a variance to the statutory 23-foot clearance standard. The petitioners seek an administrative ruling without the Board holding a site visit and hearing, which statute allows if the town, railroad and VTrans all agree. The petition is to allow a 21-foot clearance, which would allow double stack train cars and be the same height as the proposed new Middlebury train tunnel, which was granted a variance by the Legislature.

Mr. Zicconi said Mr. Bruce suggested to him that other Boards when such a request is made sometimes make notice in the local area and ask for comment. The Board then takes the comment into consideration before ruling on the request. The Board liked this approach, and asked Mr. Zicconi to make such notice in time to have the issue placed on its May agenda.

## **2. OLD BUSINESS**

### *2.1 Fall 2018 Public Forum – Potential Discussion*

There was no discussion.

**3. OTHER BUSINESS**

***3.1 Round Table***

Ms. Kittell and Mr. Coen informed the Board that Governor Scott had appointed Mr. Coen to assume the position of Board Chair beginning March 1, 2018. Mr. Coen said he did not seek to be chair, but was approached by the Governor and asked if he would assume the position. Mr. Coen, who is a Republican, said he believed the Governor, who also is a Republican, intended to appoint a new chair even if he declined – Ms. Kittell is a Democrat appointed by the previous governor – and that he accepted the chairmanship based on that understanding. Ms. Kittell said she planned to remain on the Board following the switch and finish her term.

**4. ADJOURN**

**On a motion by Mr. Bailey seconded by Ms. Harrison, the Board unanimously voted to adjourn at 12:20 p.m.**

Respectfully submitted,

John Zicconi  
Executive Secretary

**Next Board Meeting: 9 a.m. on May 3, 2018**