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#254-22
Traffic Impact Statement

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Refer to File No. NEW-0044

TO: City of Newton, MA
Host Community Agreement Advisory Group

FROM: Tony Capachietti, *Project Manager*

DATE: April 21, 2021
Revised March 25, 2022

SUBJECT: Nuestra (The Boston Garden)
Proposed Marijuana Establishment
1185 Chestnut Street
Newton, MA

Hayes Engineering, Inc. (HEI) has prepared this Traffic Impact Statement in support of the proposed Nuestra, LLC ("Nuestra") Marijuana Establishment proposed at 1185 Chestnut Street in Newton, MA (the "Property"). The purpose of this Impact Statement is to evaluate the anticipated Average and Peak Hour trip generation rates and volume for the facility under both its prior and proposed uses. **This report was revised on March 25, 2022 to reflect changes in the proposed gross floor area (GFA) of the building and parking layout.**

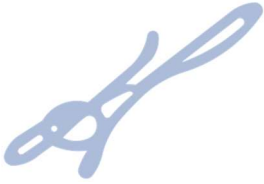
Site Context

The Property is located on the southerly side of Chestnut Street approximately 425-feet west of the intersection of Chestnut and Oak Streets. The site is currently served by an existing curb cut along the Chestnut Street frontage. There is a single 7,880-sf¹ block-masonry building on the parcel with associated asphalt driveway and parking areas. The posted speed limit on Chestnut Street is 25 miles per hour (mph) in both directions of travel. The prior use for the parcel was "Especially for Pets" providing retail pet products, pet grooming and pet training services. The Applicant seeks to reuse a 4,988-sf. portion of the building as a retail marijuana establishment and demolish approximately 2,892-sf. of footprint to expand on-site parking.

Trip Generation

Average Daily Vehicle Trips and Peak Hour Trips for the project are calculated using data published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.

¹ City of Newton Assessor's Database, 1185 Chestnut Street, Parcel ID 51045 0009



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Existing Condition:

The previous use is similar to the Institute of Transportation Engineers (ITE) Land Use Code (LUC) 866, Pet Supply Superstore, defined in the ITE Trip Generation Manual, 10th Edition as being:

... a free-standing facility that specializes in the sale of pets and pet supplies, food, and accessories.

Trip Generation rates for the existing land use conditions are summarized in Table 1, below:

Table 1: *Trip Generation LUC 866 – Pet Supply Superstore*

Time Period	<u>LUC 866 Average Trip Ends per 1,000sf GFA</u>	<u>LUC 866 Estimated Vehicle Trip Ends⁽¹⁾</u>
Weekday Daily	3.55	28
Weekday AM Peak Hour	2.19 ⁽²⁾	17
Weekday PM Peak Hour	2.19	17
Saturday Daily	11.44 ⁽³⁾	90
Saturday Peak Hour	7.06	56

⁽¹⁾ – Based on 7,880± square feet of GFA

⁽²⁾ – Not published. Assumed to be equivalent to PM Peak Hour for comparative purposes

⁽³⁾ – Not published. Assumed to have the same ratio of weekday peak hour to daily.

The proposed Marijuana Establishment use is best classified as Institute of Transportation Engineers (ITE) Land Use Code (LUC) 882, Marijuana Dispensary, defined in the ITE Trip Generation Manual, 10th Edition as being:

... a standalone facility where cannabis is sold to patients or consumers in a legal manner.

Trip Generation rates are summarized in Table 1, below. It should be noted that the ITE cautions the use of its Marijuana Dispensary data as it was derived from a small sample set.

Table 2: *Trip Generation LUC 882 – Marijuana Dispensary*

Time Period	<u>LUC 882 Average Trip Ends per 1,000sf GFA</u>	<u>LUC 882 Estimated Vehicle Trip Ends⁽⁴⁾</u>
Weekday Daily	252.70	653
Weekday AM Peak Hour	20.88	54
Weekday PM Peak Hour	29.93	77
Saturday Daily	259.31	670
Saturday Peak Hour	36.43	94

⁽⁴⁾ – Based on 2,586± square feet of retail GFA, the remainder of the building will be dedicated to office/storage.



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It is our opinion that the early data obtained by ITE is representative of additional trip generation due to curiosity and the scarcity of the use. This is evidenced by actual data obtained by monitoring existing and operational dispensaries in the Commonwealth. HEI monitored total transactions at a recently opened recreational and medical marijuana dispensary in Lynn, MA during the initial opening period between October 26 and November 18, 2019. It was assumed that each transaction represented an individual vehicle having 2 trip ends to the facility, one arriving and one departing. Table 2, below, estimates projected trip ends for the proposed Nuestra facility using these more recent, observed rates:

Table 3: *Trip Generation Observed, Lynn, MA*

<u>Time Period</u>	<u>Average Trip Ends per 1,000sf GFA</u>	<u>Estimated Vehicle Trip Ends⁽⁵⁾</u>
Weekday Daily	144.16	373
Saturday Daily	176.74	457

⁽⁵⁾ – Based on 2,586± square feet of retail GFA, the remainder of the building will be dedicated to office/storage.

Traffic conditions are most impacted by primary, or new, trips. Primary trips are traffic with the specific purpose of visiting the destination. Not all vehicle trips anticipated by the proposed dispensary represent new trips. It is anticipated that many customers to the facility will be pass-by trips, rather than destination trips to the facility, and will have minimal impacts to vehicle traffic conditions in the area.

Studies have shown that for developments such as the proposed dispensary, a substantial portion of vehicle trips are from existing traffic passing by the site or diverted from another route to the proposed site. Data presented in the ITE Trip Generation Handbook indicates that for the average percentage of pass-by trips for Pharmacy/Drugstores without Drive-Through Windows is 49-percent during the weekday PM peak hour. This would further reduce the number of new vehicles that are anticipated to be traveling to/from the site. HEI conducted a transportation survey of 257 patrons exiting an existing dispensary operating in Brookline, MA on June 13, 2019 identified 53.7% of patrons considered their stop to be a pass-by or diversion trip on their way to their ultimate destination.

Using a pass-by trip rate of 49% for the dispensary rates reduces the anticipated number of vehicle trips as identified in Table 4, below:



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Table 4: *Trip Generation LUC 882 – Marijuana Dispensary Destination Trips*

<u>Time Period</u>	<u>LUC 882 Average Trip Ends per 1,000sf GFA</u>	<u>LUC 882 Estimated Vehicle Trip Ends⁽⁶⁾</u>
Weekday Daily	128.88	333
Weekday AM Peak Hour	10.65	28
Weekday PM Peak Hour	15.26	39
Saturday Daily	132.25	342
Saturday Peak Hour	18.58	48

⁽⁶⁾ – Based on 2,586± square feet of retail GFA, the remainder of the building will be dedicated to office/storage.

The remainder of the facility will be used for general office and storage purposes in support of the dispensary. ITE Land Use Code (LUC) 712, Small Office Building, defined in the ITE Trip Generation Manual, 10th Edition as being:

A small office building houses a single tenant and is less than or equal to 5,000 gross square feet in size. It is a location where affairs of a business, commercial or industrial organization, or professional person or firm are conducted.

Trip Generation rates for the office portion of the proposed use are summarized in Table 5, below:

Table 5: *Trip Generation LUC 712 – Small Office Building*

<u>Time Period</u>	<u>LUC 712 Average Trip Ends per 1,000sf GFA</u>	<u>LUC 712 Estimated Vehicle Trip Ends⁽⁷⁾</u>
Weekday Daily	16.19	39
Weekday AM Peak Hour	3.26	8
Weekday PM Peak Hour	3.73	9
Saturday Daily	1.99 ⁽⁸⁾	5
Saturday Peak Hour	0.40	1

⁽⁷⁾ – Based on 2,402± square feet of GFA

⁽⁸⁾ – Not published. Based on ratio of AM peak hour to Weekday Daily.

Table 6, below compared the estimated vehicle trip ends from both the existing and proposed conditions, assuming a pass-by rate of 49-percent for the conservative ITE trip generation estimates.



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Table 6: *Trip Generation Summary – Proposed vs. Prior Use*

<u>Time Period</u>	<u>Prior Use Vehicle Trip Ends</u>	<u>Proposed Uses Vehicle Trip Ends</u>	<u>Change in Trip Ends</u>
Weekday Daily	28	372	+344
Weekday AM Peak Hour	17	36	+19
Weekday PM Peak Hour	17	48	+31
Saturday Daily	90	347	+257
Saturday Peak Hour	56	49	-7

Peak hour traffic is used to evaluate roadway level of service. The maximum, projected, peak hour increase in vehicles from the use, using the larger ITE rates, is 31 trip ends during the Weekday PM Peak Hour. This anticipated increase is not anticipated to have an adverse effect on prevailing traffic conditions.

Stopping Sight Distance

Sight distance considerations are divided into two criteria:

- (1) Stopping Sight Distance (SSD); and
- (2) Intersection Sight Distance (ISD).

Approach SSD is the distance required for an approaching vehicle to perceive and react accordingly to a driveway exiting vehicle or object. Stopping sight distances used for design is the sum of two distances: (A) the distance a vehicle travels after the driver sees an object and begins braking, and (B) the distance it travels during braking, as calculated for wet level pavement. When the main roadway is either on an upgrade or downgrade, grade correction factors are applied.

ISD is based upon a perception and reaction time, and time required to complete the desired exiting maneuver after the decision to do so have been made. Values for exiting ISD represent time required to turn left or right from a stop condition, to accelerate to the operating speed of the street without causing approaching vehicles to reduce speed by more than 70% of their initial/design speed and, upon turning left, to clear the near half of the street without conflicting with vehicles approaching from the left having to reduce their speed by more than 70% of their initial/design speed. The ISD, therefore, is considered to enhance the operation of the adjacent street traffic over and above the actual needs of the stopping sight distance that is needed for the safe operation of the intersection.

Approach SSD is far more important, as it represents the minimum distance required for safe stopping, while exiting ISD criteria is based only upon acceptable speed reductions to the



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approaching traffic streams. As noted in ASSHTO, "If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions". This would be, basically, the minimum criteria for the safe operation of an unsignalized intersection.

The required approach SSD for each of the curb cuts was calculated using the following formula (AASHTO, p.3-5):

$$SSD = 1.47(V)(t) + 1.075 \left(\frac{V^2}{a} \right)$$

Where: V = 85th percentile Speed

t = 2.5 seconds

a = 11.2 feet/second²

Required and provided SSD for the driveway intersection is presented in Table 3, below. Because a speed survey was not conducted on Chestnut Street the 85th percentile speed was conservatively assumed to be 10-mph above the posted speed limit of 25-mph.

<u>Location</u>	<u>Posted Speed</u>	<u>85th Percentile Speed</u>	<u>Calculated SSD for 85th Percentile Speed</u>	<u>Approximate Provided SSD</u>
Site Drive at 1185 Chestnut St Eastbound	25 mph	35 mph	246 feet	300± feet
Site Drive at 1185 Chestnut St Westbound	25 mph	35 mph	246 feet	400± feet

The proposed Project site drives will provide adequate stopping sight distance for approaching vehicles.



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Parking Analysis

Nuestra seeks to reconfigure the existing parking lot to provide 18 parking spaces. In accordance with the requirements of the Americans with Disabilities Act (ADA) and Massachusetts Architectural Access Board (MAAB) standards one (1) of the 18 spaces will be designated as accessible and be connected to all public facility elements with an accessible route. The space will be served by an 8-foot access strip that will accommodate wheelchair van loading and unloading operations.

Typical transaction times for purchases at marijuana establishments are between 10 and 15 minutes per customer, meaning the parking spaces will turn over between 4 and 6 times per hour. The maximum peak hour demand for the dispensary, using the un-adjusted ITE numbers, identifies 48 trip ends in the Saturday peak hour. Assuming a 15-minute customer transaction time, the 18-space lot would turn over 4-times per hour providing parking for 72 vehicles in the peak hour.

Conclusion

The proposed marijuana establishment at 1185 Chestnut Street should not adversely impact prevailing traffic conditions on Chestnut Street and is, preliminarily, designed to provide adequate and safe sight distances. It is recommended that the Proponent work with the City of Newton public safety offices and other departments to develop an opening day strategy that provides for police details, parking attendants and way-finding assistance to minimize disruptions during the initial opening period. This strategy should be reviewed on a daily, or weekly, basis to evaluate its continuing need.

Exhibit E: Opening Day Plan

Boston Garden shares the City of Newton’s goals of ensuring that all operations at its proposed facility are designed to optimize local safety, minimize impact to the surrounding neighborhood, and allow Boston Garden to operate harmoniously within the larger Newton community.

I. Plan Goals

1. Ensure the safety of customers, employees, and surrounding abutters.
2. Minimize the impact of traffic flow on adjacent businesses and nearby streets.
3. Facilitate efficient parking lot operations to minimize back up on adjacent streets.
4. Implement efficient appointment systems to reduce initial traffic burdens.
5. Provide information to allow customers to get to/from the facility efficiently and safely.
6. Promote efficient coordination between Boston Garden, the Newton Police Department, and the City of Newton.
7. Establish open lines of communication with abutters and nearby residents and local businesses.

II. Site Plan and Parking

1. Use of Parking Spaces

Boston Garden has access to 18 exclusive spaces on site.

2. Suitability of Parking Spaces

As outlined in the enclosed **Traffic Impact Statement**, Boston Garden anticipates that at its peak hour, nine vehicles will seek to utilize the dispensary parking lot. Three parking spaces will be reserved for staff. 15 parking spots are available for use. Boston Garden anticipates that the average customer will be on site for 15 minutes.

Average Transaction Time	Peak Hour Customer Parking Requirements	Hourly Parking Availability (Assuming 15 min visit)
15 minutes (0.25 hr) – 4 turns	Nine spaces will be required at Boston Garden’s parking lot at its peak hour of operations	15 spaces * 4 turns = 60 spots available for use each hour

3. Parking Lot Management

For at least the first six months of operation and as long as deemed necessary by Boston Garden and City officials, Boston Garden will employ a parking lot attendant at the Chestnut Street

curb cut to allow for the safe and efficient flow of customers in and out of the parking lot. The parking lot attendants will direct customers to available parking spaces to eliminate backups occurring in and out of the lot and assist in ensuring that customers safely traverse the parking lot when walking in and out of the facility.

III. Interior Facility Capacity and Management

1. Soft Opening Period

Boston Garden will conduct a soft opening for the fledgling months of operation by only offering facility access to customers that have made an online reservation via Boston Garden's website. Offering appointment only services will assist in preventing an overflow of customers, mitigating traffic impacts, educating customers about how to safely access the facility, and allowing for efficient operations inside of the retail establishment.

If implemented, Boston Garden will meet with the Town after the six months of operations and determine how long a reservation-only system should be utilized based on demand, traffic, and operations. Should City officials request that the reservation system be continued, Boston Garden will request monthly follow up meetings.

2. Floor Plan Capacity

Boston Garden's enclosed **Floor Plan** has been designed to accommodate high volume customer counts while protecting consumer privacy, optimizing customer experience, and preserving the flow throughout the retail facility.

Oversight over the number of customers in the facility will be the responsibility of security staff stationed at the entry and exit points of the facility. Staff will utilize a digital tally system for an accurate count of who is in the facility at any given time.

IV. Dissemination of Traffic and Parking Information

Boston Garden will be sure to include clearly marked information about appointment-only periods, traffic, and parking for its Newton facility on its website and social media channels. Boston Garden will provide information about appointment requirements, traffic, and parking in its responses to inbound media requests should it receive any. A map of traffic flows will be provided. Boston Garden will provide the information to the City of Newton and the Police Department to post or share at its discretion.

Prior to opening, Boston Garden will send a mailing to the neighborhoods closest to the establishment to inform them about opening procedures and provide contact information that they may utilize to receive additional information or alert Boston Garden's management team about system inefficiencies.

V. Plan Evaluation

Boston Garden respectfully requests the opportunity to meet with representatives from the City of Newton and the Newton Police Department to discuss traffic and queue management at the

following times:

- Prior to opening the facility;
- One week after opening;
- Two weeks after opening or as needed in the month following opening;
- One month after opening;
- Two months following opening;
- Six months following opening; and
- Additionally, at the discretion of Boston Garden, the City of Newton, and the Police Department.

VI. Plan Utilization Following Opening Day Period

During any periods of high traffic or higher than expected volume following the opening period, Boston Garden will, independently or at the written request of City officials or the Police Department, implement measures of the plan to ensure the facility is operating efficiently, safely, and in harmony with the surrounding community.