



October 6, 2021

Ms. Dawn Bellante, Chairman
Tisbury Planning Board
P.O. Box 602
Town Hall Annex
Vineyard Haven, MA 02568

Re: Response to Comments- Traffic Study Peer Review
Main Street Medicinals Dispensary
65 Mechanic Street
Vineyard Haven, Massachusetts

Dear Ms. Bellante:

This letter will serve as a response to peer review comments received from the Tisbury Planning Board on September 27, 2021. The comments excerpted from the letter are reprinted in *italics* with our responses below. Comments have been numbered and lettered for clarity.

1. *The proposed project adversely impacts the intersections studied as part of the assessments of the current conditions performed at the field, and the results of the analysis using transportation modeling tools.*

The proposed dispensary is expected to generate 28 vehicle trips (14 entering, 14 exiting) during the afternoon peak hour, and 48 vehicle trips (24 entering, 24 exiting) during the Saturday peak hour, estimates to which the peer reviewer has raised no objection. These numbers represent a one percent and two percent increase in the number of vehicles on State Road during the afternoon and Saturday peak hours, respectively.

Analysis of the No-Build condition indicates pre-existing congested vehicle operations in the study area that are unrelated to the proposed development. These results are consistent with field observations and collected automatic traffic recorder (ATR) data.

Therefore, it remains the opinion of Fuss & O'Neill that the proposed development at 65 Mechanic Street will have no significant impact on traffic operations within the study area.

2. *Significant delay increases are estimated at all study intersections along State Road for the Base-Year, No-Build and Build scenarios. The effect of which are as follows:*

We have prepared a revised traffic analysis memo (attached) in order to respond to a number of the forthcoming comments. Additional delay related to the ambient traffic growth from the 2021 base year to the 2028 No-Build year is unrelated to the proposed development. The relevant comparison from No-Build to Build has been reported.

190 High Street
3rd Floor
Boston, MA 02110
t 617.282.4675
800.286.2469
f 617.481.5885

www.fando.com

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- A. Mechanic Street/Little House Café Driveway increases from 14 secs per vehicle to almost 80 secs per vehicle and 40 secs to almost 120 secs respectively.*

The results of our updated analysis indicate that during the afternoon peak hour, northbound and southbound delay increase by less than one second during the afternoon peak hour, and 2.5 and 3.4 seconds, respectively, during the Saturday peak hour.

- B. The delay increases the travel time through the already congested arterial, and the added turn conflicts make the road increasingly unsafe for all road users.*

As mentioned above, the increase in traffic on State Road due to the proposed development is on the order of the ambient growth of traffic in the area from one year to the next. This added traffic does not present a noticeable change to drivers and does not make the roadway any less safe than the ambient growth of traffic would.

- C. Unsafe maneuvers by vehicles could result when drivers try to find gaps in the traffic stream.*

The crash history studied indicates no existing safety problems related to drivers finding gaps in the traffic stream on an already congested State Road. No reason exists to assume that such a minor increase in traffic would result in this outcome.

- 3. Doubling, and tripling of queue length increases are estimated to occur between the Base-Year, No-Build, and Build scenarios at the same intersections with no alternative way to pass the additional turning vehicles.*

Though this comment does not specifically reference Table 2 of the comment letter, we assume that the table provides basis for this remark. However, no supporting calculations have been provided to justify the results presented in that table. As such, we cannot comment further on the results presented in the table.

The results provided in the attached revised traffic memo indicate that no such doubling or tripling of queue lengths is expected to occur. In fact, no study intersection approach is expected to experience an increase in queue length of more than one vehicle as a result of traffic generated by the development.

- 4. There appears to be significant mid-block internal activity that is not captured at other intersections and driveways in the vicinity of the proposed project, creating doubt that the selected intersections may not represent all the activity in the study corridor.*

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The study area intersections were determined in coordination with the Town Planning Board and in accordance with the scope of work developed by FPES to perform a traffic assessment of the proposed dispensary. Correspondence indicating as such has been included as an attachment to this letter.

A. The significant change in traffic volume between Mechanic Street and Colonial Drive seem to indicate there may be another attractor missing that might affect the performance of all the selected intersections as a connected network.

The plaza driveway was not included in the initial study, nor was any other standalone commercial driveway. Impact to this driveway would be substantially similar to any other intersection analyzed at which no volume is being added to minor approaches. All traffic generated by this plaza is included at all other analyzed intersections.

5. *The trip distribution may not be capturing the demographics scene accurately. The assumption that there is a 50-50 split may not be accurate. A more likely 75-25 split east-west seems more plausible as per the 2010 census data.*

The anticipated trip distribution was determined based on the existing directional distribution on state road. Based on the ATR data collected in July of 2021, this split is approximately 50-50. Additionally, we believe the 50-50 distribution to provide a more conservative analysis because it results in more left turns onto State Road from Mechanic Street.

Nonetheless, the memorandum has been updated to include analysis with a 75-25 split. Revised analysis is reflected in the attached memorandum.

6. *Turning Mechanics Street into a one-way egress road brings other challenges that have not yet been explored in this study. FPES believes several significant challenges exist that make this alternative difficult to implement. These challenges are as follows:*

The egress only driveway would be limited to Main Street Medicinals customers. A “do not enter” sign would be placed at the property line on Mechanic Street to prevent customers from returning to State Road. Other vehicle traffic on Mechanic Street would continue to operate as it does today.

A. Preliminary investigations indicate there is insufficient right-of-way to connect Mechanic Street to Eleanor Street.

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Should this option be favored by the Town, survey data can be collected to confirm, however the attached preliminary drawing indicates that sufficient right-of-way is available.

B. Several trees in the area will be impacted by the construction of the egress driveway.

Noted. Tree impacts will be minimized.

C. There is an approximately three-foot grade difference between the proposed Mechanic Street lot and the adjacent lot.

Noted. A grading plan will be required and will demonstrate that sufficient lateral run out is provided prior to intersecting with Eleanor Street.

D. The proposed egress driveway will create a non-right angle intersection with Olga Street and Eleanor Street. This may require special geometric improvements.

A proposed driveway connection to Eleanor Street would be designed safely and in accordance with Town and Massachusetts Department of Transportation standards.

E. There is potential for traffic conflicts with trucks in the area, and other vehicles at the Park and Ride lot.

Any truck traffic that would pass through the intersection of the proposed egress drive and Eleanor Street also passes by the Park and Ride driveway at a skewed-angle intersection and does not present any significant crash risk.

F. The egress driveway will place arterial traffic onto local roads.

The proposed egress driveway would only be accessible via the dispensary parking lot and is for Main Street Medicinals customers. It will not place arterial traffic onto local roads.

7. The proposed travel demand measures such as walking, bicycle, and transit access are also challenging. Some of the factors affecting this are as follows:

A. There is a lack of continuous sidewalk, and designated crosswalks to safely accommodate non-motorized travel.

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Sidewalks are present on one or both sides of State Road for the entirety of the study area. A total of three marked crossings across State Road are provided along the 0.2 mile study area. Sidewalks are not provided on Mechanic Street, but the vehicle volumes are extremely low, and the 85th percentile speed is approximately 13 miles per hour.

- B. *State Road is a 30 mph speed limit arterial; hence safety of pedestrians and bicyclists is a concern and injury severity increase significantly for speeds higher than 25 mph.*

Customers arriving on foot or by bicycle is not expected to represent a significant portion of the transportation demand management plan.

- C. *Proponents acknowledge that transit service is a mile and a half away making walk access difficult. Without addressing these challenges, the mitigation measures are unimplementable.*

- A. Prior materials submitted have not indicated “that transit service is a mile and a half away making walk access difficult.”

The nearest bus stop is located just west of High Point Lane, approximately one quarter mile from the proposed dispensary. Sidewalks are provided on both sides of the roadway west of Mechanic Street, and a marked crosswalk is provided at Colonial Drive and between Kate’s Way and Mechanic Street. Therefore the dispensary may be accessed safely on foot from the bus stop.

- D. *FPES believes that the travel challenges cannot be addressed with the currently proposed mitigation without expanding the existing travel right of way.*

The travel challenges, proposed mitigation, and travel right-of-way referenced are unclear. However, Fuss & O’Neill’s opinion remains that impacts from the traffic generated by the proposed development will be de minimis.

8. *In the field we measured that the distance between the proposed egress driveway and the intersection of Olga Road and Eleanor Street was 32’. This limited distance could produce conflict points between vehicles exiting the egress driveway and those vehicles making a right turn from Olga Road unto Eleanor Street.*

The proposed driveway location has not been finalized. A preliminary sketch has been attached to this letter. Although the driveway, if constructed, will likely be located in close proximity to the intersection of Olga Road and Eleanor Street, sight lines to the intersection are unobstructed. Additionally, Eleanor Street and Olga Street are low volume, low speed roadways, so vehicles are expected to exit the site safely and with clear visibility.

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9. *The proponent does not offer any specific mitigation measures. Such measures may include adding turn lanes at almost all the intersections including Mechanic Street at State Road intersections for left turners. Traffic calming efforts may also be needed to accommodate pedestrians and bicyclists that were part of the Travel Demand Management (TDM) scheme proposed by the project proponent. While not popular, signalization may be needed to accommodate the conflicting movements in a safe and orderly fashion. Signalization may also help relieve users from taking risky maneuvers and may provide gaps in the traffic stream.*

The addition of an egress driveway to Eleanor Road (if desired by the Town) is a specific mitigation measure.

Generally, mitigation has been considered in a context sensitive manner to ensure that the development aligns with the goals of the Town and the Island. Turning lanes on State Road may improve vehicular operations during the peak hours, but the roadway widening required would drastically alter the character of the existing neighborhood.

Signalization at any of the study intersections would be unprecedented, and the site generated vehicle traffic (14 vehicles during the afternoon peak hour, and 24 vehicles during the Saturday peak hour) does not warrant the implementation of a traffic signal anywhere. Additionally, the number of collisions in the vicinity of the project site is low, so while a traffic signal is appropriate to improve safety at certain intersections, that is not necessary in this instance.

10. *Several of the intersections that are dog-legged intersections are modeled as simple intersections, making the analysis unrealistic. Intersections such as High Point Lane/State Road/Plaza (Pine Village Shopping) Drive; Pine Tree Road/Cook Road; Mechanic Street/Little House Café Drive are not regular four-legged intersections, and the simplification makes the results unrealistic as these intersections act independent of each other in terms of driveway geometry and operational characteristics and conflict patterns.*

The dog-legged intersections, or intersections with approach legs that are slightly offset, were modeled as simple intersections (traditional four-legged intersections) because the offset is minimal and modeling the intersections with offset intersection legs has little to no impact on capacity analysis results at unsignalized intersections, particularly in this instance where the through volume is negligible.

Nonetheless, the capacity analysis has been updated to reflect the existing intersection geometry, and results are included in the updated memorandum. The only difference noted as a result of this change is an improvement in operations at the intersection of Cook Road and State Road.

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11. *Mid-Block intersections and associated counts at locations such as Kates Way Plaza were not included in the study. The traffic volume between High Point Lane and Mechanic Street shows significant increase >15% in weekday traffic volume showing significant activity that happens in that section. This renders the analysis to be unrealistic.*

Refer to the response to question 4.

12. *The Trip Distribution assumes 50-50 split and yet Census Population count on the eastern side of (12,261) Mechanic Street is three times the count from the Western portion (4,199). The 75-25 split would appear more appropriate unless other considerations are present to justify the current directional distribution.*

Refer to the response to question 5.

13. *The project does adversely affect all the intersections in the vicinity of the project area. These challenges cannot be addressed without expanding right of way and including other extensive travel demand measures such as providing additional storage capacity in the form of two-way turn lanes and related safety measures.*

The expected addition of fewer than 50 peak hour trips to the roadway network does not present any meaningful adverse effect on the study area intersections. While average delays are shown to increase on the order of five seconds per vehicles on side street approaches during the peak hours, the impact will be imperceptible to roadway users.

This comment, which has been reiterated throughout the letter, is indicative of an assessment of existing conditions on State Road. The purpose of a Traffic Impact Assessment is to evaluate the impact of the new trips that would be generated by a proposed development. In this case, the proposed development represents a one to two percent increase in vehicle traffic on State Road. An increase in traffic of less than five percent is considered insignificant by MassDOT, and by any reasonable standard.

Therefore, it remains the opinion of Fuss & O'Neill that the proposed development at 65 Mechanic Street will have no significant impact on traffic operations within the study area.



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We trust that this information is sufficient for you to complete your review. Should you have any questions or require additional information, please contact us.

Sincerely,

A handwritten signature in blue ink that reads 'Katherine O'Shea'.

Katherine O'Shea, EIT
Transportation Engineer

A handwritten signature in blue ink that reads 'Matt Skelly'.

Matthew W. Skelly, PE, PTOE
Project Manager

Attachments: Correspondence regarding study area intersections
Updated Traffic Memorandum