

REBUTTAL
TO
JANE CHITTICK'S REPORT OF NOVEMBER 30 – DECEMBER 1, 2020
January 11, 2021

This is a rebuttal to Jane Chittick's report to the Edgartown Board of Selectmen about the Martha's Vineyard Transit Authority ("VTA") proposal to install inductive bus chargers at Church Street in Edgartown and, more broadly, to move to an all-electric bus system by 2027. This rebuttal has been prepared by the undersigned residents of Edgartown, all of whom were members of the Church Street Review Committee (the "Committee") tasked by the Board of Selectmen to take a fresh look at the VTA proposal. The Committee's report was delivered to the Board of Selectmen on November 9, 2020, and is posted on the Edgartown website along with the Chittick report.

A. FUNDAMENTAL MISTAKES AND MISSTATEMENTS IN THE CHITTICK REPORT

The Chittick report assumes that, if other transit systems are not using inductive chargers, that means the VTA should not use them, but there are reasons why inductive chargers are a good choice for Martha's Vineyard.

1. The Chittick report advocates for "clean diesel" buses over electric buses, not recognizing that all of the diesel buses now in the VTA fleet are in fact "clean diesel" buses." The VTA has a decade of experience with "clean diesel" buses and is now using available technology to migrate from "clean diesel" to cleaner running and less expensive to operate all-electric buses.

2. The Chittick report says that experts have never weighed in on the inductive charger project, but the VTA worked with Vermont Energy Investment Corporation and Arup Group Limited on the planning, design, and engineering of the project. Also the Massachusetts and federal funding sources have had their own experts weigh in as part of the competitive grant process for the inductive charger project.

3. The Chittick report says the project is a waste of federal funds that could be used to purchase new "clean diesel" or hybrid buses. This is a misunderstanding. The funds for the inductive charger project are specific to the project. Federal funds for the purchase of new buses are separately applied for and awarded.

4. The Chittick report says historic preservation is about making sure that changes are not incongruous with historic surroundings, but the Chittick report fails to be specific about how this general rule should be applied and why the Edgartown Historic District Commission was wrong in granting the project a Certificate of Appropriateness.

B. PLACES OTHER THAN MARTHA'S VINEYARD DO NOT SEEM RELEVANT

A lot of space in the Chittick report is devoted to discussion of various large city bus systems which are described as having decided not to be all-electric. The places discussed in the Chittick report include New York City, Philadelphia, Chicago, and various cities in Europe. Some of the relevant ways in which Martha's Vineyard is different from these places are as follows:

1. A significant difference is that buses on Martha's Vineyard do not travel at 45 mph or more for sustained periods of time, which is necessary to flush out the particulate filters on diesel buses. The result is that diesel and hybrid (diesel/electric) buses require substantially more maintenance on Martha's Vineyard than in places where buses can exceed 45 mph for sustained periods of time. This means that there is a greater economic incentive for the VTA to achieve an all-electric system than there is in some other places.

2. The combination of Massachusetts and U.S. federal grants to fund all the costs of the project to install inductive chargers on Martha's Vineyard may be an advantage other locations do not have.

3. The bus systems in the places discussed in the Chittick report may be larger and more complex than the VTA system, having more buses, more routes, and more miles to cover, all of which would require the installation of on-route electric bus chargers at more than the two locations the VTA needs (Edgartown and West Tisbury) to have a fully electric system.

4. Martha's Vineyard, as an island where weather and erosion and rising sea levels are very much apparent, may be more committed to reducing the use of fossil fuels than other places.

Any technology pursued by the VTA has to be matched to the transit operating conditions present on Martha's Vineyard, not in other places. Overall, it seems wise for the VTA management to think through decisions for themselves, informed by experts and by the experiences of others, but making decisions based on the local conditions here on Martha's Vineyard and the specific actual experience of the VTA, and not necessarily coming to the same conclusions that are reached for other places.

C. CLEAN DIESEL ALTERNATIVE

The Chittick report recommends that for the foreseeable future "clean diesel" should be pursued by the VTA instead of an all-electric system. The truth is that, for more than a decade, all

of the VTA's diesel buses have been "clean diesel," also known as ultra low sulfur diesel. "Clean diesel" involves enhanced diesel particulate filters and the reduction of sulfur in the fuel itself. The VTA buses burning "clean diesel" fuel with enhanced filters are still noisy, and they still produce enough dirty emissions to necessitate the painting of the Church Street side of the Whaling Church every other year. Also "clean diesel" does not work well unless the buses run at speeds over 45 mph for sustained periods, generating enough heat to clean the particulate filters, which does not happen on Martha's Vineyard. Because this cleaning does not happen, the result is increased maintenance costs for the VTA. In general, the transit industry reportedly expects an average of \$8,000/year/bus savings for an electric bus as compared to a "clean diesel" bus over the life of the bus, and this is generally consistent with what the VTA has actually experienced. "Clean diesel" buses are exactly what the VTA is working to get away from.

D. HYBRID ALTERNATIVE

The Chittick report also recommends hybrid buses instead of electric buses. As stated in the Committee report, a hybrid bus has a full diesel system in addition to an electric system. As noted above, diesel maintenance is costly on Martha's Vineyard for either pure or hybrid diesel, and the substantial maintenance cost savings from the conversion to an all-electric system would not be realized with hybrid buses. Also the noise and fumes associated with diesel operation would remain. For these reasons hybrid buses are not being pursued by the VTA.

E. RELIABILITY OF BUSES

The Chittick report says that diesel buses are more reliable than electric buses. That has not been the experience of the VTA. The VTA has been running both electric buses and diesel buses since it acquired its first electric buses in 2018. Of course, all buses have maintenance issues, but the overall experience of the VTA has been that the electric buses have been more reliable than the diesel buses and have cost less to maintain.

F. BUS BATTERIES

The Chittick report says that bus batteries today are not performing as they should, but this is not correct. Bus batteries are reliably performing as advertised. The trouble is that battery technology has not advanced to the point where a bus that is fully charged at its depot overnight can run for an entire day. The bus can run until its battery gets low, and then it returns to the bus depot for recharging, with a substitute diesel or electric bus swapped in to take over for the rest of the day. Alternatively, the bus can recharge at natural stopping points on its

route for just a few minutes on every trip throughout the day. With this regular on-route charging, the bus can run for a full day without any interruption that affects its normal schedule. Regular on-route charging with inductive chargers is what the VTA is proposing.

G. THE USEFUL LIFE OF THE INDUCTIVE CHARGERS

At the August 25 meeting of the Committee, Ms. Chittick gave a report in which she said that Genoa and Turin in Italy had been using inductive chargers for 15 years. This statement also appears in her notes that she requested be posted with the Committee minutes. The more recent Chittick report says that these were “roof-mounted Pantographs,” which doesn’t make sense because overhead chargers are conductive, not inductive. To resolve this contradiction an internet search was done of “Inductive charging for buses in Genoa, Italy.” The results of the search included an interesting article from GreenCar Reports and one from the New York Times confirming that Genoa and Turin, Italy, have been using inductive chargers “set into the road” since 2002. According to the articles, the buses are charged each night at the depot and topped up during the day with the on-route inductive chargers so that they can run for the entire day, just as the VTA proposes. The 2002 start date for these inductive chargers seems to confirm that a 12 - 15 year useful life is a reasonable estimate for the inductive chargers the VTA is proposing to install.

In addition, the Chittick report says that the Momentum Dynamics chargers in Wenatchee, Washington have only been in service for a little over a year. As stated in the Committee report the Committee was told by the maintenance director of the Wenatchee, Washington system (when Ms. Chittick was still a member of the Committee and was in attendance at the Zoom meeting) that their first inductive charger was installed in February 2018, about two and a half years before the Wenatchee maintenance director spoke to the Committee. In the same conversation, the maintenance director also told the Committee that the Wenatchee experience with the 2018 Momentum Dynamics inductive charger was so successful that they have purchased and are installing three new Momentum Dynamics inductive chargers.

H. THE PROPOSED INDUCTIVE CHARGERS ARE A TEMPORARY STOPGAP MEASURE

The Chittick report repeats numerous times that the inductive chargers are a temporary stop-gap measure. It’s true that inductive chargers may not be a permanent solution to the charging needs of electric buses, but that’s the nature of technology. It evolves and needs to be updated over time. We hope that in due course bus batteries will improve and other technology will develop so that the inductive chargers will no longer be needed. If and when that happens, the chargers and related electrical equipment can be removed. In the interim, the inductive chargers will enable the VTA’s electric buses to operate for full days without being swapped

out for diesel buses and will enable the VTA to be all-electric by 2027, instead of waiting the 20 or 30 years suggested in the Chittick report as the time period for the VTA to be all-electric.

I. NO HIDDEN COSTS

The Chittick report says that there are hidden costs of the inductive charger project that have not been addressed and fifteen items are listed. The truth is that, as stated in the Committee report, the entirety of the costs of the project are covered by Massachusetts and federal grants already secured by the VTA for the project. Of the fifteen items listed in the Chittick report, twelve are covered by the grants, one is not proposed to occur (painting the Visitor Center), one is not expected to have any cost (temporarily re-routing buses during construction so they do not use Church Street, as has been done in the past), and one is covered by the VTA operating budget (the ongoing cost of the electricity to fuel the inductive chargers). The cost of the electricity is expected to be less than the cost of diesel fuel.

J. EXPERTS HAVE APPROVED THE VTA INDUCTIVE CHARGER PROJECT

The Chittick report repeatedly says that experts have never weighed in on the VTA inductive charger project, but this is not true. The VTA worked with Vermont Energy Investment Corporation and Arup Group Limited on the planning, design, and engineering of the project. These organizations have wide experience and good reputations. They provided various professional consultants for the project. Also Massachusetts and federal funding sources have encouraged and approved the VTA inductive charger project as indicated by their willingness to fund all of the costs. The grants secured by the VTA to fund the project were competitive capital grants that were awarded through a detailed and arduous process. The VTA competed against transit agencies across the country for these grants. The individuals at the agencies responsible for the selection of projects to fund are knowledgeable experts who chose the VTA project after careful review and believe the VTA project to be worthy.

K. VTA IS NOT USING UP ITS FEDERAL FUNDS ON THE INDUCTIVE CHARGER PROJECT

The Chittick report says in several places that the VTA should not be using up its federal funds on the inductive charger project, but instead should be using the funds to buy additional diesel and hybrid buses. That is not possible. The grant funds for the inductive charger project are not funds that would be available to the VTA if the project were to be abandoned. The funds were awarded through a competitive process for this particular project. The VTA receives other grants annually for purchasing new buses.

The VTA will take delivery of four new electric buses in the spring of 2021. At that point the VTA fleet of 32 buses will be half electric and half “clean diesel.”

If the inductive charger project is abandoned, the VTA expects to stop ordering new electric buses and expects to apply for new grants to purchase four new diesel buses each year. These will be “clean diesel” buses like the ones the VTA currently operates. The VTA needs to keep the total number of buses in its fleet at no more than 32 in order to control operating costs.

L. EFFECTS IN EDGARTOWN

If there are no inductive chargers on Church Street, the VTA will not be all-electric. There will be some electric buses, but there will continue to be diesel buses in Edgartown on routes 1, 6, 8, and 11 with the resulting noise, dirt, and fumes. In addition, there may be diesel buses on route 13, depending on whether there are inductive chargers in Oak Bluffs.

The Chittick report claims without substantiation that the inductive charger project will significantly damage Church Street, which is within the Edgartown Historic District. In fact, the changes on Church Street will be minimal as follows:

1. There will be no change to the numbers or sizes of the buses on Church Street or to the length of time any bus stops there. The inductive chargers and all-electric buses will result in less noise and dirt on Church Street and in Edgartown in general.

2. The two beautiful mature shade trees in front of the Visitor Center will remain untouched.

3. Three Norway maples are proposed to be removed, but they are not healthy trees and will be replaced with new shade trees. One of the three has multiple smaller trunks, instead of one large trunk, has dead upper branches, is only about 20' tall, and mostly shades the roof of the Visitor Center. One has large dead upper branches and a large gash in its trunk. The third has a limb which overhangs the roadway and has repeatedly been struck by buses and trucks over decades. This tree also has lost two major limbs to storms creating a very large gash in its trunk. An arborist has found that these three trees are in poor condition, and it is entirely possible that they will be removed with or without the inductive charger project, although the cost of removing and replacing them will be covered as a part of the project if the project goes forward. Photos of the three trees proposed to be removed were attached to the Committee report and the same photos are attached below. The three new trees to be planted will start the majestic trees of the future.

4. The inductive charger project will not alter the Visitor Center building, but the outdoor area in front of the building will get a long overdue renovation, including additional seating and shelter from sun and rain for people waiting for buses.

5. The Committee report quotes the Edgartown Historic District Commission in saying that the two metal electrical cabinets to be installed near the sidewalk at the front corners of the Visitor Center property are “the most unsightly part of the project,” but “the building is not historic” and “the designers have struck a pretty good balance.” The proposed project includes wrapping the electrical cabinets with informational graphics useful to visitors and/or camouflaging the cabinets with fencing. The Historic District Commission’s Certificate of Appropriateness is conditioned on their approval of the graphics and/or fencing before they are installed.

6. Three non-historic utility poles will be removed with the electric, phone, and cable wires being put underground. This means that Church Street residents and businesses will be much less likely to lose services in storms.

7. Old-fashioned street lanterns like those elsewhere in downtown Edgartown will be installed.

8. The brick sidewalk will be slightly widened which, together with the removal of the three utility poles, will improve ADA accessibility and walkability for all.

9. Church Street will be widened, but only in the area immediately opposite the visitor center and only by 24” for a distance of about 1/10th of the length of the street. The limited extent of this widening does not seem to represent a significant change to the character of Church Street, especially when balanced against the beneficial aspects of the project.

The Chittick report says “Preservation is about congruity with the town and its historic attributes,” and we agree. Preservation is not about stopping all construction projects. In her report Ms. Chittick chastises the Edgartown Historic District Commission for considering the attractiveness of the visual appearance of the project and then, inconsistently, proceeds to lament the unattractiveness of the project’s “two ugly huge metal electric boxes.” Ms. Chittick does not say why she has concluded that the proposed changes on Church Street are incongruous with the historic district and does not specify any criteria that should apply in judging whether this or any other project would be sufficiently in “congruity with the town and its historic attributes,” only that the commission needs to be instructed by Boston officials on how to appropri-

ately protect the “authenticity” of Church Street. The Committee report agrees with the approach taken by the Historic District Commission in granting the Certificate of Appropriateness for the project. As noted above, the Historic District Commission specifically found that the designers struck "a pretty good balance with the overall design," taking into account that the Visitor Center building is "not historic," the site gets "extensive public use," and there is an "obvious need for updating."

M. THE COMMITTEE WAS NOT BIASED

The members of the Committee listened carefully to a number of different sources, not just to the VTA Administrator. More specifically, the Committee listened carefully to the August 20 presentation of the Wenatchee, Washington, maintenance director and to Jane Chittick’s presentation on August 25 when she was a member of the Committee. After all presentations there were questions and discussion. The Committee met on 10 separate occasions plus a site visit. Every member participated fully in the discussions. The members of the Committee did not start out as “diehard proponents” of the project as described in the Chittick report. On the contrary, in order to fully understand the project’s expected and potential impacts to Church Street, we were determined to learn and understand the details of the inductive charger proposal and the decision making process that led to the proposal so that we could make a recommendation in the best interests of the Town.

N. CONCLUSION

It has always been incumbent upon people to inform themselves and be cautious about relying on only a single source of information. The Committee examined the arguments raised by Ms. Chittick at town meeting – largely the same arguments she has continued to put forth – and we presented our findings in our report. Although the Committee no longer exists, we encourage people to look into the issues and read our report. The proposed inductive bus chargers at Church Street will enable the VTA to completely replace its diesel buses with electric buses by 2027. This will have positive community impacts on Church Street and Edgartown and the rest of Martha’s Vineyard. Focusing just on the project impacts to Church Street, the Committee’s methodical assessment was that the few negative impacts will be more than offset by the beneficial impacts.

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THE VISITOR CENTER BEFORE AND AFTER THE PROJECT



The above photo was taken in early October 2020. The trees at the left and in the center would remain as is. The tree at the far right would be removed and replaced.



BEALS+THOMAS
DATE: 1/7/2020
BTI FILE NO: 2043000903D-001

Edgartown, Massachusetts

Artist's rendering of the Visitor Center improvements as approved by the Historic District Commission. Note the electrical cabinets (at the right edge and the left edge of the image) and a new tree at the far right.

TREES TO BE REMOVED



Tree to be removed to make room for new charger equipment at the southwest corner of site.

ARBORIST'S REPORT:

Condition: Poor. Tree canopy is thin and has some dieback. Roots are restricted and compacted and are girdling. Moderate decay in 2' long trunk defect. Branches resting on electrical, phone & cable line. *Acer platanoides* are known to be a culturally defective street trees prone to canopy and root defects and decay.



Tree at border of parking lot and passenger plaza on the rest-room side of the building.

ARBORIST'S REPORT:

Condition: Poor. Tree has major dieback in canopy and multiple defects with moderate decay. Structure is weak. Tree has (3) trunks (16", 12" & 10") with weak junctions and bark in the tight angle crotches which are more susceptible to breakage and failure. Roots are constricted by sidewalk and paved parking area and are girdling. Roots are heaving and breaking sidewalk and parking area. *Acer platanoides* are known to be a culturally defective street trees prone to canopy and root defects and decay.



Tree across Church Street that is frequently struck by trucks and buses.

ARBORIST'S REPORT:

Condition: Poor. Old tree with multiple structural defects. Has multiple trunk and branch wounds with significant decay including a large branch over Church St. that has been hit by vehicles multiple times and an extensive trunk wound from a large branch that recently broke off from West side of the lower canopy. Roots are girdling and heaving & breaking up asphalt curb and surrounding ground. *Acer platanooides* are known to be a culturally defective street trees prone to canopy and root defects and decay.