Town of Arlington, MA
Redevelopment Board

Agenda & Meeting Notice
October 5, 2020

This meeting is being held remotely in accordance with the Governor's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law G.L. c. 30A, Section 20. Public comments will be accepted during the public comment periods designated in the agenda. The public may email or provide any written comments to jraitt@town.arlington.ma.us by October 2, 2020 at 12:00 p.m. If visual information is provided as part of your correspondence, the Board requests this by October 5, 2020 at 12:00 p.m.

The Arlington Redevelopment Board will meet Monday, October 5, 2020 at 7:00 PM in the **Zoom Meeting with audio and video by connecting using this link and Meeting ID: https://town-arlington-ma-us.zoom.us/j/98592063485 | Enter Meeting ID: 985 9206 3485 or by phone with by calling: 1-646-876-9923, enter the Meeting ID followed by #**

1. Docket #2717, as amended #2905, 23 Broadway *Public Hearing*

7:00 p.m. Board will open public hearing to reopen Special Permit #2717 as amended by Docket #2905 to review application filed September 3, 2020 by Eskar, LLC, 9 Wildwood Rood, Middleton, MA, in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to establish a marijuana retail establishment at 23 Broadway Arlington, MA in the B2A Major Business District. The reopening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review.

- For each public hearing, applicants will be provided 5 minutes for a presentation.
- DPCD staff will be provided 3 minutes to discuss public hearing memo.
- Members of the public will be provided time to comment.
- Board members will discuss each docket and may vote.

2. Committee Appointment:

7:30 p.m. Alex Bagnall, Envision Arlington Standing Committee

- Board will vote on committee appointment.

3. Presentation and Discussion:

7:40 p.m. Residential Design Guidelines and Design Review Process for R0, R1, R2 Zoning Districts

• Representatives from Harriman and the Department of Planning and Community Development will make a presentation and facilitate a discussion with the Board

4. Meeting Minutes (07/20/20)

8:25 p.m. • Board will vote on approval of minutes.

5. Open Forum

8:30 p.m. Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made the night of the presentation. There is a three minute time limit to present a concern or request. Meeting participants will not have access to video.

6. Executive Session

8:50 p.m. To discuss pending litigation

7. Adjourn

8. Correspondence received:

Correspondence received from J. Berson 093020 re Docket 2717 23 Broadway

Town of Arlington, Massachusetts

Docket #2717, as amended #2905, 23 Broadway *Public Hearing*

Summary:

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ATTACHMENTS:

Type	File Name	Description
Reference Material	Agenda_Item_1_Final_EDR_Public_Hearing_Memo_Docket_2717_amended_by_2905_Eskar_23_Broadway.pdf	Final EDR Public Hearing Memo Docket 2717
Reference Material	Combined_Application_Materials.pdf	Docket #2717 Combined Application Materials
Reference Material	LEED_Memo_and_Scorecard.pdf	Docket #2717 LEED Memo and Scorecard

Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 23 Broadway, Arlington, MA
Docket #2717, as amended by Docket #2905

Date: September 30, 2020

I. Docket Summary

This is an application by Michael Aldi and Michael Hunnewell for Eskar Arlington, LLC to establish a marijuana retailer at 23 Broadway within the B2A Major Business District. The Special Permit is to allow the Board to review and approve the proposed project, under Section 3.4, Environmental Design Review, and Section 8.3, Standards for Marijuana Uses.

The Town of Arlington adopted zoning amendments to address the sale of marijuana products to adults during Special Town Meeting on December 5, 2018. The zoning amendments created new definitions, new use categories, and standards. The standards include the buffers that are required from kindergarten through grade twelve public and private schools, public libraries, and town-owned playgrounds and recreational facilities. Additionally, the standards required a 2,000-foot distance between other recreational or medical facilities. Finally, the standards limited the number of marijuana retailers within Arlington to three.

In May 2019, the Select Board opened a process through which the Board would determine which operators would be awarded a Host Community Agreement. Eskar applied with the intent to open marijuana retail establishment at 23 Broadway. The site was deemed compliant with the Zoning Bylaw. The Town awarded Eskar a Host

Community Agreement. In addition to seeking the EDR Special Permit from the ARB, Eskar will need to apply for an Operating Permit from the Arlington Board of Health.

Materials submitted for consideration of this application:

- Application for EDR Special Permit,
- Existing Conditions dates August 19, 2020
- Site Plan dated August 19, 2020;
- First Floor Construction Plan dated June 16, 2020;
- Broadway Elevation Wall Sign dated June 16, 2020;
- Traffic Impact Analysis dated July 17, 2020;
- Eskar Security Policies and Procedures;
- Eskar Parking Exhibit dated August 19, 2020;
- Eskar Parking Agreement dated June 24, 2020; and,
- Memo on LEED practices and checklist dated June 19, 2020.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. **Section 3.3.3.A.**
   The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

   The Applicant proposes a marijuana retail establishment. Within the B2A Major Business District, marijuana uses require a Special Permit. The type of use specifically triggers the Environmental Design Review Special Permit from the Redevelopment Board per Section 3.4.2. The Board can find that this condition is met.

2. **Section 3.3.3.B.**
   The requested use is essential or desirable to the public convenience or welfare.

   Arlington, voted "yes" on the 2016 ballot question related to adult-use marijuana meaning the community supported adult-use marijuana. Although the ballot question passed statewide in 2016, the state had only established a process for reviewing and licensing medical marijuana treatment centers but not for how to process and administer new recreational facilities. While Massachusetts municipalities awaited regulations from the state, Arlington adopted a temporary moratorium in order to plan for future zoning amendments. Once regulations were issued, Arlington formed a Marijuana Study Group to help draft zoning amendments for a Special Town Meeting in December 2018. Town Meeting adopted zoning regulations that would regulate retail marijuana establishments and medical marijuana treatment centers.

   Following the desire of the community, the zoning amendments allowed both recreational and medical establishments along major corridors, in commercial centers, and accessible by public transportation. The zoning amendments placed

appropriate buffers from certain land uses and schools on the use and limited the density of this type of use within the community.

The location of this marijuana retailer meets the requirements of the zoning amendments and acts on the majority vote of Arlington in 2016 regarding recreational use of marijuana. The Board can find this condition met.

3. **Section 3.3.3.C.**
The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

The Traffic Impact Analysis provided by the Applicant seems to consider the likely demand for a well-situated marijuana retailer. Further detailed discussion is provided under the Environmental Design Review criterion 4.

The analysis suggests that the available on-site parking and on-street parking can accommodate potential customer demand. However, without a better analysis of how to best utilize the project site to handle parking and customer queueing, the proposed use may create traffic congestion and impair pedestrian safety and accessibility both on site and on adjacent roadways.

The Applicant should provide a Parking and Queue Management Plan that clearly indicates how the property will be utilized and how all traffic will be managed. This also requires consultation and regular meetings with the Arlington Police Department (APD) and codified in a Memorandum of Understanding between the retailer and the APD.

4. **Section 3.3.3.D.**
The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

With proper security and management as provided, the proposed use should not unduly subject the immediate area to hazards affecting health, safety, or the general welfare of the immediate area. Because no cultivation or processing will be taking place onsite, this establishment will not demand more water or sewer usage than any other business. On site changes do not indicate any changes or impact on existing drainage systems. The Board can find this condition met.

5. **Section 3.3.3.E.**
Any special regulations for the use as may be provided in the Bylaw are fulfilled.

Section 8.3, Standards for Marijuana Uses, applies to this use. The project site is outside of any required buffers from certain land uses and is beyond 2,000 feet from

any other marijuana retailer or medical marijuana treatment center. The Board can find that this condition is met.

6. **Section 3.3.3.F.**
The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The December 2018 Special Town Meeting adopted regulations for marijuana establishments including allowing the use to be established in the B2A Village Business District. The proposed location at 23 Broadway is located outside of any buffers around land uses as adopted by the Special Town Meeting as well. The Cannabis Control Commission has stringent requirements regarding the operation of marijuana establishments including modest signage and prohibiting the visibility of product from outside of the establishment and on-site consumption of product. The Board can find that this condition is met.

7. **Section 3.3.3.G.**
The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

The use will not be in excess or detrimental to the character of the neighborhood. Additionally, should this establishment be approved by this Board and other local permitting authorities and the Cannabis Control Commission, the Zoning Bylaw applies a 2,000-foot density buffer around this property. Therefore, future marijuana retailers or medical marijuana treatment centers will not be able to cluster within East Arlington business districts. Apothca has just opened in the Heights, and beyond Arlington, the nearest operating retail establishments in Newton and Brookline. (There are medical dispensaries in Cambridge and Somerville.) The Board can find that this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. **EDR-1 Preservation of Landscape**
The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The existing site condition is primarily impervious. There is an elevated landscaped buffer between the parking lot and the adjacent Lahey Health parking lot. There is some internal landscaping as well. The landscaped buffer between the two properties will remain in place, but some small but established shrubs adjacent to the building will be removed to install bicycle racks.

There appears to be limited opportunities to install additional landscaping on the site. The Board can find this condition met.

2. **EDR-2 Relation of the Building to the Environment**
Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

The proposed marijuana retailer will be established in an existing East Arlington building. There are no additions proposed to the existing building, although a new exit will be installed on the Sunnyside Avenue side and a delivery access point will be installed in the alcove off the drive aisle where a remote teller previously existed for the bank. The Board can find that this condition is met.

3. **EDR-3 Open Space**
All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

The landscaped open space requirement is 10% for this permitted use. There is no usable open space requirement for a non-residential use. The proposal will not increase the amount of landscaped open space on the site. The amount of landscaped open space appears to have been unchanged since the building was constructed. The Board can find that this condition is met.

4. **EDR-4 Circulation**
With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

Eskar will lease access to 12 of the 16 parking spaces on site from the building owner, which is one more than is required by the Zoning Bylaw:

Parking Requirement			
Use	**Square Footage**	**Zoning Requirement**	**Total Parking Required**
Retail	**3,238 sf**	**1/300 sf***	**11 spaces**
Total Parking Available to Eskar			**12**

There is on-street parking on Broadway; the spaces are unmarked. The applicant has also suggested formalizing three taxi/rideshare spaces in front of the building on Broadway. The 87 bus is available on Broadway, and more connections are available in Somerville on the opposite side of Alewife Brook Parkway. Broadway is also a short walk from Mass Ave where connections to multiple bus routes and T locations are available.

The Traffic Impact Analysis provided by the Applicant shows an increase in trips to the property in comparison to the existing use, which has not been in operation as a bank for a number of years. The trip generation analysis found that there will be 66 total weekday peak p.m. trips with an average of 760 weekday trips. The analysis also found that there will be 109 total Saturday mid-day peak trips with an average of 778 Saturday trips. In general, the analysis found that the daily increase of trips on Broadway would have a minimal impact on area intersections studied.

The Traffic Impact Analysis does describe that the first month of operation will be appointment only in order to reduce peak traffic issues, and during the initial six to twelve months, staff will monitor lines as concierge/security to maintain order. Appointment based visits to the establishment will by its nature control any queuing, but the application materials still lack a clear description of how customer queuing and parking will be controlled at this establishment. Although Arlington has already seen one adult-use establishment open in the Heights, this location in Arlington may attract a larger customer base from Somerville and Cambridge, where recreational dispensaries have been slow to open.

The project location has the benefit of capacity in the on-street parking spaces on Broadway. Although the application materials do not estimate the average length of visits, it does appear that the availability of on-site, off-street parking and on-street parking can accommodate the flow of customers. However, once the appointment-based system transitions to a non-appointment system, it appears that there is not enough queuing space in the floor plan, and the applicant should consider how queuing will happen outside within the parking lot without impeding building access.

The Applicant should provide a more critical analysis of parking and queue demands:

1. The Applicant should consider providing off-site parking for employees in order to fully utilize the on-site parking for customers. It should also be noted that the sight lines for vehicles exiting the property onto Sunnyside Avenue are extremely

limited, so frequent departures from the parking lot may cause conflicts between pedestrians and exiting vehicles.

2. Conversely, the Applicant could consider not using the on-site, off-street parking for customers due to the availability of on-street parking and use the rear parking lot for employee parking and queue management.

3. There may be a need to identify off-site parking for employees regardless of how the on-site parking is utilized. The Applicant should investigate options for long-term employee parking.

4. Related to bicycle parking, in Section 6.1.12(H), it appears that the applicant is requested that the long-term bicycle parking be converted to short-term bicycle parking. Six bicycle parking spaces will be provided in an area where small shrubs are currently located against the building. The style of bike rack proposed is one that is discouraged in the Bicycle Parking Guidelines and should be rethought. The application materials did indicate that the employees would be allowed to bring their bicycles into the building

The Applicant should be required to develop a Parking and Queue Management Plan that outlines how the facility will address parking and queue management once the above questions are answered. This Plan should be developed in coordination with the Arlington Police Department and the Department of Planning and Community Development. In addition to developing the Plan, there should be regular meetings to assess how parking and queueing is being handled.

5. <u>EDR-5 Surface Water Drainage</u>

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas. In accordance with Section 3.3.4., the Board may require from any Applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the Applicant fails to do. The Board may adjust in its

sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

It does not appear that there are any existing drainage systems on the site. The application materials indicate that no stormwater management will be added to the site. There may be an opportunity for the Applicant to incorporate low-impact development techniques to contribute to the on-site infiltration of stormwater.

6. **EDR-6 Utilities Service**
   Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

   There will be no cultivation or processing of marijuana at this proposed facility. Existing utility systems will be reused. Solid waste of non-marijuana material will be disposed of through a private contract. Any solid waste will be stored inside. Solid waste containing marijuana material must be disposed of properly in compliance with the Cannabis Control Commission's regulations. The application materials do not indicate how Eskar plans to handle solid waste pickup or solid waste containing marijuana material.

7. **EDR-7 Advertising Features**
   The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

   The application materials include a proposed wall sign that measures approximately 19.5 square feet. The application materials indicate that the sign will be individual stainless steel letters anchored to the wall. The individual letters will be halo illuminated. A wall sign of this size and design is in compliance with the sign regulations in this District. The Board can find this condition met.

8. **EDR-8 Special Features**
   Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

   There are no such special features proposed for the site. The Board may want additional information regarding deliveries and the storage of non-marijuana solid waste. To reduce noise from deliveries or from solid waste removal, the Board may request information on anti-idling measures and time of day restrictions to ensure that these services do not impact the surrounding residential properties.

9. **EDR-9 Safety**

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

As noted in the application materials, security is important to Eskar, and surveillance cameras will be installed within the building and on the site per the requirements of the Cannabis Control Commission. Existing light fixtures in the parking lot will be upgraded to be full cut off LED fixtures to provide illumination. The Board can find this condition met.

10. **EDR-10 Heritage**

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The existing structure is not listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* nor is it under the jurisdiction of the Arlington Historical Commission. As such, the site contains no historic, traditional or significant uses, structures or architectural elements. The Board can find that this condition is met.

11. **EDR-11 Microclimate**

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that will impact the microclimate. The Board can find that this condition is met.

12. **EDR-12 Sustainable Building and Site Design**

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

The application materials include a LEED Checklist for Retail. The proposed project does not score highly on the LEED Checklist, but notes that public transportation will

be encouraged, bicycle racks will be available, interior and exterior LED light fixtures will be installed, low-emitting materials will be used in the renovation. These are reasonable measures for an existing building where no changes to the exterior and limited changes to the interior by a building tenant are proposed. The Board can find that this condition is met.

IV. Conditions

General

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board at the time when future operators are identified. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board

2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.

3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.

4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.

5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with the Town Bylaws.

6. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.

Special Conditions

1. The Applicant shall work with the Arlington Police Department and Town Counsel to execute a Memorandum of Understanding (MOU) to coordinate efforts with a goal of minimizing and eliminating impacts on the neighborhood surrounding the facility at 23 Broadway. Consultation with the Department of Planning and

Community Development shall occur to ensure that the MOU is responsive to any decision.

2. The Applicant shall be responsible for the cost of any police details provided by the Arlington Police Department to oversee circulation of vehicles and pedestrians.

3. Queueing shall be prohibited in any public right-of-way on Sunnyside Avenue and Broadway.

4. As part of the Annual Sales Report provided to the Town of Arlington, the Applicant shall report how customers and patients arrive at the establishment.

KRATTENMAKER O'CONNOR & INGBER P.C.

ATTORNEYS AT LAW

ONE MCKINLEY SQUARE
BOSTON, MASSACHUSETTS 02109
TELEPHONE (617) 523-1010
FAX (617) 523-1009

CHARLES G. KRATTENMAKER, JR.
MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

August 25, 2020

VIA EMAIL AND FIRST-CLASS MAIL

Jennifer Raitt, Director
Department of Planning and Community
Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

Re: Special Permit Application of Eskar, LLC, 23 Broadway, Arlington, MA

Dear Director Raitt:

On behalf of Eskar, LLC (hereinafter referred to as "Eskar"), I am providing the additional information requested by Erin Zwirko, Assistant Director, in her email of June 18, 2020. These materials supplement the application previously filed with your office.

1. Site Plan

Enclosed is a site plan which includes, among other information, information as to where the customer bicycle parking will be located, the twelve (12) designated spaces for use by Eskar customers and how the traffic will flow in the parking lot. I also enclose an existing site conditions plan.

2. Floor Plan

Enlarged floor plan, which indicates, among other things, how the customer check-in is separated from the sales floor, the flow of patrons through the space and the employee inside bicycle parking.

3. Sign Rendering/Plan

Enclosed is the sign elevation for the exterior wall sign, which is placed in context with the Broadway side of the façade.

4. LEED

Enclosed is a letter from AEPMI Design & Building Consultants, which references the sustainable methods in the design, construction and operation of the space to be occupied by Eskar. Also enclosed is the LEED scoresheet.

5. Traffic Impact Report

The Transportation Impact Assessment prepared by Vanasse & Associates, Inc. is one hundred forty (140) pages and will be sent in a separate email to you.

The report references, inter alia, traffic counts, customer parking, other tenant parking, the flow of traffic in the parking lot, the location of accessible parking, proposed locations for ride-share pickup and drop off and the adequacy of available parking in the area.

6. Transportation Demand Management Plan

Enclosed is Eskar's proposed transportation demand management plan.

7. Arlington Police Department

Michael Hunnewell made contact with Captain James Curran of the Arlington Police Department to discuss the preopening, post-opening, security and traffic management.

Captain Curran advised him that any meeting on these issues would not occur until a month prior to opening at which time Captain Curran would visit the site for a tour of the space and to discuss these issue.

8. Parking Spaces

I enclose a letter agreement dated June 24, 2020 between the applicant and the owner of 23 Broadway, agreeing to lease to Eskar twelve (12) of the sixteen (16) parking spaces onsite.

9. Memorandum

Enclosed is the memorandum required in connection with the relief requested.

These materials supplement the previous submission, which included the Dimensional and Parking Information Sheet, application for special permit, lease and photographs.

Please schedule this matter for a hearing on the special permit. In advance, I thank you.

Very truly yours,

Mary Winstanley O'Connor

MWO/ccg
Enclosures
6934

cc: Michael Aldi
Michael Hunnewell

TOWN OF ARLINGTON
REDEVELOPMENT BOARD
Application for Special Permit In Accordance with Environmental Design Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address 23 Broadway
   Name of Record Owner(s) Kentury Ventures, LLC Phone (617) 821-5677
   Address of Owner 21 Broadway, Arlington, MA 02474
   Street City, State, Zip

2. Name of Applicant(s) (if different than above) Eskar Arlington, LLC
   Address 9 Wildwood Road, Middleton, MA 09149 Phone (617) 833-8795
   Status Relative to Property (occupant, purchaser, etc.) Tenant

3. Location of Property 23 Broadway, Arlington, MA
   Assessor's Block Plan, Block, Lot No.

4. Deed recorded in the Registry of deeds, Book 69019, Page 117;
   -or- registered in Land Registration Office, Cert. No. _____, in Book _____, Page _____.

5. Present Use of Property (include # of dwelling units, if any) Formerly used as credit union/bank

6. Proposed Use of Property (include # of dwelling units, if any) cannabis dispensary

7. Permit applied for in accordance with the following Zoning Bylaw section(s) See attached
   section(s) title(s)

8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

(In the statement below, strike out the words that do not apply)

The applicant states that Eskar Arlington, LLC is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 23 Broadway which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s) Michael F. Aldi, Manager — Michael R. Hunnewell, Manager

9 Wildwood Road, Middleton, MA 01949 — (617) 833-8795

Address — Phone

ATTACHMENT TO APPLICATION FOR SPECIAL PERMIT

7.	Section 3.4.2(4)	Marijuana establishments
	Section 8.3	Standards for marijuana uses
	Section 6.1.5	Parking Reduction in Business District
	Section 6.1.6	Off-street Loading Space requirements
	Section 6.1.12(H)(1)	Convert long-term bicycle parking spaces to short term
	Section 6.2.1	Sign review and approval

TOWN OF ARLINGTON
Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location 19–23 Broadway

Zoning District B–2A

Owner: Kentury Ventures, LLC

Address: 21 Broadway, Arlington, MA 02474

Present Use/Occupancy: No. of Dwelling Units:
Offices and former banking facility

Uses and their gross square feet:
10,850

Proposed Use/Occupancy: No. of Dwelling Units:
Office and retail cannabis dispensary

Uses and their gross square feet:
Office – 7,612; Cannabis dispensary – 3,238

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	10,890	10,890	min. –
Frontage	110.82	110.82	min. 50
Floor Area Ratio	.99	.99	max. 1.0
Lot Coverage (%), where applicable			max.
Lot Area per Dwelling Unit (square feet)			min.
Front Yard Depth (feet)	0	0	min. 0
Side Yard Width (feet) right side	0	0	min. 0
left side	55.52	55.52	min. 0
Rear Yard Depth (feet)	22.91	22.91	min. 15.35
Height			min.
Stories	3	3	stories 3
Feet	34' 6"	34' 6"	feet 35
Open Space (% of G.F.A.)	2	2	min. 10
Landscaped (square feet)	182	182	(s.f.) 1,088
Usable (square feet)	0	0	(s.f.) 0
Parking Spaces (No.)	16	16	min. 15 for office use ~~11 for retail~~
Parking Area Setbacks (feet), where applicable	0	0	min. 0
Loading Spaces (No.)	0	0	min. 1
Type of Construction	Brick exterior poured concrete foundation		
Distance to Nearest Building			min.

Town of Arlington Redevelopment Board
Application for Special Permit in accordance with
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested. Review the ARB's Rules and Regulations, which can be found at arlingtonma.gov/arb, for the full list of required submittals.

_X_ Dimensional and Parking Information Form (see attached)

_X_ Site plan of proposal

____ Model, if required

____ Drawing of existing conditions

____ Drawing of proposed structure

____ Proposed landscaping. May be incorporated into site plan

_X_ Photographs

_X_ Impact statement

_X_ Application and plans for sign permits

____ Stormwater management plan (for stormwater management during construction for projects with new construction

FOR OFFICE USE ONLY

_____ Special Permit Granted Date: _____

_____ Received evidence of filing with Registry of Deeds Date: _____

_____ Notified Building Inspector of Special Permit filing Date: _____

COMMONWEALTH OF MASSACHUSETTS

MIDDLESEX, SS.

ARLINGTON REDEVELOPMENT BOARD
Docket No.

* *
*
IN RE: *
*
Special Permit Application of Eskar Arlington, LLC, *
*
Applicant. *
*
* *

ENVIRONMENTAL IMPACT STATEMENT OF ESKAR ARLINGTON, LLC AND STATEMENT AS TO SATISFACTION OF SPECIAL PERMIT CRITERIA

On June 24, 2019, Eskar, LLC, a Massachusetts limited liability company, entered into a host community agreement (hereinafter referred to as "HCA") with the Town of Arlington to operate a marijuana retail establishment for the sale of marijuana and marijuana products at the property known and numbered as 19-23 Broadway, Unit 1F, Arlington, MA. The host community agreement was subsequently assigned by Eskar, LLC to Eskar Arlington, LLC (hereinafter referred to as the "Applicant", "Town", "Property" and "Facility", respectively).

The Applicant was selected to receive the HCA from among a number of other applicants by the Select Board after an extensive public hearing process.

The Applicant was awarded its first retail HCA for a facility it is intending to open in Northbridge, Massachusetts.

The Applicant's Vice President, Michael Aldi, one of the principals, has over a decade of experience in owning and operating various successful bar and restaurant establishments in Massachusetts.

The Applicant's principals have extensive experience in employee training on the handling of alcohol and have updated their training to meet the regulatory requirements for marijuana handling and sales. All prospective employees will be required to submit to background checks, training and continuing education.

The Applicant is expected to create over thirty (30) new jobs in the Town. Diversity in hiring is important to the Applicant and it intends to employ several initiatives, including interviewing minority applicants for every open position, performing a gender pay gap audit once a year and providing a mentor-protégé program for underprivileged people looking to enter the cannabis industry.

The Applicant has submitted to the Town in support of the HCA a business plan, which details, among other things, employee training and hiring protocols. A copy of the business plan was previously provided to the Board. The business plan also includes a detailed security plan and a traffic and parking plan. A detailed traffic study has been prepared by Vanasse & Associates, Inc. and is submitted herewith.

The HCA requires the Applicant to make quarterly community impact payments, so-called, to the Town in an amount equal to three percent (3%) of the gross sales of all marijuana and marijuana-infused products at the Facility. This will likely be a significant source of revenue for the Town.

The Property is located in the B-2A – Major Business District. Article 5, Section 5.5.1(c).

Given that the Town has selected the Applicant as an operator and entered an HCA with the Applicant, the Applicant seeks a special permit for the use proposed, which is permitted by special permit in a B-2A zoning district. The Applicant also seeks approval for its exterior signage, which is included with the application materials.

The Applicant suggests, as detailed hereinbelow that it satisfies: (a) those environmental impact criteria referenced in the Arlington Zoning By-law, which apply; and (b) the special permit criteria set out in Article 3, Section 3.3.3 of the By-law.

ENVIRONMENTAL DESIGN REVIEW STANDARDS AND IMPACT STATEMENT

The special permit requested is one for which a special permit is required and is within the jurisdiction of the Board. Article 3, Section 3.4.2. The signage approval requested comports with Article 6, Section 6.2.1, et seq.

Most of the environmental design review standards set out at Article 3, Section 3.4.4 primarily apply to the development of a proposed site. The Property is existing and the Applicant is intending to remodel the Facility, previously occupied by the New England Teamsters Credit Union, as detailed in the floor plan submitted.

- Preservation of Landscape, Relation of Building to Environment, Open Space, Surface Water Drainage, Utility Service, Microclimate and Sustainable Building and Site Design – This request is for a use permit in an existing building. There will be only minor changes to the exterior landscape of the grounds and/or the exterior of the building.

- Advertising Features – The proposed outdoor signage submitted for approval is in conformance with the Arlington Zoning Bylaw. The Applicant states that the signage proposed does not detract from the use and enjoyment of the Building and/or the surrounding properties in this B-2A zoning district. The sign will have a stainless steel background plate anchored five feet above the sidewalk level on the existing brick exterior wall. The word "Eskar" as depicted on the attached plan will be raised halo lit illuminated metal lettering. The sign is 2'3" in width, 8'8" in length and will have a total signage area of 19.5 square feet.

Article 6, Section 6.2.5(D)(10) requires that all wall signs in the business district be no more than forty square feet in area and no more than twenty-five feet in height.

- Special Features – There are no exterior "special features".

- Circulation – The Property has seventeen (17) parking spaces. Presently, entrance to the Property is from a drive entrance off of Broadway and visitors to the Property exit from the parking area onto Sunnyside Avenue, which intersects with Broadway. This allows for orderly circulation, safe use of the parking lot and no conflicts between vehicles seeking to enter or exit the parking lot.

  The Applicant is required to have three short-term and one long-term bicycle parking spaces. The Applicant is proposing six bicycle parking spaces.

- Safety – The Applicant states that all open and enclosed spaces on the Property are accessible to fire, police and other emergency personnel and equipment.

  The interior of the Facility will be outfitted with video surveillance equipment as detailed in the safety and security plan submitted to the Select Board. A copy of the safety and security plan was previously submitted to the Board.

- Heritage – There will be no removal or disruption of historic, traditional or significant uses, structures or architectural elements. The Applicant also suggests that the proposed signage comports with the architecture in the area.

The Applicant respectfully suggests that there will be no negative or adverse impact resulting from the approval of the special permit for the use of the Facility as a marijuana retailer.

Special Permit Criteria

The Board is required to grant the special permit requested provided it finds that the adverse effects, if any, of the proposed use will not outweigh its beneficial impacts to the Town or neighborhood, in view of the characteristics of the site and of the proposal in relation to the site. In making such a decision, the Board is required to include findings that the criteria set forth below for a special permit are met.

The Applicant states that it satisfies the criteria set out in Article 3, Section 3.3.3 of the Bylaw for the grant of a special permit.

1. The use requested, a marijuana retail shop, is listed as a use permitted with a special permit in the use regulations for the B-2A zoning district. Article 5, §5.5.3. The B-2A Zoning District is defined as the "Major Business District" in the Town. The B-2A District is located along, among other streets, Broadway. This district generally contains retail and service uses that serve the needs of a large neighborhood area. Article 5, §5.5.1(c).

2. The requested use is essential or desirable to the public convenience or welfare. In 2016, the registered voters in Massachusetts voted to legalize the sale of recreational marijuana in Massachusetts. Arlington registered voters approved the question. It is desirable to provide this service to residents in accordance with the expressed intent of the electorate and legislature in a regulated environment. Moreover, the proposed use will provide income to be added to the tax revenue by the requirement that the Applicant remit an amount equal to three percent (3%) of gross sales to the Town.

3. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any development use in the immediate area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare. The use proposed will replace a banking use formerly on the Property. There will be no additional requirements placed on municipal systems and there will be no development of the Property which will unduly subject residents to hazards affecting health, safety or the general welfare.

4. Special regulations. The proposed site of the Facility is not within: (a) 500 feet of a K-12 public or private school; (b) 300 feet of Town of Arlington playgrounds or recreational facilities; and/or (c) 200 feet of a Town of Arlington Public Library.

5. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals or welfare. The use is a permitted use in the B-2A zoning district. The Applicant intends only to make minor changes to the exterior of the Property as detailed on the plans.

   The interior of the Facility will have a more organic and historic feel. The interior will not be linoleum floors and floodlights, but will be wood and steel with complimentary lighting. See the interior plan for the Facility which is attached. The proposed use is subject to detailed security protocols and regulations and the Applicant is required to work closely with Town law enforcement.

6. The requested use will not, by its addition to this neighborhood, cause an excess of the particular use that could be detrimental to the character of said neighborhood. The Select Board, in selecting the Applicant among a number of others to receive a host agreement, concluded, among other things, that the proposed site was most appropriate due to the surrounding businesses. Further, there are no other marijuana establishments in the area.

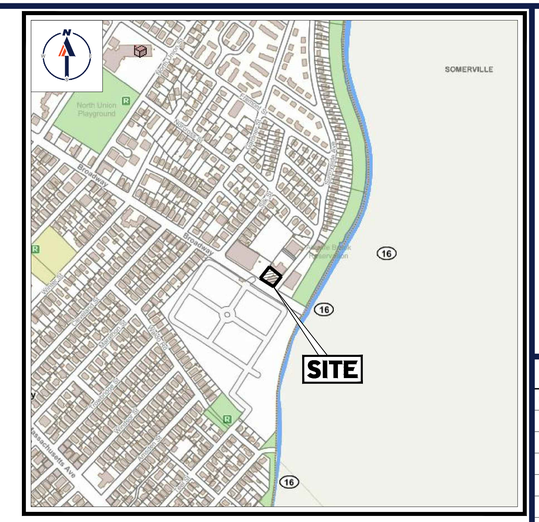
The Applicant maintains that it satisfies all of the criteria for the grant of a special permit to operate a marijuana retail establishment at this Property and requests that the Board approve the special permit. The Applicant also maintains that the proposed signage complies with the Town's signage bylaw and requests approval of the proposed sign.

ESKAR ARLINGTON, LLC

By its attorney,

Mary Winstanley O'Connor, Esq.
Krattenmaker O'Connor & Ingber P.C.
One McKinley Square, 5th Floor
Boston, MA 02109
(617) 523-1010

Dated: 8/25/2020



LOCUS MAP

SCALE: 1" = 500'
SOURCE: ARLINGTON GIS

EXISTING CONDITIONS PLAN NOTES

1. PROPERTY LINE INFORMATION DEPICTED ON THIS PLAN IS TAKEN FROM "ZONING SITE PLAN", PREPARED BY WOO & WILLIAMS, DATED 03/10/89 AND IS NOT THE RESULT OF AN ACTUAL FIELD SURVEY.
2. TOPOGRAPHIC INFORMATION DEPICTED ON THIS PLAN IS BASED ON ARLINGTON GIS AND IS NOT THE RESULT OF AN ACTUAL FIELD SURVEY.
3. BUILDING LOCATIONS DEPICTED ON THIS PLAN IS TAKEN FROM "ZONING SITE PLAN", PREPARED BY WOO & WILLIAMS, DATED MARCH 10, 1989 AND IS NOT THE RESULT OF AN ACTUAL FIELD SURVEY.
4. THE PERMANENT STRUCTURES DEPICTED HEREIN ARE APPROXIMATELY LOCATED ON THE GROUND AS SHOW.
5. PLAN CONTENTS ARE THE RESULT OF A COMPILATION OF THE ABOVE REFERENCES SOURCES AND VARIOUS RECORD AND NON-RECORD INFORMATION, AS WELL AS A VISUAL OBSERVATION CONDUCTED BY BOHLER ON AUGUST 17, 2020. THIS PLAN IS NOT THE RESULT OF AN ACTUAL FIELD SURVEY.
6. THE PURPOSE OF THIS PLAN IS TO DEPICT THE SITE IN A GENERAL NATURE AND INDICATE THE PROPOSED CHANGE IN USE ONLY.

10 5 2.5 0 10
1"= 10'

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REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PROJECT No.:	W201195
DRAWN BY:	NPD
CHECKED BY:	RMM
DATE:	08/19/2020
CAD I.D.:	W201195-CVL-0

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

ESKAR

PROPOSED DEVELOPMENT

MAP #33, BLOCK #2, LOT #3
23 BROADWAY
TOWN OF ARLINGTON
MIDDLESEX COUNTY,
MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

J.G. SWERLING
PROFESSIONAL ENGINEER
MASSACHUSETTS LICENSE No. 41697
NEW HAMPSHIRE LICENSE No. 14696
MAINE LICENSE No. 13816
CONNECTICUT LICENSE No. 39785
RHODE ISLAND LICENSE No. 11425

SHEET TITLE:

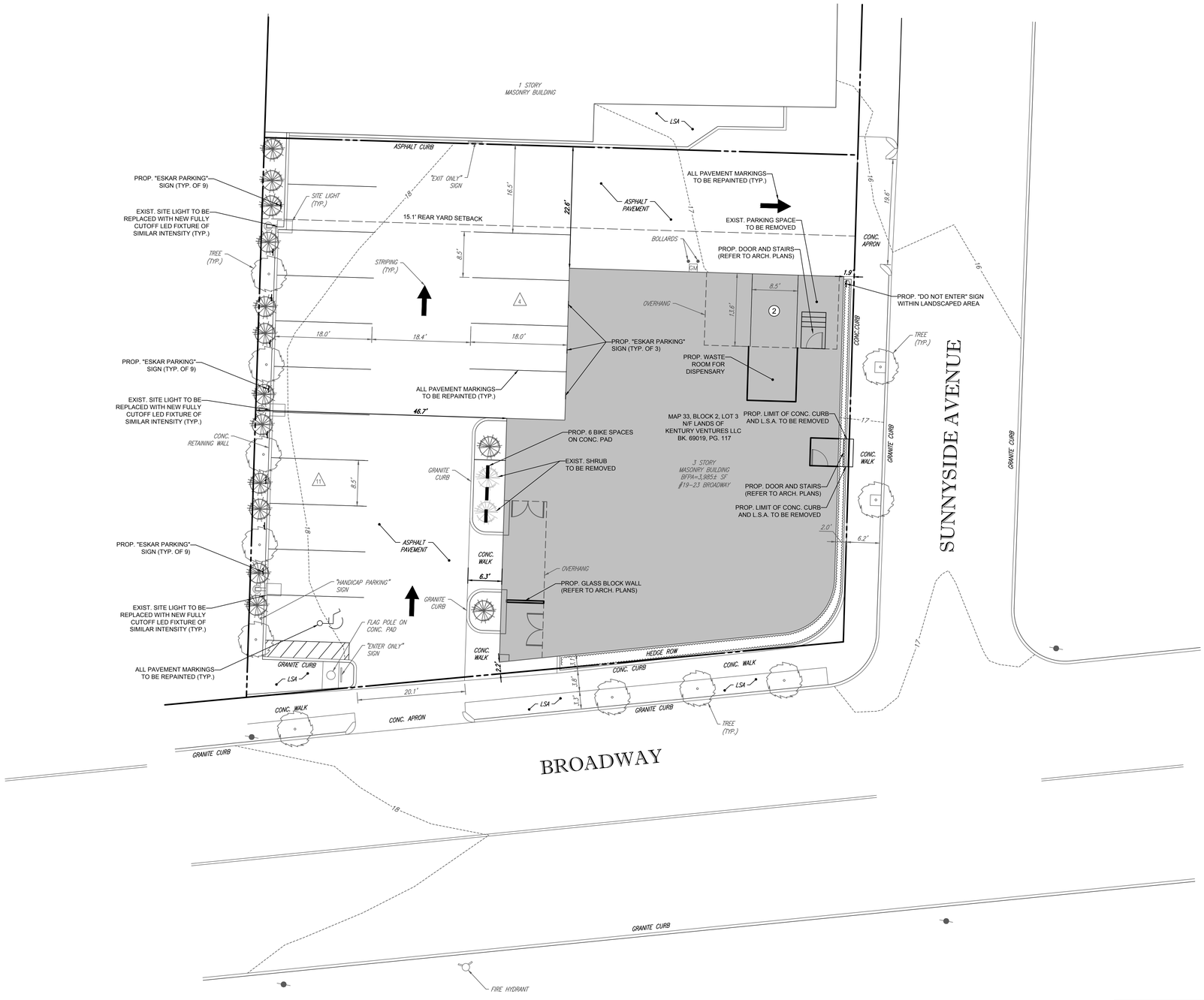
EXISTING CONDITIONS PLAN

SHEET NUMBER:

1

ORG. DATE - 08/19/2020

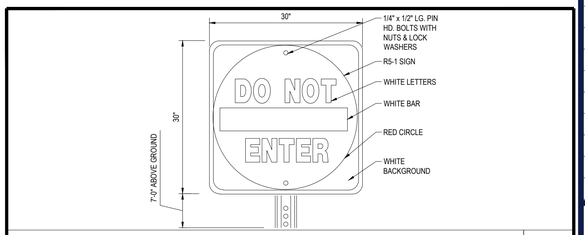
\\BOHLERENG.NET\SHARES\MA-PROJECTS\2\W201195\DRAWINGS\PLAN SETS\REV\W201195-CVL-0----1-LAYOUT EX. COND.



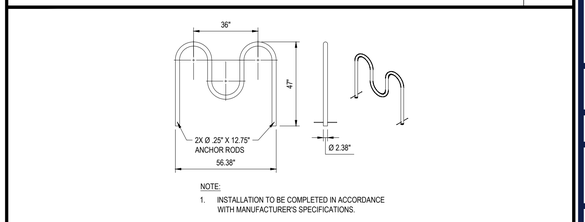
ZONING ANALYSIS TABLE

ZONING DISTRICT	- MAJOR BUSINESS (B2A) ZONING DISTRICT - RETAIL DISPENSARY REQUIRES A SPECIAL PERMIT		
ZONE CRITERIA	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	N/S	10,890 SF	NO CHANGE
MINIMUM LOT FRONTAGE	50 FT	110.85 FT	NO CHANGE
MAX. BUILDING COVERAGE	N/S	36.6%	NO CHANGE
MIN. FRONT SETBACK	0 FT	1.9 FT	NO CHANGE
MIN. SIDE SETBACK	0 FT	46.7 FT	NO CHANGE
MIN. REAR SETBACK	15.1 FT (1)	22.6 FT	NO CHANGE
MAX. BUILDING HEIGHT	35 FT	29.5 FT	NO CHANGE
MIN. OPEN SPACE	10%	10%	NO CHANGE
PARKING SPACES	10 SPACES	18 SPACES	17 SPACES
PARKING CRITERIA (9x18')	RETAIL: 1 SPACE / 300 SF GFA 3,985 SF / 300 SF = 13.2 = 14 SPACES		
ACCESSIBLE PARKING SPACES	1 SPACE	1 SPACE	NO CHANGE
ACCESSIBLE PARKING CRITERIA (STANDARD SPACE- 8'x18' W/ 5' ACCESS AISLE) (VAN ACCESSIBLE SPACE-8'x18' W/ 8' ACCESS AISLE)	1 - 25 TOTAL PARKING SPACES = 1 ACCESSIBLE SPACE VAN ACCESSIBLE SPACES= 1 / 6 SPACES (MINIMUM 1 PER LOT)		

N/S - NOT SPECIFIED
(1) - 10 FT + (L/10) = 10 FT + (51.1 FT/10) = 15.1 FT
L = LENGTH OF A WALL PARALLEL TO LOT LINE

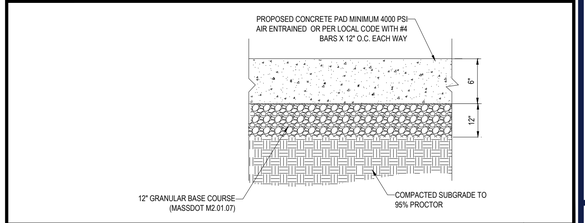


"DO NOT ENTER" SIGN — N.T.S.



NOTE:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

BIKE RACK — N.T.S.



CONCRETE PAD DETAIL — N.T.S.

ALL EXISTING TREES, SHRUBS, AND LANDSCAPED AREAS SHALL BE PRUNED/CLEANED UP

SITE PLAN NOTES

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ALL EXISTING PAVEMENT MARKINGS SHALL BE REPAINTED

10 5 2.5 0 10
1"= 10'

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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PROJECT No.:	W201195
DRAWN BY:	NPD
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PROJECT:

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FOR

ESKAR

PROPOSED DEVELOPMENT

MAP #33, BLOCK #2, LOT #3
23 BROADWAY
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

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NEW HAMPSHIRE LICENSE No. 14695
MAINE LICENSE No. 13816
CONNECTICUT LICENSE No. 38785
RHODE ISLAND LICENSE No. 11425

SHEET TITLE:

SITE PLAN

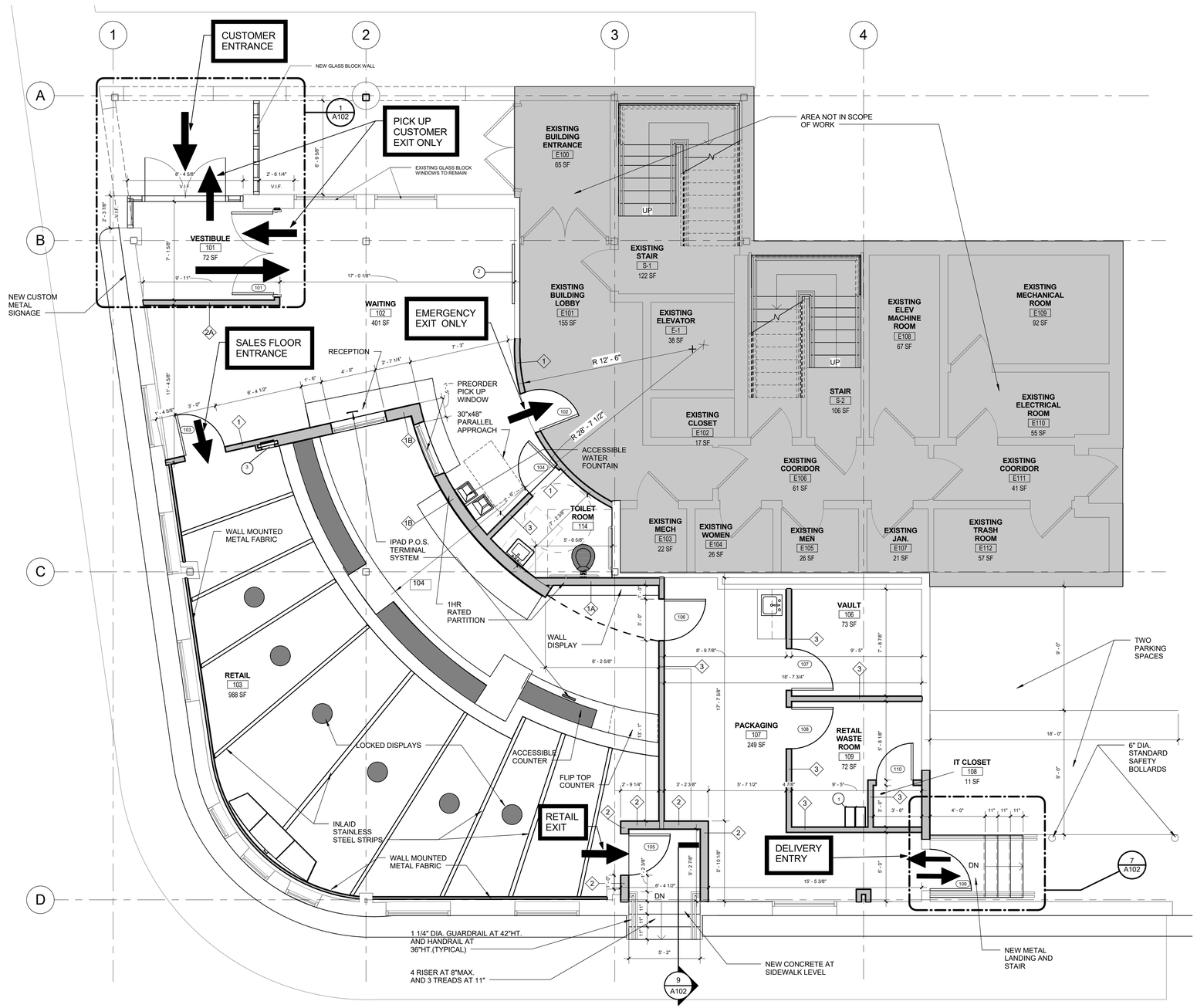
SHEET NUMBER:

2

ORG. DATE - 08/19/2020

MEANS OF EGRESS

OCCUPANT LOAD : MERCANTILE 18P TOTAL (GROSS AREA/60) 1021/60 = 18P
A2 INCIDENTAL 65P TOTAL (NET AREA/7) 455/7 = 65P
30P SHOWN



1 FIRST FLOOR CONSTRUCTION PLAN
1/4" = 1'-0"

LEGEND

- NEW PARTITION AND TAG REFER TO PARTITION TYPES
- NEW DOOR - SEE DOOR SCHEDULE
- EXISTING WALL TO REMAIN

GENERAL NOTES

1. VERIFY EXISTING CONDITIONS IN THE FIELD.
2. COORDINATE WITH THE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND NEW FIT OUT
3. ALLOW FOR THE INSTALLATION OF NEW SERVICES AND AS INDICATED ON MECHANICAL, ELECTRIC, PLUMBING AND TELECOM PLANS.
4. DIMENSIONS INDICATED ARE TO FACE OF GWB UNLESS OTHERWISE NOTED.

NEW WORK KEY NOTES

1. 2 TIER LOCKERS (SEE INTERIOR ELEVATIONS)
2. TV
3. FIRE EXTINGUISHER CABINET

PARTITION NOTES

1. REFER TO CODE COMPLIANCE FLOOR PLANS FOR LOCATIONS OF FIRE RATED PARTITIONS, FIRE SMOKE BARRIERS AND PARTITIONS TO PREVENT THE PASSAGE OF SMOKE.(DWG G001)
2. FIRE RATED PARTITIONS, AND ACOUSTICAL PARTITIONS EXTEND FULL HEIGHT TO THE UNDERSIDE OF GYPSUM BOARD (ATTACHED TO TRUSSES) AND/OR FLOOR DECK ABOVE AS SHOWN ON THE CODE DRAWINGS AND/OR WALL SECTIONS AND/OR PARTITION NOTES/SCHEDULE. SEAL ALL PENETRATIONS AND THE TOP/PERIMETER OF ALL PARTITIONS SPECIFIED TO EXTEND TO THE UNDERSIDE OF GYPSUM BOARD AND/OR DECK TO PREVENT THE PASSAGE OF FIRE, AND/OR SOUND.
3. FOR ARCHITECTURAL LEGENDS, ABBREVIATIONS AND SYMBOLS REFER TO SHEET G001. FOR LOCATION OF RATED PARTITIONS REFER TO DWGS. G001
4. DIMENSIONS INDICATED ARE TO FACE OF GWB UNLESS OTHERWISE NOTED.

SYMBOLS

1. # — PARTITION TAG

AEPMI INTERNATIONAL
ARCHITECTURE ENGINEERING PROGRAM MANAGEMENT

ANSONIA, CONNECTICUT 203.751.9522
NEW YORK, NEW YORK

WWW.AEPMI.NET

CONSULTANT:

KEY PLAN:

Revisions

NO	DATE	DESCRIPTION

XXX - Project Information

PRINCIPAL IN CHARGE: J. OLIVETO
PROJECT MANAGER: G. CLERMONT
DESIGNER:
PROJECT ARCHITECT / ENGINEER: G. CLERMONT
DRAWN BY:

PROJECT:

ARLINGTON RETAIL DISPENSARY

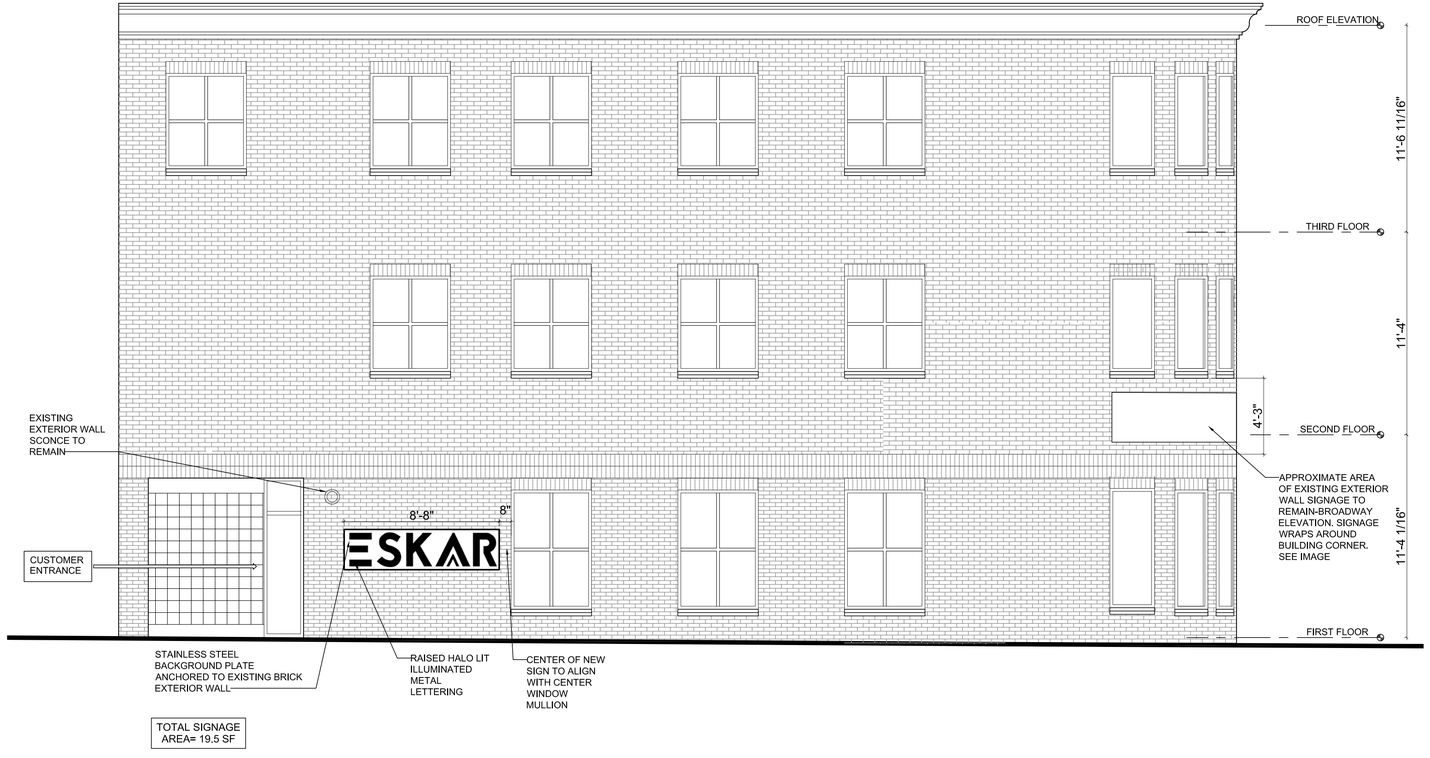
23 BROADWAY ARLINGTON, MA 02474

DRAWING TITLE:

FIRST FLOOR CONSTRUCTION PLAN

DATE: JUNE 16, 2020
SCALE: As indicated
PROJECT NUMBER: MA19160
DRAWING NO.: **A101**

1 23 BROADWAY ELEVATION - EXISTING CONDITIONS
SCALE: 1/4"=1' 0"



2 BROADWAY ELEVATION - WALL SIGN
SCALE: 1/4"=1' 0"

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ARCHITECTURE ENGINEERING PROGRAM MANAGEMENT

ANSONIA, CONNECTICUT 203.751.9522
NEW YORK, NEW YORK
WWW.AEPMI.NET

CONSULTANT:

KEY PLAN:

N

Revisions

NO	DATE	DESCRIPTION

PRINCIPAL IN CHARGE: J. OLIVETO
PROJECT MANAGER: G. CLERMONT
DESIGNER:
PROJECT ARCHITECT / ENGINEER
DRAWN BY:
PROJECT:

ARLINGTON RETAIL DISPENSARY

23 BROADWAY ARLINGTON, MA 02474

DRAWING TITLE:

BROADWAY ELEVATION WALL SIGN

DATE: JUNE 16, 2020
SCALE: 3/8" = 1' - 0"
PROJECT NUMBER: MA19160
DRAWING NO.: **A201**

LEED v4 for ID+C: Retail

Project Checklist

Arlington Cannabis R
29-Jun-20

Y	?	N			
		2	Credit	Integrative Process	2

8	8	20	Location and Transportation		18
		18	Credit	LEED for Neighborhood Development Location	18
	8		Credit	Surrounding Density and Diverse Uses	8
7			Credit	Access to Quality Transit	7
1			Credit	Bicycle Facilities	1
		2	Credit	Reduced Parking Footprint	2

NOTES: Eskar will encourage the use of the two-way bus stop located within 200 feet of the customer entrance. Employess will be re-embursed for use of public transportation. The bus schedule will be made available to customers and employees within the establishment . Eskar will make bicycle storage racks available for both customers and employees.

0	0	0	Water Efficiency		12
Y			Prereq	Indoor Water Use Reduction	Required
			Credit	Indoor Water Use Reduction	12

0	0	38	Energy and Atmosphere		38
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Fundamental Refrigerant Management	Required
		5	Credit	Enhanced Commissioning	5
		25	Credit	Optimize Energy Performance	25
		2	Credit	Advanced Energy Metering	2
		3	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

5	9	0	Materials and Resources		14
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1			Credit	Long-Term Commitment	1
	5		Credit	Interiors Life-Cycle Impact Reduction	5
2			Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	2		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2

5	7	4	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
	3		Credit	Enhanced Indoor Air Quality Strategies	3
3			Credit	Low-Emitting Materials	3
	1		Credit	Construction Indoor Air Quality Management Plan	1
	2		Credit	Indoor Air Quality Assessment	2
	1		Credit	Thermal Comfort	1
2			Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1

NOTES: Low-Emitting materials including adhesives, paints, wall coverings will be specified. All new lighting fixtures will be energy efficient LED.

0	0	6	Innovation		6
		5	Credit	Innovation	5
		1	Credit	LEED Accredited Professional	1

0	4	0	Regional Priority		4
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1

18	28	70	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80+

Transportation Impact Assessment

Proposed Retail Marijuana Dispensary
21 Broadway
Arlington, Massachusetts

Prepared for:

Eskar Arlington LLC
Arlington, Massachusetts

July 2020

Prepared by:

Vanasse & Associates inc
Transportation Engineers & Planners

35 New England Business Center Drive
Suite 140
Andover, MA 01810

CONTENTS

FIGURES

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EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has prepared this Transportation Impact Assessment (TIA) in order to evaluate potential traffic impacts associated with the proposed marijuana dispensary to be located at 21 Broadway, in Arlington, Massachusetts (the "Project"). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing and future traffic conditions, both with and without the Project.

PROJECT DESCRIPTION

The development entails the construction of a 3,000± square foot (sf) marijuana dispensary to be located at 21 Broadway in Arlington, Massachusetts. The Project site encompasses approximately 11,000± sf of land that is bounded by commercial properties to the north and west, Sunnyside Avenue to the east, and Broadway to the south. The Project site currently contains 7,600± sf of office space and a vacant 3,000± sf bank which will be renovated to accommodate the Project. The remaining office space will remain unaltered. The existing site provides a total of approximately 16 parking spaces, of which 12 spaces are allocated for the dispenasry. Access to the Project will continue to be served by way of one (1) entrance-only driveway along Broadway and one (1) exit-only driveway onto Sunnyside Avenue.

EXISTING CONDITIONS

A comprehensive field inventory of traffic conditions on the study area roadways was conducted in June 2020. The field investigation consisted of an inventory of existing roadway geometrics, traffic volumes, and operating characteristics, as well as posted speed limits and land use information within the study area. The study area for the Project contains the major roadways that provide access to the Project: Broadway and Sunnyside Avenue, as well as the intersections which are expected to accommodate the majority of Project-related traffic.

Existing Traffic Volumes

In order to determine existing traffic-volume demands and flow patterns within the study area, manual turning movement counts (TMCs) and vehicle classification counts were conducted on Thursday, June 11, 2020, during the weekday evening (4:00-6:00 PM) and on Saturday, June 13, 2020, during the Saturday midday (11:00 AM-2:00 PM) peak periods at the Broadway at Sunnyside Avenue intersection. In order to account for the reduction in traffic volumes caused by the travel restrictions enacted due to COVID-19, TMCs conducted at the Route 16 at Broadway intersection conducted on Tuesday, October 16, 2016, during the weekday evening peak periods were seasonally adjusted and grown to represent theoretical average-month 2020 traffic volumes. Based on this comparison, the TMCs conducted in June 2020 were found to be approximately 48.8% lower than anticipated. The June 2020 counts were increased by a factor of 2.05 to provide a conservative estimate of roadway operating conditions. Historic Saturday midday peak period TMCs were not available at the Route 16 at Broadway intersection.

Additionally, traffic volumes for full occupancy of the existing office space were generated using information available from the Institute of Transportation Engineers (ITE)[1] for the appropriate land use and were assigned onto the study area roadway network based on the existing traffic patterns within the study area.

A review of the peak-period traffic counts indicates that the weekday evening peak hour generally occurs between 4:30 and 5:30 PM with the Saturday midday peak hour generally occurring between 12:45 and 1:45 PM.

Motor Vehicle Crash Data

Motor vehicle crash data was acquired from the Massachusetts Department of Transportation (MassDOT) Safety Management/Traffic Operations Unit for the most recent five-year period available (2013 through 2017) in order to examine motor vehicle crash trends occurring within the study area. The intersection of Route 16 at Broadway experienced the highest frequency of accidents over the five-year review period with a total of 50 accidents reported at the intersection, averaging 10.0 accidents per year. The majority of accidents involved property damage only (32 out of 50), occurred on dry pavement (42 out of 50), during daylight (26 out of 50), and involved angle type collisions (31 out of 50). The intersection of Route 16 at Broadway was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities were reported at any of the study area intersections over the five year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Route 16 at Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing. The Broadway at Sunnyside Avenue intersection is not listed as an HSIP location and has a crash rate below the MassDOT average.

FUTURE CONDITIONS

Traffic volumes within the study area were projected to 2027, which reflects a seven-year planning horizon consistent with state traffic study guidelines. The future condition traffic-volume projections incorporated identified specific developments by others expected to be complete by 2027, as well as general background traffic growth as a result of development external to the study area and presently unforeseen projects. Anticipated project-generated traffic added to these future conditions reflect 2027 Build conditions with the Project.

[1] *Trip Generation*, 10th Edition; Institute of Transportation Engineers; Washington, DC; 2017.

Background Traffic Growth

Traffic-volume data compiled by MassDOT from permanent count stations and historic traffic counts in the area were reviewed in order to determine general background traffic growth trends. Based on this data, it was determined that traffic volumes within the study area have fluctuated over the past several years. In order to be consistent with previous traffic studies in the area, a 0.5 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

Specific Development by Others

The Town of Arlington and the City of Somerville were contacted in order to determine if there are any planned or approved specific development projects within the area that would have an impact on future traffic volumes at the study intersections. Based on these discussions, three (3) projects were identified in the immediate area of the project site, including a Mixed-Use Development at 11 Sunnyside Avenue, a Proposed Residential Development at 34 North Street, and a Hotel at 1154 Broadway.

As mentioned, the Project site formerly accomodated a 3,000 sf bank which is currently vacant. Traffic volumes associated with the reoccupation of the vacant 3,000 sf bank have been generated using information available from the ITE[2] for the appropriate land use and were assigned onto the study area roadway network.

Planned Roadway Improvements

The Town of Arlington Engineering Department was contacted in order to determine if there were any planned roadway improvement projects expected to be completed within the study area. Based on these discussions, no improvements are planned beyond general maintenance.

No-Build Traffic Volumes

The 2027 No-Build weekday morning and evening peak-hour traffic-volume networks were developed by applying the 0.5 percent per year compounded annual background traffic growth rate to the 2020 Existing peak-hour traffic volumes and then adding the traffic volumes associated with the identified specific development projects by others.

Site-Generated Traffic Volumes

The proposed project entails the construction of a 3,000 sf marijuana dispensary. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)[3] for a similar land use as that proposed were used. The ITE Land Use Code (LUC) *LUC 882, Marijuana Dispensary* was used to develop the traffic characteristics of the proposed 3,000 sf marijuana dispensary.

The proposed 3,000 sf marijuana dispensary will generate approximately 66 vehicle trips (33 entering and 33 exiting) during the weekday evening peak-hour and 109 vehicle trips (51 entering and 58 exiting) during the Saturday midday peak-hour. It should be noted that the typical opening traffic flow volumes can be higher for the first few months after opening.

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[2] *Ibid*
[3] *Ibid 1.*

Trip Distribution and Assignment

The directional distribution of the site-generated trips to and from the proposed development were determined based on a review of existing travel patterns at the study area intersections. In summary, 80 percent will arrive and depart the site to/from Broadway to the east, and 20 percent will arrive and depart the site to/from Broadway to the west.

TRAFFIC OPERATIONS ANALYSIS

In order to assess the impact of the proposed marijuana dispensary on the roadway network, traffic operations analyses were performed at the study intersections under 2020 Existing, 2027 No-Build and 2027 Build conditions. The addition of site-related traffic will result in a measurable, but not a significant, impact on overall operations at the study area intersections.

PARKING

In order to determine the availability of public parking in the vicinity of the Project site, a parking demand survey was performed on-street along Broadway between the Somerville City Line and Cleveland Street. On-street parking is provided along Broadway adjacent to the site and consists of approximately 62 spaces. The on-street parking is unmetered and designed for shorter stays and is restricted to one-hour parking only. The overall peak parking demand period in the vicinity of the project was found to occur between 2:30-3:30 PM peak period with 56 available parking spaces. Based upon this data it can be concluded that there is sufficient availability of on-street parking spaces in the area in addition to the 12 spaces on-site.

RECOMMENDATIONS

A transportation improvement program has been developed that is designed to provide safe and efficient access to the Project and address the unique characteristics of marijuana dispensaries study. The following improvements have been recommended as a part of this evaluation.

Project Access

Access to the Project will continue to be provided by way of one (1) entrance-only driveway along Broadway and one (1) exit-only driveway onto Sunnyside Avenue. The following recommendations are offered with respect to the design and operation of the Project site driveway:

- The exit driveway onto Sunnyside Avenue should be placed under STOP-sign (Manual of Uniform Traffic Control Designation R1-1) control, with a painted STOP-bar included. Do not enter signs should be installed facing Sunnyside Avenue.

- Pavement markings reinforcing the one-way operation of the Project driveway should be painted within the Project site.

- Illumination should be provided at the driveways.

- All signs and other pavement markings to be installed within the Development site shall conform to the applicable standards of the current Manual on Uniform Traffic Devices (MUTCD).[4]

- Signs and landscaping adjacent to the Project site driveway intersections should be designed and maintained so as not to restrict lines of sight.

Transportation Demand Management (TDM) Plan

As is the case with many developments, a major focus of the traffic mitigation plan focuses on the reduction of single-occupant vehicles arriving and departing to and from the site. This is predominantly accomplished by developing a comprehensive Transportation Demand Management (TDM) strategy. The proponent is committed to supporting a balanced multimodal transportation plan to serve the employees and patrons of the site. The major features of this TDM plan that support this commitment are as follows:

- ***Designation of a Transportation Coordinator -*** The transportation coordinator oversees all transportation issues including managing the TDM measures, parking, loading, and service. The marijuana dispensary will have a transportation coordinator.

- ***Provision of Transit Schedules*** - Links to the MBTA website will be included on the marijuana dispensary website. In addition, the project proponent will post information regarding public transportation services, maps, schedules, and fare information in a central location.

- ***Bicycling Resources -*** Secured bicycle spaces will be provided outside the building for patrons.

- ***Ride Share Accommodations*** – Accommodations will be provided to encourage the use of ride-sharing to facilitate drop-offs and pick-ups. Three (3) designated uber/lyft/taxi spaces will be provided directly in front of the site. In addition, drop-off and pick-up activity can circulate through the site from Broadway to Sunnyside Avenue.

The project proponent will investigate the implementation of these traffic reduction strategies and will work with the Town to implement such programs.

Parking

A total of 16 parking spaces are provided on the site of which 12 spaces are allocated for the proposed marijuana dispensary. The on-street parking supply along Broadway between the Somerville City Line and Cleveland Street is 62 spaces, most of which are vacant. In order to enhance compliance where on-street parking regulations, the Project proponent will provide new signage updating and formalizing the existing on-street parking regulations along Broadway between the Somerville City Line and Cleveland Street. Specific area parking includes:

- Three (3) uber/lyft/taxi reserved spaces in front of the building.

- 52 regulated 1-hour spaces along Broadway between the Somerville City Line and Cleveland Street.

Overall, there is adequate parking in the artea to support the Project.

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[4] *Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009

OPENING CONDITIONS OPERATIONS PLAN - CUSTOMER MANAGEMENT LOGISTICS

For retail marijuana dispensaries it is essential for a well thought out opening plan developed in consultation with local public safety officials. Elements of the plan include:

- **Additional Staff:** There will be additional security/concierge specifically focused on managing the customers, both internally and on the street along Broadway. These additional staff members will serve as concierge and will not replace the required security and check-in personnel, as required by the Massachusetts Cannabis Control Commission (CCC) regulations.

- **Appointment Only:** For the first month of operation, the Project proponent will require sales be by appointment only to reduce any peak traffic issues. During the initial 6 to 12 months of operation there will be additional staff to monitor lines as concierge/security to maintain order in the public way.

- **Coordinate with Arlington Police:** In advance of its opening day the Project proponent will coordinate with the Arlignton Police to arrange for the appropriate detail, discuss any proposed logistics for customer management and share any industry information the police may find useful.

CONCLUSIONS

The proposed Project will result in a measurable impact but will not have a significant impact on overall operations. With the implementation of the above recommendations, safe and efficient access will be provided to the planned development and the proposed development can be constructed with minimal impact to the area as designed.

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has prepared this Transportation Impact Assessment (TIA) in order to evaluate the potential traffic impacts associated with the proposed marijuana dispensary to be located at 21 Broadway, in Arlington, Massachusetts (the "Project"). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing and future traffic conditions, both with and without the Project.

PROJECT DESCRIPTION

The development entails the construction of a 3,000± square foot (sf) marijuana dispensary to be located at 21 Broadway in Arlington, Massachusetts. The Project site encompasses approximately 11,000± sf of land that is bounded by commercial properties to the north and west, Sunnyside Avenue to the east, and Broadway to the south. The Project site currently contains 7,600± sf of office space and a vacant 3,000± sf bank which will be renovated to accommodate the Project. The remaining office space will remain unaltered. The existing site provides a total of approximately 16 parking spaces, of which 12 spaces are allocated for the dispenasry. Access to the Project will continue to be served by way of one (1) entrance-only driveway along Broadway and one (1) exit-only driveway onto Sunnyside Avenue.

STUDY METHODOLOGY

This study was prepared in consultation with the Town of Arlington and City of Somerville officials and in accordance with the Massachusetts Department of Transportation (MassDOT) Guidelines for *Transportation Impact Assessment (TIA) Guideline*; and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports; and was conducted in three distinct stages.

The first stage involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics; pedestrian facilities; observations of traffic flow; review of safety characteristics along area roadways and collection of peak period traffic counts.

In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A seven-year time horizon was selected for analyses consistent with state guidelines for the preparation of TIAs. The traffic analysis conducted in stage two identifies existing or projected future roadway capacity, traffic safety, and site access issues.

The third stage of the study presents and evaluates measures to address traffic and safety issues, if any, identified in stage two of the study.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in June 2020. The field investigation consisted of an inventory of existing roadway geometrics, pedestrian facilities, traffic volumes, and operating characteristics, as well as posted speed limits and land use information for the major roadways that provide access to the Project: Broadway and Sunnyside Avenue, as well as the intersections which are expected to accommodate the majority of Project-related traffic. The study area for the Project is listed below and graphically depicted in Figure 1.

1. Alewife Brook Parkway (Route 16) at Broadway
2. Broadway at Sunnyside Avenue
3. Broadway at the Project Site Driveway
4. Sunnyside Avenue at the Project Site Driveway

The following describes the study area roadways and intersections:

GEOMETRY

Roadways

Broadway

Broadway is an urban principal arterial under local jurisdiction. Broadway generally runs in an east-west direction and provides one travel lane in each direction. Within the study area, Broadway generally provides two 11 to 12-foot wide travel lanes separated by a double-yellow centerline with no marked shoulders and parking provided intermittently along both sides. Sidewalks are provided along both sides of Broadway within the study area, with illumination provided by way of streetlights mounted on wood poles. The posted speed limit along Broadway is 25 miles per hour (mph). Land use within the study area consists of the Saint Paul's Cemetery and residential and commercial properties.

Sunnyside Avenue

Sunnyside Avenue is a local access roadway under local jurisdiction. Sunnyside Avenue generally runs in a north-south direction and provides one travel lane in each direction. Within the study area, Sunnyside Avenue generally provides a 26± foot wide traveled-way with no marked centerline or shoulders provided and on-street parking permitted along both sides of the roadway. Sidewalks are provided along both sides of Sunnyside Avenue within the study area, with illumination provided by way of streetlights mounted on

Figure 1

Site Location Map

Vanasse & Associates inc

wood poles. A posted speed limit is not provided along Sunnyside Avenue and, as such, the statutory speed limit is 25 mph. Land use within the study area consists of residential and commercial properties.

Intersections

Figure 2 summarizes existing lane use and travel lane widths at the study area intersections as observed in June 2020.

EXISTING TRAFFIC VOLUMES

In order to determine existing traffic-volume demands and flow patterns within the study area, manual turning movement counts (TMCs) and vehicle classification counts were conducted on Thursday, June 11, 2020, during the weekday evening (4:00-6:00 PM) and on Saturday, June 13, 2020, during the Saturday midday (11:00 AM-2:00 PM) peak periods at the Broadway at Sunnyside Avenue intersection. In order to account for the reduction in traffic volumes caused by the travel restrictions enacted due to COVID-19, TMCs conducted at the Route 16 at Broadway intersection conducted on Tuesday, October 16, 2016, during the weekday evening peak periods were researched and seasonally adjusted and increased to represent theoretical average-month 2020 traffic volumes. Based on this comparison, the TMCs conducted in June 2020 were found to be approximately 48.8% lower than anticipated. The June 2020 counts were increased by a factor of 2.05 to provide a conservative estimate of roadway operating conditions. Historic Saturday midday peak period TMCs were not available at the Route 16 at Broadway intersection.

Additionally, traffic volumes for full occupancy of the existing office use were generated using information available from the Institute of Transportation Engineers (ITE)[5] for the appropriate land use and were assigned onto the study area roadway network based on the existing traffic patterns within the study area. The 2020 Existing weekday evening and Saturday midday peak-hour traffic volumes are graphically depicted on Figure 3.

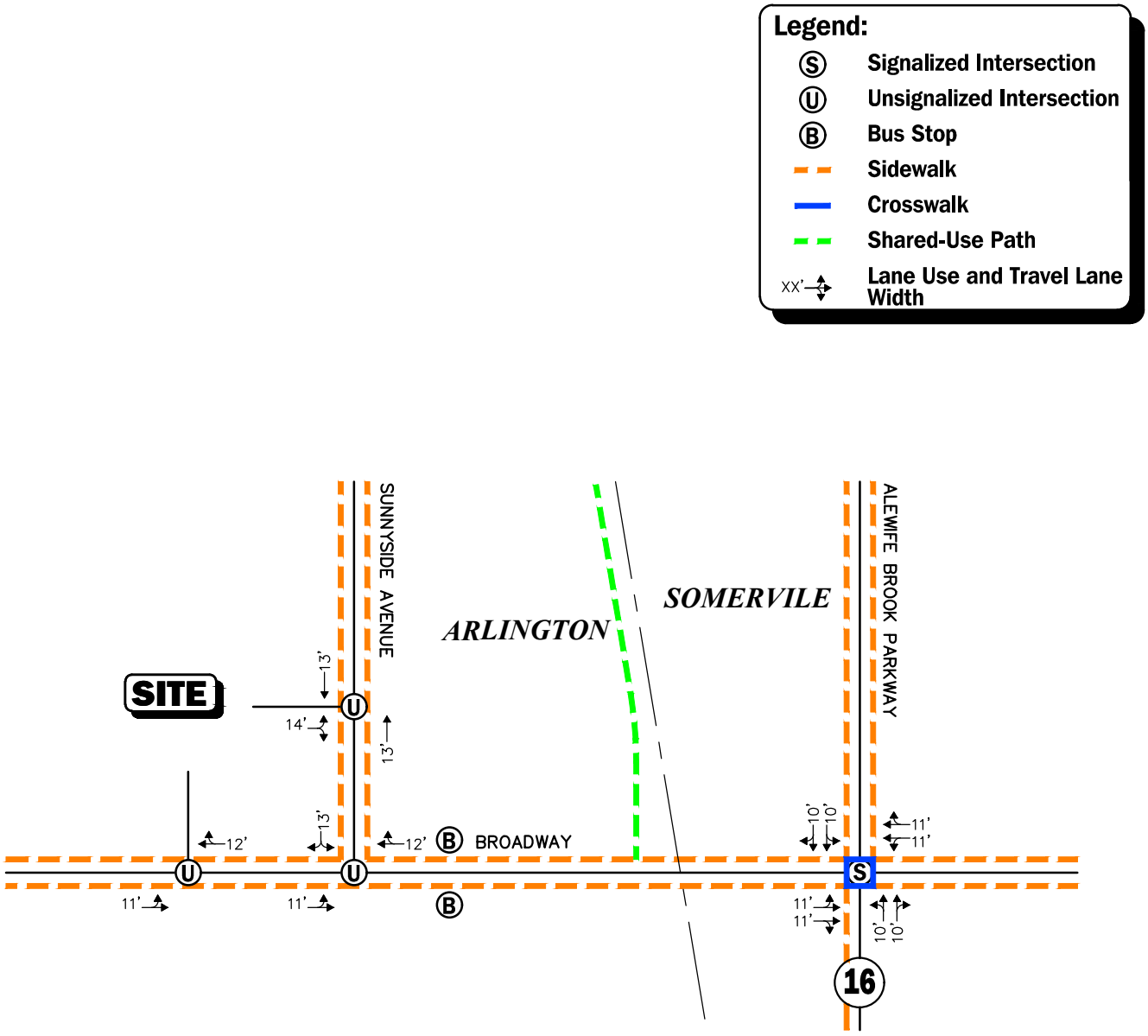
A review of the peak-period traffic counts indicates that the weekday evening peak hour generally occurs between 4:30 and 5:30 PM with the Saturday midday peak hour generally occurring between 12:45 and 1:45 PM.

PEDESTRIAN AND BICYCLE FACILITIES

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in June 2020. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study area roadways and at the study area intersections. As detailed on Figure 2, sidewalks exist on one or both sides of all study area roadways. Within the study area, painted crosswalks are provided at the Route 16 at Broadway intersection.

The Alewife Greenway Bike Path traverses the study area in a general north-south direction adjacent to the Project site to the east. This trail provides a connection to the Mystic Valley Parkway to the north and the Minuteman Bikeway to the south.

[5] *Ibid 1*



Not To Scale

Figure 2

Existing Intersection Lane Use, Travel Lane Width and Pedestrian Facilities

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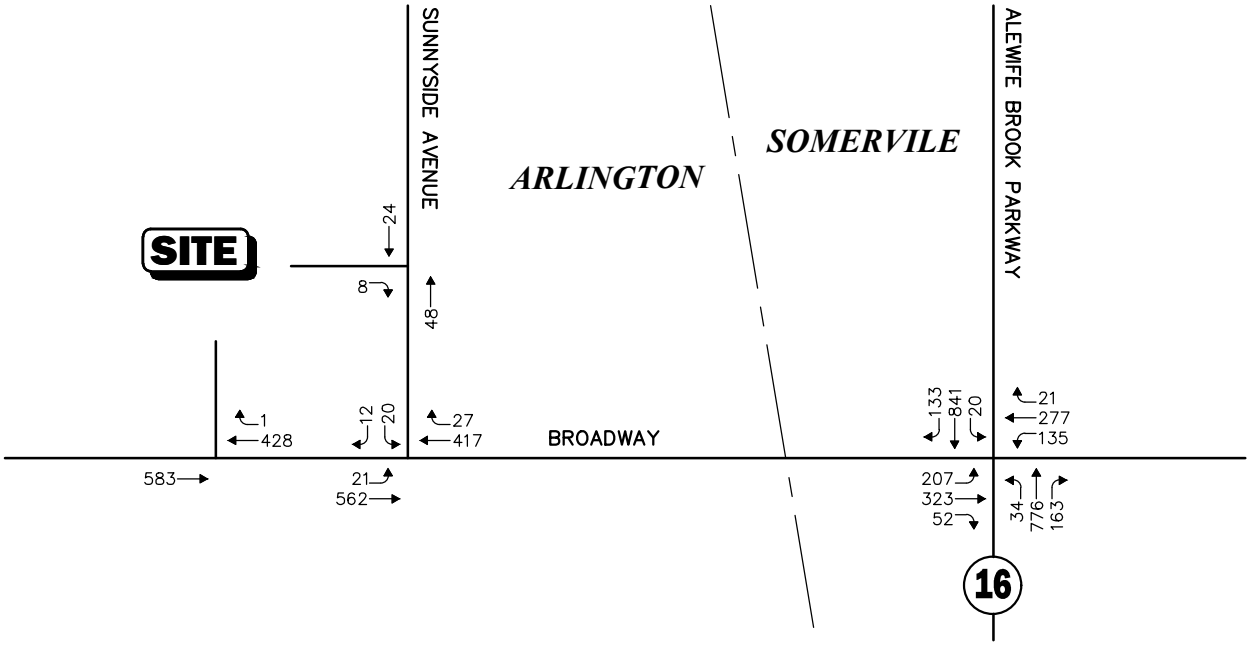
WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)

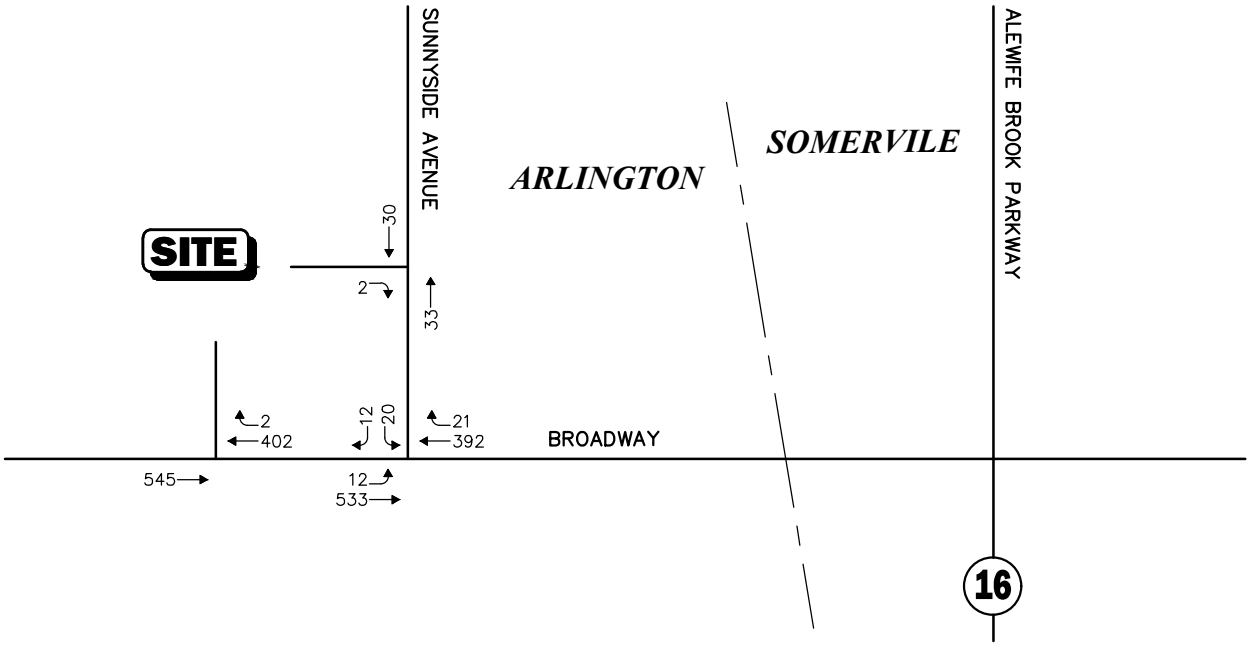


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Figure 3

2020 Existing
Peak Hour Traffic Volumes

Vanasse & Associates inc

PUBLIC TRANSPORTATION

Public transportation services are provided within the study area by the Massachusetts Bay Transit Authority (MBTA) for Bus service. Within the study area, the MBTA operates the following service:

- ***Route 87 – Clarendon Hill or Arlington Center - Lechmere Station*** – Route 87 stops at the Broadway at Sunnyside Avenue intersection, adjacent to the project site. Route 87 provides a connection to Arlington Center, Clarendon Hill, Teele Square, Davis Station (MBTA Subway Red Line), Union Square, and Lechmere Station (MBTA Subway Green Line). MBTA bus service operates Monday through Friday from approximately 5:07 AM to 1:40 AM, on Saturday from 5:15 AM to 1:35 AM, and on Sunday from 6:00 AM to 1:33 AM, with 30-minute-or-less headways on weekdays and Saturdays and 60-minute-or-less headways on Sundays. One-way fares for adults are $2.00 ($1.70 with a Charlie Card), a $0.85 fare for students with valid ID, and $0.85 fare for senior citizens (65 years of age or older) and persons with disabilities. All MBTA buses are handicapped and wheelchair accessible.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash data was acquired from the Massachusetts Department of Transportation (MassDOT) Safety Management/Traffic Operations Unit for the most recent five-year period available (2013 through 2017) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, and severity, and is presented in Table 1.

Table 1
MOTOR VEHICLE CRASH DATA SUMMARY[a]

Scenario	Alewife Brook Parkway at Broadway (Signalized)	Main Street at Clarks Road (Unsignalized)
Year:		
2013	8	0
2014	7	2
2015	6	2
2016	16	0
2017	13	0
Total	50	4
Average[b]	10.00	0.80
Crash Rate[c]	0.83	0.19
Significant[d]	Yes	No
Type:		
Angle	31	1
Rear-End	7	1
Head-On	3	0
Sideswipe	5	1
Fixed Object	3	0
Pedestrian/Bicyclist	1	0
Unknown/Other	0	1
Total	50	4
Time of Day:		
Weekday (Monday through Friday)	32	3
Saturday	12	0
Sunday	6	1
Total	50	4
Lighting Conditions:		
Daylight	26	1
Dawn/Dusk	1	1
Dark (lit)	22	1
Dark (unlit)	1	0
Unknown	0	1
Total	50	4
Pavement Conditions		
Dry	42	2
Wet	5	0
Snow	1	0
Ice	2	0
Slush	0	1
Unknown(Other)	0	1
Total	50	4
Severity:		
Property Only	32	2
Injury Accident	17	1
Fatal Accident	0	0
Hit and Run	0	0
Not Reported (Other)	1	1
Total	50	4

[a]Source: MassDOT, 2013 through 2017.
[b]Average crashes over a five-year period.
[c]Crash rate per million entering vehicles (MEV).
[d]Signalized intersections are significant if the rate is >0.73 crashes per MEV. Unsignalized intersections are significant if the rate is >0.57 crashes per MEV.

As summarized in Table 1, the intersection of Route 16 at Broadway experienced the highest frequency of accidents over the five-year review period with a total of 50 accidents reported at the intersection, averaging 10.0 accidents per year. The majority of accidents involved property damage only (32 out of 50), occurred on dry pavement (42 out of 50), during daylight (26 out of 50), and involved angle type collisions (31 out of 50). The intersection of Route 16 at Broadway was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities were reported at any of the study area intersections over the five year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Route 16 at Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing. The Broadway at Sunnyside Avenue intersection is not listed as a HSIP location and has a crash rate below the MassDOT average.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2027, which reflects a seven-year planning horizon consistent with State Traffic Study Guidelines. Independent of the Project, traffic volumes on the roadway network in the year 2027 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon this 2027 No-Build traffic network reflect the 2027 Build conditions with the Project.

FUTURE TRAFFIC GROWTH

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic. However, the drawback of this procedure is that the potential growth in population and development external to the study area would not be accounted for in the traffic projections.

To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

GENERAL BACKGROUND TRAFFIC GROWTH

Traffic-volume data compiled by MassDOT from permanent count stations and historic traffic counts in the area were reviewed in order to determine general background traffic growth trends. Based on this data, it was determined that traffic volumes within the study area have fluctuated over the past several years. In order to be consistent with previous traffic studies in the area, a 0.5 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

SPECIFIC DEVELOPMENT BY OTHERS

The Planning Departments of the Town of Arlington and the City of Somerville were contacted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersections. Based on these discussions, the following projects were identified:

- ***Proposed Mixed-Use Development – 10 Sunnyside Avenue -*** This project entails the potential development of approximately 25 residential units and 10,000 sf of medical-dental offices. This project will be located at 10 Sunnyside Avenue in Arlington, Massachusetts. Traffic volumes associated with this project were obtained using trip-generation information available from the ITE. This is based upon information provided by the Town Planning Department and the actual program may be different.

- ***Proposed Residential Development – Clarendon Hill -*** This project entails the replacement of 216 existing residential units with 591 residential units. This project will be located at 34 North Street in Somerville, Massachusetts. The Site Generated volumes were obtained from the respective traffic study.

- ***Proposed Hotel – Broadway Hotel –*** This project entails the development of a 75-room hotel. This project will be located at 1154 Broadway in Somerville, Massachusetts. The Site Generated volumes were obtained from the respective traffic study.

As mentioned, the Project site formerly housed a 3,000 sf bank which is currently vacant. Traffic volumes associated with the reoccupation of the vacant 3,000 sf bank development have been generated using information available from the ITE[6] for the appropriate land use and were assigned onto the study area roadway network.

No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

ROADWAY IMPROVEMENT PROJECTS

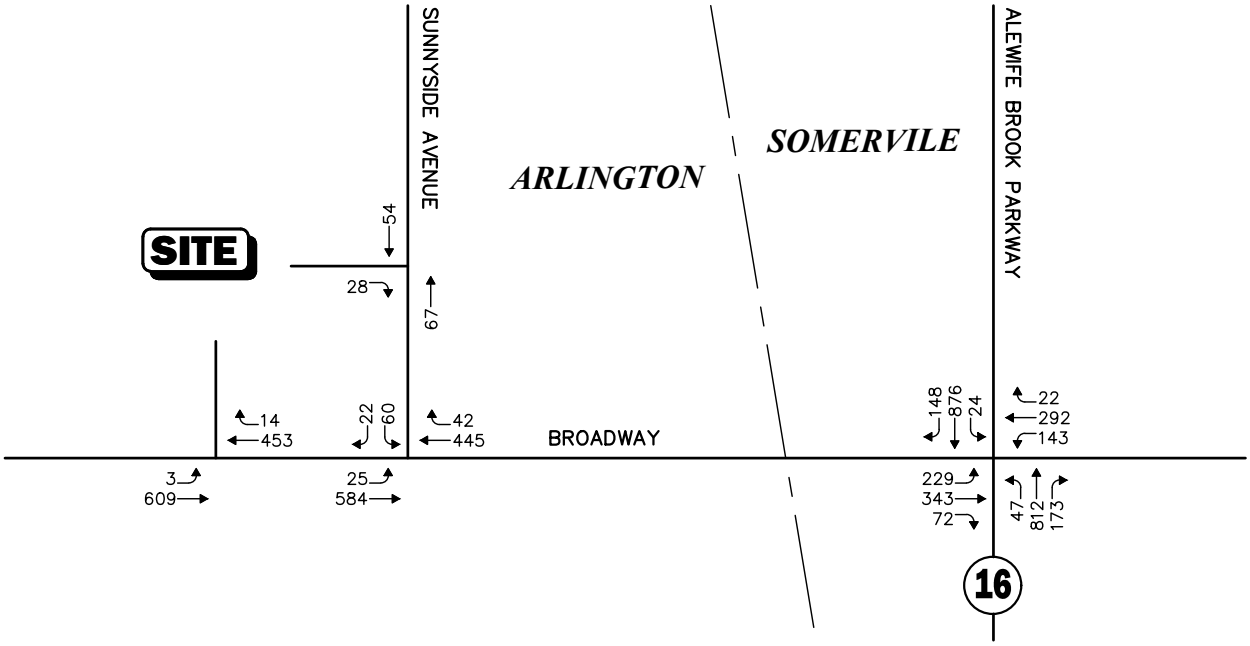
The Town of Arlington Engineering Department was contacted in order to determine if there were any planned roadway improvement projects expected to be completed within the study area. Based on these discussions, no improvements are planned beyond general maintenance.

NO-BUILD TRAFFIC VOLUMES

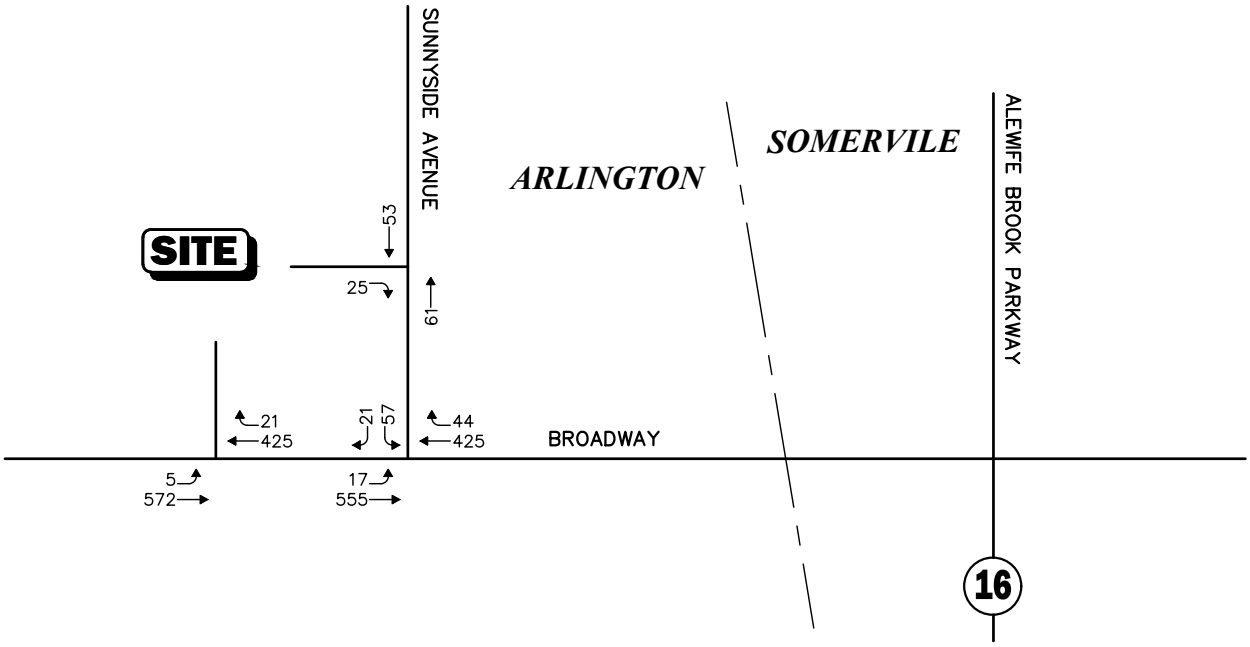
The 2027 No-Build peak-hour traffic-volume networks were developed by applying the 0.5 percent per year compounded annual background traffic growth rate to the 2020 Existing peak-hour traffic volumes and then adding the traffic volumes associated with the identified specific development projects by others. The resulting 2027 No-Build weekday evening and Saturday midday peak-hour traffic volume networks are shown on Figure 4.

[6] *Ibid 1*

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



Not To Scale

Figure 4

2027 No Build
Peak Hour Traffic Volumes

Vanasse & Associates inc

PROJECT-GENERATED TRAFFIC

The proposed project entails the construction of a 3,000 sf marijuana dispensary. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE[7] for a similar land use as that proposed were used. The ITE Land Use Code (LUC) *LUC 882, Marijuana Dispensary* was used to develop the traffic characteristics of the proposed Project.

Trip generation calculations were performed for a typical weekday, a typical Saturday, as well as the weekday evening and Saturday midday peak hours, the critical time periods for project-related traffic activity. A summary of the expected vehicle trip-generation is summarized in Table 2.

Table 2
TRIP GENERATION SUMMARY

Time Period/Direction	Proposed Marijuana Dispensary (3,000 sf)[a]
Average Weekday	760
Weekday Evening Peak Hour	
Entering	33
Exiting	33
Total	66
Average Saturday	778
Saturday Midday Peak Hour	
Entering	51
Exiting	58
Total	109

[a]Based on ITE LUC 221, Multifamily Housing (Mid-Rise)

As shown in Table 2, the proposed 3,000 sf marijuana dispensary will generate approximately 66 vehicle trips (33 entering and 33 exiting) during the weekday evening peak-hour and 109 vehicle trips (51 entering and 58 exiting) during the Saturday midday peak-hour. It should be noted that the typical opening traffic flow volumes can be higher for the first few months after opening.

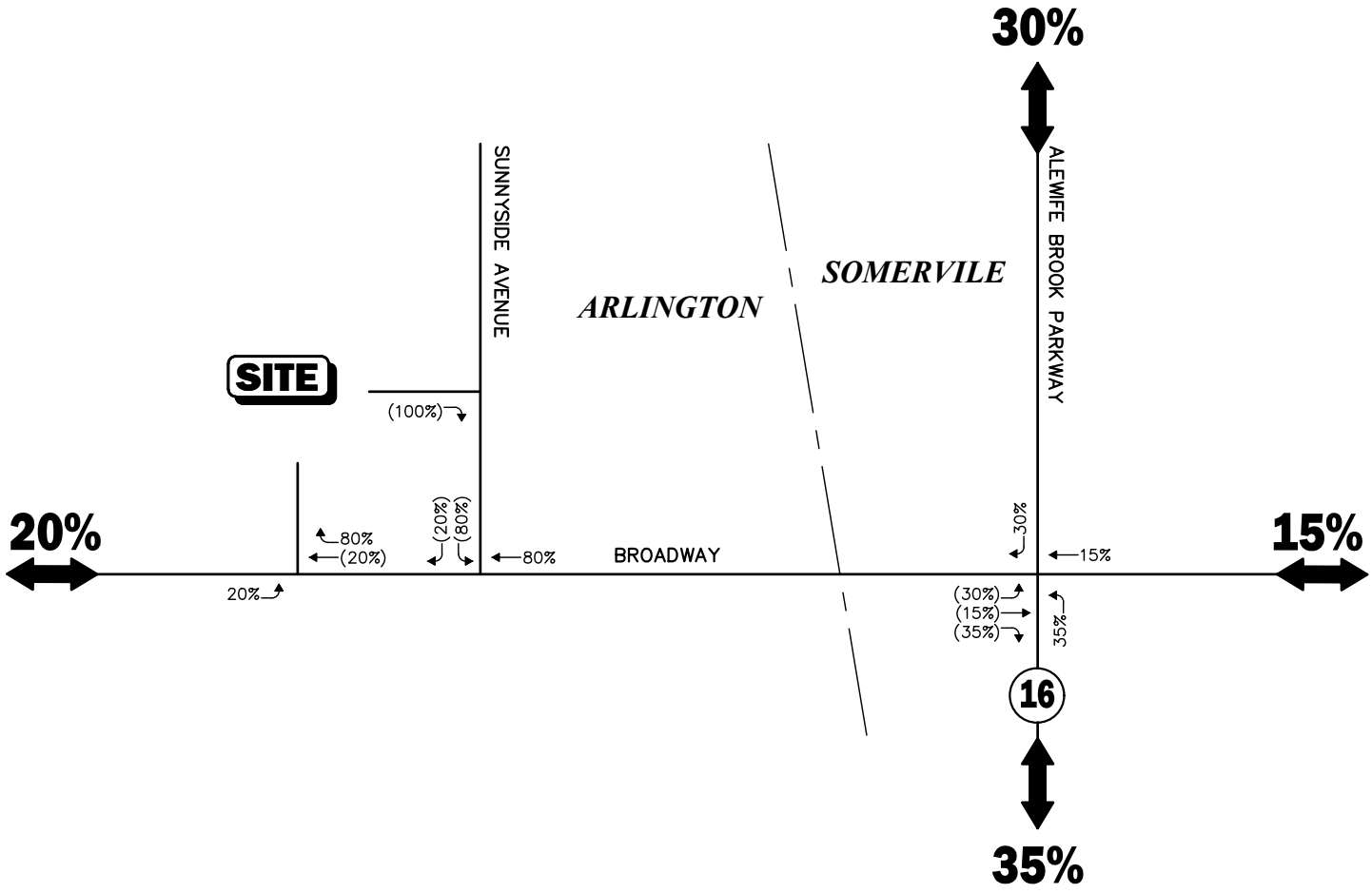
TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated trips to and from the proposed development were determined based on a review of existing travel patterns at the study area intersections. The general trip-distribution for the proposal is summarized in Table 3 and graphically depicted on Figure 5. The weekday evening and Saturday midday peak-hour traffic volumes expected to be generated by the marijuana dispensary were assigned on the study area roadway network as shown on Figure 6.

[7]*Ibid 1*

Legend:

XX	Entering Trips
(XX)	Exiting Trips



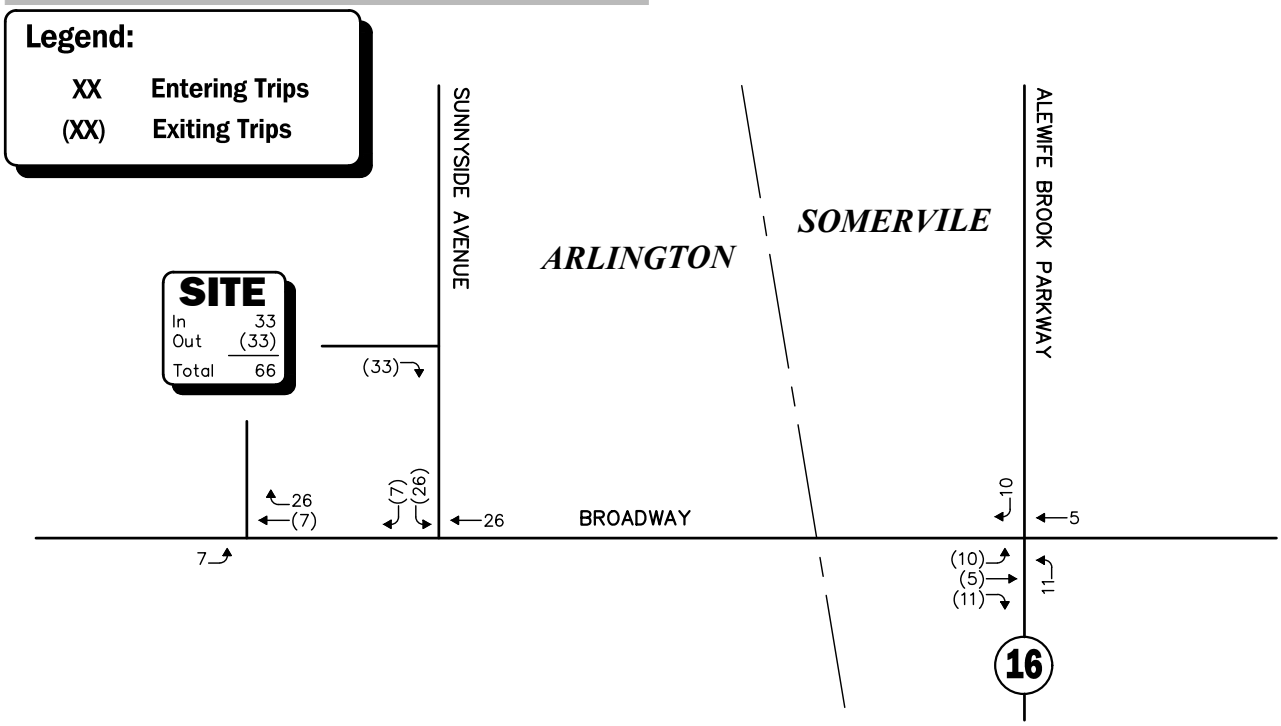
Not To Scale

Figure 5

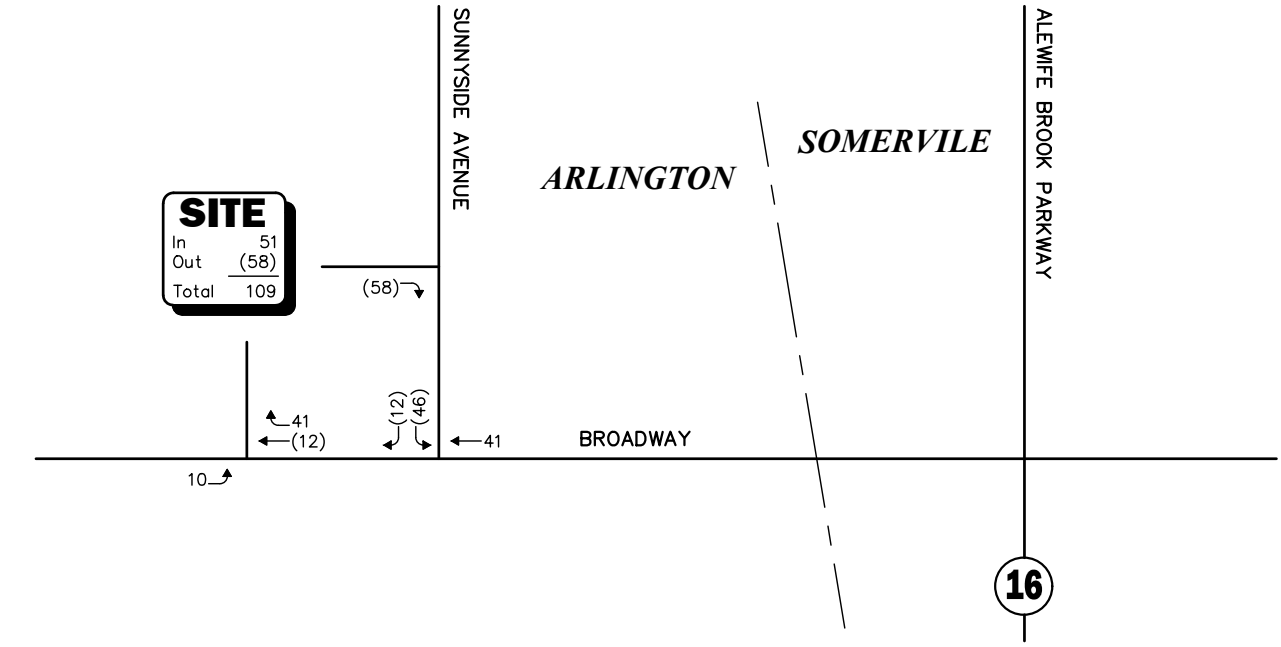
Trip Distribution Map

Vanasse & Associates inc

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



Not To Scale

Figure 6

Project Generated Peak Hour Traffic Volumes

Vanasse & Associates inc

Table 3
TRIP-DISTRIBUTION SUMMARY

Roadway	Direction (To/From)	Percentage (To/From)
Broadway	East	15%
Broadway	West	20%
Alewife Brook Parkway	North	30%
Alewife Brook Parkway	South	35%
TOTAL		**100%**

FUTURE TRAFFIC VOLUMES - BUILD CONDITION

The 2027 Build condition networks consist of the 2027 No-Build traffic volumes, with the proposed 3,000 sf marijuana dispensary site-generated traffic replacing the potential 3,000 sf bank site-generated traffic. The 2027 Build weekday evening and Saturday midday peak-hour traffic volume networks are graphically depicted on Figure 7.

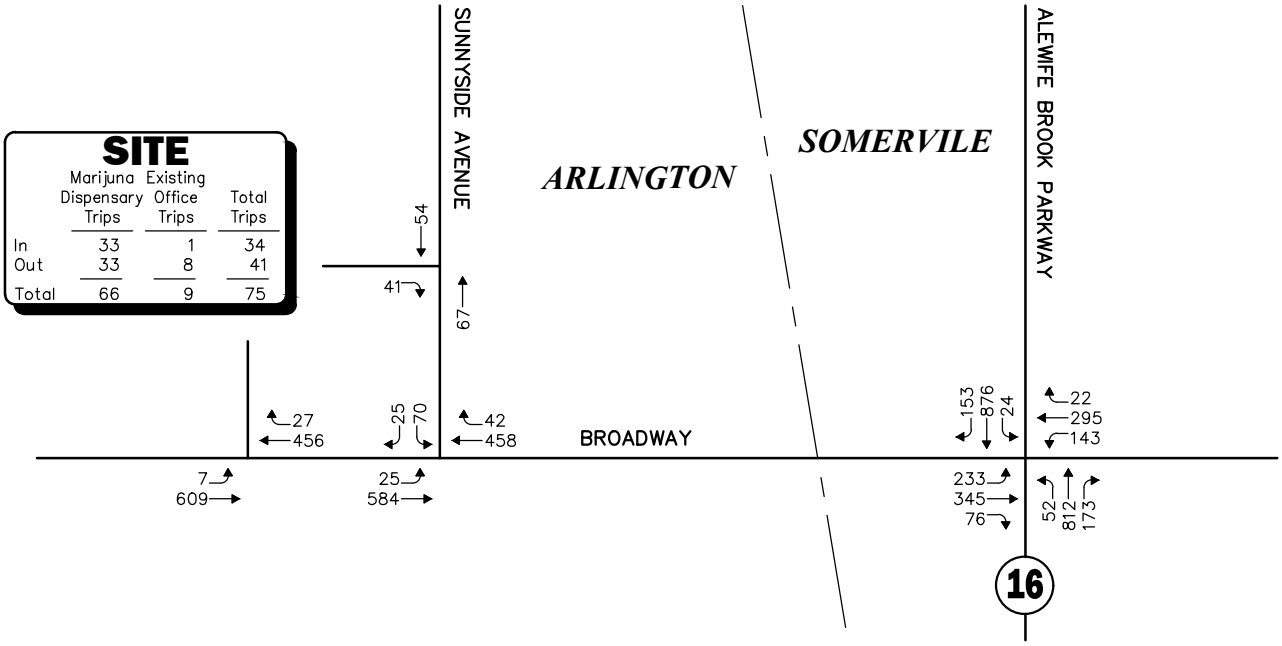
A summary of peak-hour projected traffic-volume increases external to the study area that is the subject of this assessment is shown in Table 4. These volumes are based on the expected increases from the Project.

Table 4
PEAK HOUR TRAFFIC-VOLUME INCREASES

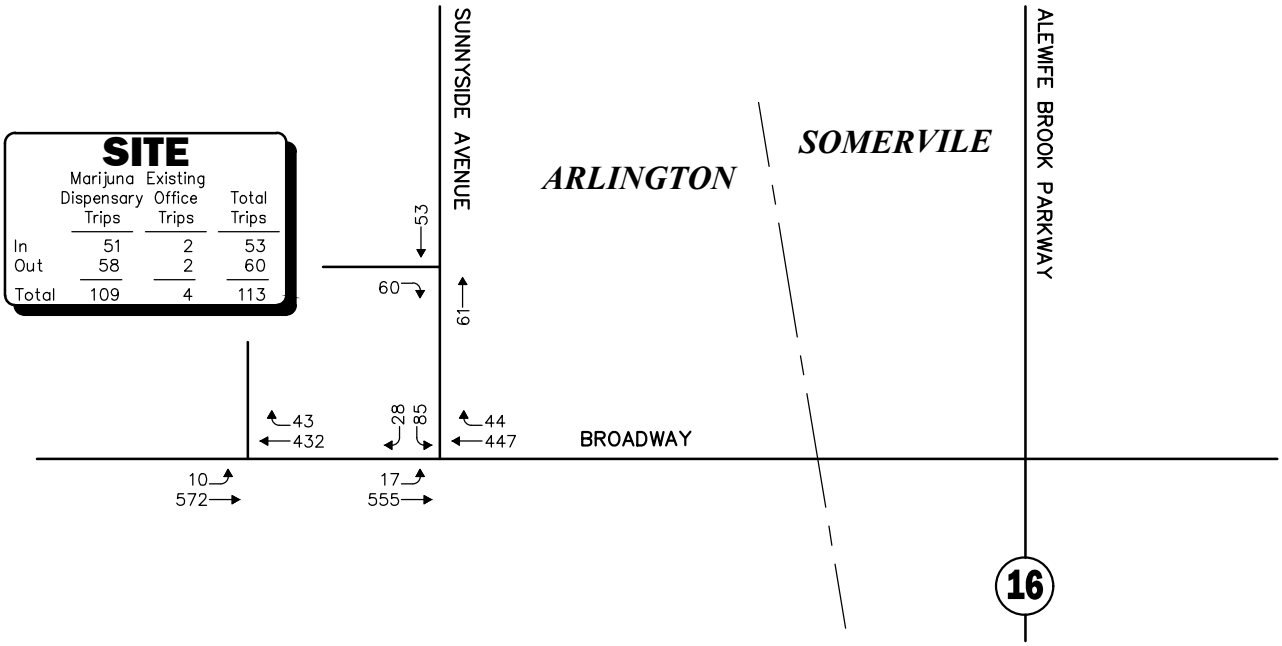
Location/Peak Hour	2027 No-Build	2027 Build	Traffic Volume Increase Over No-Build	Percent Increase Over No-Build
Broadway, east of Alewife Brook Parkway:				
Weekday Evening	997	1,002	5	0.5%
Broadway, east of Sunnyside Avenue:				
Saturday Midday	1,041	1,131	90	8.6%
Broadway, west of the Project Site Driveway:				
Weekday Evening	1,065	1,072	7	0.7%
Saturday Midday	1,002	1,014	12	1.2%
Alewife Brook Parkway, north of Broadway:				
Weekday Evening	2,111	2,120	9	0.4%
Alewife Brook Parkway, south of Broadway:				
Weekday Evening	2,123	2,132	9	0.4%

As shown in Table 4, in comparison to future No-Build conditions, project-related traffic increases are projected to range between 5 to 9 vehicles during the weekday evening peak-hour, with traffic percent increases ranging from 0.4 percent to 0.7 percent; and are anticipated to be 1.2 percent or less during the Saturday midday peak-hour.

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



Not To Scale

Figure 7

2027 Build
Peak Hour Traffic Volumes

Vanasse & Associates inc

SIGHT DISTANCE EVALUATION

Sight distance measurements were performed at the Project site driveway intersection with Sunnyside Avenue in accordance with American Association of State Highway and Transportation Officials (AASHTO)[8] requirements. In brief, Stopping Sight Distance (SSD) is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. In accordance with AASHTO and MassDOT standards, at a minimum, sufficient stopping sight distances must be provided at an intersection. Table 5 presents the measured sight distances at the site driveway.

Table 5
SIGHT DISTANCE MEASUREMENTS[a]

	Required Minimum (Feet)[a]			
Intersection/Sight Distance Measurement	25 MPH	30 MPH	35 MPH	Measured
Sunnyside Avenue at the Project Site Driveway				
Looking to the north from the Project Site Driveway	155	200	250	500+
Looking to the south from the Project Site Driveway	155	200	250	110[b]

[a]Recommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018.
[b]Clear line of sight provided to Broadway.

As can be seen in Table 5, the available lines of sight for motorists exiting onto Sunnyside Avenue in both directions exceed the recommended minimum sight distance to function in a safe manner based on the appropriate approach speeds.

[8] *A Policy on Geometric Design of Highway and Streets,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

TRAFFIC OPERATIONS ANALYSIS

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity, and vehicle queue analyses were conducted under Existing, No-Build, and Build traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

METHODOLOGY

Levels of Service

A primary result of capacity analyses is the assignment of level-of-service to traffic facilities under various traffic-flow conditions.[9] The concept of level-of-service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best-operating conditions and LOS F representing congested or constrained operating conditions.

Since the level-of-service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

[9]The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual;* Transportation Research Board; Washington, DC; 2010.

Signalized Intersections

The six levels of service for signalized intersections may be described as follows:

- *LOS A* describes operations with very low control delay; most vehicles do not stop at all.
- *LOS B* describes operations with relatively low control delay. However, more vehicles stop than LOS A.
- *LOS C* describes operations with higher control delays. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- *LOS D* describes operations with control delay in the range where the influence of congestion becomes more noticeable. Many vehicles stop, and individual cycle failures are noticeable.
- *LOS E* describes operations with high control delay values. Individual cycle failures are frequent occurrences.
- *LOS F* describes operations with high control delay values that often occur with over-saturation. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Levels of service for signalized intersections were calculated using the Percentile Delay Method implemented as a part of the Synchro™ 10 software as required by MassDOT. The Percentile Delay Method assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on "percentile" delay. Level-of-service designations are based on the criterion of percentile delay per vehicle and is a measure of: i) driver discomfort; ii) motorist frustration; and iii) fuel consumption; and includes a uniform delay based on percentile volumes using a Poisson arrival pattern, an initial queue move-up time, and a queue interaction delay that accounts for delays resulting from queues extending from adjacent intersections. Table 6 summarizes the relationship between level-of-service and percentile delay and uses the same numerical delay thresholds as the HCM method. The tabulated percentile delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to entire intersections.

Table 6
LEVEL-OF-SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

Level of Service	Percentile Delay Per Vehicle (Seconds)
A	≤10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	>80.0

Unsignalized Intersections

The six levels of service for unsignalized intersections may be described as follows:

- *LOS A* represents a condition with little or no control delay to minor street traffic.
- *LOS B* represents a condition with short control delays to minor street traffic.
- *LOS C* represents a condition with average control delays to minor street traffic.
- *LOS D* represents a condition with long control delays to minor street traffic.
- *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- *LOS F* represents a condition where minor street demand volume exceeds the capacity of an approach lane, with extreme control delays resulting.

The levels of service of unsignalized intersections are determined by the application of a procedure described in the 2010 *Highway Capacity Manual.*[10] Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the 2010 *Highway Capacity Manual*. Table 7 summarizes the relationship between level of service and average control delay for two-way stop-controlled and all-way stop-controlled intersections.

Table 7
LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS[a]

Level-of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
v/c ≤ 1.0	v/c > 1.0	
A	F	≤10.0
B	F	10.1 to 15.0
C	F	15.1 to 25.0
D	F	25.1 to 35.0
E	F	35.1 to 50.0
F	F	>50.0

[a]Source: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010; page 19-2.

[10]*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

ANALYSIS RESULTS

Level-of-service and vehicle queue analyses were conducted for 2020 Existing, 2027 No-Build and 2027 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized for the signalized intersection in Table 8 and for the unsignalized intersections in Table 9 with the detailed analysis results presented in the Appendix. The following is a summary of the level-of-service and delay analyses for the intersections within the study area:

Signalized Intersections

Route 16 at Broadway

Under all conditions, this signalized intersection will operate at an overall LOS F during weekday evening peak hour. The project impact on queues and delays are projected to be minimal.

Unsignalized Intersections

Broadway at Sunnyside Avenue

Under 2020 Existing conditions, the critical movements at this unsignalized intersection operate at LOS C during the weekday evening and Saturday midday peak hours. Under 2027 No-Build conditions, the critical movements are expected to operate at LOS D during the weekday evening and Saturday midday peak hours. Under 2027 Build conditions, the critical movements are expected to degrade to LOS E during the weekday evening peak-hour and to remain at LOS D during the Saturday midday peak-hour. Vehicle queues at this intersection were shown to range from 0 to 3 vehicles during the peak periods.

Broadway at the Project Site Driveway

Under all conditions, the critical movements at this intersection are expected to operate at LOS A with negligible vehicle queuing during the weekday evening and Saturday midday peak hours.

Sunnyside Avenue at the Project Site Driveway

Under all conditions, the critical movements at this intersection are expected to operate at LOS A with negligible vehicle queuing during the weekday evening and Saturday midday peak hours.

Table 8
SIGNALIZED INTERSECTION LEVEL-OF-SERVICE SUMMARY

Signalized Intersection/Peak Hour	2020 Existing				2027 No-Build				2027 Build			
	V/C[a]	Delay[b]	LOS[c]	Queue[d] Avg/95th	V/C	Delay	LOS	Queue Avg/95th	V/C	Delay	LOS	Queue Avg/95th
Route 16 at Broadway												
Weekday Evening:												
Broadway EB LT	4.46	>80.0	F	386/495	4.93	>80.0	F	431/544	5.02	>80.0	F	440/553
Broadway EB TH RT	1.20	>80.0	F	458/626	1.33	>80.0	F	543/713	1.35	>80.0	F	554/726
Broadway WB LT TH RT	1.11	>80.0	F	235/348	1.19	>80.0	F	262/377	1.20	>80.0	F	265/381
Route 16 NB LT TH RT	1.11	>80.0	F	523/661	1.33	>80.0	F	634/773	1.37	>80.0	F	650/788
Route 16 SB LT TH RT	1.02	73.7	E	521/660	1.15	>80.0	F	610/750	1.16	>80.0	F	616/756
Overall	**--**	**>80.0**	**F**	**--**	**--**	**>80.0**	**F**	**--**	**--**	**>80.0**	**F**	**--**

[a]Volume-to-capacity ratio.
[b]Control (signal) delay per vehicle in seconds.
[c]Level-of-Service.
[d]Queue length in feet.
NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

Table 9
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2020 Existing				2027 No-Build				2027 Build			
	Demand[a]	Delay[b]	LOS[c]	Queue 95th Percentile	Demand	Delay	LOS	Queue 95th Percentile	Demand	Delay	LOS	Queue 95th Percentile
Broadway at Sunnyside Avenue												
Weekday Evening:												
Broadway EB LT TH	583	0.3	A	0	609	0.4	A	0	609	0.4	A	0
Broadway WB TH RT	444	0.0	A	0	487	0.0	A	0	500	0.0	A	0
Sunnyside Ave SB LT RT	32	20.6	C	1	82	31.1	D	2	95	35.1	E	3
Saturday Midday:												
Broadway EB LT TH	545	0.2	A	0	572	0.3	A	0	572	0.3	A	0
Broadway WB TH RT	413	0.0	A	0	469	0.0	A	0	491	0.0	A	0
Sunnyside Ave SB LT RT	32	19.0	C	1	78	26.4	D	2	113	34.7	D	3
Broadway at the Project Site Driveway												
Weekday Evening:												
Broadway EB LT TH	583	0.0	A	0	612	0.0	A	0	616	0.1	A	0
Broadway WB TH RT	429	0.0	A	0	467	0.0	A	0	483	0.0	A	0
Saturday Midday:												
Broadway EB LT TH	545	0.0	A	0	577	0.1	A	0	582	0.1	A	0
Broadway WB TH RT	404	0.0	A	0	446	0.0	A	0	475	0.0	A	0
Sunnyside Avenue at the Project Site Driveway												
Weekday Evening:												
Project Site Driveway EB LT RT	8	8.5	A	0	28	8.7	A	0	41	8.7	A	0
Sunnyside Avenue NB TH	48	0.0	A	0	67	0.0	A	0	67	0.0	A	0
Sunnyside Avenue SB TH	24	0.0	A	0	54	0.0	A	0	54	0.0	A	0
Saturday Midday:												
Project Site Driveway EB LT RT	2	8.5	A	0	25	8.7	A	0	60	8.8	A	0
Sunnyside Avenue NB TH	33	0.0	A	0	61	0.0	A	0	61	0.0	A	0
Sunnyside Avenue SB TH	30	0.0	A	0	53	0.0	A	0	53	0.0	A	0

[a]Volume-to-capacity ratio.
[b]Control (signal) delay per vehicle in seconds.
[c]Level-of-Service.
[d]Queue length in vehicles.
NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

PARKING

In order to determine the availability of public parking in the vicinity of the Project site, a parking demand survey was performed on the on-street parking spaces along Broadway between the Somerville City Line and Cleveland Street. Based upon the field survey a total of approximately 62 parking spaces are available in the immediate vicinity of the site.

PARKING SUPPLY

On Street

On-street parking is provided along Broadway adjacent to the site and consists of approximately 62 spaces. The on-street parking is unmetered and designed for shorter stays and is restricted to one-hour parking only.

PARKING DEMAND OBSERVATION

In order to ascertain the availability of parking demand, a survey of on-street parking spaces adjacent to the site was completed on Saturday, June 2, 2020 between the hours of 11:00 AM and 5:00 PM. The parking demand observations were performed in 30-minute intervals and consisted of an inventory of vacant spaces available within each parking area during the observation periods. A summary of the vacant spaces is presented on Figure 8 and Table 10.

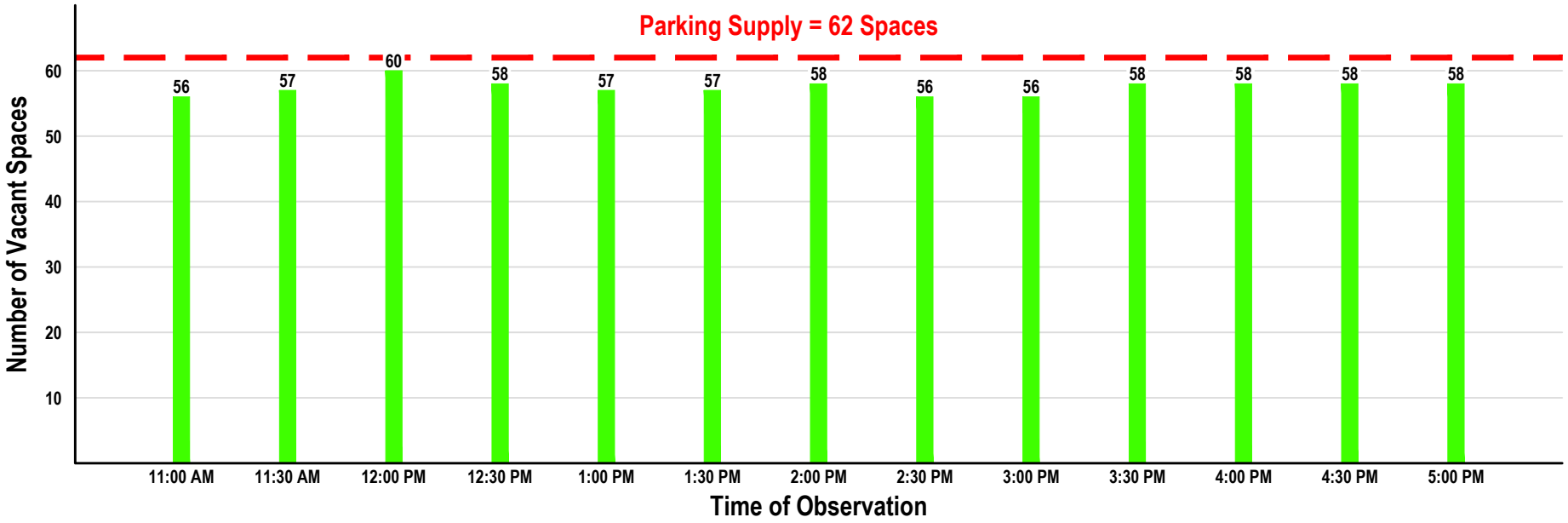


Figure 8

Parking Analysis
Saturday, June 6, 2020

Vanasse & Associates inc

Table 10
PARKING DEMAND OBSERVATIONS

Saturday Start Time	Vacant Space observation
11:00 AM	56
11:30 AM	57
12:00 PM	60
12:30 PM	58
1:00 PM	57
1:30 PM	57
2:00 PM	58
2:30 PM	56
3:00 PM	56
3:30 PM	58
4:00 PM	58
4:30 PM	58
5:00 PM	58
Parking Capacity	**62**

[a]Based on counts conducted by VAI, Saturday, June 6, 2020.

As can be seen in Table 10, the overall peak parking demand period in the vicinity of the project was found to occur between 2:30– 3:30 PM peak period with 56 available parking spaces. Based upon this data it can be concluded that there is sufficient availability of parking spaces in the area and there is additional parking available outside this immediate area. It is acknowledged that the parking survey was conducted during the COVID-19 impact period but overall it is our opinion that adequate area parking does exist.

CONCLUSIONS AND RECOMMENDATIONS

VAI has prepared this TIA in order to evaluate potential traffic impacts associated with the proposed marijuana dispensary located at 21 Broadway in Arlington, Massachusetts (the "Project"). This study was prepared in accordance with the Massachusetts Department of Transportation (MassDOT) Guidelines for *Transportation Impact Assessment (TIA) Guideline;* and was conducted pursuant to the standards of the Traffic Engineering and Transportation Planning Professions for the preparation of such reports. Based on the results of this study, the following can be concluded:

- Based on trip-generation statistics published by the ITE, the proposed marijuana dispensary will generate approximately 66 vehicle trips (33 entering and 33 exiting) during the weekday evening peak hour and 109 vehicle trips (51 entering and 58 exiting) during the Saturday midday peak hour.

- Project-related traffic increases in the area are expected to be between 0.4 percent to 0.7 percent during the weekday evening peak-hour.

- The analysis has indicated that the Project will result in minimal impact on motorist delays at the study intersections, as compared to future No-Build conditions.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with the implementation of the following recommendations.

RECOMMENDATIONS

A transportation improvement program has been developed that is designed to provide safe and efficient access to the Project and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation.

Project Access

Access to the Project will continue to be provided by way of one (1) entrance-only driveway along Broadway and one (1) exit-only driveway onto Sunnyside Avenue. The following recommendations are offered with respect to the design and operation of the Project site driveway:

- The exit driveway onto Sunnyside Avenue should be placed under STOP-sign (Manual of Uniform Traffic Control Designation R1-1) control, with a painted STOP-bar included. Do not enter signs should be installed facing Sunnyside Avenue.

- Pavement markings reinforcing the one-way operation of the Project driveway should be painted within the Project site.

- Illumination should be provided at the driveways.

- All signs and other pavement markings to be installed within the Development site shall conform to the applicable standards of the current Manual on Uniform Traffic Devices (MUTCD).[11]

- Signs and landscaping adjacent to the Project site driveway intersections should be designed and maintained so as not to restrict lines of sight.

Transportation Demand Management (TDM) Plan

As is the case with many developments, a major focus of the traffic mitigation plan focuses on the reduction of single-occupant vehicles arriving and departing to and from the site. This is predominantly accomplished by developing a comprehensive Transportation Demand Management (TDM) strategy. The proponent is committed to supporting a balanced multimodal transportation plan to serve the employees and patrons of the site. The major features of this TDM plan that support this commitment are as follows:

- ***Designation of a Transportation Coordinator -*** The transportation coordinator oversees all transportation issues including managing the TDM measures, parking, loading, and service. The marijuana dispensary will have a transportation coordinator.

- ***Provision of Transit Schedules*** - Links to the MBTA website will be included on the marijuana dispensary website. In addition, the project proponent will post information regarding public transportation services, maps, schedules, and fare information in a central location.

- ***Bicycling Resources -*** Secured bicycle spaces will be provided outside the building for patrons.

- ***Ride Share Accommodations*** – Accommodations will be provided to encourage the use of ride-sharing to facilitate drop-offs and pick-ups. Three (3) designated uber/lyft/taxi spaces will be provided directly in front of the site. In addition, drop-off and pick-up activity can circulate through the site from Broadway to Sunnyside Avenue.

The project proponent will investigate the implementation of these traffic reduction strategies and will work with the Town to implement such programs.

[11] *Ibid 4.*

Parking

A total of 16 parking spaces are provided on the site of which 12 spaces are allocated for the proposed marijuana dispensary. The on-street parking supply along Broadway between the Somerville City Line and Cleveland Street is 62 spaces, most of which are vacant. In order to enhance compliance where on-street parking regulations, the Project proponent will provide new signage updating and formalizing the existing on-street parking regulations along Broadway between the Somerville City Line and Cleveland Street. Specific area parking includes:

- Three (3) uber/lyft/taxi reserved spaces in front of the building.
- 52 regulated 1-hour spaces along Broadway between the Somerville City Line and Cleveland Street.

Overall, there is adequate parking in the artea to support the Project.

OPENING CONDITIONS OPERATIONS PLAN - CUSTOMER MANAGEMENT LOGISTICS

For retail marijuana dispensaries it is essential for a well thought out opening plan developed in consultation with local public safety officials. Elements of the plan include:

- **Additional Staff:** There will be additional security/concierge specifically focused on managing the customers, both internally and on the street along Broadway. These additional staff members will serve as concierge and will not replace the required security and check-in personnel, as required by the Massachusetts Cannabis Control Commission (CCC) regulations.
- **Appointment Only:** For the first month of operation, the Project proponent will require sales be by appointment only to reduce any peak traffic issues. During the initial 6 to 12 months of operation there will be additional staff to monitor lines as concierge/security to maintain order in the public way.
- **Coordinate with Arlington Police:** In advance of its opening day the Project proponent will coordinate with the Arlignton Police to arrange for the appropriate detail, discuss any proposed logistics for customer management and share any industry information the police may find useful.

CONCLUSIONS

The proposed Project will result in a measurable impact but will not have a significant impact on overall operations. With the implementation of the above recommendations, safe and efficient access will be provided to the planned development and the proposed development can be constructed with minimal impact to the area as designed.

APPENDIX

MANUAL TURNING MOVEMENT COUNT DATA
COVID-19 ADJUSTMENT CALCULATIONS
PUBLIC TRANSPORTATION SCHEDULES
MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAPPING
GENERAL BACKGROUND TRAFFIC GROWTH
BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS
TRIP-GENERATION CALCULATIONS
CAPACITY ANALYSIS WORKSHEETS

MANUAL TURNING MOVEMENT COUNT DATA

Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 1

Groups Printed- Cars - Trucks

	Alewife Brook Parkway From North			Broadway From East			Alewife Brook Parkway From South			Broadway From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	3	187	28	36	57	8	8	224	45	40	56	13	705
04:15 PM	3	196	23	31	65	4	5	220	42	53	58	8	708
04:30 PM	7	206	26	28	52	8	6	172	32	53	76	13	679
04:45 PM	5	217	22	39	66	5	5	193	41	34	65	12	704
Total	18	806	99	134	240	25	24	809	160	180	255	46	2796
05:00 PM	7	188	40	30	68	7	11	190	36	42	71	16	706
05:15 PM	2	228	35	39	67	5	10	196	43	62	81	11	779
05:30 PM	6	191	33	24	71	4	6	182	40	51	79	6	693
05:45 PM	8	182	22	37	63	7	8	190	32	37	72	13	671
Total	23	789	130	130	269	23	35	758	151	192	303	46	2849
Grand Total	41	1595	229	264	509	48	59	1567	311	372	558	92	5645
Apprch %	2.2	85.5	12.3	32.2	62	5.8	3	80.9	16.1	36.4	54.6	9	
Total %	0.7	28.3	4.1	4.7	9	0.9	1	27.8	5.5	6.6	9.9	1.6	
Cars	41	1595	229	264	504	48	59	1567	311	372	550	92	5632
% Cars	100	100	100	100	99	100	100	100	100	100	98.6	100	99.8
Trucks	0	0	0	0	5	0	0	0	0	0	8	0	13
% Trucks	0	0	0	0	1	0	0	0	0	0	1.4	0	0.2

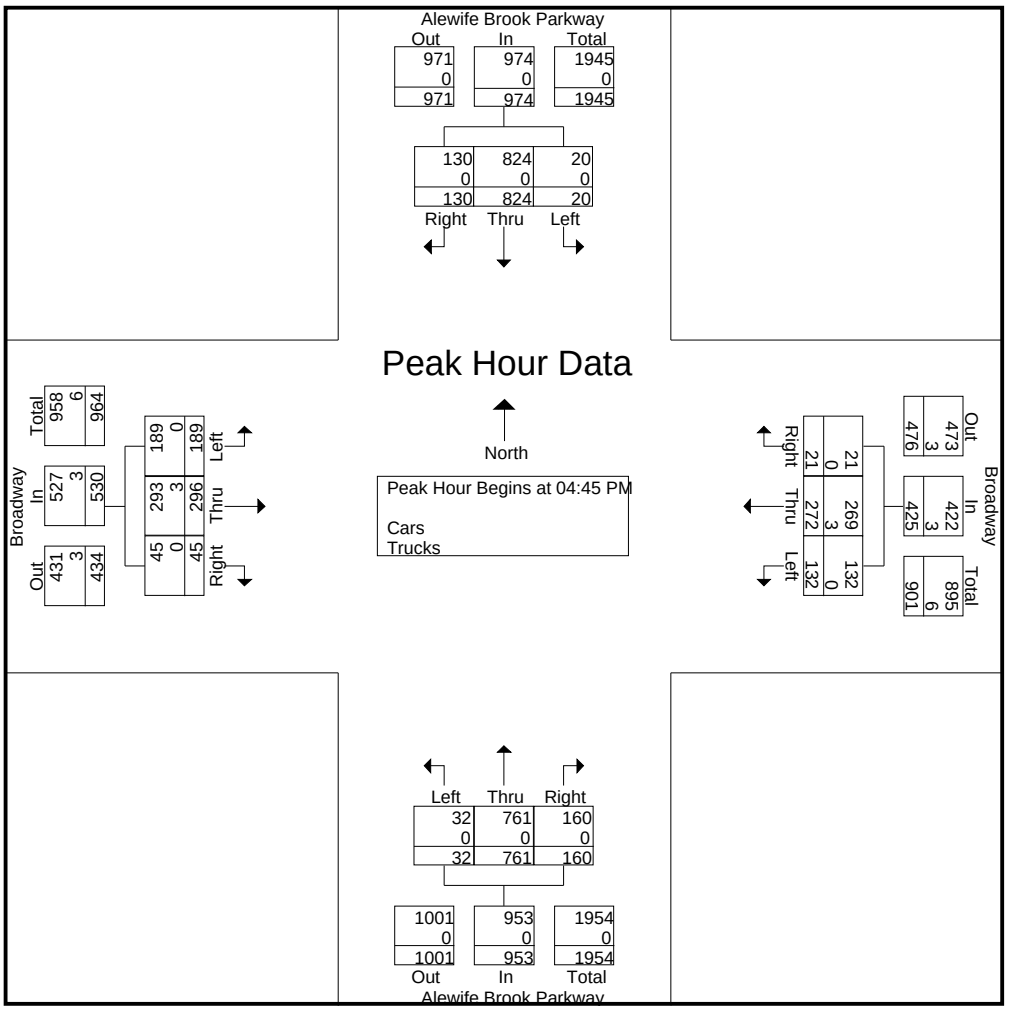
Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 2

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	5	217	22	244	**39**	66	5	110	5	193	41	239	34	65	12	111	704
05:00 PM	**7**	188	**40**	235	30	68	**7**	105	**11**	190	36	237	42	71	**16**	129	706
05:15 PM	2	**228**	35	**265**	39	67	5	**111**	10	**196**	**43**	**249**	**62**	**81**	11	**154**	**779**
05:30 PM	6	191	33	230	24	**71**	4	99	6	182	40	228	51	79	6	136	693
Total Volume	20	824	130	974	132	272	21	425	32	761	160	953	189	296	45	530	2882
% App. Total	2.1	84.6	13.3		31.1	64	4.9		3.4	79.9	16.8		35.7	55.8	8.5		
PHF	.714	.904	.813	.919	.846	.958	.750	.957	.727	.971	.930	.957	.762	.914	.703	.860	.925
Cars	20	824	130	974	132	269	21	422	32	761	160	953	189	293	45	527	2876
% Cars	100	100	100	100	100	98.9	100	99.3	100	100	100	100	100	99.0	100	99.4	99.8
Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
% Trucks	0	0	0	0	0	1.1	0	0.7	0	0	0	0	0	1.0	0	0.6	0.2



Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

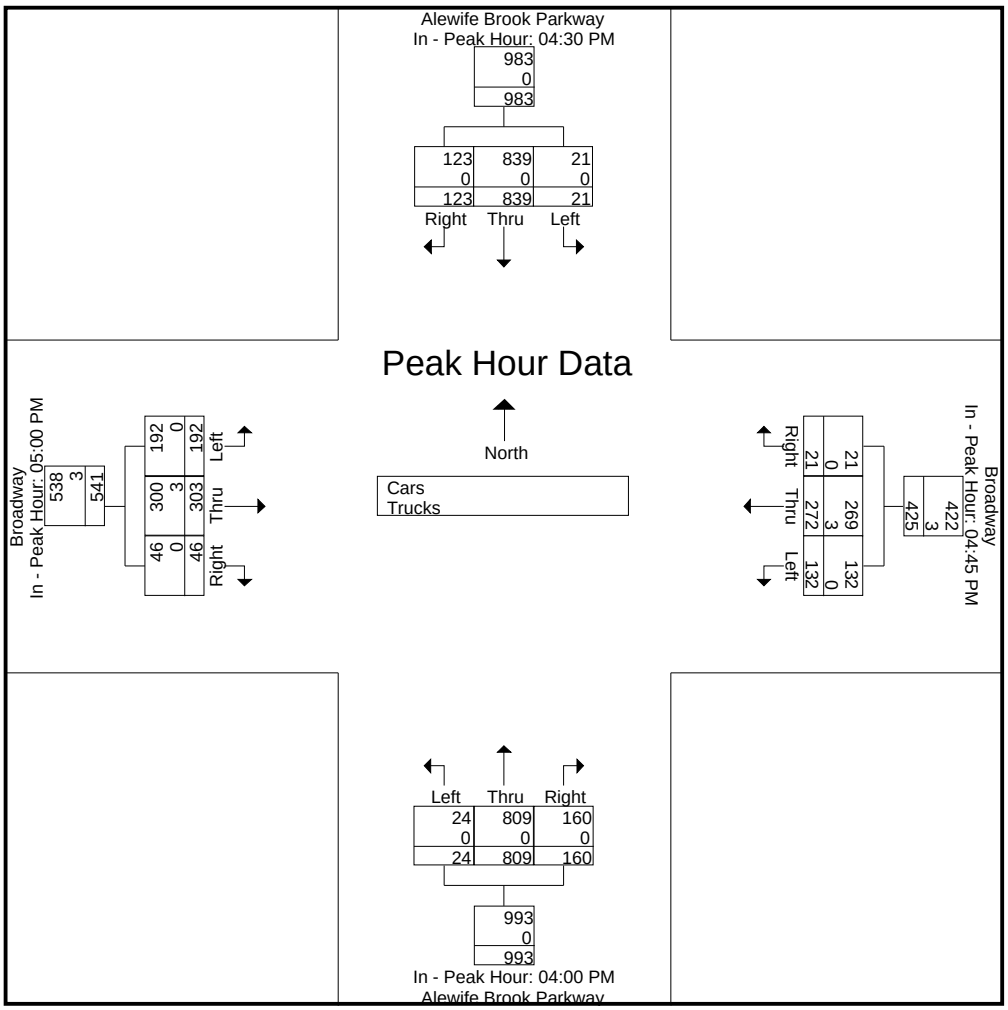
File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 3

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:00 PM				05:00 PM			
+0 mins.	**7**	206	26	239	**39**	66	5	110	**8**	**224**	**45**	**277**	42	71	**16**	129
+15 mins.	5	217	22	244	30	68	**7**	105	5	220	42	267	**62**	**81**	11	**154**
+30 mins.	7	188	**40**	235	39	67	5	**111**	6	172	32	210	51	79	6	136
+45 mins.	2	**228**	35	**265**	24	**71**	4	99	5	193	41	239	37	72	13	122
Total Volume	21	839	123	983	132	272	21	425	24	809	160	993	192	303	46	541
% App. Total	2.1	85.4	12.5		31.1	64	4.9		2.4	81.5	16.1		35.5	56	8.5	
PHF	.750	.920	.769	.927	.846	.958	.750	.957	.750	.903	.889	.896	.774	.935	.719	.878
Cars	21	839	123	983	132	269	21	422	24	809	160	993	192	300	46	538
% Cars	100	100	100	100	100	98.9	100	99.3	100	100	100	100	100	99	100	99.4
Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3
% Trucks	0	0	0	0	0	1.1	0	0.7	0	0	0	0	0	1	0	0.6



Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 4

Groups Printed- Cars

	Alewife Brook Parkway From North			Broadway From East			Alewife Brook Parkway From South			Broadway From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	3	187	28	36	56	8	8	224	45	40	53	13	701
04:15 PM	3	196	23	31	65	4	5	220	42	53	57	8	707
04:30 PM	7	206	26	28	51	8	6	172	32	53	76	13	678
04:45 PM	5	217	22	39	66	5	5	193	41	34	64	12	703
Total	18	806	99	134	238	25	24	809	160	180	250	46	2789
05:00 PM	7	188	40	30	67	7	11	190	36	42	70	16	704
05:15 PM	2	228	35	39	66	5	10	196	43	62	80	11	777
05:30 PM	6	191	33	24	70	4	6	182	40	51	79	6	692
05:45 PM	8	182	22	37	63	7	8	190	32	37	71	13	670
Total	23	789	130	130	266	23	35	758	151	192	300	46	2843
Grand Total	41	1595	229	264	504	48	59	1567	311	372	550	92	5632
Apprch %	2.2	85.5	12.3	32.4	61.8	5.9	3	80.9	16.1	36.7	54.2	9.1	
Total %	0.7	28.3	4.1	4.7	8.9	0.9	1	27.8	5.5	6.6	9.8	1.6	

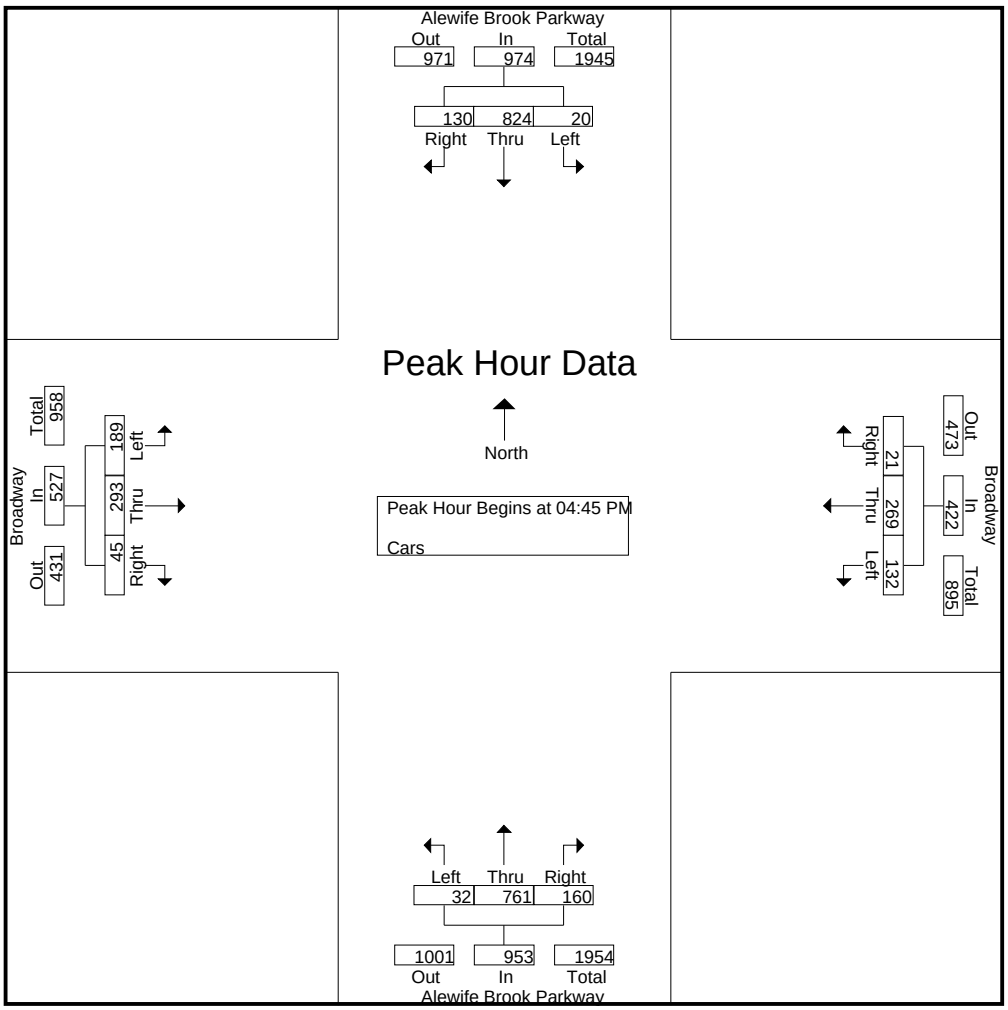
Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 5

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	5	217	22	244	**39**	66	5	**110**	5	193	41	239	34	64	12	110	703
05:00 PM	**7**	188	**40**	235	30	67	**7**	104	**11**	190	36	237	42	70	**16**	128	704
05:15 PM	2	**228**	35	**265**	39	66	5	110	10	**196**	**43**	**249**	**62**	**80**	11	**153**	**777**
05:30 PM	6	191	33	230	24	**70**	4	98	6	182	40	228	51	79	6	136	692
Total Volume	20	824	130	974	132	269	21	422	32	761	160	953	189	293	45	527	2876
% App. Total	2.1	84.6	13.3		31.3	63.7	5		3.4	79.9	16.8		35.9	55.6	8.5		
PHF	.714	.904	.813	.919	.846	.961	.750	.959	.727	.971	.930	.957	.762	.916	.703	.861	.925



Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

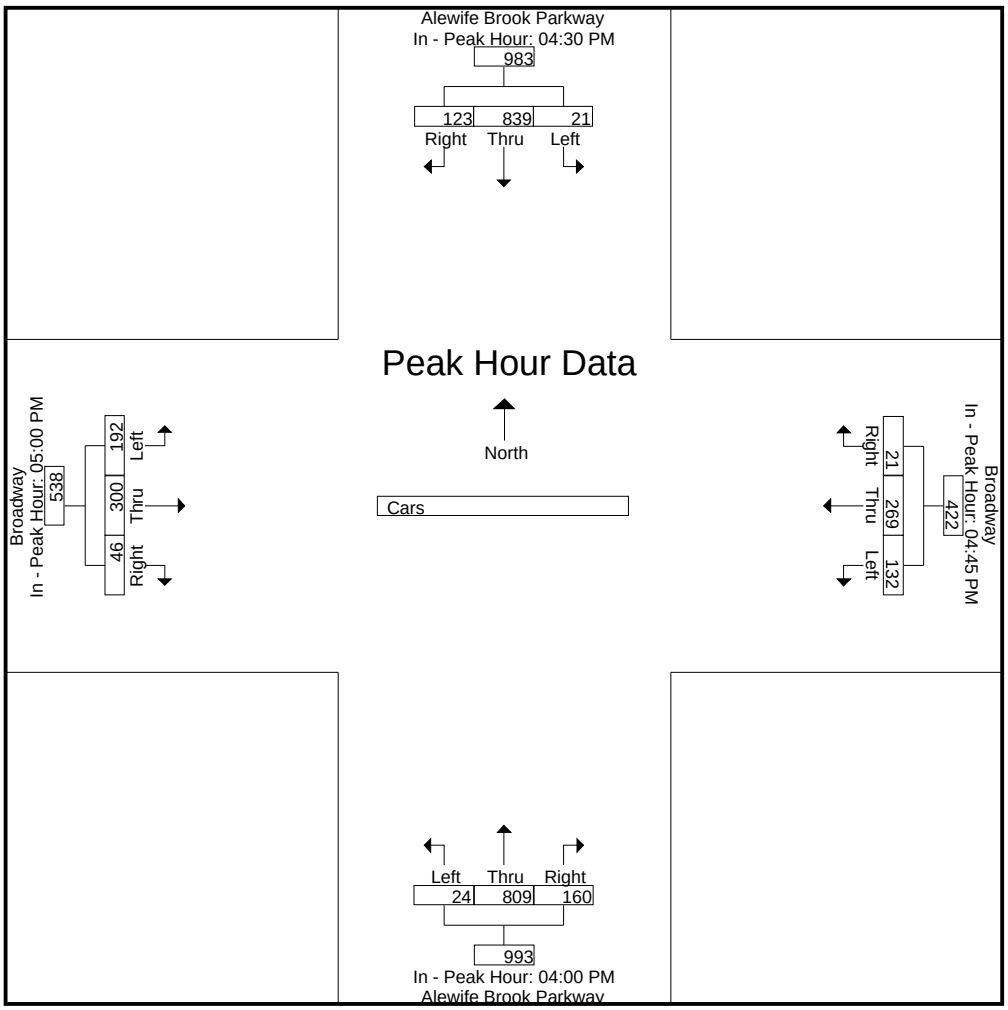
File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 6

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:00 PM				05:00 PM			
+0 mins.	**7**	206	26	239	**39**	66	5	**110**	**8**	**224**	**45**	**277**	42	70	**16**	128
+15 mins.	5	217	22	244	30	67	**7**	104	5	220	42	267	**62**	**80**	11	**153**
+30 mins.	7	188	**40**	235	39	66	5	110	6	172	32	210	51	79	6	136
+45 mins.	2	**228**	35	**265**	24	**70**	4	98	5	193	41	239	37	71	13	121
Total Volume	21	839	123	983	132	269	21	422	24	809	160	993	192	300	46	538
% App. Total	2.1	85.4	12.5		31.3	63.7	5		2.4	81.5	16.1		35.7	55.8	8.6	
PHF	.750	.920	.769	.927	.846	.961	.750	.959	.750	.903	.889	.896	.774	.938	.719	.879



Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 7

Groups Printed- Trucks

	Alewife Brook Parkway From North			Broadway From East			Alewife Brook Parkway From South			Broadway From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
04:00 PM	0	0	0	0	1	0	0	0	0	0	3	0	4
04:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
04:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	2	0	0	0	0	0	5	0	7
05:00 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
05:15 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
05:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	3	0	0	0	0	0	3	0	6
Grand Total	0	0	0	0	5	0	0	0	0	0	8	0	13
Apprch %	0	0	0	0	100	0	0	0	0	0	100	0	
Total %	0	0	0	0	38.5	0	0	0	0	0	61.5	0	

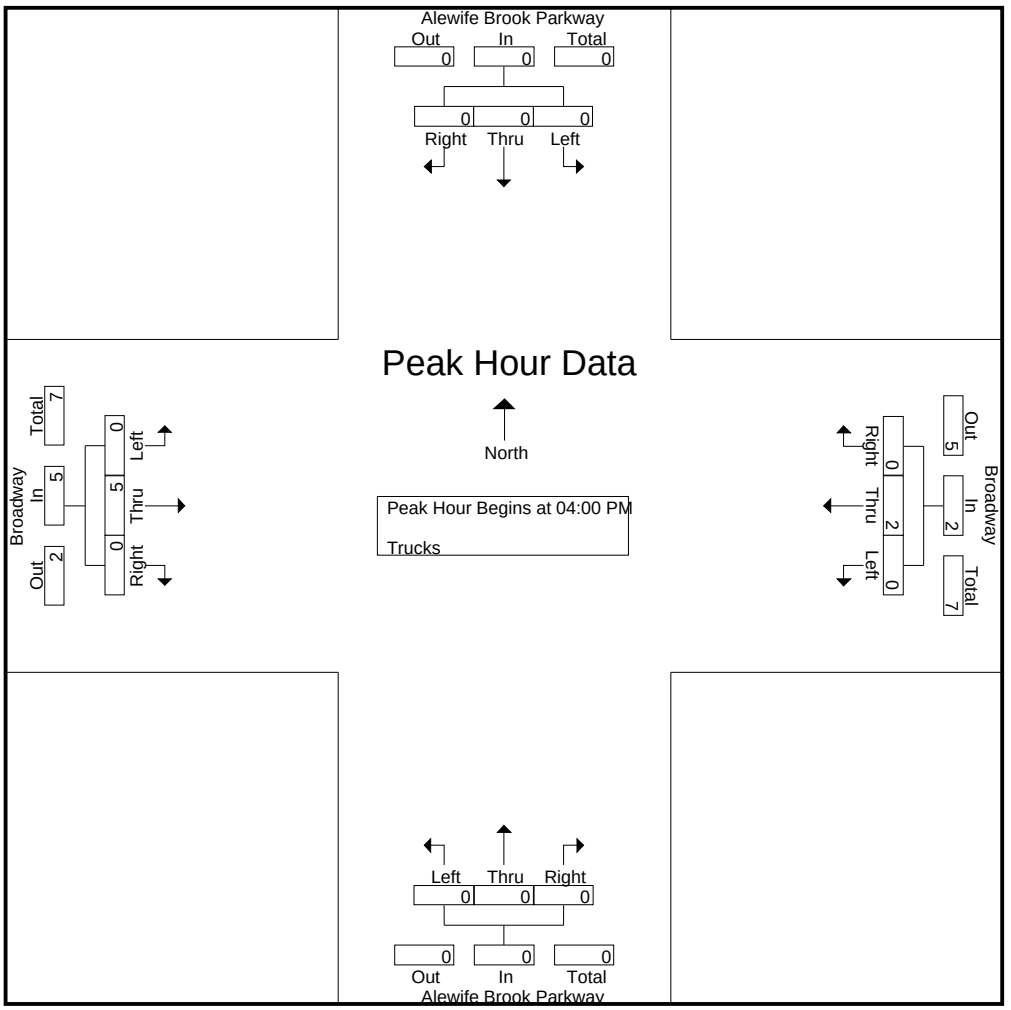
Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 8

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	**3**	0	**3**	**4**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5	7
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.417	.000	.417	.438



Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

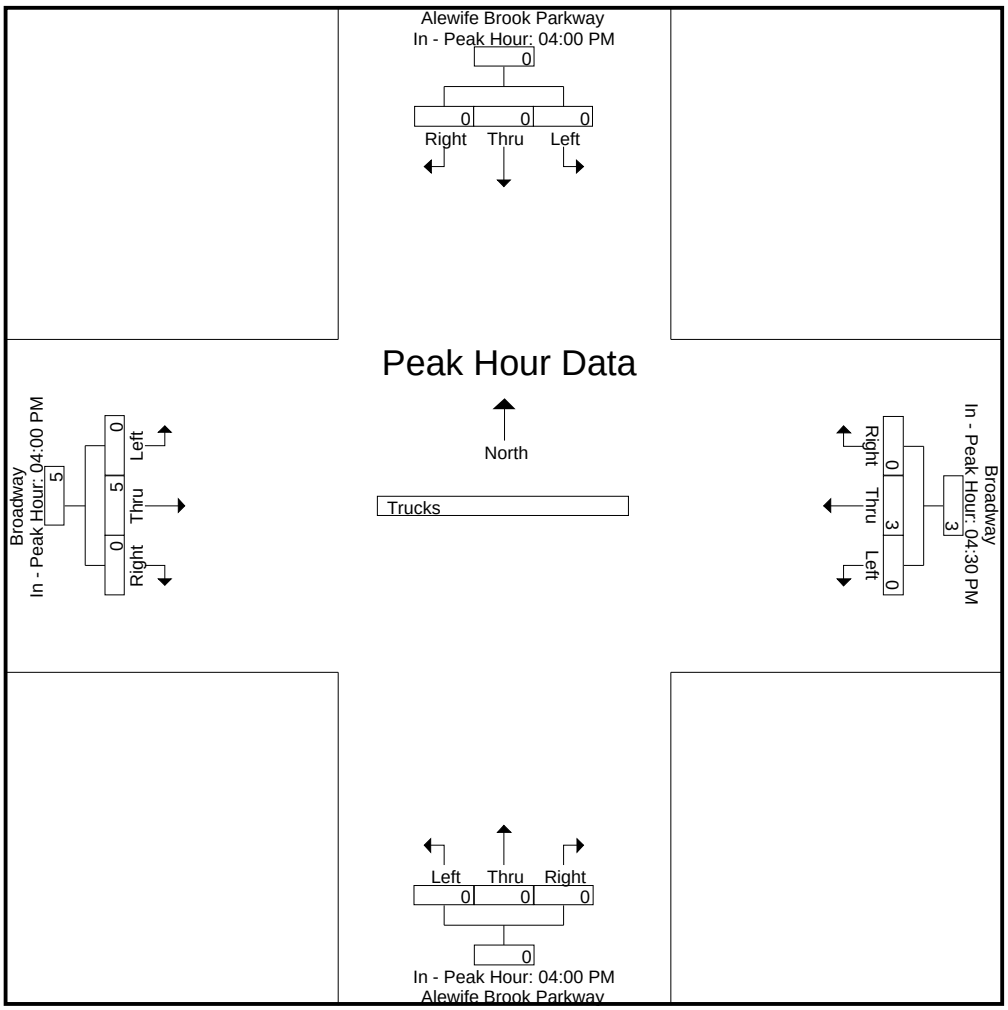
File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 9

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	**3**	0	**3**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	5	0	5
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.417	.000	.417



Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 10

Groups Printed- Bikes Peds

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	7	0	1	0	3	0	1	0	8	0	1	0	1	19	3	22
04:15 PM	0	0	0	7	0	2	0	3	0	0	0	9	0	1	0	2	21	3	24
04:30 PM	0	0	0	11	0	0	0	2	0	0	0	3	0	1	0	4	20	1	21
04:45 PM	0	0	0	3	0	0	0	1	0	0	0	6	0	0	0	2	12	0	12
Total	0	0	0	28	0	3	0	9	0	1	0	26	0	3	0	9	72	7	79
05:00 PM	0	0	0	8	0	0	0	2	0	0	0	3	0	1	0	1	14	1	15
05:15 PM	0	0	0	6	0	0	0	1	0	0	0	5	0	1	0	1	13	1	14
05:30 PM	0	0	0	9	0	0	0	5	0	0	0	10	0	0	0	1	25	0	25
05:45 PM	0	0	0	7	0	1	0	0	0	0	0	6	0	2	0	2	15	3	18
Total	0	0	0	30	0	1	0	8	0	0	0	24	0	4	0	5	67	5	72
Grand Total	0	0	0	58	0	4	0	17	0	1	0	50	0	7	0	14	139	12	151
Apprch %	0	0	0		0	100	0		0	100	0		0	100	0				
Total %	0	0	0		0	33.3	0		0	8.3	0		0	58.3	0		92.1	7.9	

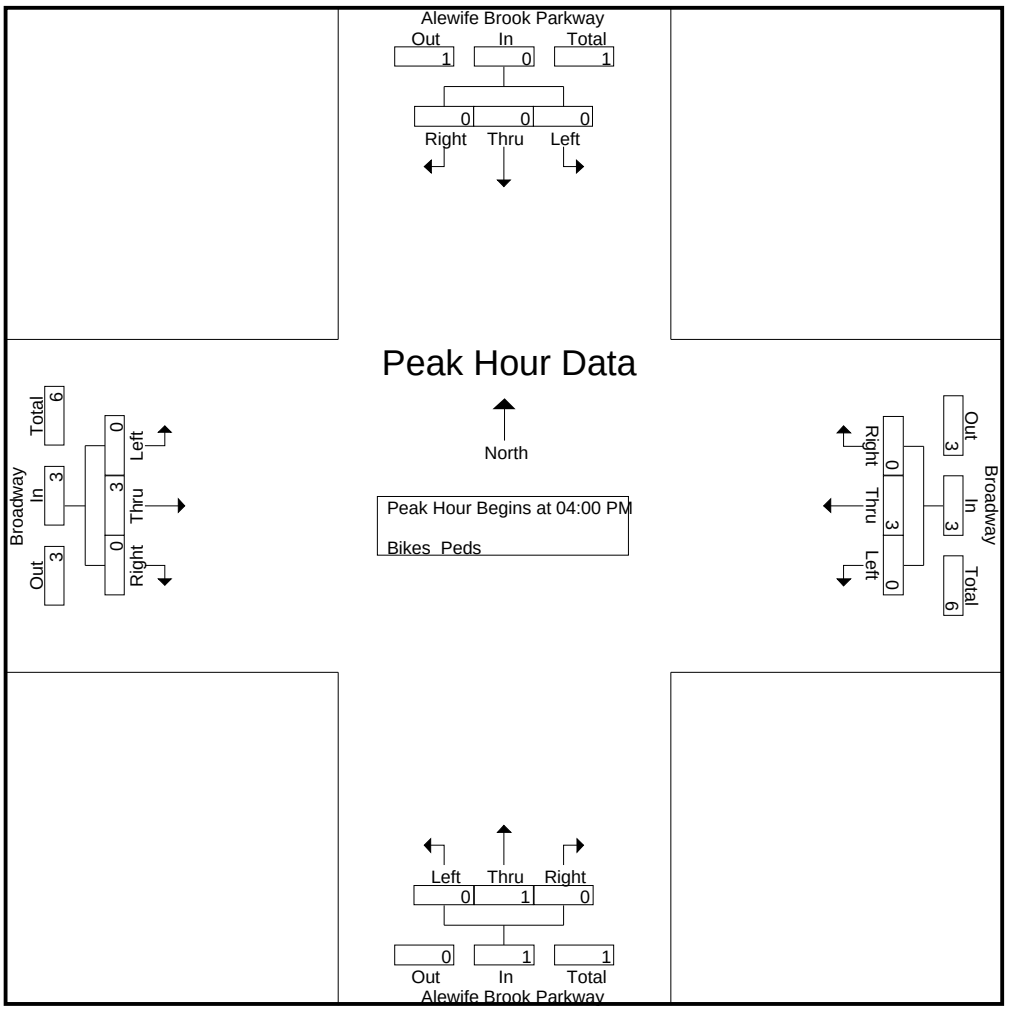
Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 11

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	1	0	1	0	**1**	0	**1**	0	**1**	0	**1**	**3**
04:15 PM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	3	0	1	0	1	0	3	0	3	7
% App. Total	0	0	0		0	100	0		0	100	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.250	.000	.250	.000	.750	.000	.750	.583



Accurate Counts

978-664-2565

N/S Street : Alewife Brook Parkway
E/W Street: Broadway
City/State : Somerville, MA
Weather : Cloudy

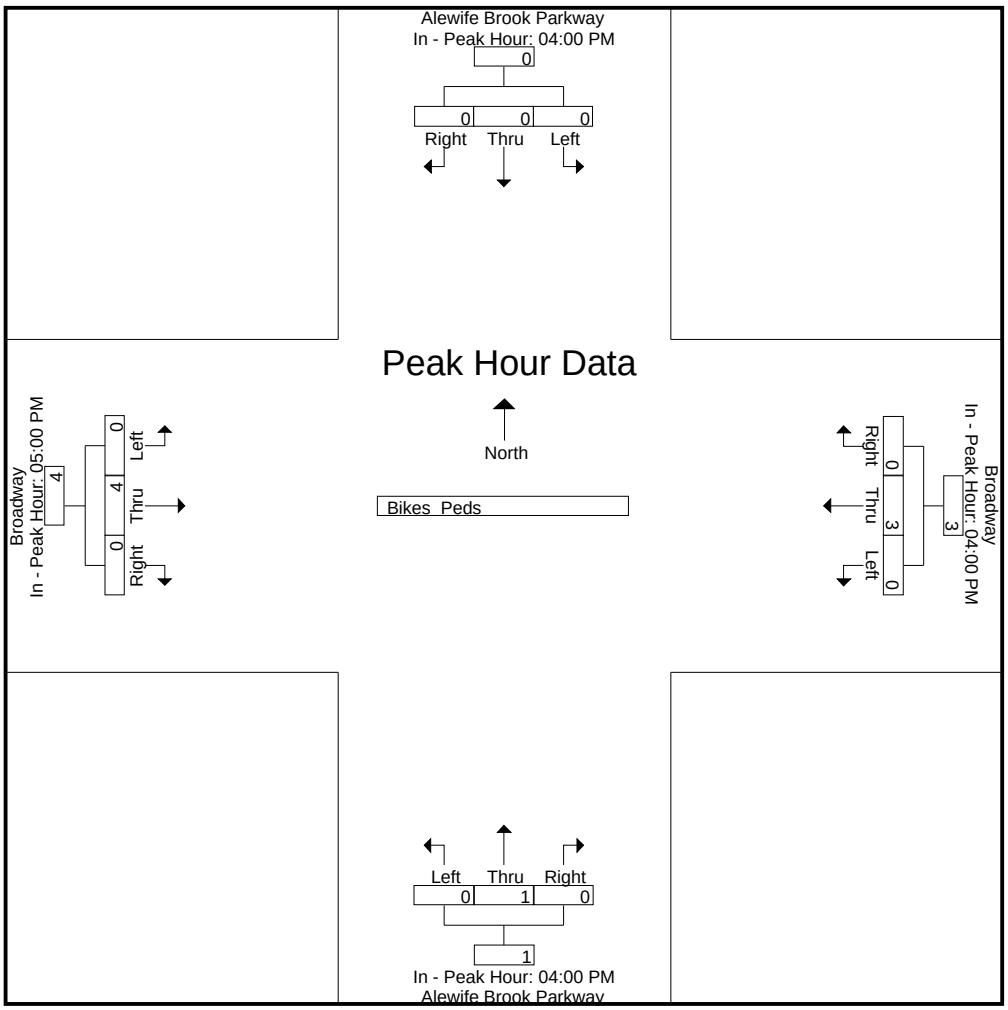
File Name : 18610001
Site Code : 18610001
Start Date : 10/18/2016
Page No : 12

	Alewife Brook Parkway From North				Broadway From East				Alewife Brook Parkway From South				Broadway From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	**1**	0	**1**	0	1	0	1
+15 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
Total Volume	0	0	0	0	0	3	0	3	0	1	0	1	0	4	0	4
% App. Total	0	0	0		0	100	0		0	100	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.250	.000	.250	.000	.500	.000	.500



Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 1

Groups Printed- Cars - Trucks

	Sunnyside Ave From North		Broadway From East		Broadway From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
04:00 PM	1	1	41	4	4	57	108
04:15 PM	3	2	42	0	2	65	114
04:30 PM	1	1	55	4	3	74	138
04:45 PM	3	1	43	3	1	65	116
Total	8	5	181	11	10	261	476
05:00 PM	0	2	45	2	5	60	114
05:15 PM	3	1	43	4	1	75	127
05:30 PM	0	1	50	1	0	54	106
05:45 PM	2	0	45	2	0	47	96
Total	5	4	183	9	6	236	443
Grand Total	13	9	364	20	16	497	919
Apprch %	59.1	40.9	94.8	5.2	3.1	96.9	
Total %	1.4	1	39.6	2.2	1.7	54.1	
Cars	13	9	358	20	16	489	905
% Cars	100	100	98.4	100	100	98.4	98.5
Trucks	0	0	6	0	0	8	14
% Trucks	0	0	1.6	0	0	1.6	1.5

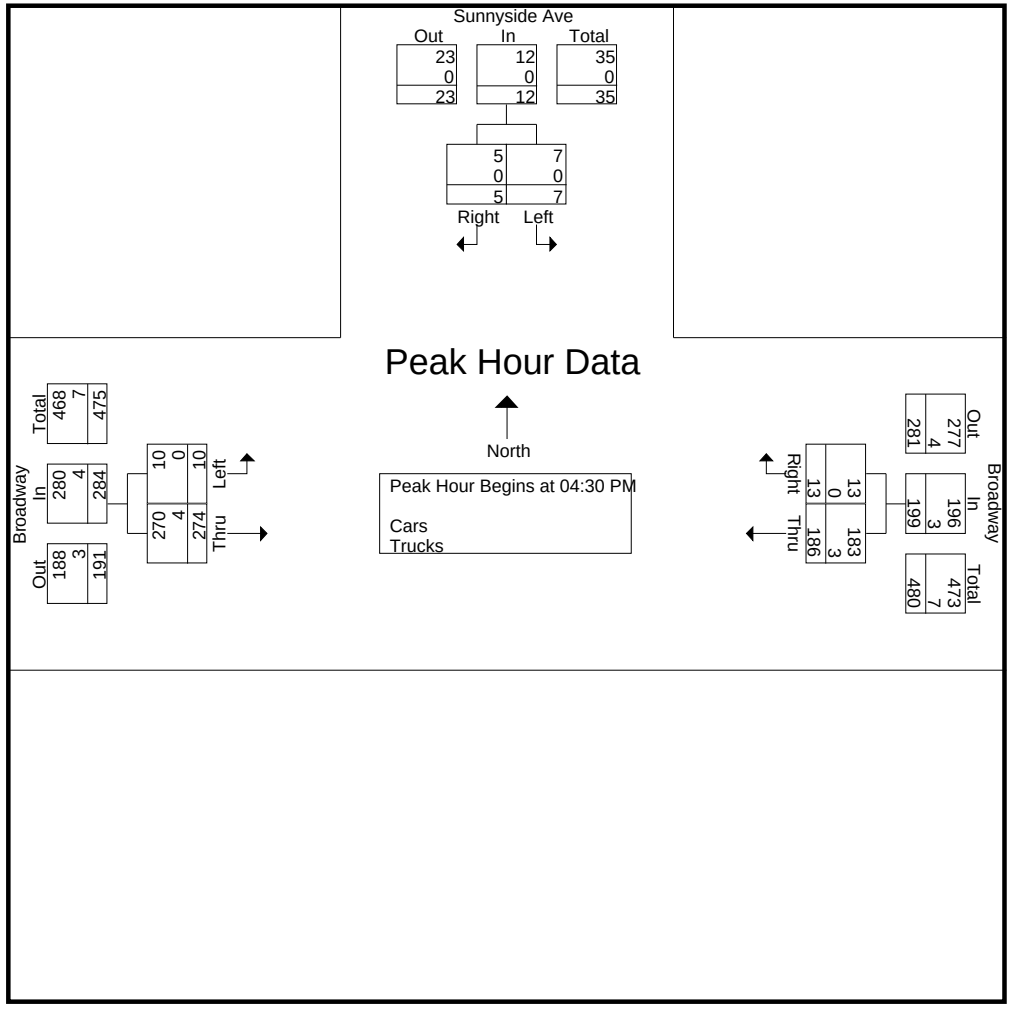
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	1	1	2	**55**	**4**	**59**	3	74	**77**	**138**
04:45 PM	**3**	1	**4**	43	3	46	1	65	66	116
05:00 PM	0	**2**	2	45	2	47	**5**	60	65	114
05:15 PM	3	1	4	43	4	47	1	**75**	76	127
Total Volume	7	5	12	186	13	199	10	274	284	495
% App. Total	58.3	41.7		93.5	6.5		3.5	96.5		
PHF	.583	.625	.750	.845	.813	.843	.500	.913	.922	.897
Cars	7	5	12	183	13	196	10	270	280	488
% Cars	100	100	100	98.4	100	98.5	100	98.5	98.6	98.6
Trucks	0	0	0	3	0	3	0	4	4	7
% Trucks	0	0	0	1.6	0	1.5	0	1.5	1.4	1.4

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

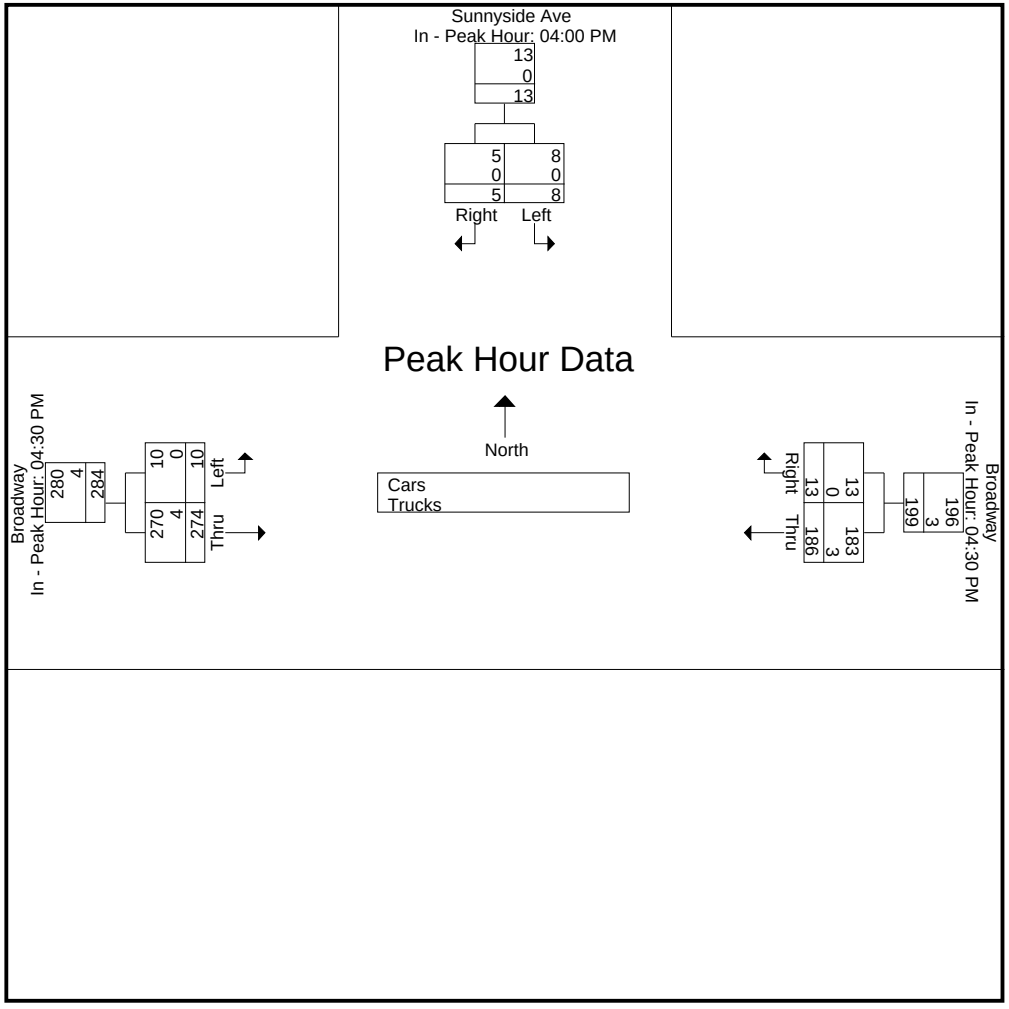
File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:30 PM			04:30 PM		
+0 mins.	1	1	2	**55**	**4**	**59**	3	74	**77**
+15 mins.	**3**	**2**	**5**	43	3	46	1	65	66
+30 mins.	1	1	2	45	2	47	**5**	60	65
+45 mins.	3	1	4	43	4	47	1	**75**	76
Total Volume	8	5	13	186	13	199	10	274	284
% App. Total	61.5	38.5		93.5	6.5		3.5	96.5	
PHF	.667	.625	.650	.845	.813	.843	.500	.913	.922
Cars	8	5	13	183	13	196	10	270	280
% Cars	100	100	100	98.4	100	98.5	100	98.5	98.6
Trucks	0	0	0	3	0	3	0	4	4


Broadway
In - Peak Hour: 04:30 PM
196
3
199
13
0
183
3
13
186
Right
Thru
Peak Hour Data
North
Cars
Trucks
Sunnyside Ave
In - Peak Hour: 04:00 PM
13
0
13
5
0
5
8
0
8
Right
Left
Broadway
In - Peak Hour: 04:30 PM
280
4
284
10
0
10
270
4
274
Left
Thru

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 4

Groups Printed- Cars

	Sunnyside Ave From North		Broadway From East		Broadway From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
04:00 PM	1	1	40	4	4	57	107
04:15 PM	3	2	42	0	2	63	112
04:30 PM	1	1	55	4	3	73	137
04:45 PM	3	1	41	3	1	65	114
Total	8	5	178	11	10	258	470
05:00 PM	0	2	44	2	5	59	112
05:15 PM	3	1	43	4	1	73	125
05:30 PM	0	1	49	1	0	53	104
05:45 PM	2	0	44	2	0	46	94
Total	5	4	180	9	6	231	435
Grand Total	13	9	358	20	16	489	905
Apprch %	59.1	40.9	94.7	5.3	3.2	96.8	
Total %	1.4	1	39.6	2.2	1.8	54	

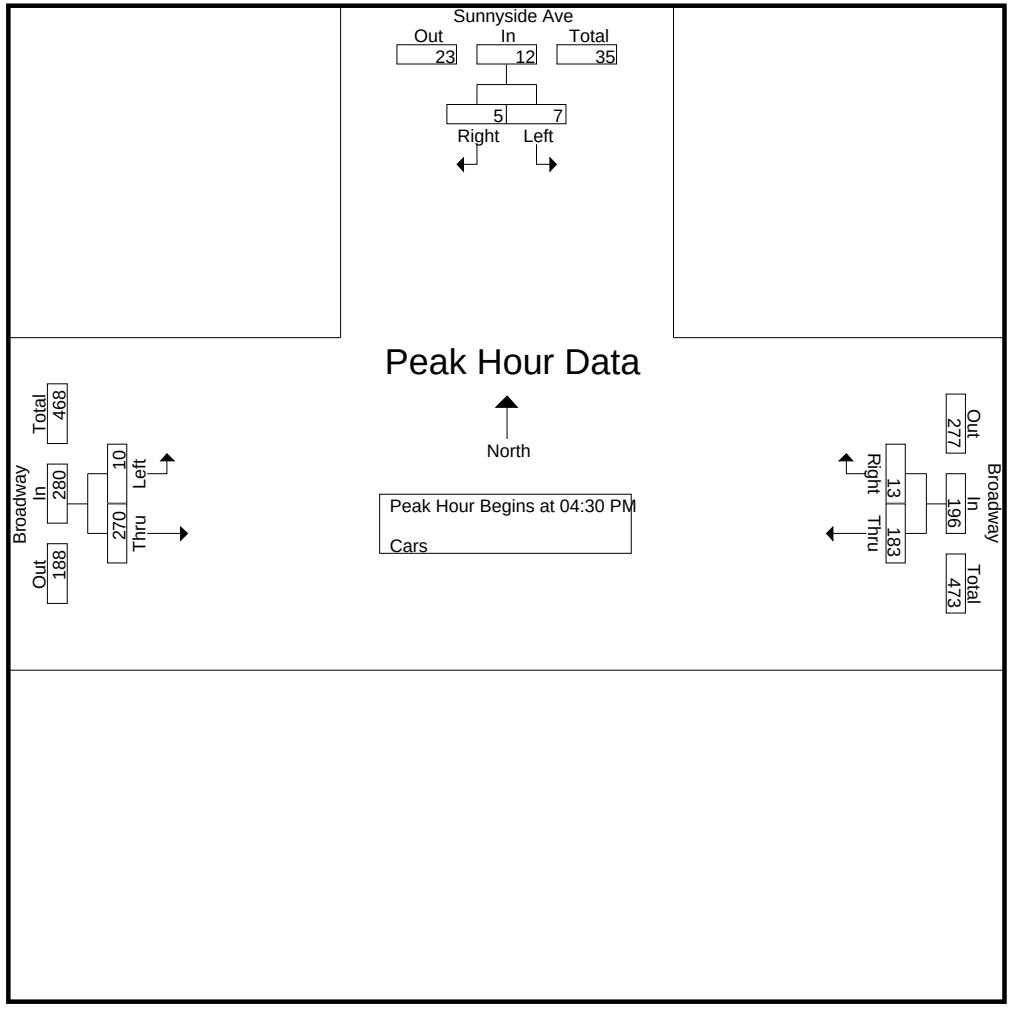
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	1	1	2	**55**	**4**	**59**	3	**73**	**76**	**137**
04:45 PM	**3**	1	**4**	41	3	44	1	65	66	114
05:00 PM	0	**2**	2	44	2	46	**5**	59	64	112
05:15 PM	3	1	4	43	4	47	1	73	74	125
Total Volume	7	5	12	183	13	196	10	270	280	488
% App. Total	58.3	41.7		93.4	6.6		3.6	96.4		
PHF	.583	.625	.750	.832	.813	.831	.500	.925	.921	.891

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 5



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

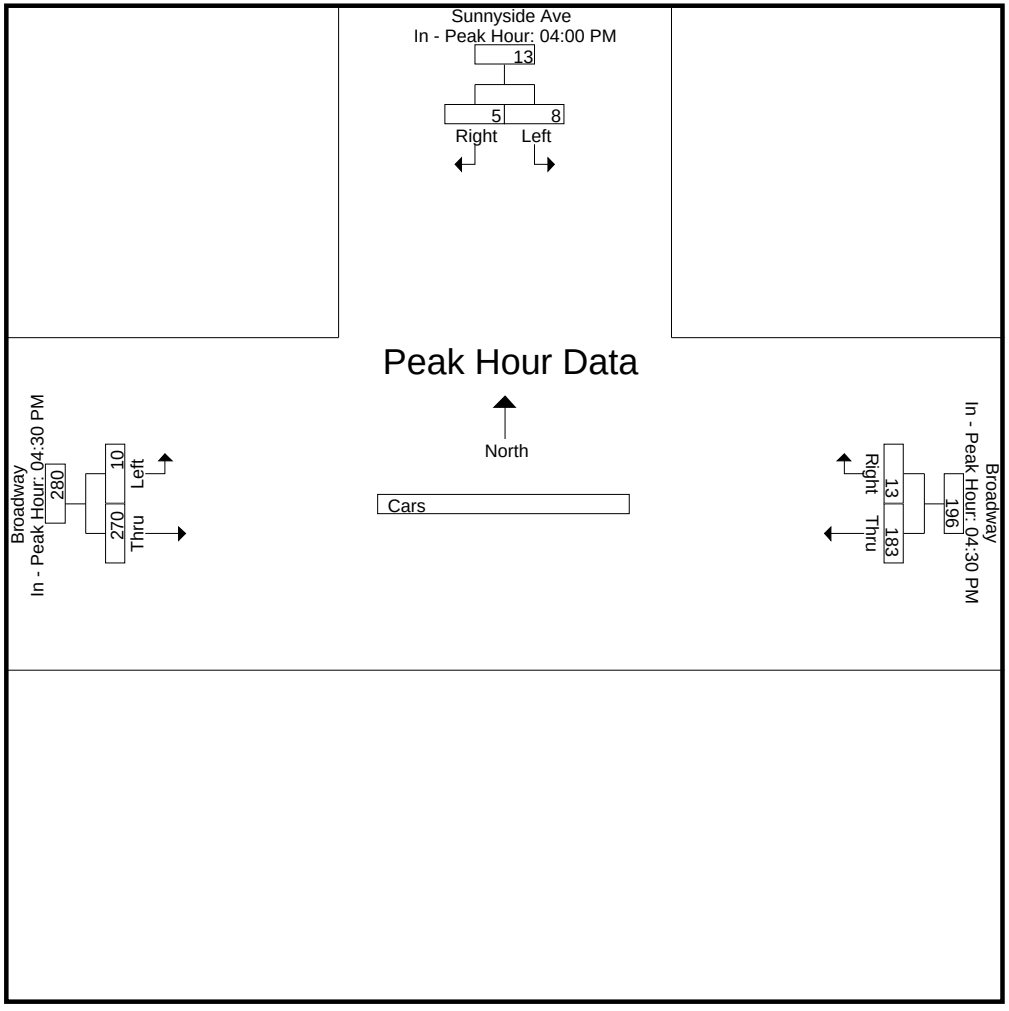
	04:00 PM			04:30 PM			04:30 PM		
+0 mins.	1	1	2	**55**	**4**	**59**	3	**73**	**76**
+15 mins.	**3**	**2**	**5**	41	3	44	1	65	66
+30 mins.	1	1	2	44	2	46	**5**	59	64
+45 mins.	3	1	4	43	4	47	1	73	74
Total Volume	8	5	13	183	13	196	10	270	280
% App. Total	61.5	38.5		93.4	6.6		3.6	96.4	
PHF	.667	.625	.650	.832	.813	.8[illegible]	.500	.925	.921

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 7

Groups Printed- Trucks

	Sunnyside Ave From North		Broadway From East		Broadway From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
04:00 PM	0	0	1	0	0	0	1
04:15 PM	0	0	0	0	0	2	2
04:30 PM	0	0	0	0	0	1	1
04:45 PM	0	0	2	0	0	0	2
Total	0	0	3	0	0	3	6
05:00 PM	0	0	1	0	0	1	2
05:15 PM	0	0	0	0	0	2	2
05:30 PM	0	0	1	0	0	1	2
05:45 PM	0	0	1	0	0	1	2
Total	0	0	3	0	0	5	8
Grand Total	0	0	6	0	0	8	14
Apprch %	0	0	100	0	0	100	
Total %	0	0	42.9	0	0	57.1	

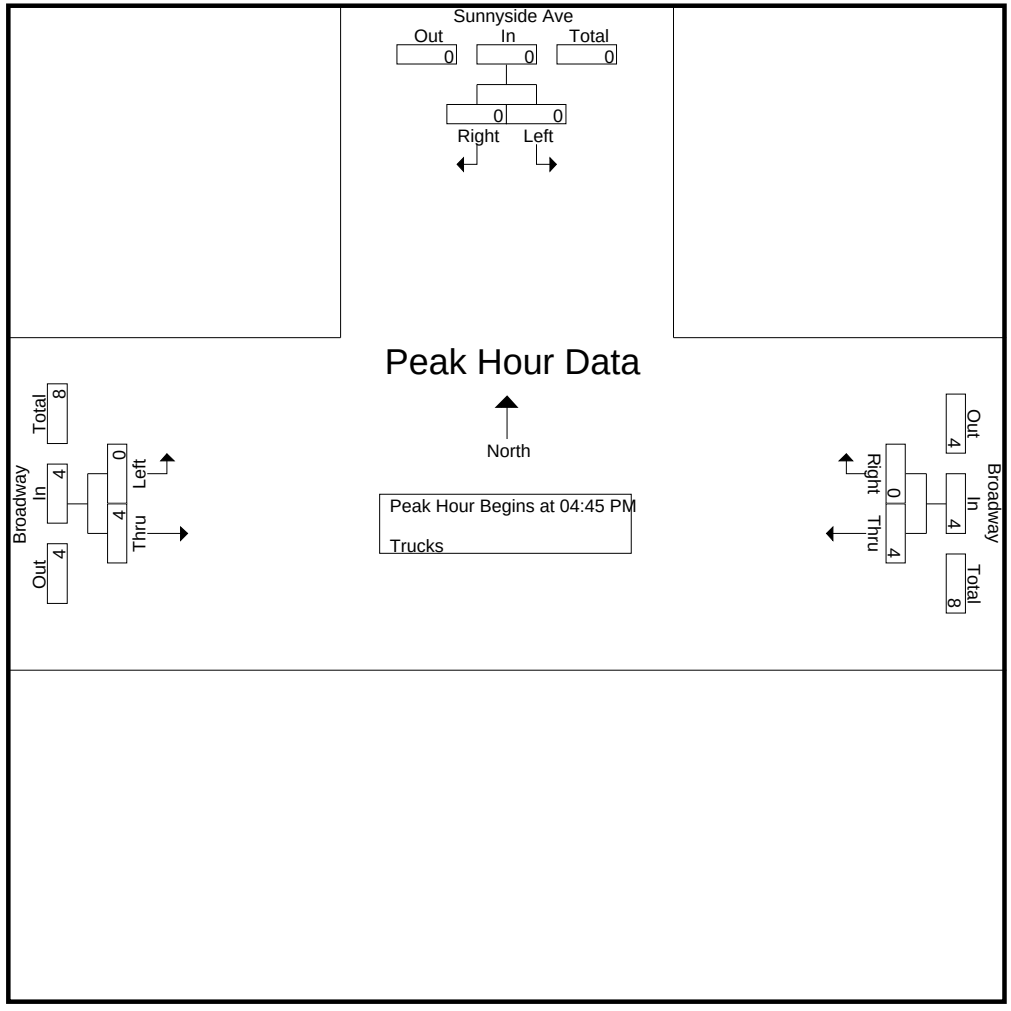
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	**2**	0	**2**	0	0	0	**2**
05:00 PM	0	0	0	1	0	1	0	1	1	2
05:15 PM	0	0	0	0	0	0	0	**2**	**2**	2
05:30 PM	0	0	0	1	0	1	0	1	1	2
Total Volume	0	0	0	4	0	4	0	4	4	8
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.500	.000	.500	.000	.500	.500	1.00

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 8



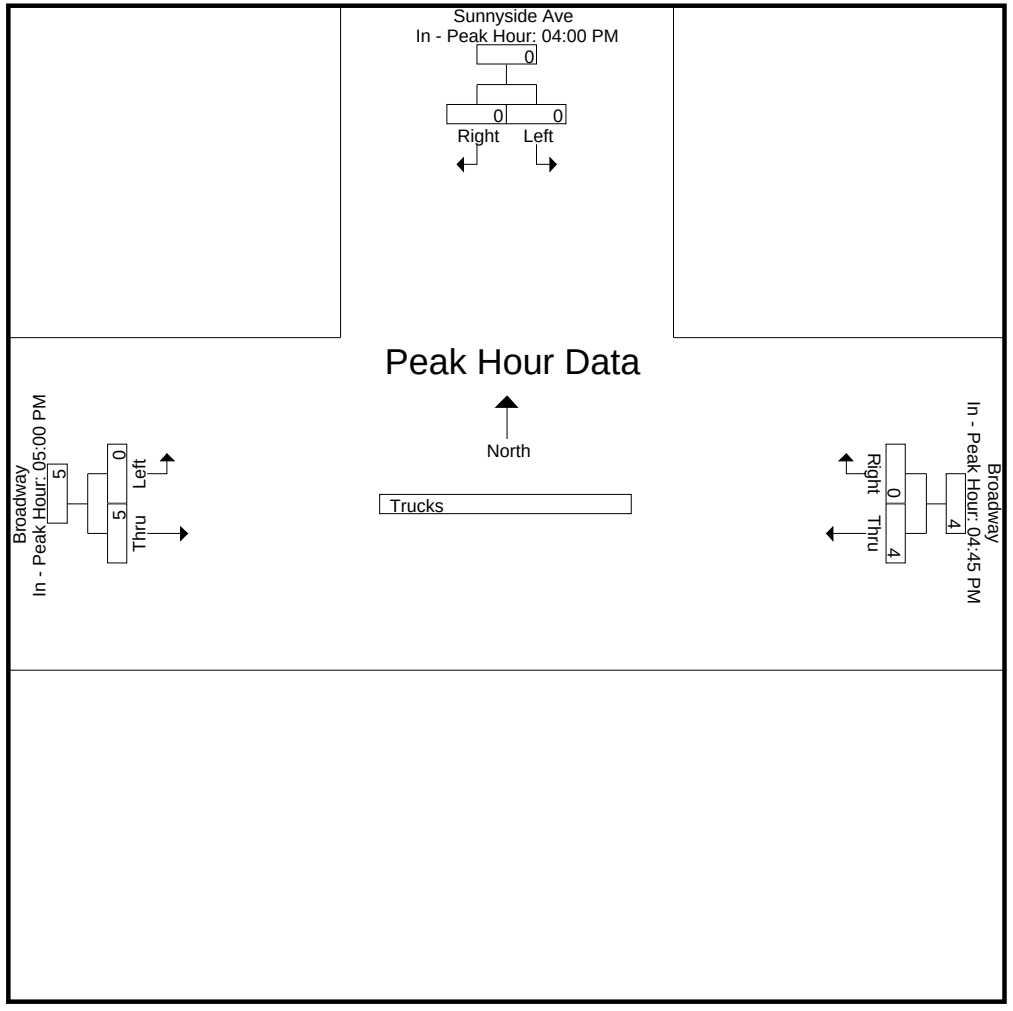
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:45 PM			05:00 PM		
+0 mins.	0	0	0	**2**	0	**2**	0	1	1
+15 mins.	0	0	0	1	0	1	0	**2**	**2**
+30 mins.	0	0	0	0	0	0	0	1	1
+45 mins.	0	0	0	1	0	1	0	1	1
Total Volume	0	0	0	4	0	4	0	5	5
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.500	.000	.500	.000	.625	.625

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 10

Groups Printed- Bikes Peds

	Sunnyside Ave From North			Broadway From East			Broadway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	3	1	0	0	0	0	1	4	1	5
04:15 PM	0	0	4	1	0	0	0	2	0	4	3	7
04:30 PM	0	0	5	0	0	0	0	2	0	5	2	7
04:45 PM	0	0	1	3	0	0	0	0	0	1	3	4
Total	0	0	13	5	0	0	0	4	1	14	9	23
05:00 PM	1	0	4	0	0	0	0	1	0	4	2	6
05:15 PM	0	0	2	1	0	0	0	3	0	2	4	6
05:30 PM	0	0	6	0	0	0	0	0	0	6	0	6
05:45 PM	0	0	4	0	1	0	0	2	0	4	3	7
Total	1	0	16	1	1	0	0	6	0	16	9	25
Grand Total	1	0	29	6	1	0	0	10	1	30	18	48
Apprch %	100	0		85.7	14.3		0	100				
Total %	5.6	0		33.3	5.6		0	55.6		62.5	37.5	

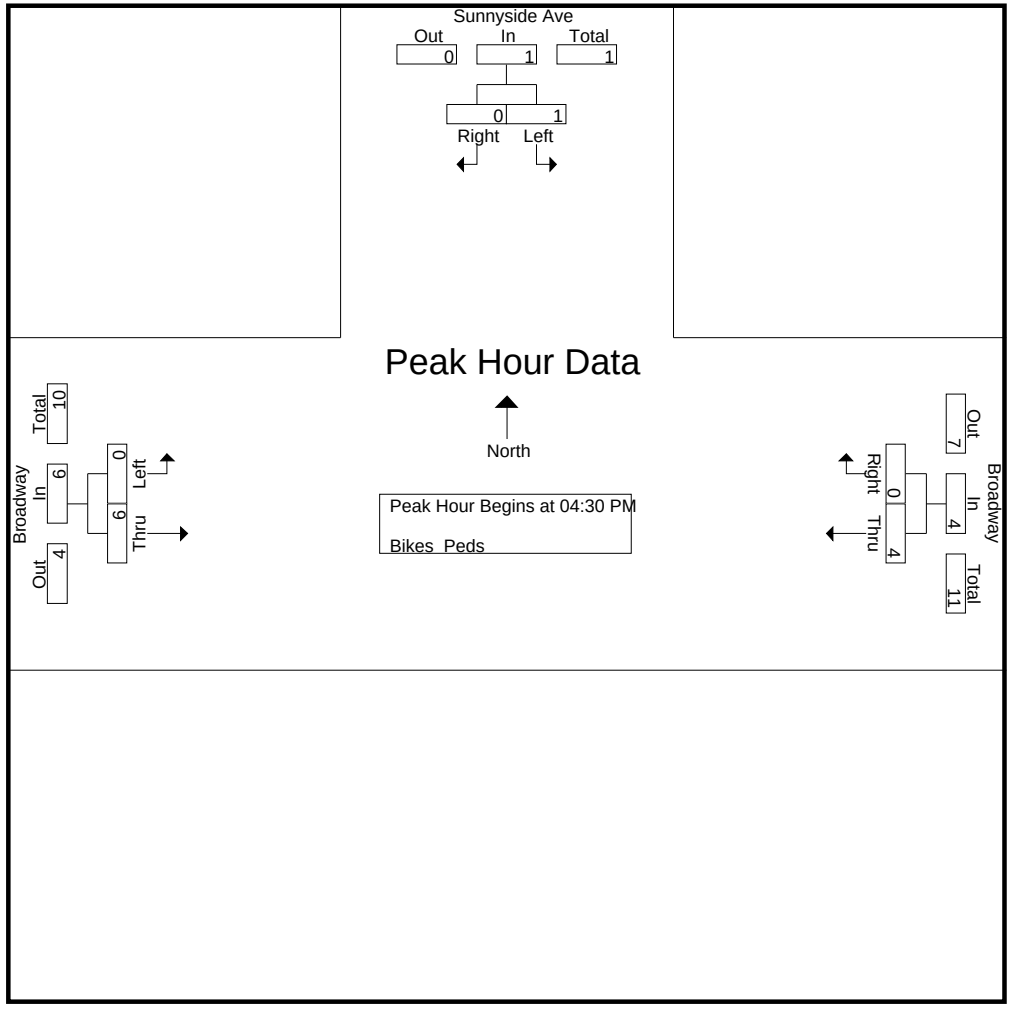
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	0	2	2	2
04:45 PM	0	0	0	**3**	0	**3**	0	0	0	3
05:00 PM	**1**	0	**1**	0	0	0	0	1	1	2
05:15 PM	0	0	0	1	0	1	0	**3**	**3**	**4**
Total Volume	1	0	1	4	0	4	0	6	6	11
% App. Total	100	0		100	0		0	100		
PHF	.250	.000	.250	.333	.000	.333	.000	.500	.500	.688

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 11



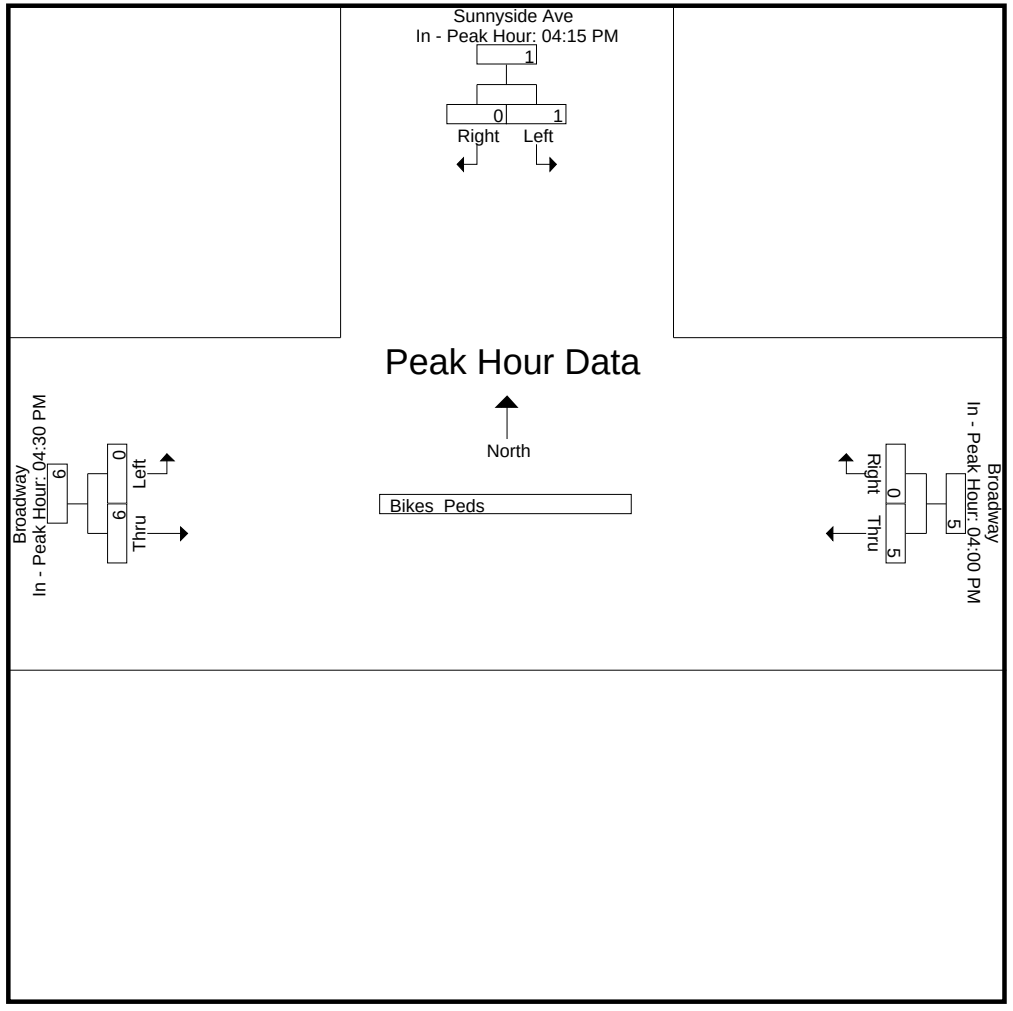
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			04:30 PM		
+0 mins.	0	0	0	1	0	1	0	2	2
+15 mins.	0	0	0	1	0	1	0	0	0
+30 mins.	0	0	0	0	0	0	0	1	1
+45 mins.	**1**	0	**1**	**3**	0	**3**	0	**3**	**3**
Total Volume	1	0	1	5	0	5	0	6	6
% App. Total	100	0		100	0		0	100	
PHF	.250	.000	.250	.417	.000	.417	.000	.500	.500

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 86410001
Site Code : 86410001
Start Date : 6/11/2020
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 1

Groups Printed- Cars - Trucks

	Sunnyside Ave From North		Broadway From East		Broadway From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
11:00 AM	2	1	50	3	2	49	107
11:15 AM	4	2	54	0	2	50	112
11:30 AM	1	1	45	2	2	56	107
11:45 AM	4	0	43	2	1	58	108
Total	11	4	192	7	7	213	434
12:00 PM	0	0	47	0	2	56	105
12:15 PM	3	2	57	0	0	54	116
12:30 PM	1	2	35	0	2	51	91
12:45 PM	1	4	43	4	1	75	128
Total	5	8	182	4	5	236	440
01:00 PM	4	2	47	1	2	54	110
01:15 PM	3	0	44	5	3	55	110
01:30 PM	1	0	56	0	0	76	133
01:45 PM	5	4	42	2	1	48	102
Total	13	6	189	8	6	233	455
Grand Total	29	18	563	19	18	682	1329
Apprch %	61.7	38.3	96.7	3.3	2.6	97.4	
Total %	2.2	1.4	42.4	1.4	1.4	51.3	
Cars	29	18	536	19	18	657	1277
% Cars	100	100	95.2	100	100	96.3	96.1
Trucks	0	0	27	0	0	25	52
% Trucks	0	0	4.8	0	0	3.7	3.9

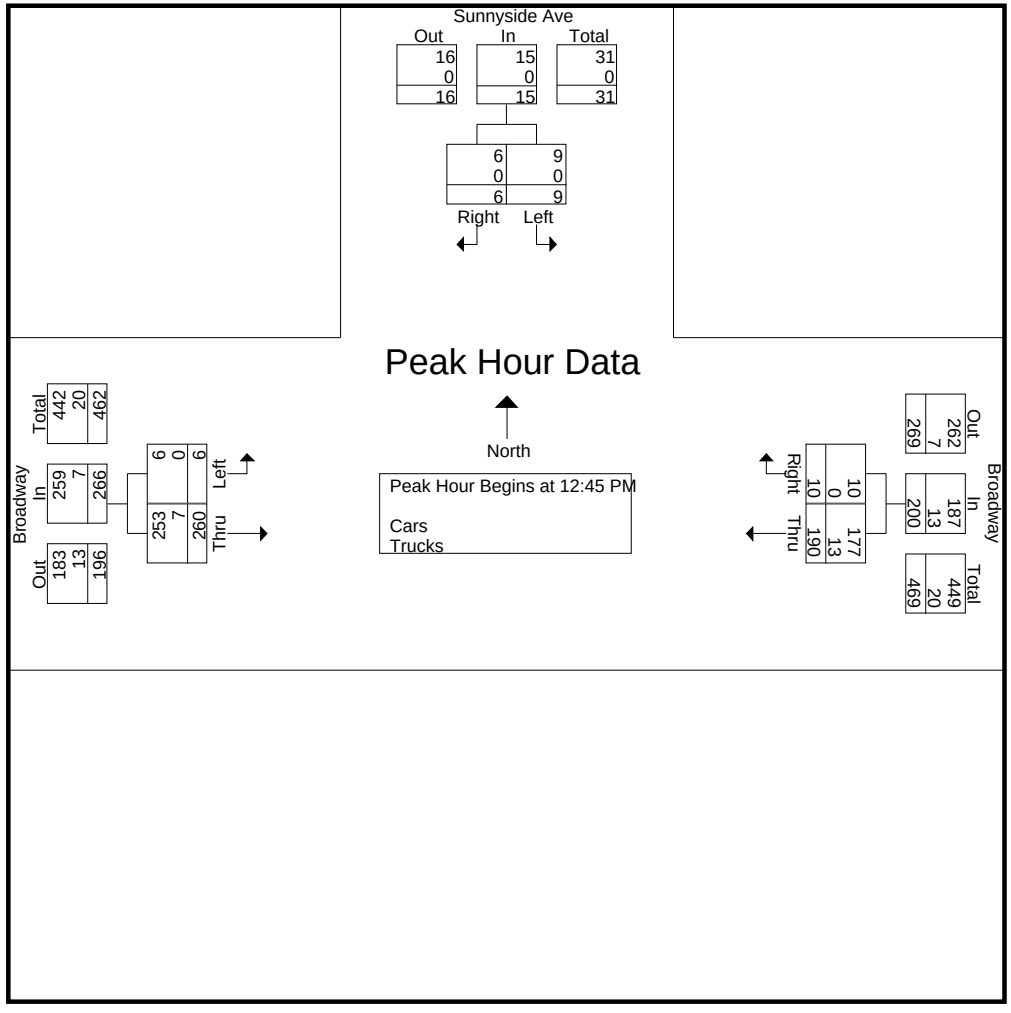
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:45 PM										
12:45 PM	1	**4**	5	43	4	47	1	75	**76**	128
01:00 PM	**4**	2	**6**	47	1	48	2	54	56	110
01:15 PM	3	0	3	44	**5**	49	**3**	55	58	110
01:30 PM	1	0	1	**56**	0	**56**	0	**76**	76	**133**
Total Volume	9	6	15	190	10	200	6	260	266	481
% App. Total	60	40		95	5		2.3	97.7		
PHF	.563	.375	.625	.848	.500	.893	.500	.855	.875	.904
Cars	9	6	15	177	10	187	6	253	259	461
% Cars	100	100	100	93.2	100	93.5	100	97.3	97.4	95.8
Trucks	0	0	0	13	0	13	0	7	7	20
% Trucks	0	0	0	6.8	0	6.5	0	2.7	2.6	4.2

Accurate Counts

978-664-2565

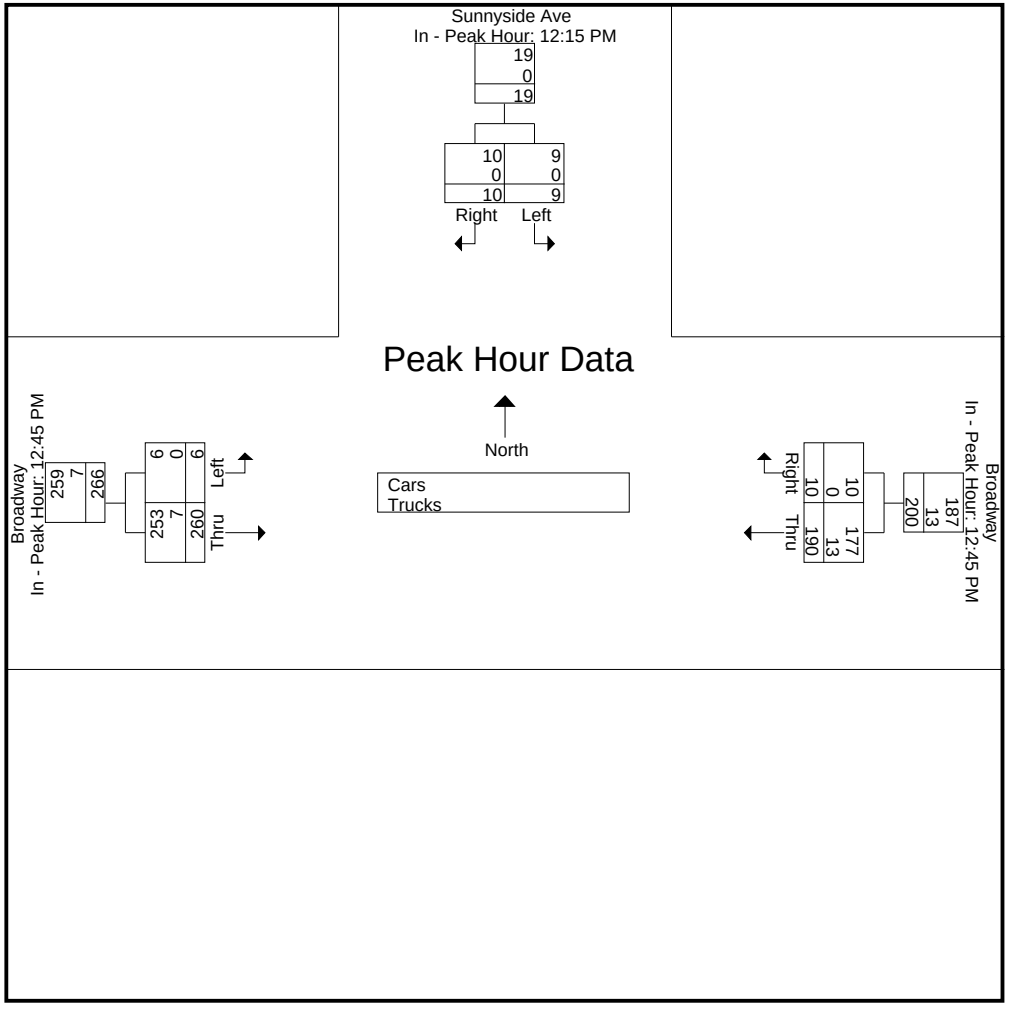
N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 2



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:15 PM			12:45 PM			12:45 PM		
+0 mins.	3	2	5	43	4	47	1	75	**76**
+15 mins.	1	2	3	47	1	48	2	54	56
+30 mins.	1	**4**	5	44	**5**	49	**3**	55	58
+45 mins.	**4**	2	**6**	**56**	0	**56**	0	**76**	76
Total Volume	9	10	19	190	10	200	6	260	266
% App. Total	47.4	52.6		95	5		2.3	97.7	
PHF	.563	.625	.792	.848	.500	.893	.500	.855	.875
Cars	9	10	19	177	10	187	6	253	259
% Cars	100	100	100	93.2	100	93.5	100	97.3	97.4
Trucks	0	0	0	13	0	13	0	7	7



Peak Hour Data

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 4

Groups Printed- Cars

	Sunnyside Ave From North		Broadway From East		Broadway From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
11:00 AM	2	1	47	3	2	47	102
11:15 AM	4	2	53	0	2	50	111
11:30 AM	1	1	44	2	2	52	102
11:45 AM	4	0	42	2	1	56	105
Total	11	4	186	7	7	205	420
12:00 PM	0	0	46	0	2	53	101
12:15 PM	3	2	54	0	0	49	108
12:30 PM	1	2	34	0	2	51	90
12:45 PM	1	4	37	4	1	73	120
Total	5	8	171	4	5	226	419
01:00 PM	4	2	47	1	2	53	109
01:15 PM	3	0	40	5	3	54	105
01:30 PM	1	0	53	0	0	73	127
01:45 PM	5	4	39	2	1	46	97
Total	13	6	179	8	6	226	438
Grand Total	29	18	536	19	18	657	1277
Apprch %	61.7	38.3	96.6	3.4	2.7	97.3	
Total %	2.3	1.4	42	1.5	1.4	51.4	

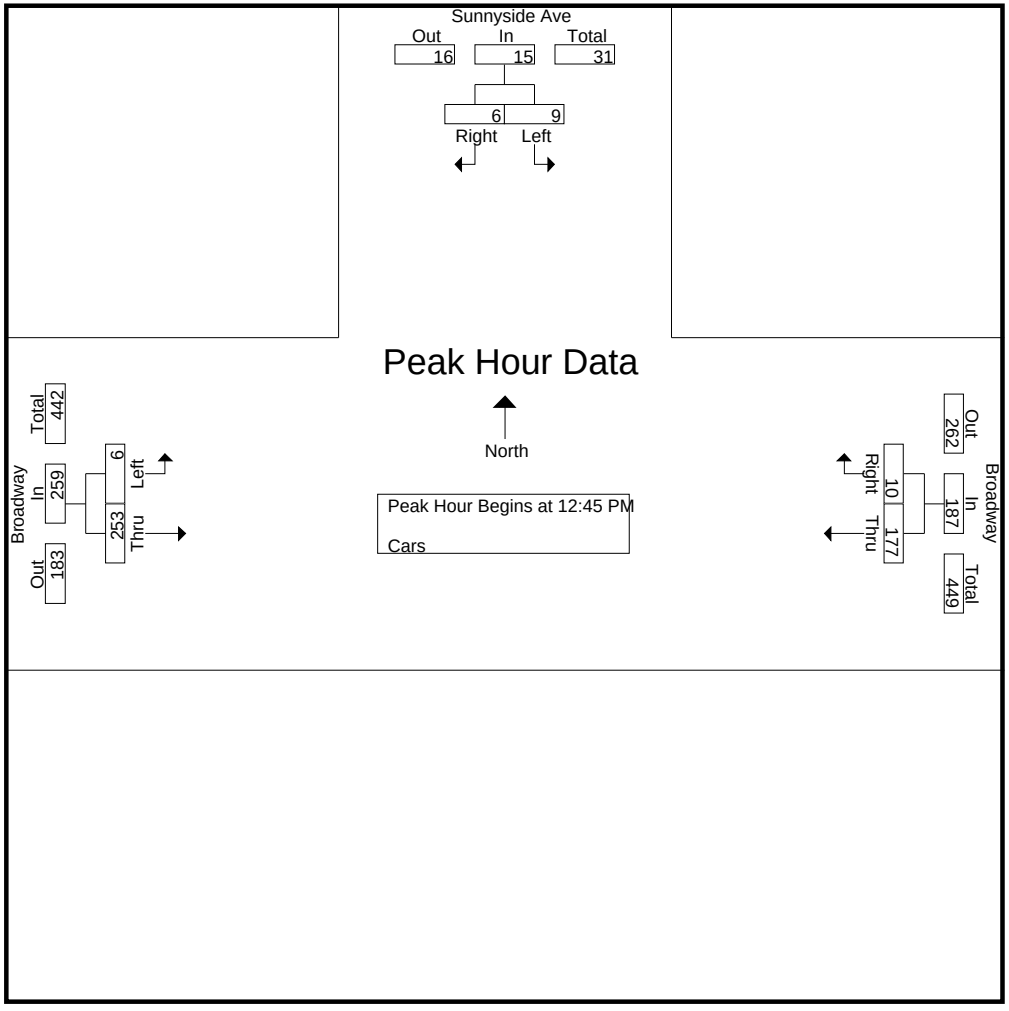
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:45 PM										
12:45 PM	1	**4**	5	37	4	41	1	**73**	**74**	120
01:00 PM	**4**	2	**6**	47	1	48	2	53	55	109
01:15 PM	3	0	3	40	**5**	45	**3**	54	57	105
01:30 PM	1	0	1	**53**	0	**53**	0	73	73	**127**
Total Volume	9	6	15	177	10	187	6	253	259	461
% App. Total	60	40		94.7	5.3		2.3	97.7		
PHF	.563	.375	.625	.835	.500	.882	.500	.866	.875	.907

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 5



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

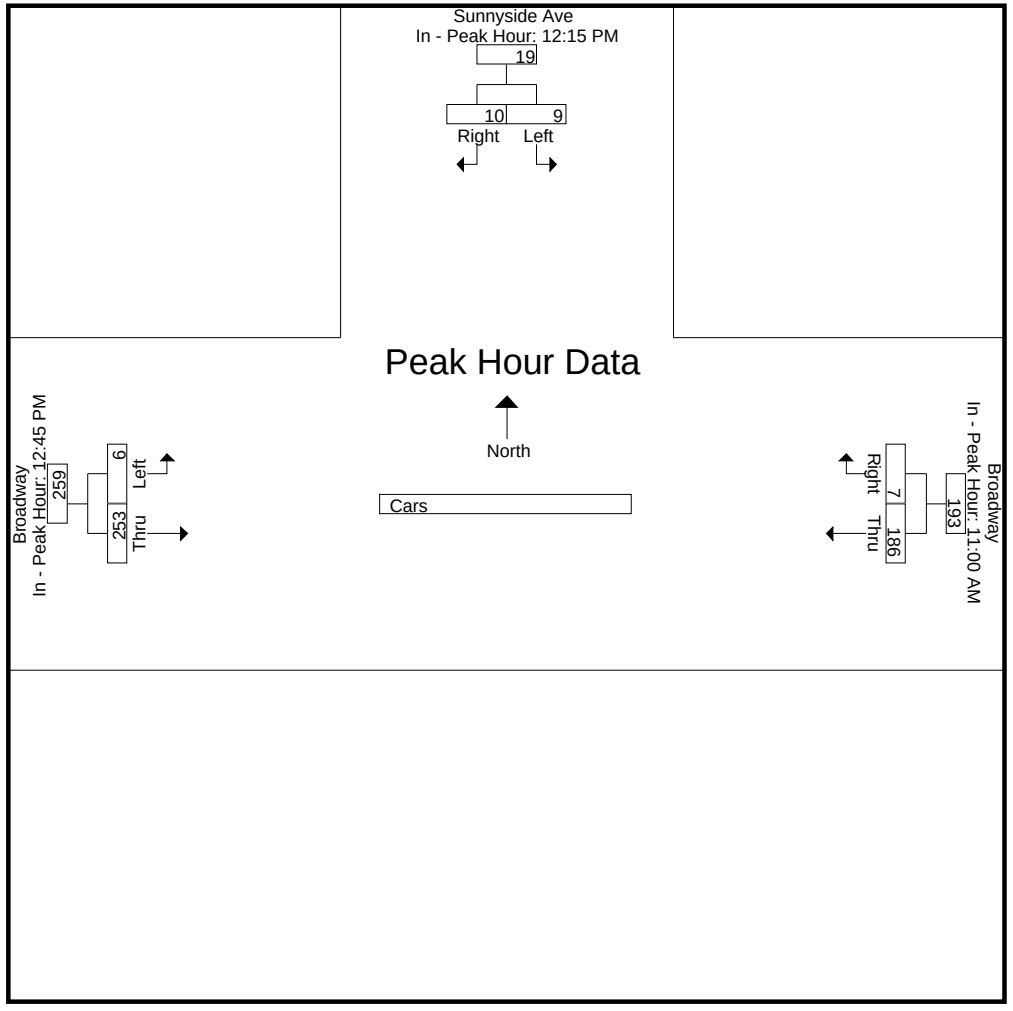
	12:15 PM			11:00 AM			12:45 PM		
+0 mins.	3	2	5	47	**3**	50	1	**73**	**74**
+15 mins.	1	2	3	**53**	0	**53**	2	53	55
+30 mins.	1	**4**	5	44	2	46	**3**	54	57
+45 mins.	**4**	2	**6**	42	2	44	0	73	73
Total Volume	9	10	19	186	7	193	6	253	259
% App. Total	47.4	52.6		96.4	3.6		2.3	97.7	
PHF	.563	.625	.792	.877	.583	.910	.500	.866	.875

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 7

Groups Printed- Trucks

	Sunnyside Ave From North		Broadway From East		Broadway From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
11:00 AM	0	0	3	0	0	2	5
11:15 AM	0	0	1	0	0	0	1
11:30 AM	0	0	1	0	0	4	5
11:45 AM	0	0	1	0	0	2	3
Total	0	0	6	0	0	8	14
12:00 PM	0	0	1	0	0	3	4
12:15 PM	0	0	3	0	0	5	8
12:30 PM	0	0	1	0	0	0	1
12:45 PM	0	0	6	0	0	2	8
Total	0	0	11	0	0	10	21
01:00 PM	0	0	0	0	0	1	1
01:15 PM	0	0	4	0	0	1	5
01:30 PM	0	0	3	0	0	3	6
01:45 PM	0	0	3	0	0	2	5
Total	0	0	10	0	0	7	17
Grand Total	0	0	27	0	0	25	52
Apprch %	0	0	100	0	0	100	
Total %	0	0	51.9	0	0	48.1	

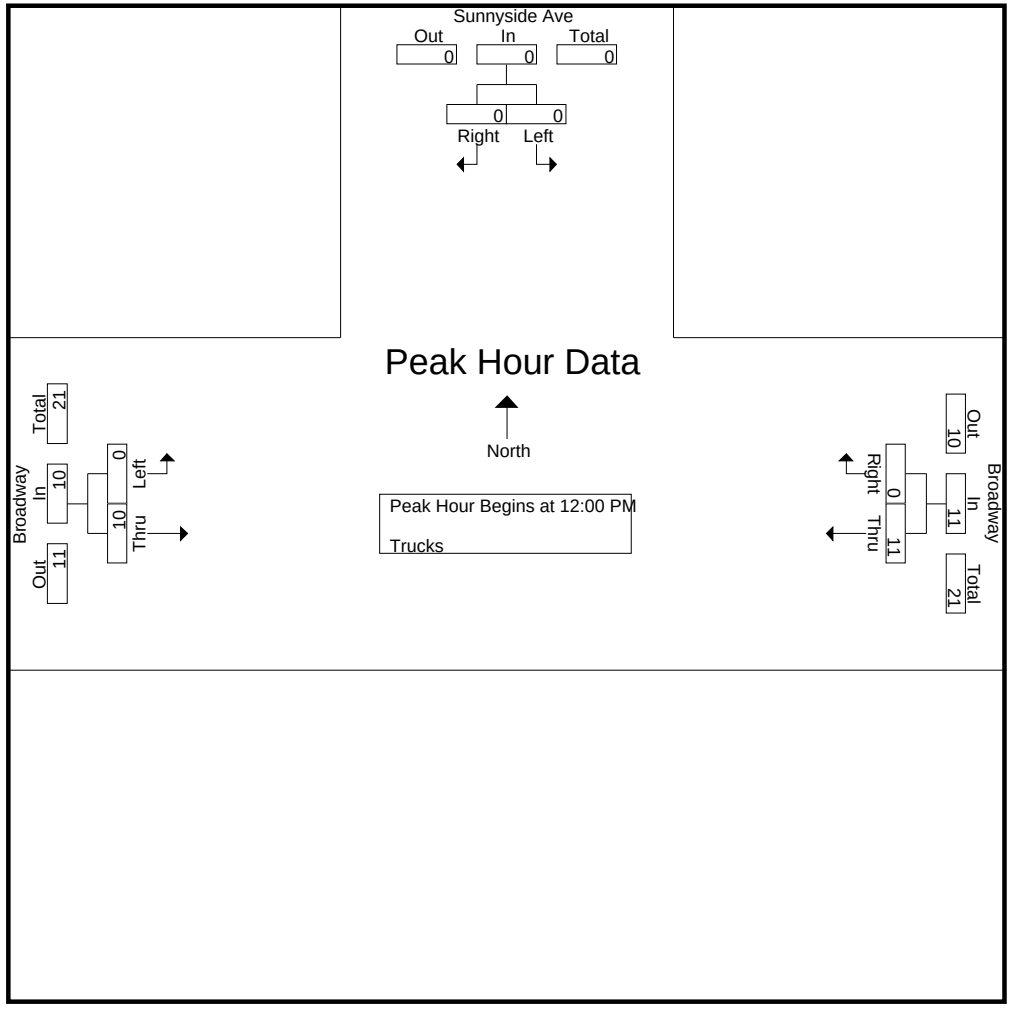
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	0	0	0	1	0	1	0	3	3	4
12:15 PM	0	0	0	3	0	3	0	**5**	**5**	**8**
12:30 PM	0	0	0	1	0	1	0	0	0	1
12:45 PM	0	0	0	**6**	0	**6**	0	2	2	8
Total Volume	0	0	0	11	0	11	0	10	10	21
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.458	.000	.458	.000	.500	.500	.656

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 8



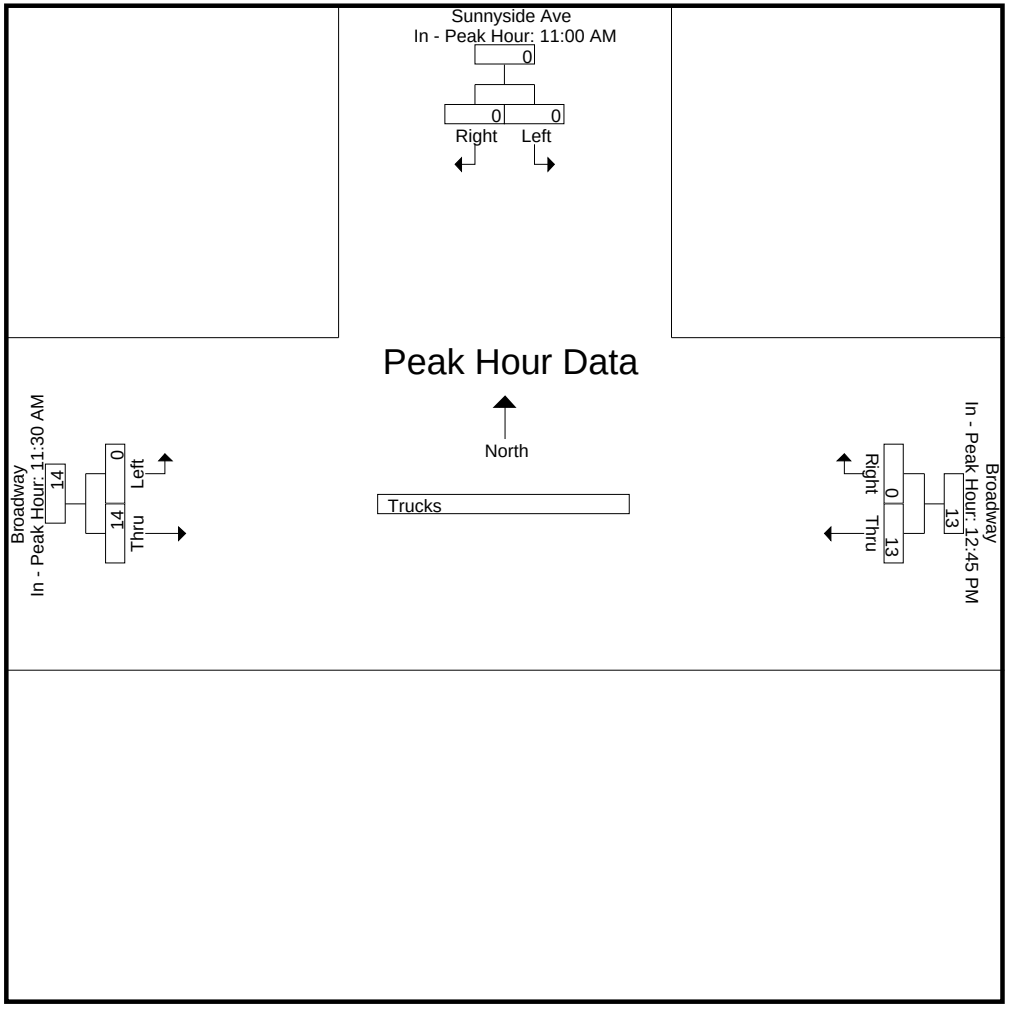
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM			12:45 PM			11:30 AM		
+0 mins.	0	0	0	**6**	0	**6**	0	4	4
+15 mins.	0	0	0	0	0	0	0	2	2
+30 mins.	0	0	0	4	0	4	0	3	3
+45 mins.	0	0	0	3	0	3	0	**5**	**5**
Total Volume	0	0	0	13	0	13	0	14	14
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.542	.000	.542	.000	.700	.700

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 9



Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 10

Groups Printed- Bikes Peds

	Sunnyside Ave From North			Broadway From East			Broadway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
11:00 AM	0	0	5	5	0	0	0	3	0	5	8	13
11:15 AM	0	1	7	1	0	0	0	1	0	7	3	10
11:30 AM	0	0	7	1	0	0	0	3	0	7	4	11
11:45 AM	0	0	8	2	0	0	0	2	0	8	4	12
Total	0	1	27	9	0	0	0	9	0	27	19	46
12:00 PM	0	0	5	2	0	0	0	6	1	6	8	14
12:15 PM	0	0	3	1	0	0	0	5	0	3	6	9
12:30 PM	0	0	8	6	0	2	0	1	0	10	7	17
12:45 PM	0	0	3	1	0	0	0	5	1	4	6	10
Total	0	0	19	10	0	2	0	17	2	23	27	50
01:00 PM	0	0	5	6	0	0	0	5	0	5	11	16
01:15 PM	0	0	3	4	0	1	0	4	1	5	8	13
01:30 PM	0	0	3	3	0	0	0	3	0	3	6	9
01:45 PM	0	0	1	4	0	0	0	2	0	1	6	7
Total	0	0	12	17	0	1	0	14	1	14	31	45
Grand Total	0	1	58	36	0	3	0	40	3	64	77	141
Apprch %	0	100		100	0		0	100				
Total %	0	1.3		46.8	0		0	51.9		45.4	54.6	

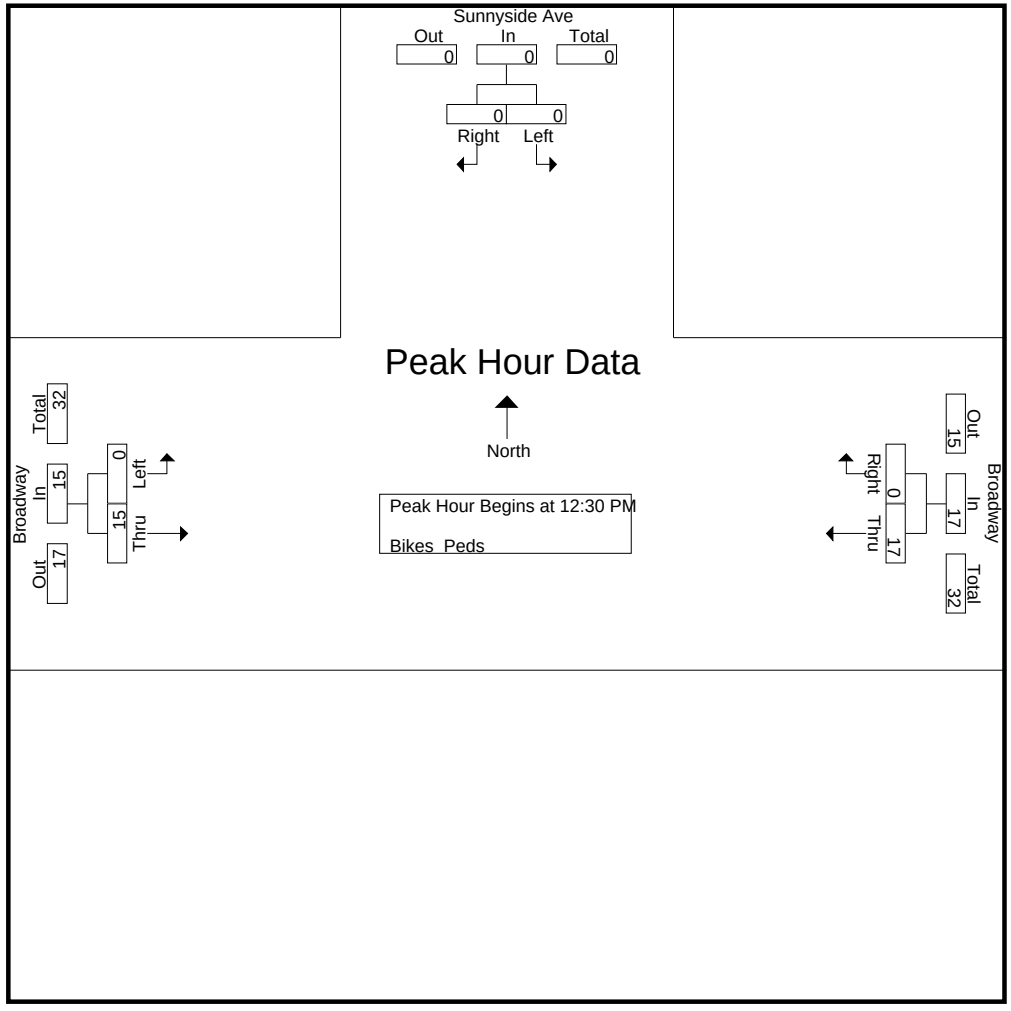
	Sunnyside Ave From North			Broadway From East			Broadway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:30 PM										
12:30 PM	0	0	0	**6**	0	**6**	0	1	1	7
12:45 PM	0	0	0	1	0	1	0	**5**	**5**	6
01:00 PM	0	0	0	6	0	6	0	5	5	**11**
01:15 PM	0	0	0	4	0	4	0	4	4	8
Total Volume	0	0	0	17	0	17	0	15	15	32
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.708	.000	.708	.000	.750	.750	.727

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 11



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

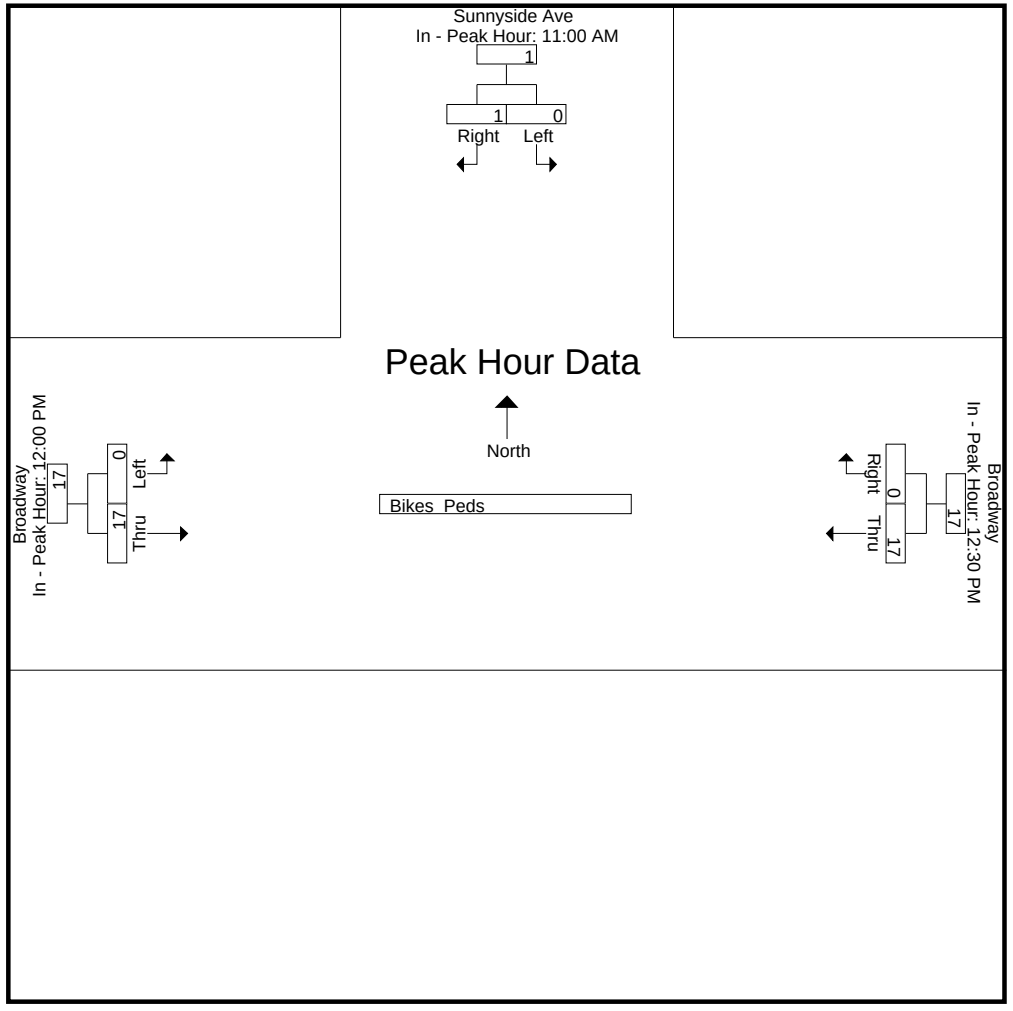
	11:00 AM			12:30 PM			12:00 PM		
+0 mins.	0	0	0	**6**	0	**6**	0	**6**	**6**
+15 mins.	0	**1**	**1**	1	0	1	0	5	5
+30 mins.	0	0	0	6	0	6	0	1	1
+45 mins.	0	0	0	4	0	4	0	5	5
Total Volume	0	1	1	17	0	17	0	17	17
% App. Total	0	100		100	0		0	100	
PHF	.000	.250	.250	.708	.000	.708	.000	.708	.708

Accurate Counts

978-664-2565

N/S Street : Sunnyside Avenue
E/W Street : Broadway
City/State : Arlington, MA
Weather : Clear

File Name : 864100S1
Site Code : 864100S1
Start Date : 6/13/2020
Page No : 12



COVID-19 ADJUSTMENT CALCULATIONS

Route 16 at Broadway Volumes

Growth; 4 Years at 0.5% = 1.02
Seasonal Adjustment = 1.00 (Above Average Month Conditions)

Entering from the West:

EB LT = $189 \times 1.02 \times 1.00 = 192.8 \approx 193$
EB TH = $296 \times 1.02 \times 1.00 = 301.9 \approx 302$
EB RT = $45 \times 1.02 \times 1.00 = 45.9 \approx 46$

Subtotal = $193 + 302 + 46 = 541$

Exiting to the West:

SB RT = 130 $130 \times 1.02 \times 1.00 = 132.6 \approx 133$
WB TH = $272 \times 1.02 \times 1.00 = 277.4 \approx 277$
NB LT = $32 \times 1.02 \times 1.00 = 32.64 \approx 33$

Subtotal = $133 + 277 + 33 = 443$

Total = $\mathbf{541 + 443 = 984}$

Broadway at Sunnyside Avenue Volumes

Exiting to the East:

EB TH = 274
SB LT = 7

Subtotal = $274 + 7 = 281$

Entering from the East:

WB TH = 186
WB RT = 13

Subtotal = $186 + 13 = 199$

Total = $\mathbf{281 + 199 = 480}$

$$\textit{Covid-19 Growth Factor} = \frac{\mathbf{984}}{\mathbf{480}} = \mathbf{2.05}$$

Massachusetts Highway Department
Statewide Traffic Data Collection
2019 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.22	1.14	1.12	1.06	1.00	0.96	0.87	0.85	0.96	0.99	1.04	1.12	0.85
R2	0.95	0.96	0.98	0.97	0.97	0.93	0.97	0.94	0.96	0.90	0.92	0.93	0.96
R3	1.15	1.06	1.07	1.00	0.89	0.88	0.89	0.89	0.95	0.92	1.02	1.01	0.97
R4-R7	1.09	1.09	1.11	1.02	0.96	0.92	0.89	0.89	0.99	0.98	1.09	1.13	0.98
U1-Boston	1.03	1.01	0.98	0.94	0.94	0.92	0.95	0.93	0.94	0.94	0.97	1.04	0.96
U1-Essex	1.09	1.06	1.03	0.99	0.94	0.90	0.88	0.86	0.93	0.94	0.99	1.06	0.93
U1-Southeast	1.06	1.05	1.01	0.97	0.95	0.93	0.93	0.90	0.94	0.94	0.98	1.04	0.98
U1-West	1.19	1.14	1.09	0.95	0.92	0.89	0.89	0.86	0.91	0.95	0.97	1.07	0.84
U1-Worcester	1.02	1.04	0.97	0.94	0.93	0.91	0.95	0.91	0.93	0.92	0.95	1.10	0.88
U2	1.01	1.00	0.94	0.93	0.91	0.89	0.93	0.90	0.90	0.91	0.94	1.02	0.99
U3	1.06	1.03	0.98	0.94	0.93	0.91	0.95	0.91	0.92	0.93	0.97	1.00	0.98
U4-U7	1.01	1.00	0.95	0.92	0.88	0.86	0.92	0.91	0.92	0.94	0.99	1.04	0.99
Rec - East	1.04	1.16	1.12	0.98	0.92	0.88	0.77	0.81	0.94	1.02	1.08	1.12	0.99
Rec - West	1.30	1.23	1.32	1.18	0.95	0.82	0.70	0.69	0.97	0.96	1.16	1.15	0.98

Round off:
0-999 = 10
>1000 = 100

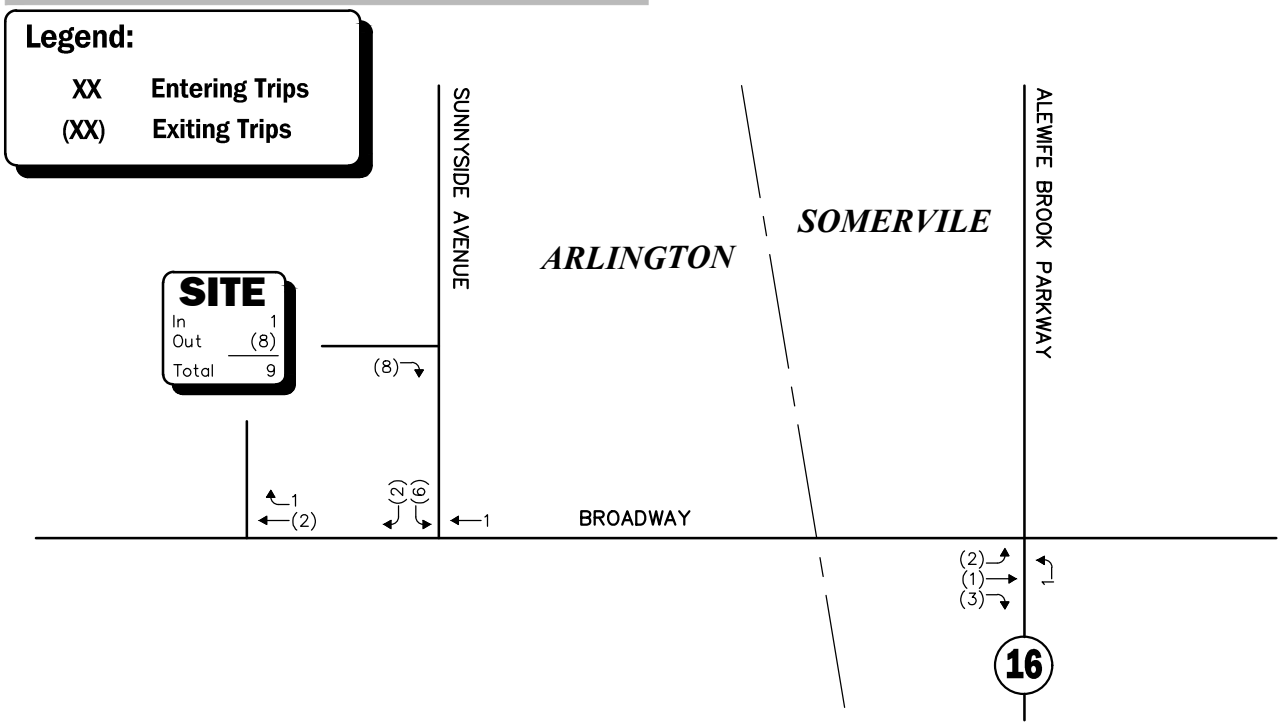
U = Urban
R = Rural

1 - Interstate
2 - Freeway and Expressway
3 - Other Principal Arterial
4 - Minor Arterial
5 - Major Collector
6 - Minor Collector
7 - Local Road and Street

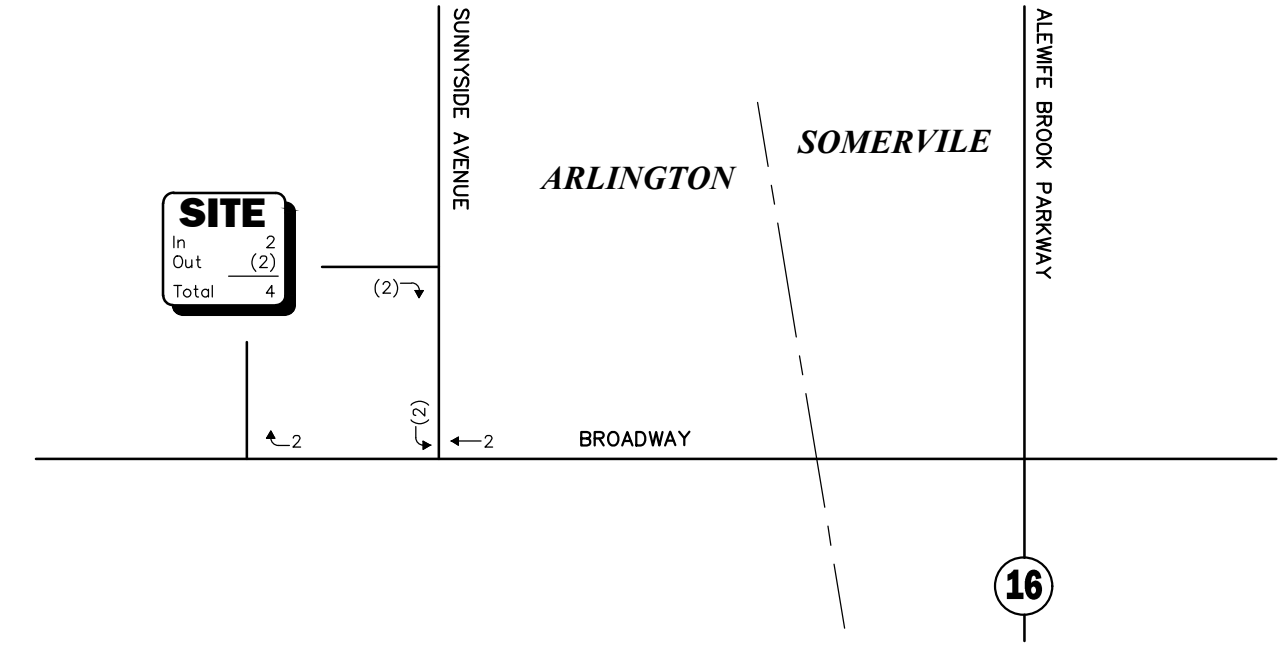
Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113, 1114,1116,2196,2197 and 2198.

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



Not To Scale

Figure A-1

Existing Office Backfill Peak Hour Traffic Volumes

Vanasse & Associates inc

Institute of Transportation Engineers (ITE)
Trip Generation, 10 th Edition
Land Use Code (LUC) 710 - General Office Building

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Floor Area
Independent Variable (X): 7.612

AVERAGE WEEKDAY DAILY

T = 9.74 * (X)
T = 9.74 * 7.612
T = 74.14
T = 74 vehicle trips
with 50% (37 vpd) entering and 50% (37 vpd) exiting.

WEEKDAY EVENING PEAK HOUR

T = 1.15 * (X)
T = 1.15 * 7.612
T = 8.75
T = 9 vehicle trips
with 16% (1 vph) entering and 84% (8 vph) exiting.

SATURDAY DAILY

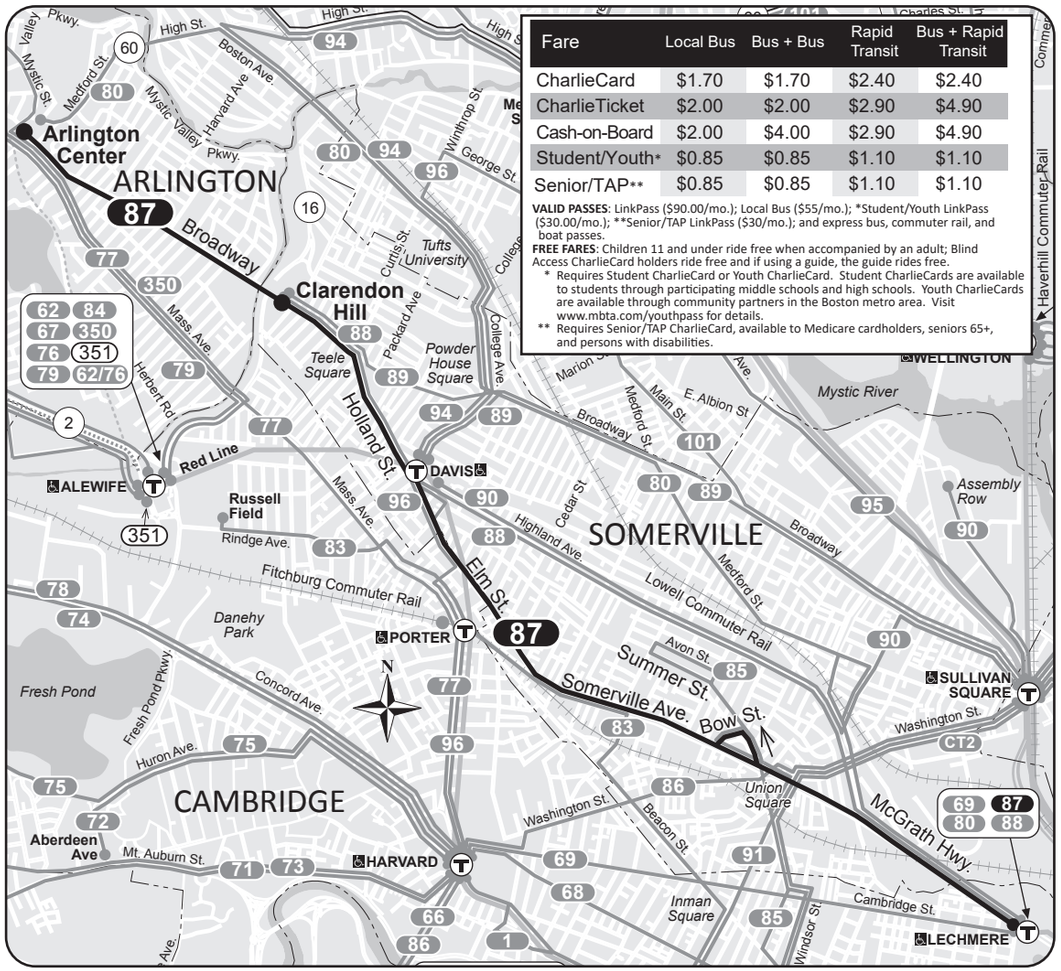
T = 2.21 * (X)
T = 2.21 * 7.612
T = 16.82
T = 18 vehicle trips
with 50% (9 vpd) entering and 50% (9 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.53 * (X)
T = 0.53 * 7.612
T = 4.03
T = 4 vehicle trips
with 54% (2 vpd) entering and 46% (2 vpd) exiting.

PUBLIC TRANSPORTATION SCHEDULES

Route 87 Arlington Center or Clarendon Hill - Lechmere Station



Fare	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
CharlieCard	$1.70	$1.70	$2.40	$2.40
CharlieTicket	$2.00	$2.00	$2.90	$4.90
Cash-on-Board	$2.00	$4.00	$2.90	$4.90
Student/Youth*	$0.85	$0.85	$1.10	$1.10
Senior/TAP**	$0.85	$0.85	$1.10	$1.10

VALID PASSES: LinkPass ($90.00/mo.); Local Bus ($55/mo.); *Student/Youth LinkPass ($30.00/mo.); **Senior/TAP LinkPass ($30/mo.); and express bus, commuter rail, and boat passes.

FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.

* Requires Student CharlieCard or Youth CharlieCard. Student CharlieCards are available to students through participating middle schools and high schools. Youth CharlieCards are available through community partners in the Boston metro area. Visit www.mbta.com/youthpass for details.

** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Schedule Change

87

Effective June 21, 2020

Arlington Center or Clarendon Hill-Lechmere Station

Serving

- Teele Square
- Davis Station
- Union Square, Somerville
- Red Line
- Green Line

Massachusetts Bay Transportation Authority

massDOT Massachusetts Department of Transportation

Information 617-222-3200 • 1-800-392-6100
(TTY) 617-222-5146 • www.mbta.com

87 Weekday

Inbound				Outbound			
Leave Arlington Center	Lv/Arrive Clarendon Hill	Arrive Davis Station	Arrive Lechmere Station	Leave Lechmere Station	Arrive Davis Station	Arrive Clarendon Hill	Arrive Arlington Center
.....	5:07A	5:10A	5:24A	5:29A	5:40A	5:45A	.....
.....	5:26	5:29	5:43	5:52	6:03	6:08	6:14A
.....	5:49	5:52	6:06	6:23	6:34	6:39	6:45
.....	6:08	6:11	6:25	6:34	6:45	6:50	6:56
6:17A	6:24	6:27	6:50	6:54	7:10	7:16	7:22
6:33	6:40	6:43	7:06	7:13	7:30	7:39	7:47
6:49	6:57	7:01	7:24	7:31	7:49	7:58	8:06
7:06	7:14	7:18	7:48	7:50	8:08	8:17	8:25
7:19	7:27	7:33	8:10	8:09	8:27	8:36	8:44
7:34	7:43	7:50	8:27	8:29	8:47	8:56	9:03
7:53	8:02	8:09	8:46	8:49	9:06	9:14	9:21
8:12	8:21	8:28	9:04	9:16	9:34	9:42	9:49
8:31	8:40	8:47	9:24	9:43	10:01	10:09	10:16
8:50	8:59	9:03	9:36	10:09	10:27	10:35	10:42
9:10	9:17	9:21	9:49	10:38	10:56	11:04	11:11
9:32	9:37	9:40	10:08	11:07	11:25	11:33	11:40
9:56	10:01	10:04	10:32	11:40	11:58	**12:06P**	**12:13P**
10:19	10:24	10:27	10:55				
10:45	10:50	10:53	11:21	**12:10P**	**12:28P**	**12:36**	**12:43**
11:15	11:20	11:23	11:51	**12:35**	**12:53**	**1:01**	**1:08**
11:45	11:50	11:53	**12:21P**	**1:05**	**1:23**	**1:31**	**1:38**
				1:35	**1:53**	**2:01**	**2:08**
12:20P	**12:25P**	**12:28P**	**12:56**	**2:05**	**2:23**	**2:31**	**2:38**
12:50	**12:55**	**12:58**	**1:26**	**2:34**	**2:55**	**3:05**	**3:12**
1:20	**1:25**	**1:28**	**1:56**	**2:58**	**3:19**	**3:29**	**3:36**
1:50	**1:55**	**1:58**	**2:26**	**3:17**	**3:38**	**3:48**	**3:55**
2:15	**2:20**	**2:23**	**2:50**	**3:36**	**3:57**	**4:07**	**4:14**
2:34	**2:39**	**2:43**	**3:09**	**3:56**	**4:17**	**4:27**	**4:34**
2:53	**2:58**	**3:02**	**3:28**	**4:21**	**4:42**	**4:55**	**5:02**
3:15	**3:20**	**3:24**	**3:50**	**4:42**	**5:04**	**5:17**	**5:24**
3:39	**3:44**	**3:48**	**4:14**	**5:04**	**5:26**	**5:39**	**5:46**
3:59	**4:04**	**4:08**	**4:34**	**5:26**	**5:48**	**6:01**	**6:08**
4:19	**4:24**	**4:28**	**4:54**	**5:52**	**6:14**	**6:27**	**6:34**
4:39	**4:44**	**4:48**	**5:18**	**6:21**	**6:43**	**6:53**	**7:00**
5:07	**5:12**	**5:17**	**5:47**	**6:41**	**7:00**	**7:10**	**7:17**
5:35	**5:40**	**5:45**	**6:15**	**7:03**	**7:21**	**7:31**	**7:38**
5:57	**6:02**	**6:07**	**6:35**	**7:29**	**7:43**	**7:52**	**7:59**
6:22	**6:27**	**6:31**	**6:54**	**7:57**	**8:13**	**8:21**	.....
6:45	**6:50**	**6:54**	**7:17**	**8:25**	**8:41**	**8:49**	.....
7:20	**7:25**	**7:29**	**7:52**	**8:55**	**9:11**	**9:19**	.....
7:50	**7:55**	**7:58**	**8:21**	**9:25**	**9:40**	**9:47**	.....
.....	**8:25**	**8:28**	**8:46**	**9:55**	**10:09**	**10:16**	.....
.....	**8:55**	**8:58**	**9:16**	**10:25**	**10:39**	**10:46**	.....
.....	**9:25**	**9:28**	**9:46**	**10:55**	**11:06**	**11:13**	.....
.....	**9:55**	**9:58**	**10:16**	**11:25**	**11:36**	**11:43**	.....
.....	**10:25**	**10:28**	**10:46**	**11:55**	12:06A	12:13A	.....
.....	**10:55**	**10:58**	**11:16**	12:25A	12:36	12:43	.....
.....	**11:25**	**11:28**	**11:42**	12:55	1:06	1:13	.....
.....	12:00M	12:02A	12:16A	w 1:22	1:33	1:40	.....
.....	12:30	12:32	12:46				
.....	1:00	1:02	1:16				

87 Saturday

Inbound				Outbound			
Leave Arlington Center	Lv/Arrive Clarendon Hill	Arrive Davis Station	Arrive Lechmere Station	Leave Lechmere Station	Arrive Davis Station	Arrive Clarendon Hill	Arrive Arlington Center
.....	5:15A	5:18A	5:29A	5:38A	5:50A	5:54A	5:58A
.....	5:45	5:48	5:59	6:10	6:22	6:26	6:30
6:10A	6:15	6:18	6:33	6:40	6:54	6:58	7:02
6:40	6:45	6:48	7:03	7:10	7:24	7:28	7:32
7:10	7:15	7:18	7:33	7:40	7:54	7:58	8:02
7:40	7:45	7:48	8:03	8:10	8:24	8:28	8:33
8:10	8:15	8:18	8:38	8:41	8:57	9:02	9:07
8:40	8:45	8:48	9:08	9:11	9:27	9:32	9:37
9:10	9:15	9:19	9:38	9:35	9:54	10:00	10:05
9:40	9:45	9:49	10:13	10:00	10:19	10:25	10:30
10:10	10:15	10:19	10:43	10:20	10:40	10:46	10:52
10:35	10:40	10:44	11:08	10:50	11:10	11:16	11:22
11:07	11:12	11:16	11:42	11:16	11:36	11:42	11:48
11:35	11:41	11:45	**12:14P**	11:42	12:02	12:08P	12:14P
12:00N	**12:06P**	**12:10P**	**12:39P**	**12:07P**	**12:27P**	**12:33P**	**12:39P**
12:25P	**12:31**	**12:35**	**1:03**	**12:32**	**12:52**	**12:58**	**1:04**
12:50	**12:56**	**1:00**	**1:27**	**12:57**	**1:17**	**1:23**	**1:29**
1:15	**1:20**	**1:23**	**1:50**	**1:22**	**1:42**	**1:48**	**1:54**
1:41	**1:46**	**1:49**	**2:16**	**1:47**	**2:07**	**2:13**	**2:19**
2:06	**2:11**	**2:14**	**2:41**	**2:12**	**2:32**	**2:38**	**2:44**
2:31	**2:36**	**2:39**	**3:06**	**2:37**	**2:57**	**3:03**	**3:09**
2:56	**3:01**	**3:04**	**3:31**	**3:02**	**3:22**	**3:28**	**3:34**
3:21	**3:26**	**3:29**	**3:56**	**3:27**	**3:47**	**3:53**	**3:59**
3:46	**3:51**	**3:54**	**4:21**	**3:52**	**4:12**	**4:18**	**4:24**
4:11	**4:16**	**4:19**	**4:46**	**4:17**	**4:37**	**4:43**	**4:49**
4:36	**4:41**	**4:44**	**5:11**	**4:42**	**5:02**	**5:08**	**5:14**
5:01	**5:06**	**5:09**	**5:35**	**5:07**	**5:27**	**5:33**	**5:39**
5:26	**5:31**	**5:34**	**6:00**	**5:32**	**5:51**	**5:57**	**6:03**
5:51	**5:56**	**5:59**	**6:25**	**5:55**	**6:14**	**6:20**	**6:26**
6:16	**6:21**	**6:24**	**6:50**	**6:18**	**6:37**	**6:43**	**6:49**
6:45	**6:50**	**6:53**	**7:17**	**6:47**	**7:06**	**7:12**	**7:18**
7:22	**7:26**	**7:29**	**7:52**	**7:22**	**7:41**	**7:47**	**7:53**
7:57	**8:01**	**8:04**	**8:27**	**8:05**	**8:23**	**8:29**	.....
.....	**8:40**	**8:43**	**9:00**	**8:50**	**9:07**	**9:13**	.....
.....	**9:20**	**9:23**	**9:39**	**9:30**	**9:46**	**9:52**	.....
.....	**9:57**	**10:00**	**10:16**	**10:05**	**10:21**	**10:27**	.....
.....	**10:32**	**10:35**	**10:51**	**10:40**	**10:55**	**11:01**	.....
.....	**11:07**	**11:10**	**11:24**	**11:15**	**11:28**	**11:34**	.....
.....	**11:40**	**11:43**	**11:57**	**11:50**	12:03A	12:08A	.....
.....	12:20A	12:23A	12:35A	12:30A	12:40	12:45	.....
.....	12:55	12:58	1:10	w 1:20	1:30	1:35	.....

Route 87
Arlington Ctr or Clarendon Hill - Lechmere Sta.

87 Sunday

Inbound			Outbound		
Leave Clarendon Hill	Arrive Davis Station	Arrive Lechmere Station	Leave Lechmere Station	Arrive Davis Station	Arrive Clarendon Hill
6:00A	6:03A	6:16A	6:38A	6:51A	6:57A
7:00	7:03	7:16	7:38	7:51	7:57
8:00	8:03	8:16	8:38	8:51	8:57
8:55	8:58	9:11	9:34	9:47	9:53
9:28	9:32	9:49	10:14	10:30	10:37
10:05	10:09	10:26	10:54	11:12	11:19
10:45	10:49	11:08	11:34	11:53	12:00N
11:25	11:29	11:53			
			12:14P	**12:33P**	**12:40P**
12:05P	**12:09P**	**12:33P**	**12:54**	**1:13**	**1:20**
12:45	**12:49**	**1:13**	**1:34**	**1:53**	**2:00**
1:25	**1:29**	**1:53**	**2:14**	**2:33**	**2:40**
2:05	**2:08**	**2:30**	**2:54**	**3:13**	**3:20**
2:45	**2:48**	**3:10**	**3:34**	**3:53**	**4:00**
3:25	**3:28**	**3:50**	**4:13**	**4:33**	**4:40**
4:05	**4:08**	**4:30**	**4:53**	**5:13**	**5:20**
4:45	**4:48**	**5:10**	**5:34**	**5:54**	**6:01**
5:25	**5:28**	**5:50**	**6:14**	**6:31**	**6:38**
6:05	**6:08**	**6:30**	**6:55**	**7:12**	**7:19**
6:45	**6:48**	**7:10**	**7:36**	**7:50**	**7:57**
7:25	**7:28**	**7:43**	**8:16**	**8:30**	**8:37**
8:05	**8:08**	**8:23**	**8:55**	**9:09**	**9:16**
8:45	**8:48**	**9:03**	**9:35**	**9:49**	**9:56**
9:25	**9:28**	**9:45**	**10:15**	**10:28**	**10:32**
10:05	**10:08**	**10:22**	**10:50**	**11:03**	**11:07**
10:45	**10:48**	**11:02**	**11:30**	**11:43**	**11:47**
11:20	**11:23**	**11:37**	12:00M	12:11A	12:15A
11:55	**11:58**	12:12A	12:35A	12:46	12:50
12:25A	12:28A	12:42	w 1:18	1:29	1:33
12:55	12:58	1:12			

w- Waits for last trolley to arrive at Lechmere Station.

All buses are accessible to persons with disabilities

Fares on map side.

Spring & Summer 2020 Holidays
4/20: see Weekday; 5/25: see Sunday
7/3: see Saturday; 7/4: see Sunday

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAPPING

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Somerville COUNT DATE : Nov-16

DISTRICT : 4 UNSIGNALIZED : SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Alewife Brook Parkway

MINOR STREET(S) : Broadway

INTERSECTION DIAGRAM
(Label Approaches)

↑ *North*

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (PM) :	972	994	576	433		**2,975**

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **33,056**

TOTAL # OF CRASHES : 50 # OF YEARS : 5 AVERAGE # OF CRASHES PER YEAR (**A**) : **10.00**

CRASH RATE CALCULATION : 0.83

$$\text{RATE} = \frac{(A * 1{,}000{,}000)}{(V * 365)}$$

Comments : Above Statewide and District Crash Rates

Project Title & Date: Proposed Marijuana Dispensary

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : Jun-20

DISTRICT : 4 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Broadway

MINOR STREET(S) : Sunnyside Avenue

INTERSECTION DIAGRAM
(Label Approaches)

↑ *North*

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	SB	EB	WB			
PEAK HOURLY VOLUMES (PM) :	24	583	443			1,050

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **11,667**

TOTAL # OF CRASHES : 4 # OF YEARS : 5 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.80**

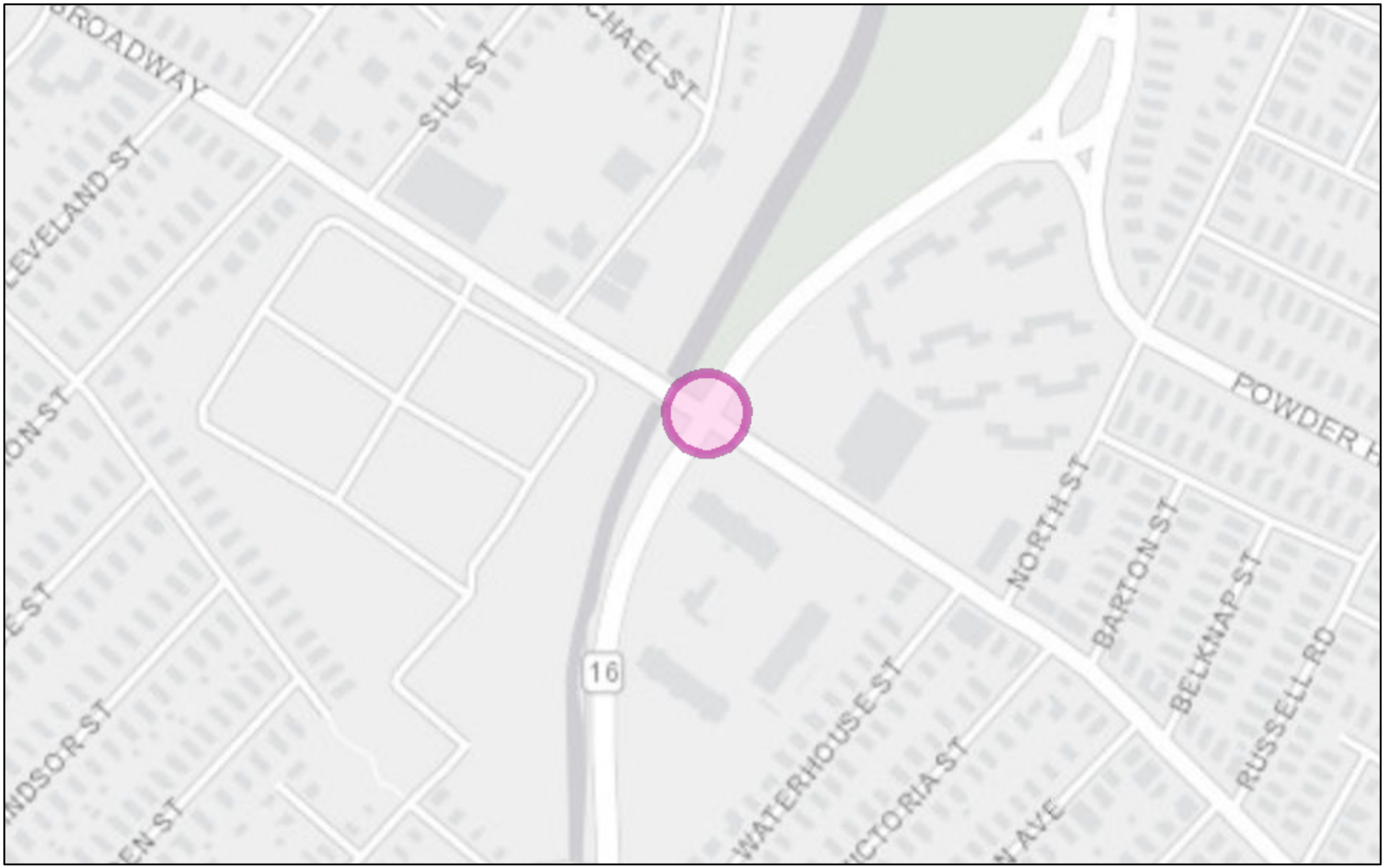
CRASH RATE CALCULATION : 0.19

$$\text{RATE} = \frac{(A * 1{,}000{,}000)}{(V * 365)}$$

Comments : Below Statewide and District Crash Rates

Project Title & Date: Proposed Marijuana Dispensary

GeoDOT Map



6/23/2020, 10:25:55 AM

2015-2017 HSIP Cluster

1:4,514

0 0.03 0.06 0.11 mi

0 0.04 0.09 0.18 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user

MassDOT

GENERAL BACKGROUND TRAFFIC GROWTH

34 North Street
Clarendon Hill Redevelopment
Somerville, Massachusetts

Traffic Impact & Access Study

Prepared For:

Gate Residential

Prepared by:

Design Consultants, Inc.

March 2017

Revised September 2019

C. FUTURE NO-BUILD CONDITIONS

C1. 2026 No-Build Traffic Volumes

Traffic volumes in the study area were projected to the year 2026, which reflects a seven-year planning horizon from the existing year 2019, consistent with the *MassDOT Guidelines*. The traffic conditions for the year 2026 were examined under No-Build conditions independent of the proposed Project, including all existing traffic and new traffic.

Traffic growth on the local roadway network results from multiple factors, most notably land development in the immediate area and growth in the surrounding region. Two techniques are typically used in combination to estimate this growth. The first technique identifies planned and permitted developments in the vicinity of the study area and assigns estimated traffic generated by the proposed developments to the study area network. The second technique applies an annual percentage increase in traffic growth to all traffic volumes under study. This practice accounts for traffic growth due to regional developments beyond the study area or developments that may be proposed but are not yet permitted. Both methods were used and summed together with the existing traffic counts to define the "No-Build" traffic volumes for this study. The "No-Build" traffic volumes for this study are shown in Figure C1.1.

Background Developments

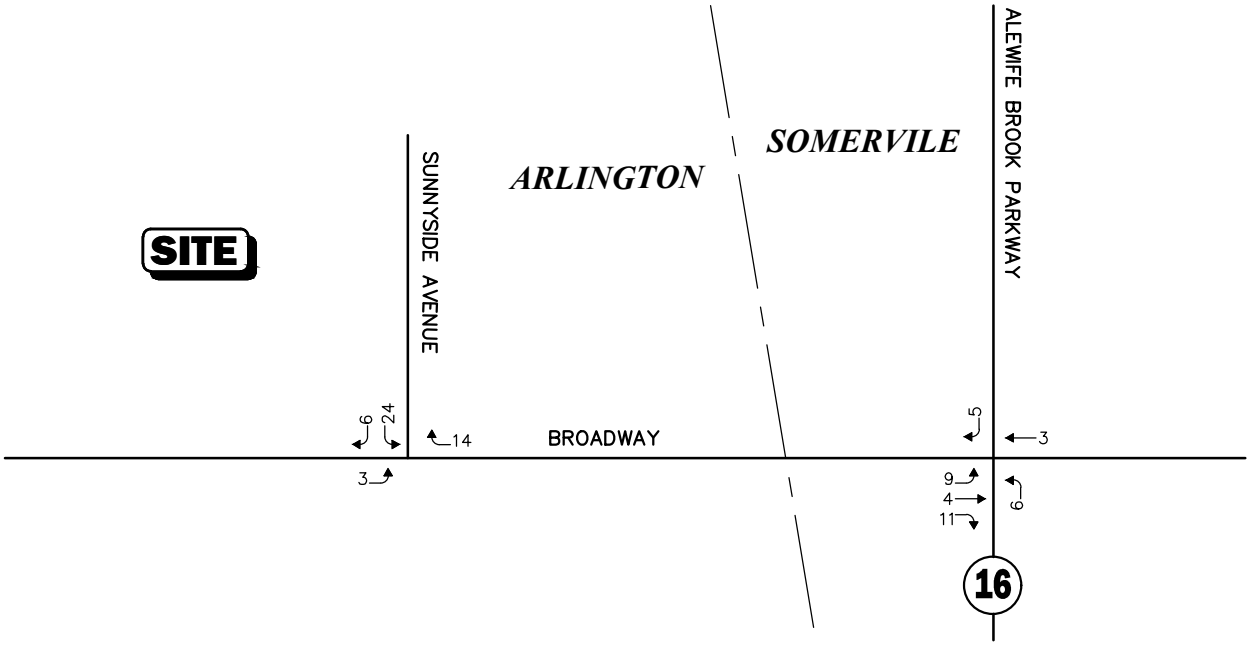
DCI has coordinated with the Planning Board of the City of Somerville and the Central Transportation Planning Staff to determine if there are any upcoming projects in the area will have an impact on the traffic network. There is one proposed project, a hotel at 1154 Broadway, which will add vehicle-trips to the study area. A figure of these trips is attached in Appendix D.

Regional Growth Rate

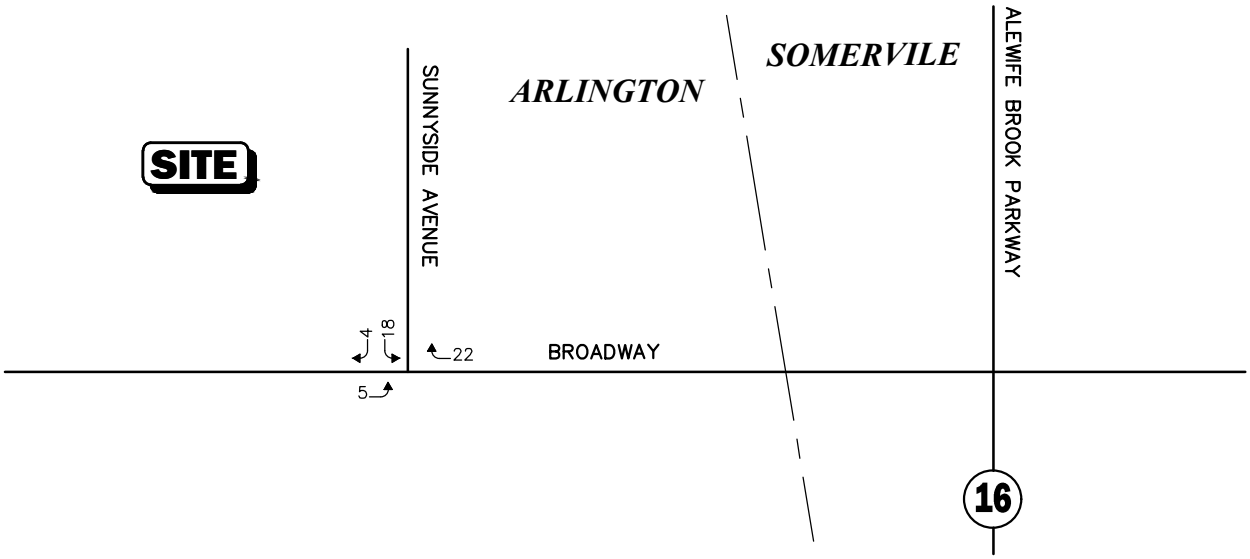
Based on discussions with the City of Somerville, an annual traffic growth rate of 0.25 percent for the area of Somerville that the Project site is located was provided. Due to the location of the Project and the lack of rapid transit in the immediate area, it is expected that vehicular traffic in this area of Somerville will increase in the future. Therefore, a 0.25 percent annual growth rate was applied to project all existing volumes to a seven year design horizon, to the year 2026.

BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



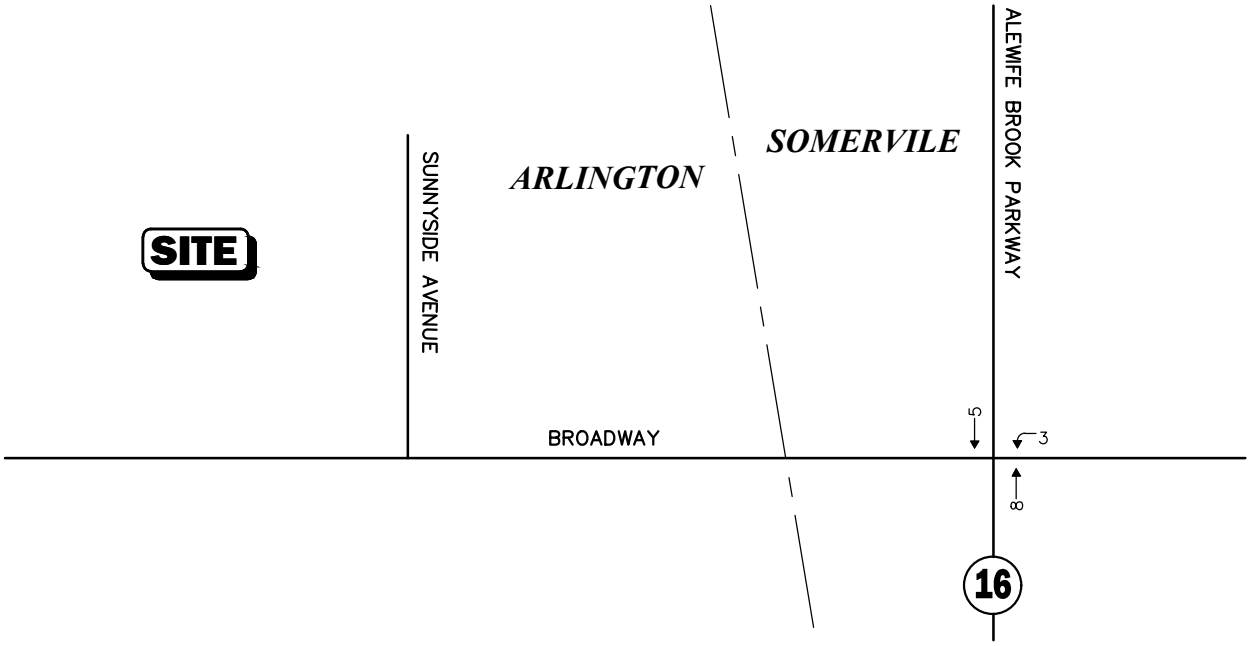
Not To Scale

Figure A-2

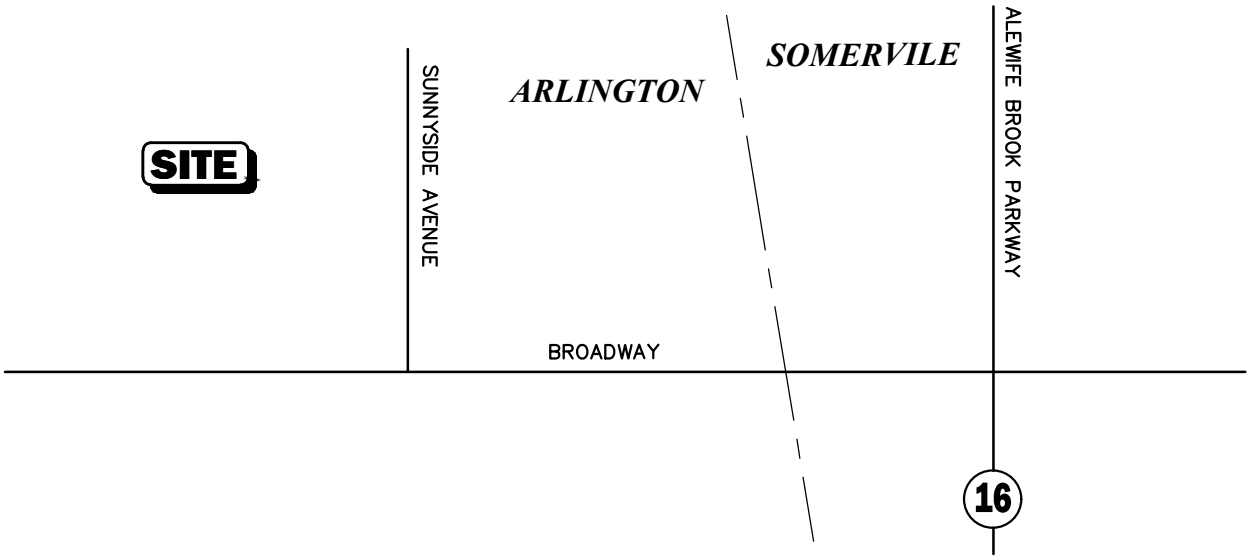
Vanasse & Associates inc

10 Sunnyside Avenue Mixed-Use Development Peak Hour Traffic Volumes

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



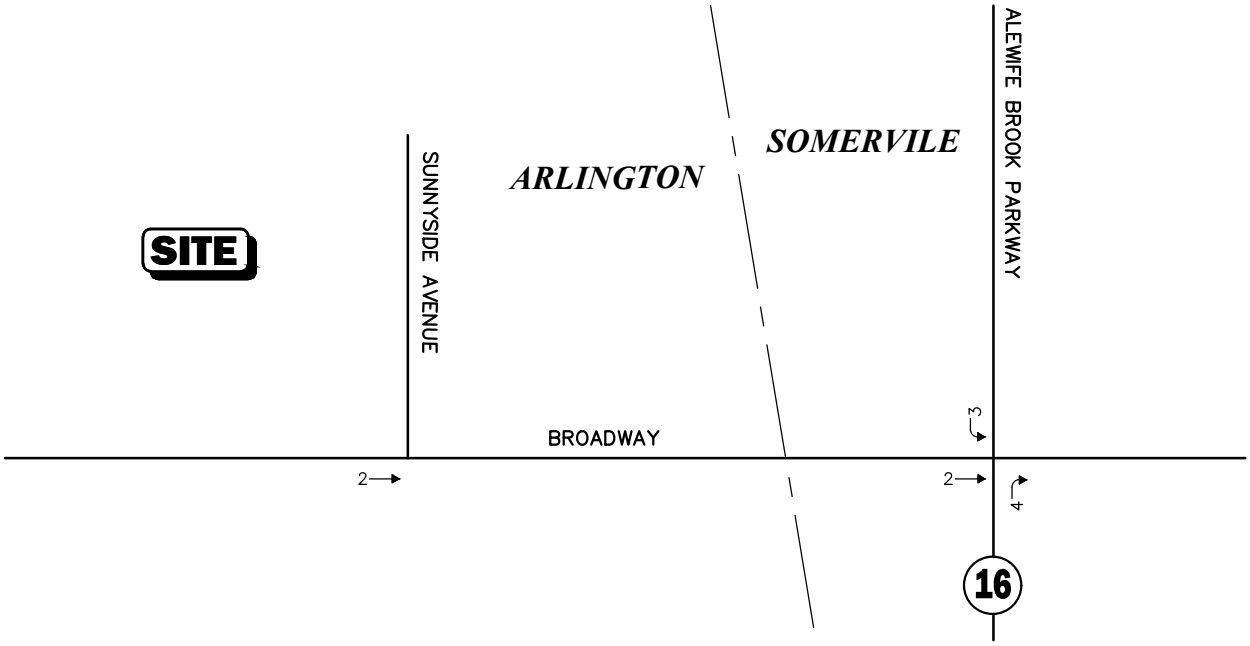
Not To Scale

Figure A-3

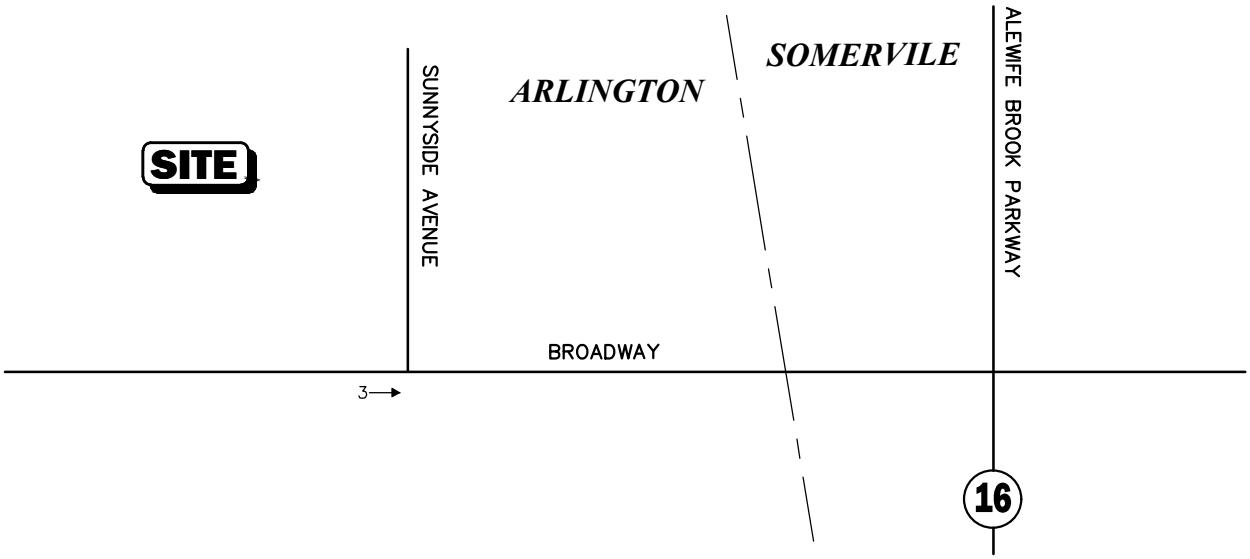
Clarendon Hill
Peak Hour Traffic Volumes

Vanasse & Associates inc

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



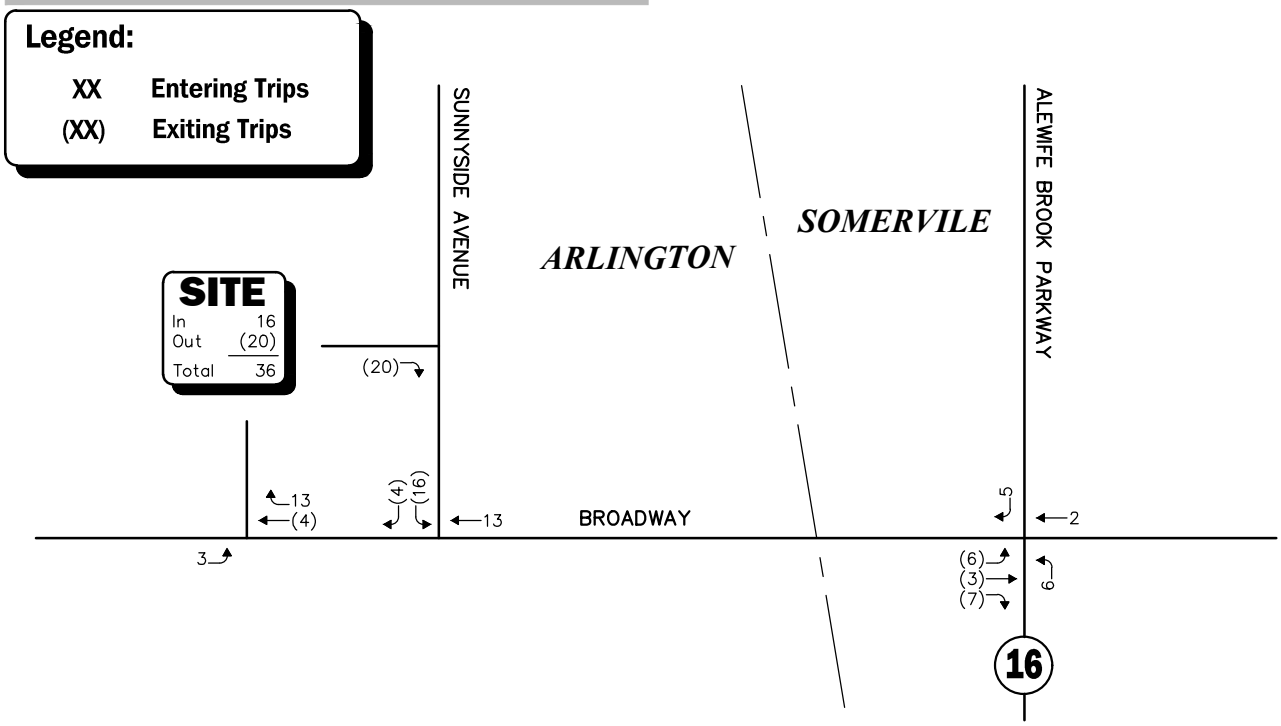
Not To Scale

Figure A-4

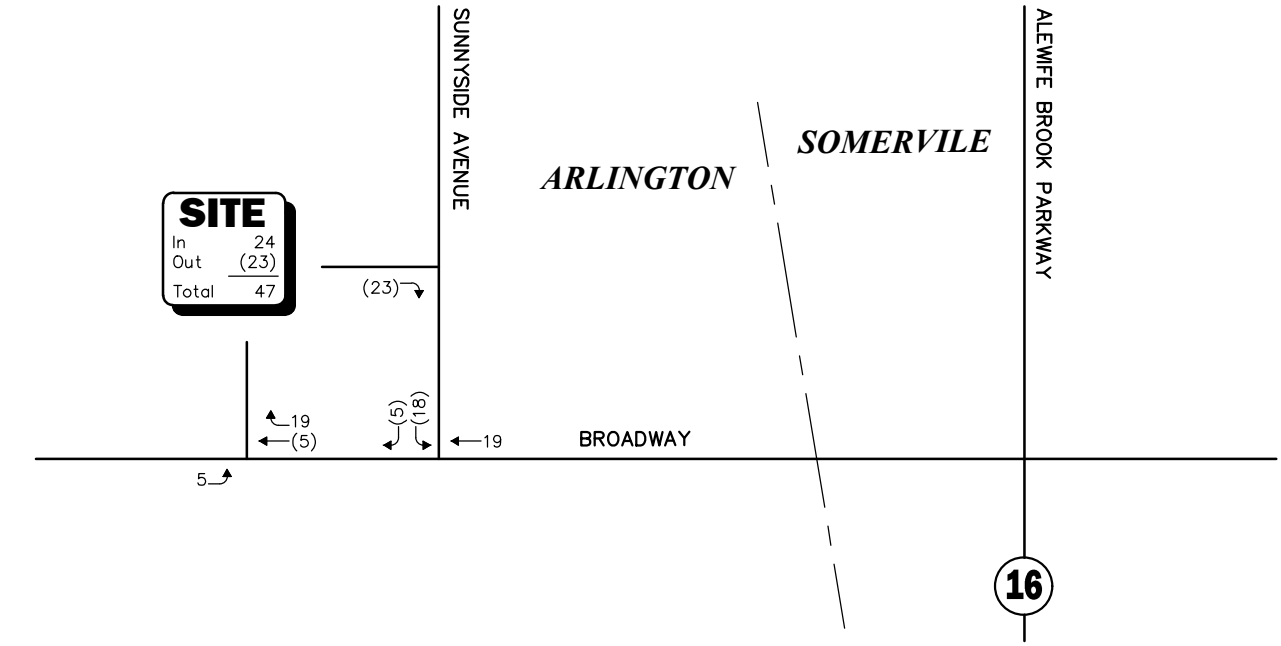
Broadway Hotel
Peak Hour Traffic Volumes

Vanasse & Associates inc

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



Not To Scale

Figure A-5

Existing Bank Reoccupancy Peak Hour Traffic Volumes

Vanasse & Associates inc

Institute of Transportation Engineers (ITE)
Trip Generation, 10 th Edition
Land Use Code (LUC) 911 - Walk-In Bank

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Floor Area
Independent Variable (X): 3.000

AVERAGE WEEKDAY DAILY

$$\frac{\text{ITE LUC 911 Weekday Daily Trip Rate}}{\text{ITE LUC 911 Weekday Evening Trip Rate}} = \frac{\text{ITE LUC 912 Weekday Daily Trip Rate}}{\text{ITE LUC 912 Weekday Evening Trip Rate}}$$

$$\frac{(Y)}{12.13} = \frac{100.030}{20.45} \qquad Y = 59.33$$

T = Y * 3.000
T = 178
T = 178 vehicle trips
with 50% (89 vph) entering and 50% (89 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 12.13 * (X)
T = 12.13 * 3.000
T = 36.39
T = 36 vehicle trips
with 44% (16 vph) entering and 56% (20 vph) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$\frac{\text{ITE LUC 911 Saturday Midday Trip Rate}}{\text{ITE LUC 911 Weekday Evening Trip Rate}} = \frac{\text{ITE LUC 912 Saturday Midday Trip Rate}}{\text{ITE LUC 912 Weekday Evening Trip Rate}}$$

$$\frac{(Y)}{12.13} = \frac{26.35}{20.45} \qquad Y = 15.63$$

T = Y * 3.000
T = 46.89
T = 47 vehicle trips
with 51% (24 vph) entering and 49% (23 vph) exiting.

TRIP-GENERATION CALCULATIONS

Institute of Transportation Engineers (ITE)
Trip Generation, 10 th Edition
Land Use Code (LUC) 882 - Marijuana Dispensary

Average Vehicle Trips Ends vs: 1,000 sf of GFA
Independent Variable (X): 3

AVERAGE WEEKDAY DAILY

T = 252.7 * (X)
T = 252.7 * 3
T = 758.10
T = 760.00
T = 760 vehicle trips
with 50% (380 vpd) entering and 50% (380 vpd) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 21.83 * (X)
T = 21.83 * 3
T = 65.49
T = 66 vehicle trips
with 50% (33 vph) entering and 50% (33 vph) exiting.

SATURDAY DAILY

T = 259.31 * (X)
T = 259.31 * 3
T = 777.93
T = 778 vehicle trips
with 50% (389 vpd) entering and 50% (389 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 36.43 * (X)
T = 36.43 * 3
T = 109.29
T = 109 vehicle trips
with 47% (51 vph) entering and 53% (58 vph) exiting.

CAPACITY ANALYSIS WORKSHEETS

Route 16 at Broadway
Broadway at Sunnyside Avenue
Broadway at the Project Site Driveway
Sunnyside Avenue at the Project Site Driveway

Route 16 at Broadway

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	323	52	135	277	21	34	776	163	20	841	133
Future Volume (vph)	207	323	52	135	277	21	34	776	163	20	841	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10
Storage Length (ft)	0		125	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.979			0.993			0.975			0.980	
Flt Protected	0.950				0.985			0.998			0.999	
Satd. Flow (prot)	1745	1783	0	0	3392	0	0	3279	0	0	3299	0
Flt Permitted	0.160				0.717			0.708			0.817	
Satd. Flow (perm)	294	1783	0	0	2469	0	0	2326	0	0	2698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			3			21			15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		175			307			364			295	
Travel Time (s)		4.0			7.0			8.3			6.7	
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	241	376	60	141	289	22	35	808	170	22	914	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	436	0	0	452	0	0	1013	0	0	1081	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0	
Total Split (%)	23.1%	23.1%		19.4%	19.4%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)	6.0	4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.0	27.0			22.0			52.0			52.0	
Actuated g/C Ratio	0.19	0.20			0.16			0.39			0.39	
v/c Ratio	4.46	1.20			1.11			1.11			1.02	
Control Delay	1613.3	158.8			128.3			101.5			73.7	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	1613.3	158.8			128.3			101.5			73.7	
LOS	F	F			F			F			E	
Approach Delay		676.6			128.3			101.5			73.7	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~386	~458			~235			~523			~521	
Queue Length 95th (ft)	#495	#626			#348			#661			#660	
Internal Link Dist (ft)		95			227			284			215	
Turn Bay Length (ft)												
Base Capacity (vph)	54	363			407			915			1056	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	4.46	1.20			1.11			1.11			1.02	

Intersection Summary	
Area Type:	Other
Cycle Length: 134	
Actuated Cycle Length: 134	
Natural Cycle: 105	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 4.46	
Intersection Signal Delay: 216.7	Intersection LOS: F
Intersection Capacity Utilization 94.4%	ICU Level of Service F
Analysis Period (min) 15	

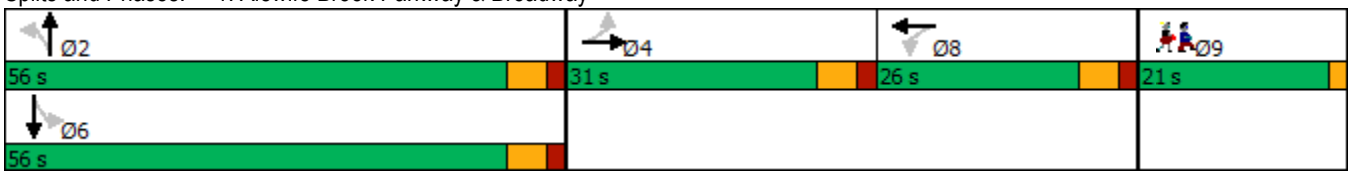
Lane Group	Ø9
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	16%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Ped
Walk Time (s)	13.0
Flash Dont Walk (s)	6.0
Pedestrian Calls (#/hr)	64
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Parkway & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	343	72	143	292	22	47	812	173	24	876	148
Future Volume (vph)	229	343	72	143	292	22	47	812	173	24	876	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10
Storage Length (ft)	0		125	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.974			0.993			0.975			0.979	
Flt Protected	0.950				0.985			0.998			0.999	
Satd. Flow (prot)	1745	1774	0	0	3392	0	0	3279	0	0	3295	0
Flt Permitted	0.160				0.703			0.627			0.764	
Satd. Flow (perm)	294	1774	0	0	2421	0	0	2060	0	0	2520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			20			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		175			307			364			295	
Travel Time (s)		4.0			7.0			8.3			6.7	
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	266	399	84	149	304	23	49	846	180	26	952	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	266	483	0	0	476	0	0	1075	0	0	1139	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0	
Total Split (%)	23.1%	23.1%		19.4%	19.4%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)	6.0	4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.0	27.0			22.0			52.0			52.0	
Actuated g/C Ratio	0.19	0.20			0.16			0.39			0.39	
v/c Ratio	4.93	1.33			1.19			1.33			1.15	
Control Delay	1819.5	207.4			156.1			188.9			118.2	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	1819.5	207.4			156.1			188.9			118.2	
LOS	F	F			F			F			F	
Approach Delay		779.9			156.1			188.9			118.2	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~431	~543			~262			~634			~610	
Queue Length 95th (ft)	#544	#713			#377			#773			#750	
Internal Link Dist (ft)		95			227			284			215	
Turn Bay Length (ft)												
Base Capacity (vph)	54	363			399			811			987	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	4.93	1.33			1.19			1.33			1.15	

Intersection Summary	
Area Type:	Other
Cycle Length: 134	
Actuated Cycle Length: 134	
Natural Cycle: 105	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 4.93	
Intersection Signal Delay: 289.6	Intersection LOS: F
Intersection Capacity Utilization 107.6%	ICU Level of Service G
Analysis Period (min) 15	

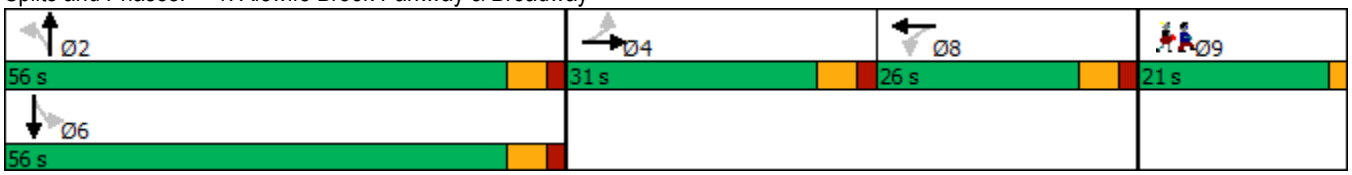
Lane Group	Ø9
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	16%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Ped
Walk Time (s)	13.0
Flash Dont Walk (s)	6.0
Pedestrian Calls (#/hr)	64
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Parkway & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	345	76	143	295	22	52	812	173	24	876	153
Future Volume (vph)	233	345	76	143	295	22	52	812	173	24	876	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10
Storage Length (ft)	0		125	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.973			0.993			0.975			0.978	
Flt Protected	0.950				0.985			0.998			0.999	
Satd. Flow (prot)	1745	1773	0	0	3392	0	0	3279	0	0	3292	0
Flt Permitted	0.160				0.702			0.609			0.762	
Satd. Flow (perm)	294	1773	0	0	2417	0	0	2001	0	0	2511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			20			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		175			307			364			295	
Travel Time (s)		4.0			7.0			8.3			6.7	
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	271	401	88	149	307	23	54	846	180	26	952	166
Shared Lane Traffic (%)												
Lane Group Flow (vph)	271	489	0	0	479	0	0	1080	0	0	1144	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0	
Total Split (%)	23.1%	23.1%		19.4%	19.4%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)	6.0	4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.0	27.0			22.0			52.0			52.0	
Actuated g/C Ratio	0.19	0.20			0.16			0.39			0.39	
v/c Ratio	5.02	1.35			1.20			1.37			1.16	
Control Delay	1860.8	215.4			158.8			207.9			121.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	1860.8	215.4			158.8			207.9			121.5	
LOS	F	F			F			F			F	
Approach Delay		802.1			158.8			207.9			121.5	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~440	~554			~265			~650			~616	
Queue Length 95th (ft)	#553	#726			#381			#788			#756	
Internal Link Dist (ft)		95			227			284			215	
Turn Bay Length (ft)												
Base Capacity (vph)	54	362			399			788			984	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	5.02	1.35			1.20			1.37			1.16	

Intersection Summary	
Area Type:	Other
Cycle Length: 134	
Actuated Cycle Length: 134	
Natural Cycle: 135	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 5.02	
Intersection Signal Delay: 302.9	Intersection LOS: F
Intersection Capacity Utilization 108.4%	ICU Level of Service G
Analysis Period (min) 15	

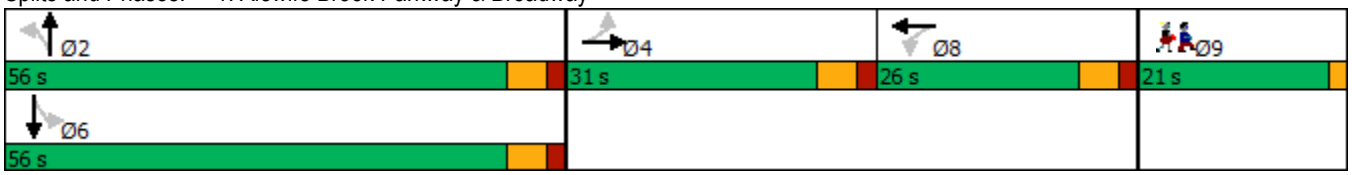
Lane Group	Ø9
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	16%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Ped
Walk Time (s)	13.0
Flash Dont Walk (s)	6.0
Pedestrian Calls (#/hr)	64
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Parkway & Broadway



Broadway at Sunnyside Avenue

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	562	417	27	20	12
Future Vol, veh/h	21	562	417	27	20	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	75	75
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	23	611	496	32	27	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	528	0	-	0	1169	512
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	657	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1049	-	-	-	215	566
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	519	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1049	-	-	-	208	566
Mov Cap-2 Maneuver	-	-	-	-	208	-
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	519	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1049	-	-	-	273
HCM Lane V/C Ratio	0.022	-	-	-	0.156
HCM Control Delay (s)	8.5	0	-	-	20.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	533	392	21	20	12
Future Vol, veh/h	12	533	392	21	20	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	89	89	63	63
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	14	606	440	24	32	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	464	0	-	0	1086	452
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	634	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1108	-	-	-	242	612
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1108	-	-	-	237	612
Mov Cap-2 Maneuver	-	-	-	-	237	-
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1108	-	-	-	308
HCM Lane V/C Ratio	0.012	-	-	-	0.165
HCM Control Delay (s)	8.3	0	-	-	19
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	584	445	42	60	22
Future Vol, veh/h	25	584	445	42	60	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	92	92
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	27	635	530	50	65	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	580	0	-	0	1244	555
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1004	-	-	-	194	535
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1004	-	-	-	186	535
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	31.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1004	-	-	-	225
HCM Lane V/C Ratio	0.027	-	-	-	0.396
HCM Control Delay (s)	8.7	0	-	-	31.1
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.8

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	555	425	44	57	21
Future Vol, veh/h	17	555	425	44	57	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	89	89	92	92
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	19	631	478	49	62	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	527	0	-	0	1172	503
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	669	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1050	-	-	-	215	573
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	513	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1050	-	-	-	209	573
Mov Cap-2 Maneuver	-	-	-	-	209	-
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	26.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1050	-	-	-	252
HCM Lane V/C Ratio	0.018	-	-	-	0.336
HCM Control Delay (s)	8.5	0	-	-	26.4
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	584	458	42	70	25
Future Vol, veh/h	25	584	458	42	70	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	92	92
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	27	635	545	50	76	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	595	0	-	0	1259	570
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	991	-	-	-	190	525
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	991	-	-	-	182	525
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	35.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	991	-	-	-	220
HCM Lane V/C Ratio	0.027	-	-	-	0.469
HCM Control Delay (s)	8.7	0	-	-	35.1
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	555	447	44	85	28
Future Vol, veh/h	17	555	447	44	85	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	89	89	92	92
Heavy Vehicles, %	0	3	7	0	0	0
Mvmt Flow	19	631	502	49	92	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	551	0	-	0	1196	527
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	669	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1029	-	-	-	208	555
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	513	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1029	-	-	-	202	555
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	34.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1029	-	-	-	240
HCM Lane V/C Ratio	0.019	-	-	-	0.512
HCM Control Delay (s)	8.6	0	-	-	34.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	2.7

Broadway at the Project Site Driveway

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	583	428	1	0	0
Future Vol, veh/h	0	583	428	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	634	465	1	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	466	0	-	0	1100	466
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	634	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1095	-	-	-	235	597
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1095	-	-	-	235	597
Mov Cap-2 Maneuver	-	-	-	-	235	-
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	529	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1095	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	545	402	2	0	0
Future Vol, veh/h	0	545	402	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	592	437	2	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	439	0	-	0	1030	438
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	592	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1121	-	-	-	259	619
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	553	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1121	-	-	-	259	619
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1121	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	609	453	14	0	0
Future Vol, veh/h	3	609	453	14	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	662	492	15	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	507	0	-	0	1168	500
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	668	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1058	-	-	-	214	571
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1058	-	-	-	213	571
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	510	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1058	-	-	-	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	8.4	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	572	425	21	0	0
Future Vol, veh/h	5	572	425	21	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	622	462	23	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	485	0	-	0	1106	474
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	632	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1078	-	-	-	233	590
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	530	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1078	-	-	-	231	590
Mov Cap-2 Maneuver	-	-	-	-	231	-
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	530	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1078	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-
HCM Control Delay (s)	8.4	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	609	456	27	0	0
Future Vol, veh/h	7	609	456	27	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	662	496	29	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	525	0	-	0	1189	511
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	678	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1042	-	-	-	208	563
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1042	-	-	-	206	563
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	504	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1042	-	-	-	-
HCM Lane V/C Ratio	0.007	-	-	-	-
HCM Control Delay (s)	8.5	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	572	432	43	0	0
Future Vol, veh/h	10	572	432	43	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	622	470	47	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	517	0	-	0	1138	494
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	644	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1049	-	-	-	223	575
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1049	-	-	-	219	575
Mov Cap-2 Maneuver	-	-	-	-	219	-
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	523	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1049	-	-	-	-
HCM Lane V/C Ratio	0.01	-	-	-	-
HCM Control Delay (s)	8.5	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Sunnyside Avenue at the Project Site Driveway

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	0	48	24	0
Future Vol, veh/h	0	8	0	48	24	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	0	52	26	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	78	26	-	0	-	0
Stage 1	26	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	925	1050	0	-	-	0
Stage 1	997	-	0	-	-	0
Stage 2	970	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	925	1050	-	-	-	-
Mov Cap-2 Maneuver	925	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1050	-
HCM Lane V/C Ratio	-	0.008	-
HCM Control Delay (s)	-	8.5	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	33	30	0
Future Vol, veh/h	0	2	0	33	30	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	0	36	33	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	69	33	-	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	36	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	936	1041	0	-	-	0
Stage 1	989	-	0	-	-	0
Stage 2	986	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	936	1041	-	-	-	-
Mov Cap-2 Maneuver	936	-	-	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1041	-
HCM Lane V/C Ratio	-	0.002	-
HCM Control Delay (s)	-	8.5	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	28	0	67	54	0
Future Vol, veh/h	0	28	0	67	54	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	30	0	73	59	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	132	59	-	0	-	0
Stage 1	59	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	862	1007	0	-	-	0
Stage 1	964	-	0	-	-	0
Stage 2	950	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	862	1007	-	-	-	-
Mov Cap-2 Maneuver	862	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1007	-
HCM Lane V/C Ratio	-	0.03	-
HCM Control Delay (s)	-	8.7	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	0	61	53	0
Future Vol, veh/h	0	25	0	61	53	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	0	66	58	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	124	58	-	0	-	0
Stage 1	58	-	-	-	-	-
Stage 2	66	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	871	1008	0	-	-	0
Stage 1	965	-	0	-	-	0
Stage 2	957	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	871	1008	-	-	-	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	957	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1008	-
HCM Lane V/C Ratio	-	0.027	-
HCM Control Delay (s)	-	8.7	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	41	0	67	54	0
Future Vol, veh/h	0	41	0	67	54	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	45	0	73	59	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	132	59	-	0	-	0
Stage 1	59	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	862	1007	0	-	-	0
Stage 1	964	-	0	-	-	0
Stage 2	950	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	862	1007	-	-	-	-
Mov Cap-2 Maneuver	862	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1007	-
HCM Lane V/C Ratio	-	0.044	-
HCM Control Delay (s)	-	8.7	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	60	0	61	53	0
Future Vol, veh/h	0	60	0	61	53	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	65	0	66	58	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	124	58	-	0	-	0
Stage 1	58	-	-	-	-	-
Stage 2	66	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	871	1008	0	-	-	0
Stage 1	965	-	0	-	-	0
Stage 2	957	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	871	1008	-	-	-	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	957	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	1008	-
HCM Lane V/C Ratio	-	0.065	-
HCM Control Delay (s)	-	8.8	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.2	-

ESKAR, LLC
PROPOSED TRANSPORTATION DEMAND MANAGEMENT PLAN

Eskar, LLC proposes the following transportation demand management plan practices:

1. Onsite interior space provided for employee bicycle parking.
2. Additional onsite customer bike parking. See the site plan.
3. Subsidized employee public transit passes.
4. Temporary parking attendants during the initial opening phase to direct traffic into and out of the parking lot and to manage any exterior queues that may form.
5. Request that Town designate two parking spots on Broadway abutting the property as limited to ride-share vehicles only.
6. Publish public transportation information on the company website and in-store for customers.
7. Online sales of products, which will assist in parking space turnover.

Eskar Arlington, LLC
9 Wildwood Road
Middleton, Massachusetts 01949

June 24, 2020

Kentury Ventures, LLC
21 Broadway
Arlington, Massachusetts 02474
Attention: Jimmy Chen

RE: Parking at 23 Broadway, Arlington, MA (the "Leased Premises")
Lease dated June 14, 2019 (the "Lease") between Kentury Ventures, LLC (the "Landlord") and Eskar Arlington, LLC, as assignee of Eskar, LLC (the "Tenant")

Dear Jimmy:

This letter will confirm that the Landlord has agreed to lease additional 8 parking spaces to Tenant in separate lease terms. There will be total of 12 parking spaces in addition to the previous 4 parking spaces included in the original 1st floor lease.

Please confirm the Landlord's agreement with the foregoing where set forth below.

Thank you.

Eskar Arlington, LLC

By: _____
Michael Aldi
Its: Manager

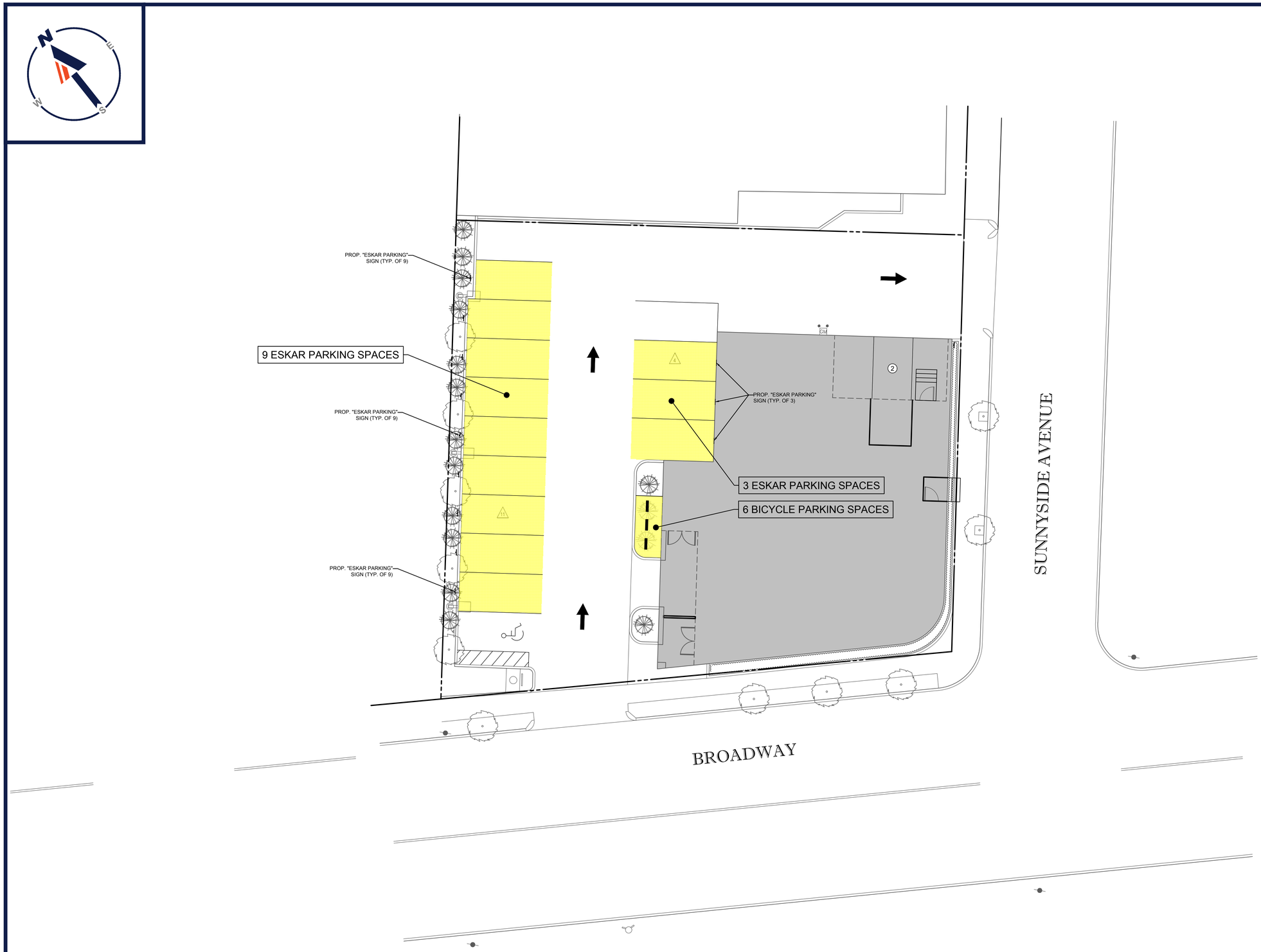
ACCEPTED AND AGREED:

Kentury Ventures, LLC

By: _____

Its:

4848-4615-2641, v. 1



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REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PERMIT SET

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	W201195
DRAWN BY:	NPD
CHECKED BY:	RMM
DATE:	08/19/2020
CAD I.D.:	W201195-CVL-0

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

ESKAR

PROPOSED DEVELOPMENT

MAP #33, BLOCK #2, LOT #3
23 BROADWAY
TOWN OF ARLINGTON
MIDDLESEX COUNTY,
MASSACHUSETTS

BOHLER

352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
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CONNECTICUT LICENSE No. 35785
RHODE ISLAND LICENSE No. 11425

SHEET TITLE:

PARKING EXHIBIT

SHEET NUMBER:

1

ORG. DATE - 08/19/2020

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2019\W201195\DRAWINGS\PLAN SETS\REV\W201195-CVL-0----LAYOUT PARKING EXHIBIT

EXHIBIT 1

HOST COMMUNITY AGREEMENT FOR ADULT-USE RETAIL BETWEEN

THE TOWN OF ARLINGTON

AND ESKAR, LLC

THIS HOST COMMUNITY AGREEMENT ("Agreement") is entered into pursuant to M.G.L. c.44, §53A this 24th day of June, 2019 by and between Eskar, LLC, a Massachusetts Limited Liability Corporation with a principal office address of 15 Forbes, Apt 2, Boston, MA ("OPERATOR") and the TOWN OF ARLINGTON, a Massachusetts municipal corporation with a principal address of 730 Mass Ave., Arlington, MA 02476 ("TOWN").

WHEREAS, OPERATOR seeks to operate a Marijuana Retailer Establishment ("MRE"), as defined in M.G.L. c 94G, Section 1, for retail sales of marijuana and marijuana products in the TOWN at 19-23 Broadway, Unit 1F, ,Arlington, MA Massachusetts Avenue (the "Facility");

WHEREAS, OPERATOR and TOWN agree that if a Final License to operate is granted to OPERATOR by the Cannabis Control Commission ("CCC") the OPERATOR'S MRE, will impact TOWN Resources in ways unique to such businesses and will draw upon TOWN resources such as TOWN law enforcement, public health, inspectional, fire protection services as well as TOWN rights-of-way in a manner not shared by the general public and shall cause additional unanticipated impacts upon the TOWN; and

NOW, THEREFORE, in consideration of the above, OPERATOR offers and the TOWN accepts the following Agreement terms in accordance with M.G.L. ch.44 §53A:

1. OPERATOR shall pay to the TOWN 3% of the gross revenue received by OPERATOR from retail sales at the Facility accruing from the date of commencement of sales by OPERATOR in the TOWN ("Sales Commencement Date"). The initial payment to the TOWN shall be made on the first day of the seventh month after the

Sales Commencement Date ("Initial Payment Date"), and shall reflect gross revenue for the first quarter of sales. Thereafter payments shall be made every six months, and shall reflect the subsequent six month's sales, with the final three months payment remaining unpaid until three months after the termination of this Agreement. OPERATOR shall notify the TOWN when OPERATOR commences retail sales within the TOWN. OPERATOR's records maintained pursuant to 935 CMR 500.105(8) will be available to the TOWN upon request to verify OPERATOR's payment amounts. The TOWN may notify OPERATOR to delay the initial payment, in which case the initial payment shall be made as specified by the TOWN; however, the timing of subsequent payments shall be made as if the initial payment had been on the Initial Payment Date.

2. The purpose of this Agreement is to assist the TOWN in addressing any public health, safety and other effects or impacts the MRE may have on the TOWN. The TOWN shall use the above-referenced payments in its sole discretion consistent with the purpose of the Agreement.

3. OPERATOR agrees that it is required to obtain all local permits required pursuant to Massachusetts Law and the TOWN's Zoning Bylaws and Regulations. Provided the TOWN acts in accordance with the procedures set forth in G.L. c.44, §53G, OPERATOR shall be required to pay the reasonable costs for the employment by the TOWN's boards and/or officials of outside consultants, including without limitation, engineers, architects, scientists and attorneys required to review the application for such local permits required to operate the MRE.

4. At all times during the Term of this Agreement, property, both real and personal, owned or operated by OPERATOR shall be treated as taxable, and all applicable real estate and personal property taxes for that property shall be paid either directly by OPERATOR or by its landlord, and neither OPERATOR nor its landlord shall object or otherwise challenge the

taxability of such property and shall not seek a non-profit exemption from paying such taxes. Notwithstanding the foregoing, (i) if real or personal property owned, leased or operated by OPERATOR is determined to be non-taxable or partially non-taxable, or (ii) if the value of such property is abated with the effect of reducing or eliminating the tax which would otherwise be paid if assessed at fair cash value as defined in G.L. c. 59, §38, or (iii) if OPERATOR is determined to be entitled or subject to exemption with the effect of reducing or eliminating the tax which would otherwise be due if not so exempted, then OPERATOR shall pay to the TOWN an amount which when added to the taxes, if any, paid on such property, shall be equal to the taxes which would have been payable on such property at fair cash value and at the otherwise applicable tax rate, if there had been no abatement or exemption; this payment shall be in addition to the payments made by OPERATOR under Section 1 of this Agreement.

5. OPERATOR acknowledges that the TOWN has imposed a local sales tax upon the sale or transfer of marijuana or marijuana products by a marijuana retailer operating within the TOWN, pursuant to the provisions of G.L. c.64N. Accordingly OPERATOR, as required by applicable law, shall remit to the Massachusetts Department of Revenue the excise tax rate determined by the Commonwealth of Massachusetts for the sale of adult-use marijuana and adult-use marijuana-infused products, currently at 3.0% of gross annual sales. Pursuant to G.L. c.64N, §3, the excise taxes received by the Department of Revenue "shall at least quarterly be distributed, credited and paid [to the Town] by the state treasurer". Nothing herein shall limit the ability of the TOWN to adjust the local sales tax in the future, should the law be amended to allow for an increase in such allowable sales tax.

6. OPERATOR shall work with the Arlington Police Department in determining the placement of exterior security cameras, so that at least two cameras are located to provide an unobstructed view in each direction of the public way(s) on which the

MRE is located. OPERATOR will maintain a cooperative relationship with the Arlington Police Department, including but not limited to periodic meetings to review operational concerns, cooperation in investigations, and communication to Arlington Police Department of any suspicious activities on the site.

7. OPERATOR shall work with the Police Department to implement a comprehensive diversion prevention plan to prevent diversion, such plan to be in place prior to the commencement of operations at the Facility. Such plan shall include, but is not limited to:

    a. training OPERATOR employees to be aware of, observe, and report any unusual behavior in authorized visitors or other OPERATOR employees that may indicate the potential for diversion; and

    b. utilizing seed-to-sale tracking software to closely track all inventory at the Facility.

8. OPERATOR shall inform and advise the TOWN's Board of Health and Police Department of the results of all inspections, notices to cure, violations, and any other adverse findings by the CCC or other State regulatory authority.

9. Except for senior management positions, OPERATOR commits to hiring local, qualified employees to the extent consistent with law. In addition to the direct hiring, OPERATOR will work in a good faith, legal and non-discriminatory manner to hire local vendors, suppliers, contractors and builders from the Arlington area where possible.

10. The OPERATOR shall submit at least annual financial records to the TOWN on or before January 15 of each calendar year, with a certification of the Gross Sales for the respective year. The OPERATOR shall also submit to the TOWN copies of any

additional financial records that the OPERATOR is required to submit to the CCC.

11. The OPERATOR shall maintain its books, financial records, and other compilations of data pertaining to the requirements of this Agreement in accordance with standard accounting practices and any applicable regulations or guidelines of the CCC. All records shall be kept for a period of at least seven (7) years.

12. The term of this Agreement shall be for five (5) years from the date the MRE first opens to the public ("Term"). All payments required hereunder shall remain in effect for the duration of the term. At the conclusion of the term of this Agreement the parties shall renegotiate a new HCA in accordance with the current prevailing regulations and laws as they may be amended or replaced.

13. This Agreement shall terminate at the time that either ofthe following occur:

    a. the TOWN notifies OPERATOR of the TOWN's termination of this Agreement for "cause", which shall be defined as a failure of the OPERATOR to adhere to the terms of this Agreement or Massachusetts and local laws, ordinances and regulations which is not cured within ten (10) days after written notice thereof; or

    b. OPERATOR ceases to operate a MRE in the TOWN; OPERATOR shall provide notice to the City of the date of commencement of operations at least fourteen (14) days prior to such date.

14. In the event the OPERATOR longer does business in the TOWN or in any way loses or has its license revoked by the CCC, this Agreement shall become null and void; however the Company will be responsible for the prorated portion of the quarterly payment due under Section 1 above.

15. The obligations of OPERATOR and the TOWN recited herein are specifically

contingent upon the issuance by CCC to OPERATOR of a Final License for the operation of a MRE in the TOWN, and OPERATOR obtaining all required approvals from the TOWN for the OPERATOR to serve customers both from the New Location in Town.

16. OPERATOR shall not assign, sublet or otherwise transfer this Agreement, in whole or in part, without the prior written consent of the TOWN and shall not assign any of the moneys payable under this Agreement, except with the written consent of the TOWN, provided, however, that a pledge or assignment of assets, profits or receivables required in connection with financing the business by OPERATOR shall not be considered an assignment for the purposes of this paragraph.

17. This Agreement is binding upon the parties hereto, their successors, assigns and legal representatives. Neither the TOWN nor OPERATOR shall assign or transfer any interest in the Agreement without the written consent of the other.

18. OPERATOR shall comply with all laws, rules, regulations and orders applicable to the operation of an MRE, such provisions being incorporated herein by reference, and shall be responsible for obtaining all necessary licenses, permits, and approvals required for the operation of an MRE.

19. Any and all notices, or other communications required or permitted under this Agreement, shall be in writing and delivered by hand or mailed postage prepaid, return receipt requested, by registered or certified mail or by other reputable delivery service, to the parties at the addresses set forth on Page 1 or furnished from time to time in writing hereafter by one party to the other party. Any such notice or correspondence shall be deemed given when so delivered by hand, if so mailed, when deposited with the U.S. Postal Service, or if sent by private overnight or other

delivery service, when deposited with such delivery service.

20. If any term or condition of this Agreement or any application thereof shall to any extent be held invalid, illegal or unenforceable by the court of competent jurisdiction, the validity, legality, and enforceability of the remaining terms and conditions of this Agreement shall not be deemed affected thereby unless one or both parties would be substantially or materially prejudiced.

21. This Agreement shall be governed by, construed and enforced in accordance with the laws of the Commonwealth of Massachusetts and OPERATOR submits to the jurisdiction of the Trial Court for Middlesex County for the adjudication of disputes arising out of this Agreement.

22. This Agreement, including all documents incorporated herein by reference, constitutes the entire integrated Agreement between the parties with respect to the matters described. This Agreement supersedes all prior agreements, negotiations and representations, either written or oral, and it shall not be modified or amended except by a written document executed by the parties hereto.

TOWN OF ARLINGTON

By:

Its: Town Manager

Dated: June 26, 2019

ESKAR, LLC

By: Michael Hunnewell

Its: President

Dated: 6/24/2019

EXHIBIT 2

ESKAR

CCC State Submission

Business Plan

CONTENTS

EXECUTIVE SUMMARY

Eskar Arlington LLC and Eskar Northbridge LLC (herein collectively as "Eskar") is founded by Mr. Michael Hunnewell, a local Massachusetts resident with an education in biology and economics and over 15 years of experience running business development groups in high tech enterprises. Mr. Hunnewell ventured into this new and exciting field early to rezone over 26 acres of land in Northbridge, MA for cannabis production and sale. This is now one of the largest cannabis zones in the state. Just getting started, he has assembled a team of the brightest experts in cannabis cultivation, supply chain management, strain genetics, commercial real estate, and local government relations to create a small network of cannabis dispensaries across the state. Michael Aldi, the owner and operator of several high-end restaurants throughout the Greater Boston Area is a core team member assembled to tackle this task.

Currently, Eskar has been awarded a Host Community Agreement (HCA) for a retail permit in the towns of Northbridge, MA and Arlington, MA for Retail Marijuana Establishment locations. Looking ahead, the company has also identified other potential locations for their final recreational dispensary around the greater Boston area.

PRODUCTS AND SERVICES

Eskar will provide various types of cannabis including; buds, oils, and various edible products. In order to reduce overhead costs, Eskar will focus on adult-use products only and will not at this time seek a license as Medical Marijuana Treatment Center. Unlike many of the commercial firms in the market already, Eskar doesn't plan to establish a large cultivation facility in the beginning. Instead, the retail stores will sell the bulk of their products from a variety of growers and vendors in the market. This is a radical departure compared to the traditional firms in the market today. Many of the large firms are vertically integrated, mostly selling the product they grow themselves. This severely limits the variety of options for the customer. This approach is effective in the early years of legalization since there are very few alternatives for the customer to go to. However, as time goes by, the consumer will become much more educated and have more options for stores to purchase their products from. Eskar plans to use product diversity as a selling point to the consumer.

TEAM

MICHAEL R. HUNNEWELL: SALES, OPERATIONS

Michael Hunnewell has over 10 years of government contracting expertise and over 15 years of experience in high tech, cutting-edge industries. In 2018 Mr. Hunnewell was able to rezone 26 acres of residential land in Northbridge, MA to industrial for cannabis use, making this one of the single largest pieces of cannabis real estate in the Commonwealth of Massachusetts. Prior to his work founding Eskar, Mr. Hunnewell worked in defense & aerospace, acquiring individual government contracts of over $4M each alongside commercial orders earning over $1M each. Mr. Hunnewell tripled shareholder value over a 3-year period for his firm while also opening up global distribution channels to increase sales. From his time in the defense sector, Mr. Hunnewell has garnered extensive experience in handling sensitive information and products. Metamagnetics, Mr. Hunnewell's previous employer, holds a SECRET level organization clearance and recently spent over $100K in 2019 alone updating their security protocols. Mr. Hunnewell has also worked diligently with the firm's supplier group to make sure Metamagnetics was in compliance with defense manufacturing standards (i.e. ISO9000) and the firm is now an approved supplier to some of the largest defense firms in the world including Lockheed Martin and Raytheon. Mr. Hunnewell received his B.A. in biology from Boston College and his MBA from Northeastern University with a concentration in innovation for high tech industries. He attended graduate school on academic scholarship.

MICHAEL ALDI: REAL ESTATE HOLDINGS, CAPITAL MANAGEMENT

Michael Aldi has over a decade of experience in both the real estate and hospitality industry. In his role as Eskar LLC's head of Real Estate Development and Investor Relations, Mr. Aldi is responsible for all the company's capital raising initiatives and site selection activities. Mr. Aldi is responsible for managing the preparation of complex financial forecasts in addition to conducting in- depth market research for the team's prospective locations. Mr. Aldi has experience in all facets of site selection, lease negotiation, general contracting/construction management, and capital structuring/financing. Mr. Aldi also has experience underwriting structuring opportunities for his family's portfolio of hospitality and real estate investments. Mike graduated from Suffolk University, with a B.A. in Communications and a Minor in Business Management.

MARKET OVERVIEW

NORTH AMERICAN CANNABIS MARKET

Although the federal government still considers the use of cannabis a criminal offence, more than half the states in the US have legalized marijuana in some form. Most states sell cannabis for medicinal purposes only, often broadly defined. However, states like Alaska, California, Colorado, Maine, Nevada, Massachusetts, Oregon, and Washington have gone further, legalizing the adult-use. Legal cannabis is more expensive than the black-market variety, but it is better value; three times more potent and only about 50% more expensive[1].

Legal cannabis sales reached almost $10 billion in North America in 2017, in a new report from cannabis industry analysts.[2] This represents an unprecedented 33% increase over 2016. The report further predicts the entire legal cannabis market to reach $24.5 billion in sales – a 28% annual growth rate by 2021 – as more states legalize cannabis for adult-use and existing markets mature.

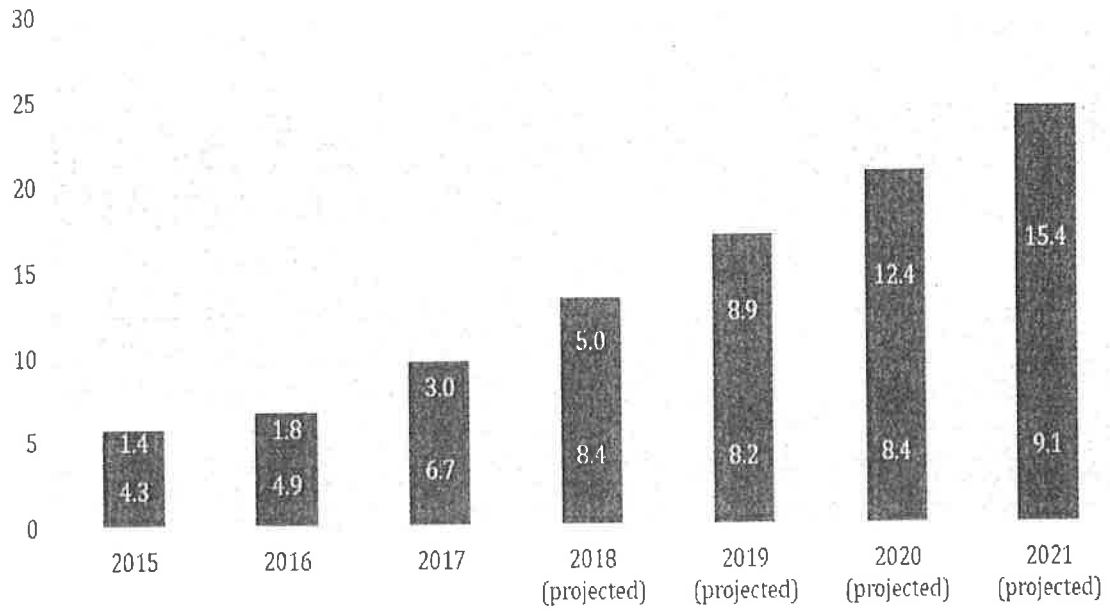


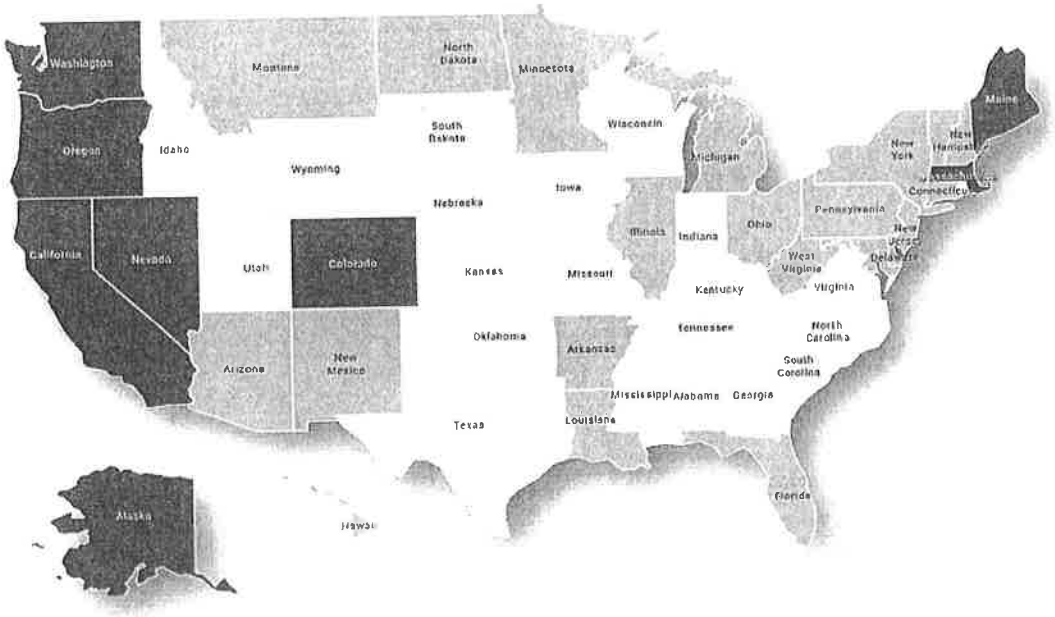
FIGURE 1. MEDICAL AND ADULT-USE CANNABIS SALES FORECAST,

[1] http://www.economist.com/blogs/graphicdetail/2016/02/daily-chart-10

[2] Arcview Market Research in partnership with BDS Analytics

60% of the U.S. population lives within states that have legalized some form of cannabis use and sales, illustrating the rising acceptance of cannabis nationwide and highlighting the industry's immense potential for future growth. On November 9, 2016 three new states approved cannabis for medicinal use; Arkansas, Florida, and North Dakota. Four others that already had medical cannabis laws, legalized recreational. New markets could create $7B to $8B in additional retail revenue for the industry, according to estimates by Marijuana Business Daily.

As of January 2018, there are 30 states that allow cannabis for medical use, 16 states allow Cannabidiol (CBD), 9 States and the District of Columbia now allow for recreational cannabis use. There are 9,397 active licenses for cannabis businesses in the U.S., according to Ed Keating, chief data officer for Cannabiz Media, which tracks cannabis licenses. This includes cultivators, manufacturers, retailers, distributors, deliverers and test labs.



Medical / Recreational cannabis legalization

Medical cannabis legalization

FIGURE 2: U.S. LEGALIZATION MAP. THIRTY STATES AND THE DISTRICT OF COLUMBIA CURRENTLY HAVE LAWS LEGALIZING MARIJUANA IN SOME FORM.

The industry employed 121,000 people in 2017. If cannabis continues its growth trajectory, the number of workers in that field could reach 292,000 by 2021, according to BDS Analytics. The passage of initiatives in California, Nevada, Massachusetts, Maine, Florida, Arkansas, Montana, North Dakota, and West Virginia will add $7.4 billion to the 2021 market forecast bringing the

overall market projection for legal adult-use and medical sales in North America to $24.5 billion by 2021. That would bring the compound annual growth rate (CAGR) to 28%.

MASSACHUSETTS MARKET ANALYSIS

Total cannabis spending worldwide is expected to hit $57B by 2027, of which 67% of the market will come from recreational purchases.[3] In the U.S., firms are racing to establish themselves in the market with deep pockets from financial backing. The legal cannabis industry raised more than $1 billion in funding in 2016, and *Marijuana Business Daily* estimated that there were 21,000–33,000 legal cannabis businesses operating in the U.S. last year.[4] Legalization in Massachusetts will open the door to 6.8 million people with a state GDP of $507B.

In 2016, Massachusetts residents voted to legalize recreational cannabis. While cannabis is technically legal at the moment, recreational sales have been slow due to the severe delay in issuing permits for retail stores. Many local town governments/municipalities have voted to either ban or place a moratorium on recreation marijuana sales. This has led to less than 10 stores being open across the entire state in May 2019. This creates an opportunity for firms still looking to enter the market like Eskar. Those who can obtain the permit may be the only retailer within miles for customers, even in denser cities near Boston.

[3] https://www.foESKARes.com/sites/thomaspellechia/2018/03/01/double-digit-billions-puts-north-america-in-the-worldwide-cannabis-market-lead/#24341c866510

[4] https://www.fungglobalretailtech.com/research/deep-dive-us-cannabis-economy-fast-growing-industry-facing-regulatory-concerns/

FIGURE 3: MAP OF MASSACHUSETTS OUTLINING ZONING LAWS ON RECREATIONAL CANNABIS SALES BY TOWN. AS OF OCTOBER 31ST, 2018

2.4M voters in the state of Massachusetts voted in favor or legalization. If we assume those voters will become cannabis consumers, we start to understand just how large this market is. If these voters spend $100 a month, well below the Colorado average, the Massachusetts market is estimated around $2.8B. If the average consumer spends $175 a month, the market balloons to $5B.

To help speed the implementation of recreational cannabis across the state, the Cannabis Control Commission (CCC) released guidelines and regulations for local municipalities to implement in their respective towns. One of the guidelines was to regulate the number of cannabis stores each town should have. The CCC reaffirmed the statutory requirement that the number of cannabis stores should be "20% the number of liquor stores." This puts tremendous leverage in cannabis retailer's hands. Below is a table of the average number of customers a liquor store has in various states across the US.

LIQUOR STORE DENSITY COMPARISON

OTA STATE LIQUOR RETAIL DATA

State	Population	Quota Per Capita	Stores	Pop Per Store
Alaska	731,449	1/3000	101	7242
Arizona	6,553,255	varies locally	1466	4470
Arkansas	2,949,131	1/4000	318	9274
California	38,041,430	1/2500	13806	2755
Florida	19,317,568	1/7500	1367	14131
Indiana	6,537,334	1/3500	359	18210
Kentucky	4,380,415	1/2300	914	4793
Massachusetts	6,646,144	1/2000	1900	3498
Michigan	9,883,360	1/3000	1581	6251
Montana	1,005,141	1/1500	96	10470
New Jersey	8,864,590	1/3000	2260	3922
New Mexico	2,085,538	1/2000	95	21953
Ohio	11,544,225	varies locally	837	13792
Pennsylvania	12,763,536	1/3000	600	21273
South Dakota	833,354	1/1500	75	11111
Utah	2,855,287	1/4925	144	19828
Washington	6,897,012	1/1200	1400	4926
Wyoming	576,412	1/3000	100	5764
Average				10204

FIGURE 4: ABOVE IS A TABLE OF THE AVERAGE CUSTOMER BASE FOR A LIQUOR STORE BY STATE. DATA PROVIDED BY MARATHON STRATEGIES.

Per the chart, the average population per liquor store in Massachusetts is 3,498. Due to the 20% store limit for cannabis shops, we can assume the average cannabis retail location will have access to a population of 20,000 people. This doesn't even take into consideration the fact that many towns across the state have band cannabis sales in their town. Combined with an influx of tourists from other states nearby where cannabis is illegal, the population could climb to 40,000. With online delivery illegal right now, the retail locations hold the majority of access to the market. This is why Eskar's focus will be on gaining retail permits.

MOBILIZATION PLAN

PRE-PERMIT ROLLOUT

Eskar is well under way to attain all of the prerequisites for retail permits in Massachusetts. It estimates that by April 2020 it will have approval by the Massachusetts Cannabis Control for its first retail dispensary, approval for the processing permit, and their 2nd & 3rd retail locations should be complete by June 2020.

Before Eskar can apply for their permits they must complete the following steps:

1. Control of real estate for its intended use
2. Confirm property meets the town zoning requirements
    a. Achieve variances if the property fails the zoning requirements
3. Confirm location has the support of the local municipality
4. Letter of Intent from property manager where the firm seeks to operate
5. Host community forum
6. Sign Community Host Agreement
7. Finish confirmation of compliance with local zoning (Special permit if needed)
8. Finish state submission packet

Steps 1-4 don't necessarily happen in chronological order. It should also be noted Step 6 is the most critical step in this process. The host community agreement (HCA) is a document in which the town and marijuana business outline the terms and payments the business needs to uphold if it wishes to operate in the town. This may be in the form of a 3% sales tax, which goes directly to the town, or an agreement to operate within certain business hours. Upon signing the document, the business may start the permitting process with the state for their license. The town will not sign more HCAs than it plans to issue permits. This means once an HCA is obtained, the business has a high probability of obtaining a permit.

POST-HCA ROLLOUT

As permits are approved by the Cannabis Control Commission, Eskar will then begin the detail, design, and engineering for the retail locations. The engineering and design timeline will take 90 days to prepare all the required documents for permitting. The permitting approval process for towns like of Northbridge and Boston is estimated to take another 90 days once the permit applications are submitted. Arlington's special permit process is different from most towns in

Massachusetts. However, the town has provided guidance stating Eskar should expect to wait about 1 year before opening its door if it is selected to move forward with the permitting process.

STORE #1: NORTHBRIDGE OVERVIEW

NORTHBRIDGE

Northbridge has an HCA for a 5,000 sq ft property at 200 Commerce Drive, Northbridge, MA. The population of Northbridge is 17,000, but the location is along Providence Highway, a major thru road where other towns travel to Northbridge's shopping center located just down the street from the site. A local traffic study estimates the roadway sees an estimated 15,000 people a day. The new building will have at least 20 designated spaces along with on street parking up and down the roadway. The property owner of the industrial park has also been approved for several additional expansion and plans to add additional stores to the lot making the area a major destination for locals. Northbridge also abuts Sutton, a town which has voted to ban cannabis sales. The town will be issuing only 2 retail permits of which. The other retail firm was approved for an HCA at the beginning of March 2019. They will be located on the opposite side of town and will therefore pull from a different client base.

PROPOSED HOURS OF OPERATION BASED ON TOWN ZONING LAWS:

Monday:	8am-10pm
Tuesday:	8am-10pm
Wednesday:	8am-10pm
Thursday:	8am-10pm
Friday:	8am-10pm
Saturday:	8am-10pm
Sunday:	10am-10pm

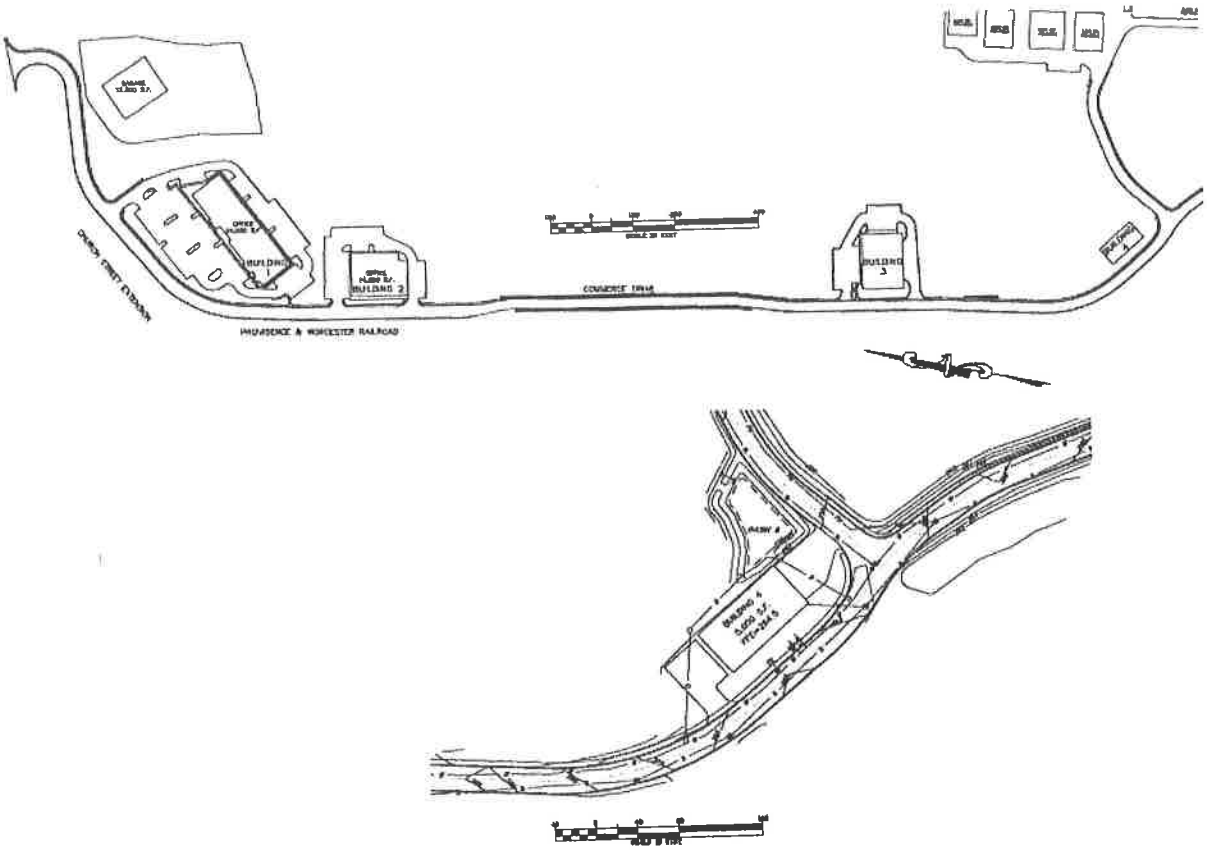


FIGURE 5: LOCATION OF THE RECREATIONAL MARIJUANA FACILITY (BUILDING 4) IN THE OSTERMAN COMMERCE PARK.

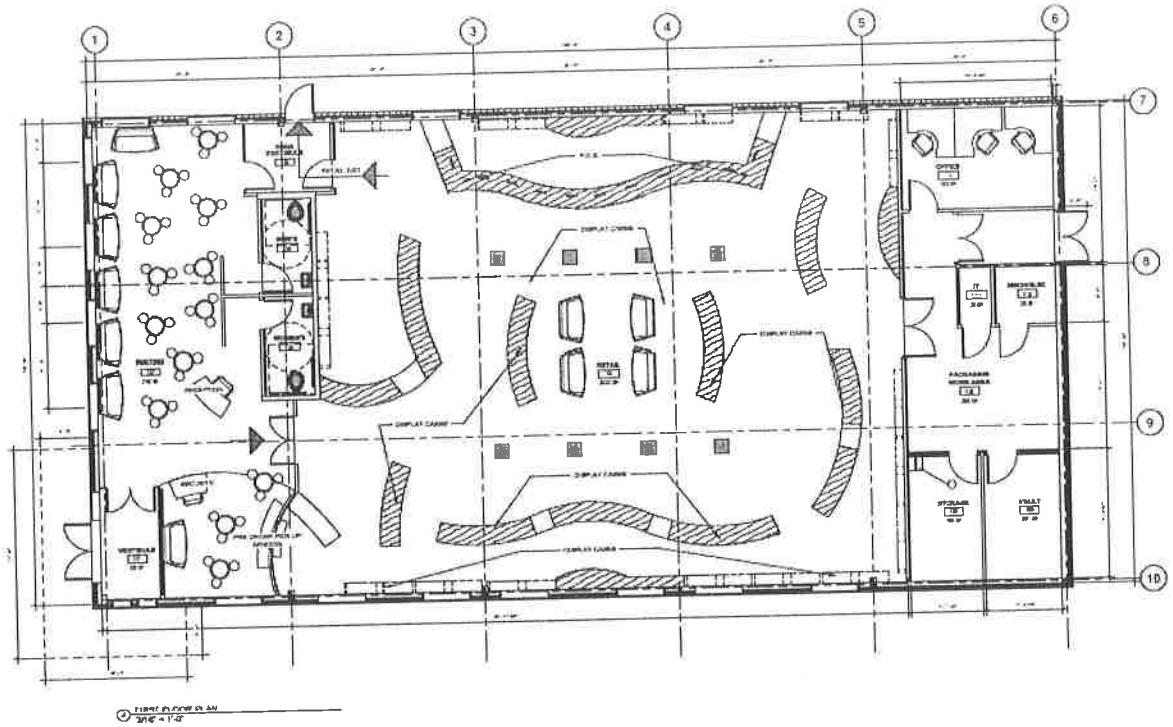
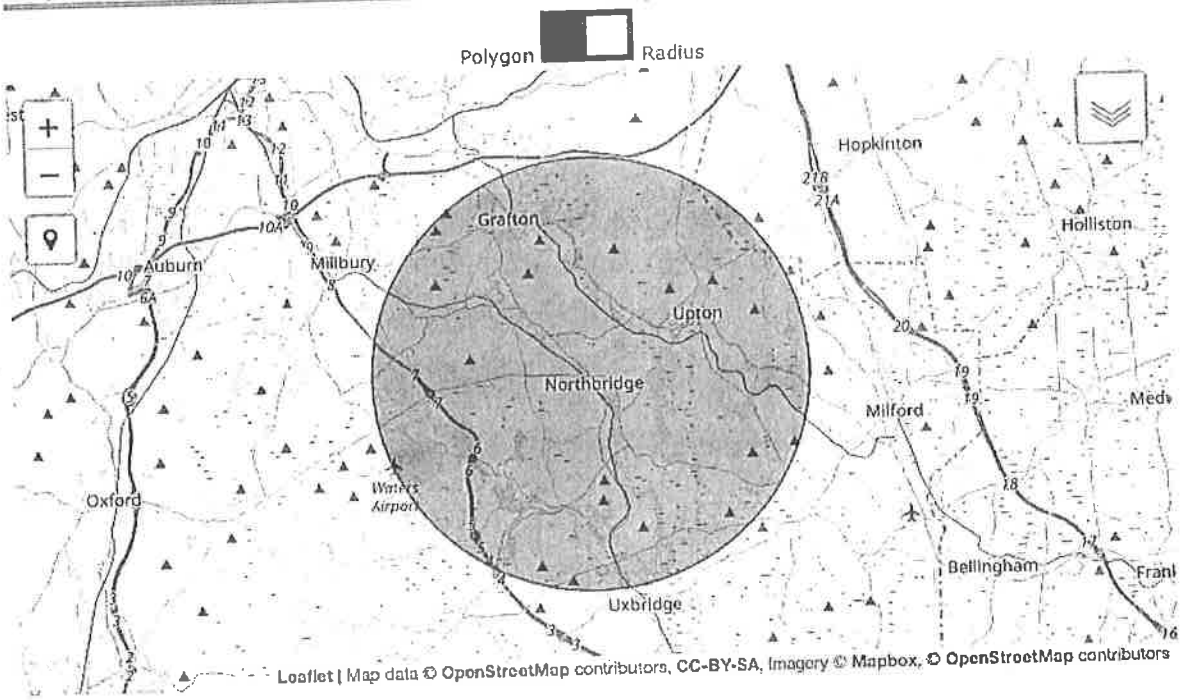


FIGURE 6: STORE LAYOUT OF NORTHBRIDGE FACILITY. 3,000 SQ FEET OF RETAIL SPACE WITH A LARGE DEDICATED BACKOFFICE AND STORAGE FOR STAFF TO MANAGE OPERATIONS BOTH AT THE NORTHBRIDGE AND ARLINGTON SITE.

Population Inside a Area Search Map



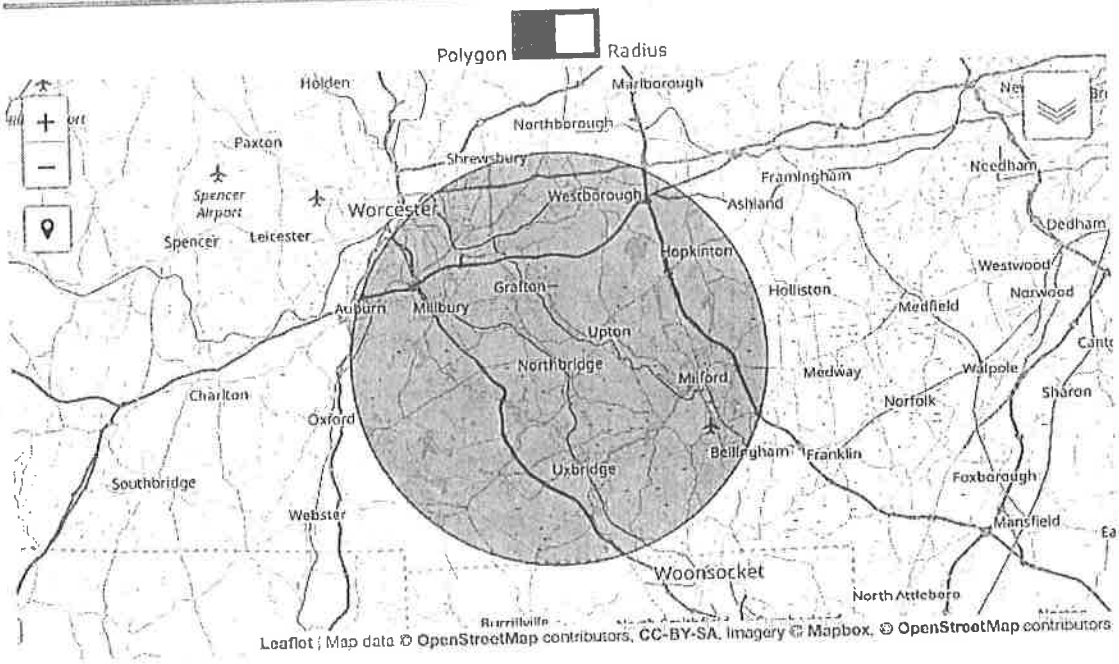
Input

Add Radius manually : Radius 8.0467 km OR 5.00 miles Location : Search...

Output

The estimated population in the defined area is 39,356

Population Inside a Area Search Map



Input

Add Radius manually : Radius 16.093 km OR 10.00 miles Location : Search...

Output

The estimated population in the defined area is 203,352

STAGES OF THE PERMITTING PROCESS

Part of Process	Completed
Control of Property	X
Confirmed Approved Zoning	X
Local Municipality Approval	X
Signed LOI	X
Host Community Forum	X
Sign Community Host Agreement	X
Obtain Special Permit	

State Application Complete	

FINANCIALS

Northbridge Profit & Loss Forecast (6 Years)

	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income
Income												
Flowers	-		4,896,000	51.0%	5,042,880	51.0%	5,194,166	51.0%	5,349,991	51.0%	5,510,491	51.0%
Concentrates	-		2,736,000	28.5%	2,818,080	28.5%	2,902,622	28.5%	2,989,701	28.5%	3,079,392	28.5%
Edibles	-		1,200,000	12.5%	1,236,000	12.5%	1,273,080	12.5%	1,311,272	12.5%	1,350,611	12.5%
Topicals	-		768,000	8.0%	791,040	8.0%	814,771	8.0%	839,214	8.0%	864,391	8.0%
Gross Sales	-		9,600,000	100.0%	9,888,000	100.0%	10,184,640	100.0%	10,490,179	100.0%	10,804,885	100.0%
Discounts (10-15%)	-		(960,000)	-10.0%	(988,800)	-10.0%	(1,018,464)	-10.0%	(1,049,018)	-10.0%	(1,080,488)	-10.0%
Net Sales	-		8,640,000		8,899,200		9,166,176		9,441,161		9,724,396	
Cost of Goods Sold												
Flowers	-		2,232,300	23.3%	2,299,269	23.3%	2,368,247	23.3%	2,439,295	23.3%	2,512,473	23.3%
Concentrates	-		1,485,305	15.5%	1,529,864	15.5%	1,575,760	15.5%	1,623,033	15.5%	1,671,724	15.5%
Edibles	-		521,829	5.4%	537,483	5.4%	553,608	5.4%	570,216	5.4%	587,323	5.4%
Topicals	-		441,600	4.6%	454,848	4.6%	468,493	4.6%	482,548	4.6%	497,025	4.6%
Accessories	-		5,000		5,150		5,305		5,464		5,628	
COGS OH Allocation	-		290,000	3.0%	298,700	3.0%	307,661	3.0%	316,891	3.0%	326,398	3.0%
Total Cost of Goods Sold	-		4,976,034	51.8%	5,120,165	51.8%	5,273,770	51.8%	5,431,983	51.8%	5,594,942	51.8%
Total Cost of Goods Sold	-		4,976,034	51.8%	5,120,165	51.8%	5,273,770	51.8%	5,431,983	51.8%	5,594,942	51.8%
Gross Profit	-		3,663,966	38.2%	3,779,035	38.2%	3,892,406	38.2%	4,009,178	38.2%	4,129,454	38.2%
Expenses												
Fixed Expenses												
Overhead expense allocation to COGS	-		(290,000)	-3.0%	(295,800)	-3.0%	(301,716)	-3.0%	(307,750)	-2.9%	(313,905)	-2.9%
Insurance Expenses												
Health	-		-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Liability	-		40,000	0.4%	40,800	0.4%	41,616	0.4%	42,448	0.4%	43,297	0.4%
Workers Comp	-		15,000	0.2%	15,300	0.2%	15,606	0.2%	15,918	0.2%	16,236	0.2%
Total Insurance Expense	-		55,000	0.6%	56,100	0.6%	57,222	0.6%	58,366	0.6%	59,534	0.6%
Payroll Expenses												
Dispensary Team	91,667		550,000	5.7%	566,500	5.7%	583,495	5.7%	601,000	5.7%	619,030	5.7%
Discretionary Bonus	-		10,000	0.1%	10,300	0.1%	10,609	0.1%	10,927	0.1%	11,255	0.1%
Dispensary Management	37,500		225,000	2.3%	231,750	2.3%	238,703	2.3%	245,864	2.3%	253,239	2.3%
Payroll Taxes	10,333		62,800	0.7%	64,684	0.7%	66,625	0.7%	68,623	0.7%	70,682	0.7%
Management Fee	150,000		150,000	1.6%	154,500	1.6%	159,135	1.6%	163,909	1.6%	168,826	1.6%
Total Payroll Expenses	289,500		997,800	10.4%	1,027,734	10.4%	1,058,566	10.4%	1,090,323	10.4%	1,123,033	10.4%
Rent Expense	65,000		65,000	0.7%	66,950	0.7%	68,959	0.7%	71,027	0.7%	73,158	0.7%
CAM/ Real Estate Taxes	22,060		22,060	0.2%	22,722	0.2%	23,403	0.2%	24,106	0.2%	24,829	0.2%
Total Rent Expenses	87,060		87,060	0.9%	89,672	0.9%	92,362	0.9%	95,133	0.9%	97,987	0.9%
Utilities												0.0%
Cable	1,000		6,000	0.1%	6,180	0.1%	6,365	0.1%	6,556	0.1%	6,753	0.1%
Electric	2,500		15,000	0.2%	15,450	0.2%	15,914	0.2%	16,391	0.2%	16,883	0.2%
Gas	2,500		15,000	0.2%	15,450	0.2%	15,914	0.2%	16,391	0.2%	16,883	0.2%
Water	1,667		10,000	0.1%	10,300	0.1%	10,609	0.1%	10,927	0.1%	11,255	0.1%
Total Utilities	7,667		46,000	0.5%	47,380	0.5%	48,801	0.5%	50,265	0.5%	51,773	0.5%
Total Fixed Expenses	384,227		895,860	9.5%	925,086	9.4%	955,235	9.4%	986,337	9.4%	1,018,421	9.4%
Variable Expenses												
Advertising/PR	35,000		25,000	0.3%	25,750	0.3%	26,523	0.3%	27,318	0.3%	28,138	0.3%
Bank Service Charges	-		5,000	0.1%	5,150	0.1%	5,305	0.1%	5,464	0.1%	5,628	0.1%
Counter Supplies	-		-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Cleaning	2,000		25,000	0.3%	25,750	0.3%	26,523	0.3%	27,318	0.3%	28,138	0.3%
CPU & Internet	15,000		5,000	0.1%	5,150	0.1%	5,305	0.1%	5,464	0.1%	5,628	0.1%
Charitable Contributions	-		10,000	0.1%	10,300	0.1%	10,609	0.1%	10,927	0.1%	11,255	0.1%
Dues & Subscriptions	2,000		2,000	0.0%	2,060	0.0%	2,122	0.0%	2,185	0.0%	2,251	0.0%
Equipment Rental	-		-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Legal & Accounting	50,000		10,000	0.1%	10,300	0.1%	10,609	0.1%	10,927	0.1%	11,255	0.1%
Licenses & Permits	5,000		5,000	0.1%	5,150	0.1%	5,305	0.1%	5,464	0.1%	5,628	0.1%
Office Supplies	6,000		6,000	0.1%	6,180	0.1%	6,365	0.1%	6,556	0.1%	6,753	0.1%
Payroll Fees	400		2,400	0.0%	2,472	0.0%	2,546	0.0%	2,623	0.0%	2,701	0.0%
Printing & Production	15,000		15,000	0.2%	15,450	0.2%	15,914	0.2%	16,391	0.2%	16,883	0.2%
Professional Fees	30,000		10,000	0.1%	10,300	0.1%	10,609	0.1%	10,927	0.1%	11,255	0.1%
Repairs & Maintenance	-		20,000	0.2%	20,600	0.2%	21,218	0.2%	21,855	0.2%	22,510	0.2%
Supplies/Packaging	-		-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Security	20,000		60,000	0.6%	61,800	0.6%	63,654	0.6%	65,564	0.6%	67,531	0.6%
Training	15,000		5,000	0.1%	5,150	0.1%	5,305	0.1%	5,464	0.1%	5,628	0.1%
Trash Removal	5,000		15,000	0.2%	15,450	0.2%	15,914	0.2%	16,391	0.2%	16,883	0.2%
Uniforms	3,000		5,000	0.1%	5,150	0.1%	5,305	0.1%	5,464	0.1%	5,628	0.1%
Total Variable Expenses	203,400		225,400	2.3%	232,162	2.3%	239,127	2.3%	246,301	2.3%	253,690	2.3%
Total Expenses	587,627		1,121,260	11.7%	1,157,248	11.3%	1,194,362	11.7%	1,232,638	11.8%	1,272,111	11.8%
Net Operating Income	(587,627)		2,542,706	26.5%	2,621,787	26.5%	2,698,044	26.5%	2,776,540	26.5%	2,857,343	26.4%
Federal tax (21%)	-		769,433		793,597		817,405		841,927		867,185	
Mass excise tax (18%)	-		864,000		889,920		916,618		944,116		972,440	
Mass sales tax (7%)	-		604,800		622,944		641,632		660,881		680,708	
Mass host community tax (3%)	-		259,200		266,976		274,985		283,235		291,732	
Sales Taxes Collected (20%)	-		(1,728,000)		(1,779,840)		(1,833,235)		(1,888,232)		(1,944,879)	
Business Income Tax	-		769,433		793,597		817,405		841,927		867,185	
Free Cash AFTER TAX for Distribution	(587,627)		1,772,273	18%	1,828,190	18%	1,880,639	18%	1,934,613	18%	1,990,157	18%

5 year cash return	8,819,245
Original Investment	1,500,000
Gain	7,319,245
IRR	78%

SOURCES AND USES

Funding Sources		
Investor Group Capital	$	1,500,000
Total Sources	$	1,500,000

Uses		
1. Build-out	$	380,000
2. Furniture, Fixtures & Equip.	$	300,000
3. Soft Costs/ Licenses	$	50,000
4. Professional Fees	$	50,000
5. Operating Capital/Payroll	$	600,000
6. Management Fee	$	150,000
7. Contingency	$	150,000 *
Total Uses	$	1,680,000
Original	$	1,500,000

**Encomposses construction contingency as well as unforeseen opex*

- 1. Build-out
- 2. Furniture, Fixtures & Equip.
- 3. Soft Costs/ Licenses
- 4. Professional Fees
- 5. Operating Capital/Payroll
- 6. Management Fee
- 7. Contingency

STORE #2: ARLINGTON OVERVIEW

ARLINGTON

Arlington has an HCA for a 3,000 sq ft property at 21 Broadway in Arlington, MA. Located just outside the city of Boston, the population of Arlington is 42,000. 21 Broadway is conveniently located on the Somerville town line. Currently only 2 stores are approved to operate in the town, but the town will allow one more vendor to open once they find a proper location. The other approved firm is located at Arlington Heights on the other side of town.

PROPOSED HOURS OF OPERATION

*Arlington special permits do not propose set hours like other towns. The final proposed hours of the business will not be decided until permitting with the town is complete. These hours are based on hours taken from the liquor stores in the town.

Monday:	9am-9pm
Tuesday:	9am-9pm
Wednesday:	9am-9pm
Thursday:	9am-9pm
Friday:	9am-9pm
Saturday:	9am-9pm
Sunday:	10am-7pm

ARCHITECTURAL DRAWINGS

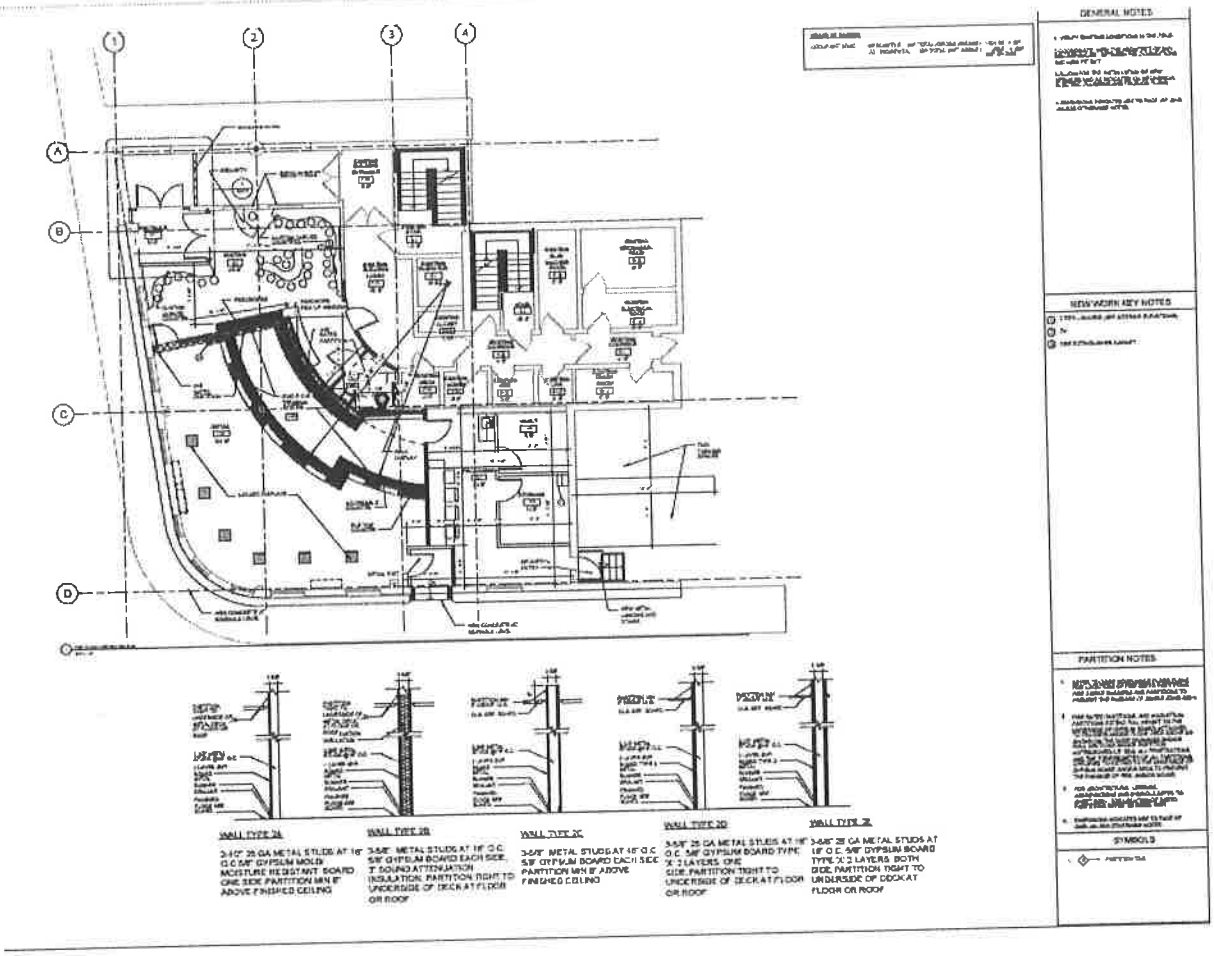


FIGURE 7: FLOOR DESIGN FOR ARLINGTON STORE. THOUGH THE SPACE IS A LITTLE OVER 2,000 SQ. FT. THE HOLDING ROOM ALLOWS THE MAXIMUM CAPACITY TO FOR THE STORE TO INCREASE TO OVER 80 PEOPLE. THIS HELPS PREVENT LONG LINES OUTSIDE THE BUILDING AND IMPROVES THE CUSTOMER EXPERIENCE.

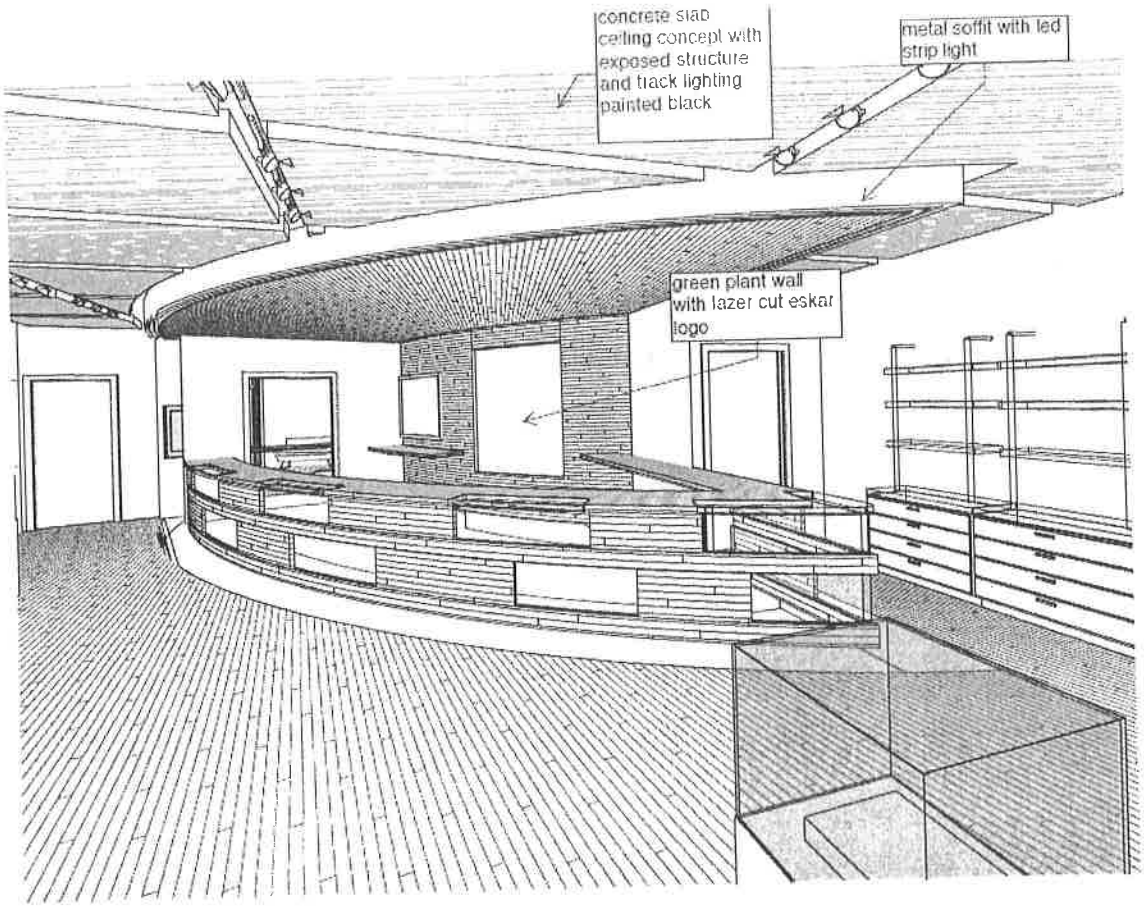


FIGURE 8: EXAMPLE OF STORE DESIGN. WOOD PANELING WILL COVER THE WALLS AND FLOOR GIVING THE STORE A MORE ORGANIC FEEL. THE CEILING WILL BE A CONCRETE SLAB DESIGN WHICH COMPLIMENTS THE WOOD PANELING.

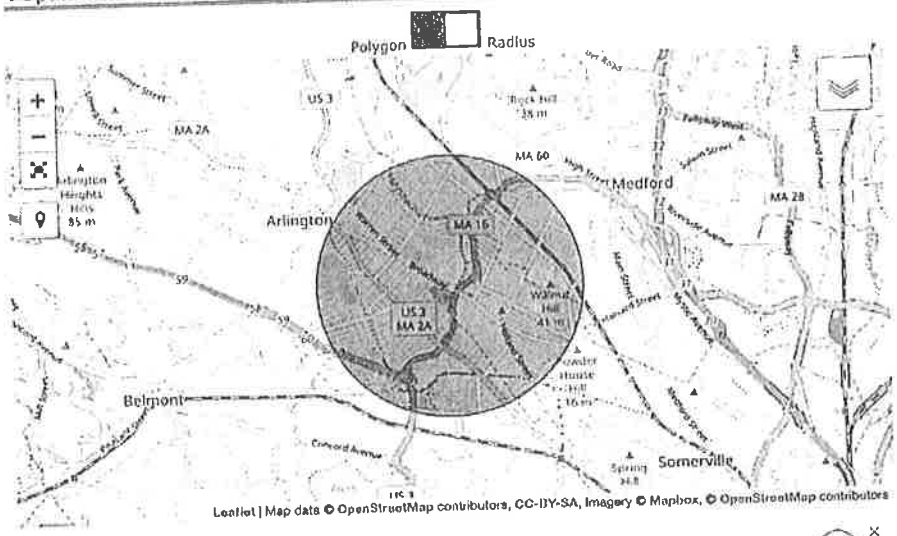
STAGES OF PERMIT PROCESS

Part of Process	Completed
Control of Property	X
Confirmed Approved Zoning	X
Local Municipality Approval	X
Signed LOI	X
Host Community Forum	X
Sign Community Host Agreement	X
Obtain Special Permit	

State Application Complete	

POPULATION DENSITY

Population Inside a Area Search Map



Input

Add Radius manually : Radius 1.6093 km OR 1.00 miles Location : Search...

Output

The estimated population in the defined area is 61,250

FINANCIALS

Profit & Loss Forecast (5 Years)

	Year 1		Year 1		Year 2		Year 3		Year 4		Year 5	
	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income
Income												
Flowers			$ 9,408,512	64.0%	$ 9,690,767	64.0%	$ 9,981,490	64.0%	$ 10,280,935	64.0%	$ 10,589,363	64.0%
Concentrates			$ 3,895,712	26.5%	$ 4,012,583	26.5%	$ 4,132,961	26.5%	$ 4,256,950	26.5%	$ 4,384,658	26.5%
Edibles			$ 1,249,568	8.5%	$ 1,287,055	8.5%	$ 1,325,667	8.5%	$ 1,365,437	8.5%	$ 1,406,400	8.5%
Topicals			$ 147,008	1.0%	$ 151,418	1.0%	$ 155,961	1.0%	$ 160,640	1.0%	$ 165,459	1.0%
				0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Gross Sales	$ -		$ 14,700,800	100.0%	$ 15,141,824	100.0%	$ 15,596,079	100.0%	$ 16,063,961	100.0%	$ 16,545,880	100.0%
Discounts (10-15%)	-		(1,470,080)	-10.0%	(1,514,182)	-10.0%	(1,559,608)	-10.0%	(1,606,396)	-10.0%	(1,654,588)	-10.0%
Net Sales	-		13,230,720		13,627,642		14,036,471		14,457,565		14,891,292	
Cost of Goods Sold												
Flowers			$ 4,317,945	29.1%	$ 4,447,484	29.4%	$ 4,580,908	29.4%	$ 4,718,335	29.4%	$ 4,859,885	29.4%
Concentrates			$ 2,132,790	14.5%	$ 2,197,803	14.5%	$ 2,263,738	14.5%	$ 2,331,650	14.5%	$ 2,401,596	14.5%
Edibles			$ 512,428	3.5%	$ 527,801	3.5%	$ 543,635	3.5%	$ 559,944	3.5%	$ 576,742	3.5%
Topicals			$ 66,154	0.5%	$ 68,138	0.5%	$ 70,182	0.5%	$ 72,288	0.5%	$ 74,456	0.5%
Accessories			$ 7,500	0.1%	$ 7,725	0.1%	$ 7,957	0.1%	$ 8,195	0.1%	$ 8,441	0.1%
COGS OH Allocation			$ (430,000)	-2.9%	$ (438,600)	-2.9%	$ (447,372)	-2.9%	$ (456,319)	-2.8%	$ (465,446)	-2.8%
Total Cost of Goods Sold	$ -		$ 6,607,817	44.9%	$ 6,810,351	45.0%	$ 7,019,048	45.0%	$ 7,234,093	45.0%	$ 7,455,679	45.1%
Total Cost of Goods Sold	$ -		$ 6,607,817	44.9%	$ 6,810,351	45.0%	$ 7,019,048	45.0%	$ 7,234,093	45.0%	$ 7,455,679	45.1%
Gross Profit	$ -		$ 8,092,983	55.1%	$ 8,331,473	55.0%	$ 8,577,031	55.0%	$ 8,829,868	55.0%	$ 9,090,201	54.9%
Expenses												
Fixed Expenses												
Overhead expense allocation to COOS	-		(430,000)	-2.9%	(438,600)	-2.9%	(447,372)	-2.9%	(456,319)	-2.8%	(465,446)	-2.8%
Insurance Expense												
Health		$	-	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Liability		$	40,000	0.3%	$ 40,800	0.3%	$ 41,616	0.3%	$ 42,448	0.3%	$ 43,297	0.3%
Workers Comp		$	20,000	0.1%	$ 20,400	0.1%	$ 20,808	0.1%	$ 21,224	0.1%	$ 21,649	0.1%
Total Insurance Expense	$ -	$	60,000	0.4%	$ 61,200	0.4%	$ 62,424	0.4%	$ 63,672	0.4%	$ 64,946	0.4%
Payroll Expenses												
Dispensary Team	116,667	$	700,000	4.8%	$ 721,000	4.8%	$ 742,630	4.8%	$ 764,909	4.8%	$ 787,856	4.8%
Discretionary Bonus	-	$	20,000	0.1%	$ 20,600	0.1%	$ 21,218	0.1%	$ 21,855	0.1%	$ 22,510	0.1%
Dispensary Management	58,333	$	350,000	2.4%	$ 360,500	2.4%	$ 371,315	2.4%	$ 382,454	2.4%	$ 393,928	2.4%
Payroll Taxes	14,006		85,600	0.6%	$ 88,168	0.6%	$ 90,813	0.6%	$ 93,537	0.6%	$ 96,343	0.6%
Management Fee	$ 175,000	$	175,000	1.2%	$ 180,250	1.2%	$ 185,658	1.2%	$ 191,227	1.2%	$ 196,964	1.2%
Total Payroll Expenses	$ 364,000	$	1,330,600	9.1%	$ 1,370,518	9.1%	$ 1,411,634	9.1%	$ 1,453,983	9.1%	$ 1,497,602	9.1%
Rent Expense	$ 90,000	$	90,000	0.6%	$ 92,700	0.6%	$ 95,481	0.6%	$ 98,345	0.6%	$ 101,296	0.6%
CAM/ Real Estate Taxes	$ 22,060	$	22,060	0.2%	$ 22,722	0.2%	$ 23,403	0.2%	$ 24,106	0.2%	$ 24,829	0.2%
Total Rent Expense	$ 112,060	$	112,060	0.8%	$ 115,422	0.8%	$ 118,884	0.8%	$ 122,451	0.8%	$ 126,125	0.8%
Utilities												0.0%
Cable	1,000	$	6,000	0.0%	$ 6,180	0.0%	$ 6,365	0.0%	$ 6,556	0.0%	$ 6,753	0.0%
Electric	2,500	$	15,000	0.1%	$ 15,450	0.1%	$ 15,914	0.1%	$ 16,391	0.1%	$ 16,883	0.1%
Gas	2,500	$	15,000	0.1%	$ 15,450	0.1%	$ 15,914	0.1%	$ 16,391	0.1%	$ 16,883	0.1%
Water	1,667	$	10,000	0.1%	$ 10,300	0.1%	$ 10,609	0.1%	$ 10,927	0.1%	$ 11,255	0.1%
Total Utilities	$ 7,667	$	46,000	0.3%	$ 47,380	0.3%	$ 48,801	0.3%	$ 50,265	0.3%	$ 51,773	0.3%
Total Fixed Expenses	$ 483,727	$	1,118,660	7.6%	$ 1,155,920	7.6%	$ 1,194,371	7.7%	$ 1,234,052	7.7%	$ 1,275,000	7.7%
Variable Expenses												
Advertising/PR	$ 35,000	$	25,000	0.2%	$ 25,750	0.2%	$ 26,523	0.2%	$ 27,318	0.2%	$ 28,138	0.2%
Bank Service Charges	$ -	$	6,000	0.0%	$ 6,180	0.0%	$ 6,365	0.0%	$ 6,556	0.0%	$ 6,753	0.0%
Counter Supplies/packaging	$ -	$	-	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Cleaning	$ 3,000	$	30,000	0.2%	$ 30,900	0.2%	$ 31,827	0.2%	$ 32,782	0.2%	$ 33,765	0.2%
CPU & Internet	$ 20,000	$	5,000	0.0%	$ 5,150	0.0%	$ 5,305	0.0%	$ 5,464	0.0%	$ 5,628	0.0%
Contributions	$ -	$	15,000	0.1%	$ 15,450	0.1%	$ 15,914	0.1%	$ 16,391	0.1%	$ 16,883	0.1%
Dues & Subscriptions	$ 2,000	$	2,000	0.0%	$ 2,060	0.0%	$ 2,122	0.0%	$ 2,185	0.0%	$ 2,251	0.0%
Equipment Rental				0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Legal & Accounting	$ 60,000	$	15,000	0.1%	$ 15,450	0.1%	$ 15,914	0.1%	$ 16,391	0.1%	$ 16,883	0.1%
Licenses & Permits	$ 5,000	$	5,000	0.0%	$ 5,150	0.0%	$ 5,305	0.0%	$ 5,464	0.0%	$ 5,628	0.0%
Office Supplies	$ 10,000	$	8,000	0.1%	$ 8,240	0.1%	$ 8,487	0.1%	$ 8,742	0.1%	$ 9,004	0.1%
Payroll Fees	$ 1,000	$	2,400	0.0%	$ 2,472	0.0%	$ 2,546	0.0%	$ 2,623	0.0%	$ 2,701	0.0%
Printing & Production	$ 12,000	$	12,000	0.1%	$ 12,360	0.1%	$ 12,731	0.1%	$ 13,113	0.1%	$ 13,506	0.1%
Professional Fees	$ 50,000	$	15,000	0.1%	$ 15,450	0.1%	$ 15,914	0.1%	$ 16,391	0.1%	$ 16,883	0.1%
Repairs & Maintenance	$ -	$	25,000	0.2%	$ 25,750	0.2%	$ 26,523	0.2%	$ 27,318	0.2%	$ 28,138	0.2%
Supplies	$ -	$	-	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Security	$ 30,000	$	75,000	0.5%	$ 77,250	0.5%	$ 79,568	0.5%	$ 81,955	0.5%	$ 84,413	0.5%
Training	$ 20,000	$	10,000	0.1%	$ 10,300	0.1%	$ 10,609	0.1%	$ 10,927	0.1%	$ 11,255	0.1%
Trash Removal	$ 10,000	$	20,000	0.1%	$ 20,600	0.1%	$ 21,218	0.1%	$ 21,855	0.1%	$ 22,510	0.1%
Uniforms	$ 3,000	$	7,500	0.1%	$ 7,725	0.1%	$ 7,957	0.1%	$ 8,195	0.1%	$ 8,441	0.1%
Total Variable Expenses	$ 263,000	$	277,900	1.9%	$ 286,237	1.9%	$ 294,824	1.9%	$ 303,669	1.9%	$ 312,779	1.9%
Total Expenses	$ 746,727	$	1,396,560	9.5%	$ 1,442,157	9.5%	$ 1,489,196	9.5%	$ 1,537,721	9.6%	$ 1,587,779	9.6%
Net Operating Income	$ (746,727)	$	6,696,423	45.6%	$ 6,889,316	45.5%	$ 7,087,836	45.4%	$ 7,292,147	45.4%	$ 7,502,422	45.3%
Federal tax (21%)	-		1,699,527		1,749,609		1,801,177		1,854,272		1,908,942	
Mass State income tax (8%)	-		647,439		666,518		686,162		706,389		727,216	
Mass excise tax (10%)	-		1,323,032		1,362,784		1,403,647		1,445,756		1,489,129	
Mass sales tax (7%)	-		926,150		953,935		982,553		1,012,030		1,042,390	
Mass host community tax (3%)	-		396,922		408,829		421,094		433,727		446,739	
Sales Taxes Collected (20%)	-		(2,646,144)		(2,725,528)		(2,807,294)		(2,891,513)		(2,978,258)	
Business Income Tax	$ -	$	2,346,965		$ 2,416,127	$	2,487,339	$	2,560,662	$	2,636,138	
Free Cash AFTER TAX for Distribution	$ (746,727)	$	4,349,458	30%	$ 4,473,189	30%	$ 4,600,463	29%	$ 4,731,486	29%	$ 4,866,264	29%

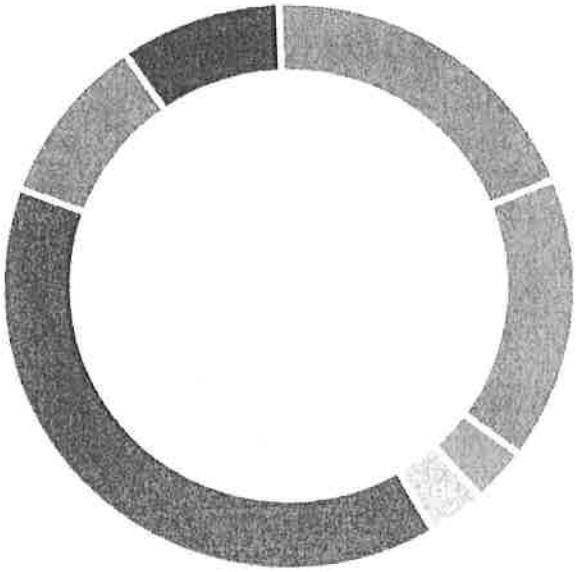
5 year cash return	$ 22,274,167
Original Investment	1,800,000
Gain	20,474,167
IRR	135%

SOURCES AND USES

Funding Sources	
Investor Group Capital	$ 1,800,000
Total Sources	$ 1,800,000

Uses	
1. Build-out	$ 300,000
2. Furniture, Fixtures & Equip.	$ 250,000
3. Soft Costs/ Licenses	$ 50,000
4. Professional Fees	$ 50,000
5. Operating Capital/Payroll	$ 600,000
6. Management Fee	$ 150,000
7. Contingency	$ 140,000 *
Total Uses	$ 1,540,000

*Encompasses construction contingency as well as unforeseen opex



- 1. Build-out
- 2. Furniture, Fixtures & Equip.
- 3. Soft Costs/ Licenses
- 4. Professional Fees
- 5. Operating Capital/Payroll
- 6. Management Fee
- 7. Contingency

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Section 3, Question 4

Business Plan

Contents

Executive Summary

In 2016 Massachusetts voted "Yes" on Article 4 paving the way for recreational cannabis in the state and setting the stage for an estimated $2B+ industry. As of December 1st, 2018 only 2 recreational dispensaries have opened. Complex legislation, lack of viable real estate, and other high barriers to entry have drastically hindered the ability for both large and small firms to open cannabis businesses across the state. That being said, those who do gain access to a cannabis permit will benefit greatly. To put it in perspective, according to a report by Marathon Strategies, as of 2014 there were 1,900 liquor stores across the commonwealth. The Massachusetts Cannabis Control Commission has recommended each town have only 1 cannabis store for every 5 liquor stores and many towns have already outright banned the sale of cannabis altogether. Instead of having an average customer base of 3,498 people per store like the alcohol industry, the average cannabis store will have an average customer base between 15,000 to 20,000.

Eskar LLC was created to capitalize on such an opportunity. The company is founded by Mr. Michael Hunnewell, a local Massachusetts resident with an education in biology and over 15 years of experience in high tech enterprises. Mr. Hunnewell ventured into this new and exciting field early to rezone over 26 acres of land in Northbridge, MA for cannabis production and sale. This is now one of the largest cannabis zones in the state. Just getting started, he has assembled a team of the brightest experts in cannabis cultivation, supply chain management, strain genetics, commercial real estate, and local government relations to create a small network of cannabis dispensaries across the state. Mr. Hunnewell's team includes several high profile personnel. Nicholas Zitelli, the Chief Cannabis Officer for High Times Holdings; Gregg Nolan of The Nolan Group, who's group brought the Wynn Casino to Boston along with several of the first cannabis licenses to the state; and Michael Aldi, one of the most influential property managers in the city of Boston and North Shore area. These are just a few of the core team members assembled to tackle this task.

Currently, Eskar has been awarded a Host Community Agreement (HCA) for a retail permit in the town of Northbridge, MA. Looking ahead, the company has also identified other potential locations for their final 2 recreational dispensaries around the greater Boston area. This summary focuses on establishing a retail location in Arlington, Massachusetts.

Products and Services

Eskar will provide various types of cannabis including; buds, oils, and various edible products. In order to reduce overhead costs, Eskar will focus on recreational products only. Unlike many of the commercial firms in the market already, Eskar doesn't plan to establish a large cultivation facility. Instead, the retail stores will sell the bulk of their products from a variety of growers and vendors in the market. This is a radical departure compared to the traditional firms in the market today. Many of the large firms are vertically integrated, mostly selling the product they grow themselves. This severely limits the variety of options for the customer. This approach is effective in the early years of legalization since there are very few alternatives for the customer to go to. However, as time goes by, the consumer will become much more educated and have more options for stores to

purchase their products from. Eskar plans to use product diversity as a selling point to the consumer.

Team

Michael R. Hunnewell: Sales, Operations

Michael Hunnewell has over 10 years of government contracting expertise and over 15 years experience in high tech, cutting-edge industries. In 2018 Mr. Hunnewell was able to rezone 26 acres of residential land in Northbridge, MA to industrial for cannabis use, making this one of the single largest pieces of cannabis real estate in the Commonwealth of Massachusetts. Prior to his work founding Eskar, Mr. Hunnewell worked in defense & aerospace, acquiring individual government contracts of over $4M each alongside commercial orders earning over $1M each. Mr. Hunnewell tripled shareholder value over a 3-year period for his firm while also opening up global distribution channels to increase sales. From his time in the defense sector, Mr. Hunnewell has garnered extensive experience in handling sensitive information and products. Metamagnetics, Mr. Hunnewell's previous employer, holds a SECRET level organization clearance and recently spent over $100K in 2019 alone updating their security protocols. Mr. Hunnewell has also worked diligently with the firm's supplier group to make sure Metamagnetics was in compliance with defense manufacturing standards (i.e. ISO9000) and the firm is now an approved supplier to some of the largest defense firms in the world including Lockheed Martin and Raytheon. Mr. Hunnewell received his B.A. in biology from Boston College and his MBA from Northeastern University with a concentration in innovation for high tech industries. He attended graduate school on academic scholarship.

Michael Aldi: Real Estate Holdings, Capital Management

Michael Aldi has over a decade of experience in both the real estate and hospitality industry. In his role as Eskar LLC's head of Real Estate Development and Investor Relations, Mr. Aldi is responsible for all the company's capital raising initiatives and site selection activities. Mr. Aldi is responsible for managing the preparation of complex financial forecasts in addition to conducting in- depth market research for the team's prospective locations. Mr. Aldi has experience in all facets of site selection, lease negotiation, general contracting/construction management, and capital structuring/financing. Mr. Aldi also has experience underwriting structuring opportunities for his family's portfolio of hospitality and real estate investments. Mike graduated from Suffolk University, with a B.A. in Communications and a Minor in Business Management.

Raymond Bershtein: Legal Counsel

Raymond Bershtein's law practice extends to real estate, banking, general business matters, municipal tax liens, finance, health care transactions, trusts and estates and philanthropic governance and administration. Ray represents institutional and individual clients across the real estate spectrum. His considerable real estate experience includes the acquisition, development, permitting, financing, leasing and disposition of retail, office, residential, medical and industrial projects on behalf of developers, investors, owners, tenants and lenders. He has substantial experience negotiating, restructuring, and when necessary litigating issues related to indebtedness

incurred in connection with distressed real estate and other businesses. These responsibilities have included the analysis and implementation of a variety of strategies designed to maximize recovery in litigation, arbitration, bankruptcy, regulatory, and other proceedings. Ray advises a variety of entities, families and entrepreneurs regarding business formation, acquisition, disposition, capitalization, dispute resolution, ownership, employment, succession and related issues. Ray also serves as trustee for a number of clients.

Nicolas Zitelli: Product and Genetics (Consultant)

Nicholas Zitelli is an owner, Director, and Chief Cannabis Officer of High Times Holdings (formerly Trans-High Corporation), parent company for all High Times brands, including media and event platforms. High Times was founded in 1974 and is the longest running and most well-known media company in the world that is solely dedicated to covering all and any of the bases regarding marijuana. Mr. Zitelli is very well versed on local medicinal, adult use marijuana policies, and compliance issues in the states of California, Colorado, Michigan, and Washington, leading to several appointments to consult with state officials on marijuana legislation, implementation, and compliance strategies.

Sheldon Aberman: Engineering (Consultant)

In 2011, Mr. Aberman's hydroponic distribution company, Amerinada, merged with R&M Supply making his firm one of the largest manufacturers and distributors of hydroponic equipment in the United States. This company has distribution operations in 5 states and over 150 employees. Mr. Aberman went on to design thousands of cultivation and manufacturing facilities around the world, ensuring compliance with local ordinances and government legislation, earning him a reputation as one of the world's foremost experts on commercial cannabis cultivation and manufacturing implementation. In September of 2014, Mr. Aberman joined the Canadian Cannabis Corporation (OTC: CCAN) as their CIO in charge of design, implementation, and operations of their 312,000 sq. ft. cultivation center just outside of Toronto, Ontario, Canada.

Market Overview

North American Cannabis Market

Although the federal government still considers the use of cannabis a criminal offence, more than half the states in the US have legalized marijuana in some form. Most states sell cannabis for medicinal purposes only, often broadly defined. However, states like Alaska, California, Colorado, Maine, Nevada, Massachusetts, Oregon, and Washington have gone further, legalizing the recreational use. Legal cannabis is more expensive than the black-market variety, but it is better value; three times more potent and only about 50% more expensive[1].

Legal cannabis sales reached almost $10 billion in North America in 2017, in a new report from cannabis industry analysts.[2] This represents an unprecedented 33% increase over 2016. The report further predicts the entire legal cannabis market to reach $24.5 billion in sales – a 28% annual growth rate by 2021 – as more states legalize cannabis for recreational use and existing markets mature.

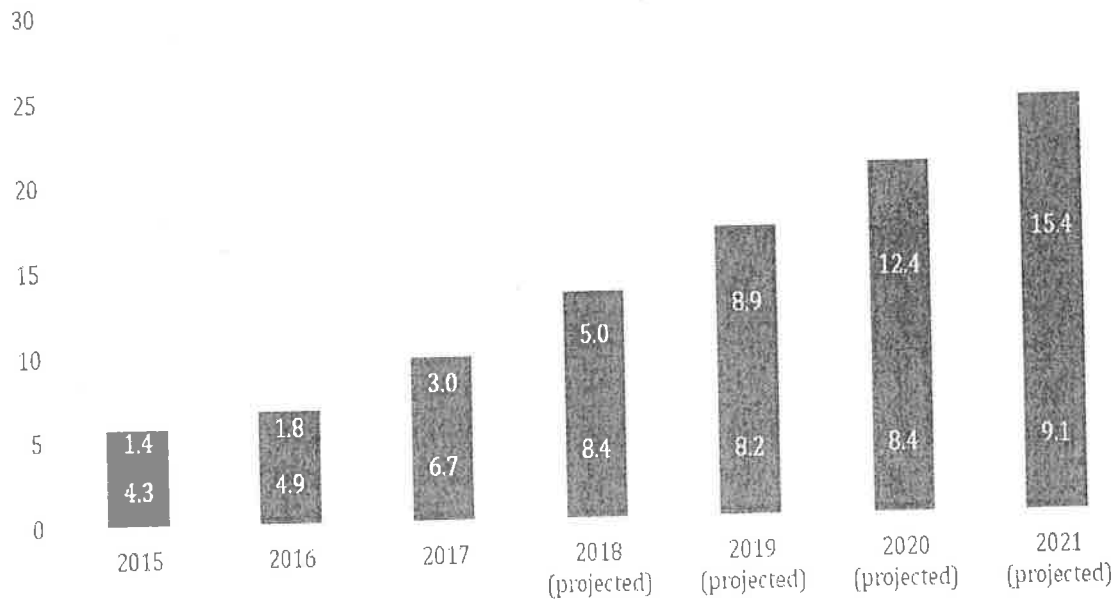

Figure 1. Medical and recreational cannabis sales forecast, billion $

60% of the U.S. population lives within states that have legalized some form of cannabis use and sales, illustrating the rising acceptance of cannabis nationwide and highlighting the industry's immense potential for future growth. On November 9, 2016 three new states approved cannabis

[1] http://www.economist.com/blogs/graphicdetail/2016/02/daily-chart-10

[2] Arcview Market Research in partnership with BDS Analytics

for medicinal use; Arkansas, Florida, and North Dakota. Four others that already had medical cannabis laws, legalized recreational. New markets could create $7B to $8B in additional retail revenue for the industry, according to estimates by Marijuana Business Daily.

As of January 2018, there are 30 states that allow cannabis for medical use, 16 states allow Cannabidiol (CBD), 9 States and the District of Columbia now allow for recreational cannabis use. There are 9,397 active licenses for cannabis businesses in the U.S., according to Ed Keating, chief data officer for Cannabiz Media, which tracks cannabis licenses. This includes cultivators, manufacturers, retailers, distributors, deliverers and test labs.

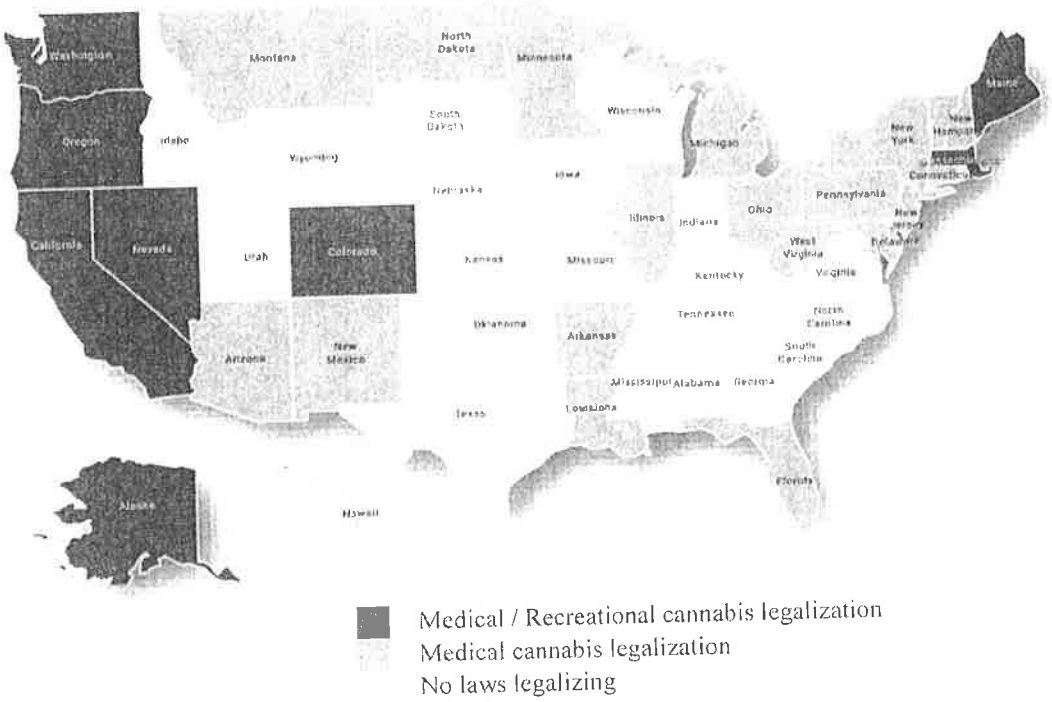

Figure 2: U.S. legalization map. Thirty states and the District of Columbia currently have laws legalizing marijuana in some form.

The industry employed 121,000 people in 2017. If cannabis continues its growth trajectory, the number of workers in that field could reach 292,000 by 2021, according to BDS Analytics. The passage of initiatives in California, Nevada, Massachusetts, Maine, Florida, Arkansas, Montana, North Dakota, and West Virginia will add $7.4 billion to the 2021 market forecast bringing the overall market projection for legal adult-use and medical sales in North America to $24.5 billion by 2021. That would bring the compound annual growth rate (CAGR) to 28%.

Massachusetts Market Analysis

Total cannabis spending worldwide is expected to hit $57B by 2027, of which 67% of the market will come from recreational purchases.[3] In the U.S., firms are racing to establish themselves in the market with deep pockets from financial backing. The legal cannabis industry raised more than $1 billion in funding in 2016, and *Marijuana Business Daily* estimated that there were 21,000–33,000 legal cannabis businesses operating in the U.S. last year.[4] Legalization in Massachusetts will open the door to 6.8 million people with a state GDP of $507B.

In 2016, Massachusetts residents voted to legalize recreational cannabis. While cannabis is technically legal at the moment, recreational sales have been slow due to the severe delay in issuing permits for retail stores. Many local town governments/municipalities have voted to either ban or place a moratorium on recreation marijuana sales. This has led to less than 10 stores being open across the entire state in May 2019. This creates an opportunity for firms still looking to enter the market like Eskar. Those who can obtain the permit may be the only retailer within miles for customers, even in denser cities near Boston.

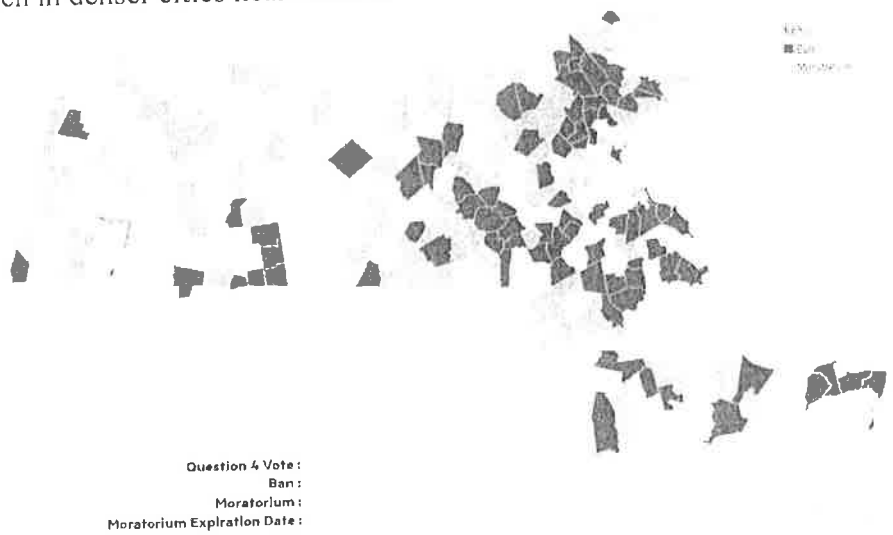

Figure 3 Map of Massachusetts outlining zoning laws on recreational cannabis sales by town. As of October 31st, 2018

2.4M voters in the state of Massachusetts voted in favor or legalization. If we assume those voters will become cannabis consumers, we start to understand just how large this market is. If these voters spend $100 a month, well below the Colorado average, the Massachusetts market is estimated around $2.8B. If the average consumer spends $175 a month, the market balloons to $5B.

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[3] https://www.foESKARes.com/sites/thomaspellechia/2018/03/01/double-digit-billions-puts-north-america-in-the-worldwide-cannabis-market-lead/#24341c866510

[4] https://www.fungglobalretailtech.com/research/deep-dive-us-cannabis-economy-fast-growing-industry-facing-regulatory-concerns/

To help speed the implementation of recreational cannabis across the state, the Cannabis Control Commission (CCC) released guidelines and regulations for local municipalities to implement in their respective towns. One of the guidelines was to regulate the number of cannabis stores each town should have. The CCC recommended the number of cannabis stores should be "20% the number of liquor stores." This puts tremendous leverage in cannabis retailer's hands. Below is a table of the average number of customers a liquor store has in various states across the US.

LIQUOR STORE DENSITY COMPARISON

OTA STATE LIQUOR RETAIL DATA

State	Population	Quota Per Capita	Stores	Pop Per Store
Alaska	731,449	1/3000	101	**7242**
Arizona	6,553,255	varies locally	1466	**4470**
Arkansas	2,949,131	1/4000	318	**9274**
California	38,041,430	1/2500	13806	**2755**
Florida	19,317,568	1/7500	1367	**14131**
Indiana	6,537,334	1/3500	359	**18210**
Kentucky	4,380,415	1/2300	914	**4793**
Massachusetts	6,646,144	1/2000	1900	**3498**
Michigan	9,883,360	1/3000	1581	**6251**
Montana	1,005,141	1/1500	96	**10470**
New Jersey	8,864,590	1/3000	2260	**3922**
New Mexico	2,085,538	1/2000	95	**21953**
Ohio	11,544,225	varies locally	837	**13792**
Pennsylvania	12,763,536	1/3000	600	**21273**
South Dakota	833,354	1/1500	75	**11111**
Utah	2,855,287	1/4925	144	**19828**
Washington	6,897,012	1/1200	1400	**4926**
Wyoming	576,412	1/3000	100	**5764**
Average				**10204**

Figure 4: Above is a table of the average customer base for a liquor store by state. Data provided by Marathon Strategies.

Per the chart, the average population per liquor store in Massachusetts is 3,498. Due to the 20% store limit for cannabis shops, we can assume the average cannabis retail location will have access to a population of 20,000 people. This doesn't even take into consideration the fact that many towns across the state have band cannabis sales in their town. Combined with an influx of tourists from other states nearby where cannabis is illegal, the population could climb to 40,000. With online delivery illegal right now, the retail locations hold the majority of access to the market. This is why Eskar's focus will be on gaining retail permits.

Due to the extreme supply and demand dynamics in the state, there is a risk of a major boom followed by a crash in profitability for those looking to cultivate marijuana. In the first year or so of the market, there will be an extremely limited number of vendors allowed to grow. As more firms are approved by the state, the price per pound of dried cannabis will quickly begin to fall. When recreational cannabis first started selling in Colorado in 2013, the price per pound was around $3,000. 5 years later, the price has dropped to around $1,000 per pound. We can see similar effects have happened in other states like Washington.

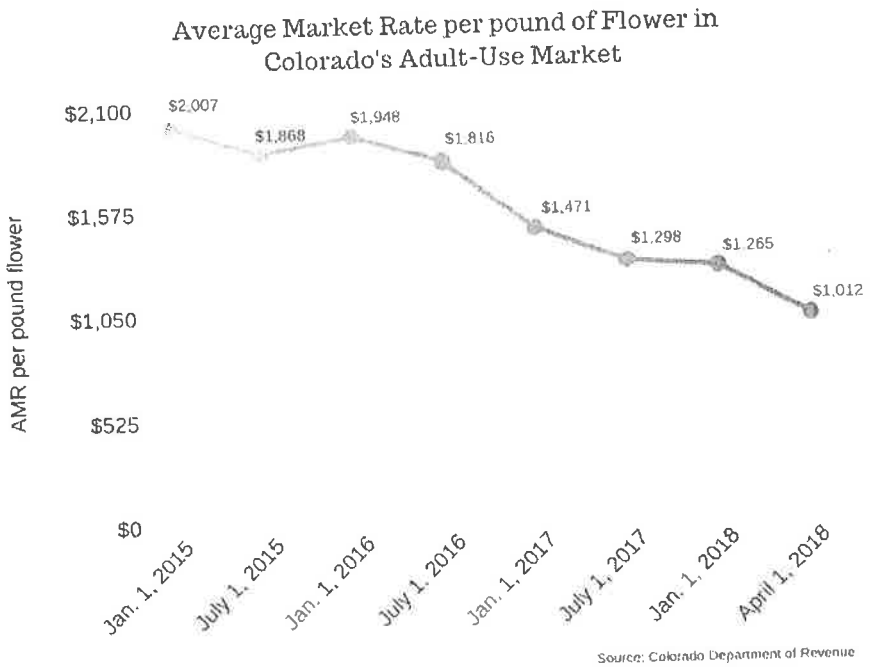


Figure 5: Graph of the price per pound of commercial cannabis in the state of Colorado over a 3 year period

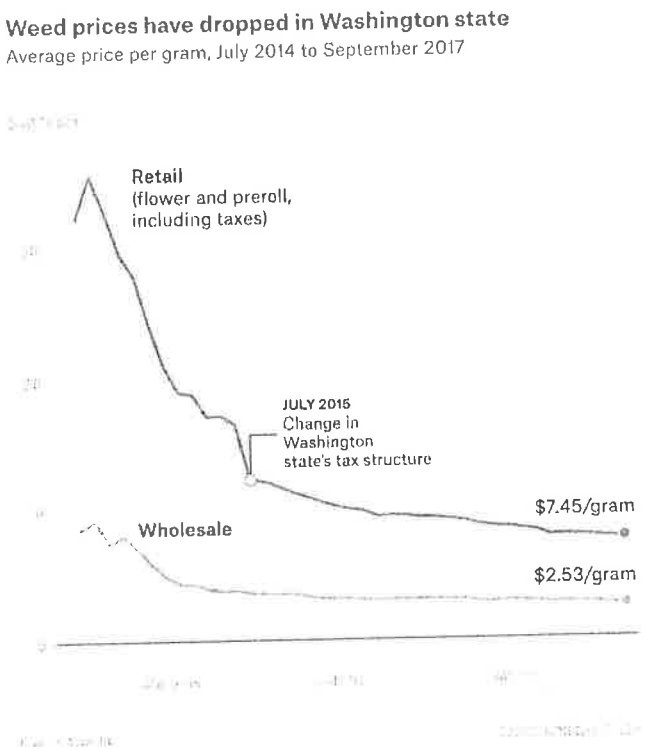


Figure 6: Washington State data on price per gram of cannabis from 2014 to 2017.

This effect will strictly depend on how tightly Massachusetts looks to regulate the market. In the event the state takes a very loose policy on regulation, it highlights two critical action items for smaller operations hoping to be successful in cannabis wholesale. One, if the firm is looking to grow, it is imperative to get the cultivation operation up and running as soon as possible to quickly recoup the initial high start-up costs needed to enter the market. Profitability may be 2X more in the first few years compared to 3 years or more after the first marijuana cultivator is approved. Two, growers will want to stay in the premium market to avoid the inevitable race to the bottom in pricing. High end products have proven to be more price inelastic to supply and demand shifts. Larger firms who have already established in, and even outside the state, will eventually move in and commoditize the product. Eskar has no interest in competing in this white space and will take several initiatives to shield themselves from this sector of the market. The potential market crash also reemphasizes the need to establish retail. By establishing retail, the firm will be able to protect themselves from market crashes and even benefit from the lower wholesale prices. In the short term, it also means Eskar will not be pursuing a large cultivation facility.

Consumer Behavior

Colorado, who's market surpassed $1.5B in 2016, has been able to provide a significant amount data on consumer behavior in the cannabis industry. This helps us gain a better understanding of

the total potential market value. As seen in the graph below, over half of the consumer cannabis population in Colorado spends $200 or more a month. It should be noted, the data doesn't show just how much the consumer spends in the "$50 or less" or the "more than $300" category. With this understanding, Eskar estimates the average consumer spends about $175 a month.

Amount Spent Monthly on Cannabis

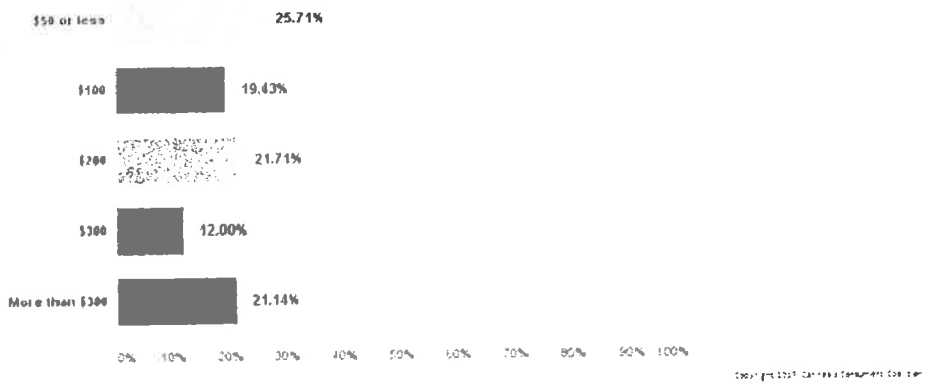


Figure 7: State data from Colorado showing the average spend rate of a cannabis consumer.

This is a critical metric for projecting future retail sales in Massachusetts. So, what is the average cannabis consumer buying? For one, we are seeing a significant shift away from traditional flower products. With the rise of vape products and better consistency of THC dosage in edibles, the average cannabis user is shifting away from tradition consumption methods. This trend is reflected in the chart below.

It's not just 'bud' anymore

Monthly pre-tax retail sales in Washington state by product type, July 2014 to September 2017

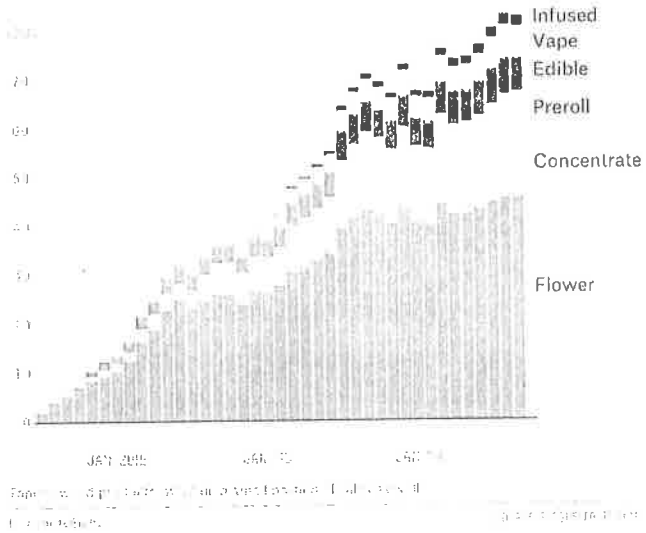
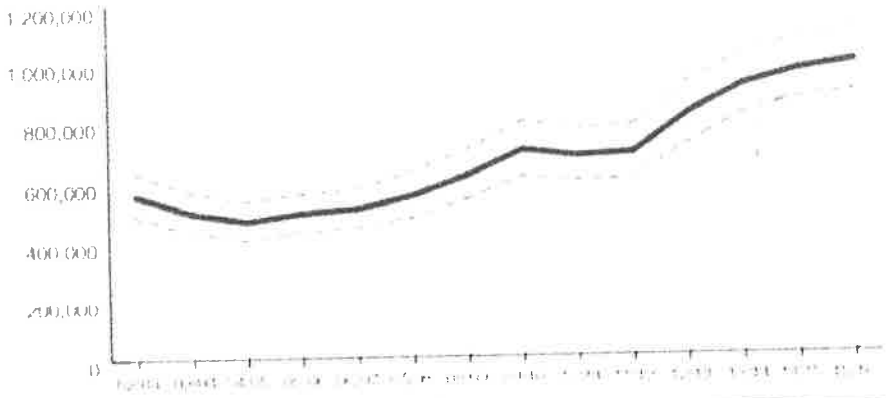


Figure 8: Graph of consumer preference of cannabis products. Notice the shift away from flower to other products like edibles.

Appendix Figure 1: Colorado Past-Year and Past-Month Adult Marijuana Consumers



Source: SAMHSA NSDUH 2002/03-2015/16 Population Estimates

Figure 9: Colorado data on the number of cannabis users over the years. Recreational use became legal in 2012.

Along with user preference changing compared to the "traditional" mold, we can also expect to see more users entering the market as legalization continues. We have seen in states where recreational cannabis has been legal for several years now, the percentage of consumers in those states continue to increase. This gives Eskar confidence in extrapolating the number of cannabis consumers in the market based on voters' numbers. All this lays the ground work for a consumer base that is hungry for product and will continue to grow in numbers for years to come. Even the crash of wholesale prices will continue to fuel retail sales as more consumers leave the black market for legal competitive products.

Mobilization Plan

Pre-Permit Rollout

Eskar is well under way to attain all of the prerequisites for retail permits in Massachusetts. It estimates that by April 2020 it will have approval by the Massachusetts Cannabis Control for its first retail dispensary, approval for the processing permit, and their 2nd & 3rd retail locations should be complete by June 2020.

Before Eskar can apply for their permits they must complete the following steps:

1. Control of real estate for its intended use
2. Confirm property meets the town zoning requirements
    a. Achieve variances if the property fails the zoning requirements
3. Confirm location has the support of the local municipality
4. Letter of Intent from property manager where the firm seeks to operate
5. Host community forum
6. Sign Community Host Agreement
7. Finish confirmation of compliance with local zoning (Special permit if needed)
8. Finish state submission packet

Steps 1-4 don't necessarily happen in chronological order. It should also be noted Step 6 is the most critical step in this process. The host community agreement (HCA) is a document in which the town and marijuana business outline the terms and payments the business needs to uphold if it wishes to operate in the town. This may be in the form of a 3% sales tax, which goes directly to the town, or an agreement to operate within certain business hours. Upon signing the document, the business may start the permitting process with the state for their license. The town will not sign more HCAs than it plans to issue permits. This means once an HCA is obtained, the business has a high probability of obtaining a permit.

The Massachusetts Cannabis Control Commission (MCCC) caps the number of retail permits (locations) for any business entity at 3. Firms may have a 9.9% equity stake in additional retail firms beyond their 3 stores, but it may not have "control" of those additional firms. The definition of control is being hotly debated right now. In March of 2019, the Boston Globe published an article highlighting several firms violating the "3 Permit Rule." Worse, the firms in question were bragging to investors how they have tried to exploit loopholes in the law. This has caused the state licensing authority to highly scrutinize future permits. Eskar hopes to gain it's second permit in Arlington leaving the potential for one more store somewhere in the commonwealth.

Post-HCA Rollout

As permits are approved by the Cannabis Control Commission, Eskar will then begin the detail, design, and engineering for the retail locations. The engineering and design timeline will take 90 days to prepare all the required documents for permitting. The permitting approval process for

towns like of Northbridge and Boston is estimated to take another 90 days once the permit applications are submitted. Arlington's special permit process is different from most towns in Massachusetts. However, the town has provided guidance stating Eskar should expect to wait about 1 year before opening its door if it is selected to move forward with the permitting process.

Typical Retail Permitting Requirements: (See Permitting Process Section for full Outline)

- Final Engineered Construction Documents (CD's)
- Final Architectural and Engineering CD's
- Dry Utility Coordination (Electrical, Telephone, Natural Gas)
- Administrative Code Compliance Review (By Municipality)
- Calculation of Permit, Review, and Impact Fees

Retail Timeline

- Detail Engineering Complete: Month 3
- Permit Applications Submitted: Month 4
- Permit Applications Approved: Month 6
- Begin Construction: Month 7
- Complete Construction: Month 9
- Hardware & Software Systems Installed: Month 10
- Security Systems Installed: June Month 11
- C/O: Month 11
- Store Open for Business: Month 12

Retail Hiring Plan:

Eskar will begin the recruiting process for critical retail personnel in May 2020. We expect a 60 days recruitment process and 30 days for the Cannabis Control Commission to conduct background checks. As long as personnel receive their licenses to work in the facility, they will start full time in June 2020. As Eskar doesn't plan to have the certificate of occupancy for the facility until May 1, 2020 personnel will meet offsite where they will go through extensive onboarding and management training that includes the following subject matter:

Onboarding

- Distribute on boarding package and Employee Handbook
- Review Employee Policies & Procedures with Employees
- Employee Sign off of Policies & Procedures and Employee Handbook
- HR Paperwork

Employee Training

- Safety & Health
- CCC Compliance
- Role & Responsibilities
- Management Training
- Security Protocols

- Leadership Training (where applicable)
- Diversity
- Workplace Harassment policy

Employee Training

Eskar's team has experience implementing staff training programs necessary to mitigate the risk of sale of alcohol to minors as well as best practices for the avoidance of legal issues related to violations of Massachusetts State Liquor Laws. Mr. Aldi will be able to leverage this experience as well as his strong track record of compliance in order to enforce the similar guidelines necessary to regulate the sale of retail cannabis.

All dispensary employees will go through a comprehensive training. The program incorporates the Commonwealth of Massachusetts requirements and regulations including background checks, as well as new-hire training and continuing education protocol.

The training program will include the following:

Legal - We will distribute a worksheet regarding the state of the law as well as include a section in our manual and SOP's addressing the law, compliance, and law enforcement interaction.

Processing and Storage - This will outline the procedures regarding how medicine will be received, handled, and stored safely.

Accounting and Cash Procedures - This will include training on the Point of Sale, how to manage cash, accounting, and banking procedures.

Inventory Control Plan – This will spell out how Pharm House will address inventory and includes protocols to ensure operational consistency and proper compliance with the Commonwealth of Massachusetts.

Emergency Procedures - Will provide the specific protocols in case of medical, police or other emergencies to ensure rapid response involving the appropriate personnel and/or outside authorities.

Security - Patient, worker, and neighborhood security is our highest priority. As discussed more fully in our Security Plan, we institute state-of-the-art security procedures to take advantage of the security industry's best practices and most up-to-date technology. This will ensure that our dispensary facility operates at the highest level of legal compliance and security preparedness

Inventory Management

Eskar's attached business plan is the result of working directly with leaders in the Cannabis cultivation and distribution network nationally. All cost of goods sold (COGS) information was derived through consultation with members of the team at Revolutionary Clinics, who are leaders in the Medical cannabis space in Massachusetts.

Additionally, advisors and members of the Eskar team include real estate, legal, economic, and investment professionals, who manage all capital raising, cash-flow/economic modeling, and investor relation initiatives. Our analyst has conducted demographic and market demand studies in order to determine initial demand and procurement needs by product type. Based on our team's relationship with current operators in the cannabis industry, our analytics leverage the data already available from markets in the western U.S. that have been operating for several years.

In order to comply with all inventory tracking issues, Eskar has already begun exploring software options to aid in point-of-sale entries that integrate with the tracking of inventory and compliance with METRC. The strongest technology platform identified is called TREEZ.

TREEZ is an enterprise quality retail management software powering the leading dispensaries in the United States. As a trusted provider for the industry's most reputable cannabis businesses, TREEZ is used to manage over $1B in sales transactions annually. This platform is created in order to help ensure constant compliance with state Track-and-Trace systems such as the METRC, essentially offering "seed-to-sale" traceability that Auto-updates to reflect current state regulations, keeping Eskar compliant.

In order to manage inventory, Eskar's team will be able to leverage current technologies in order to employ an inventory scanning and logging program that efficiently catalogues each inventory item in real-time upon delivery. This system will also link to point-of-sale terminals, creating one continuous tracking loop. Given that Mr. Aldi has extensive experience in procurement and inventory management within the bar/restaurant industry, he will be able to leverage these best practices used in his restaurants in order to streamline the management of cannabis inventory and sales.

Arlington Overview

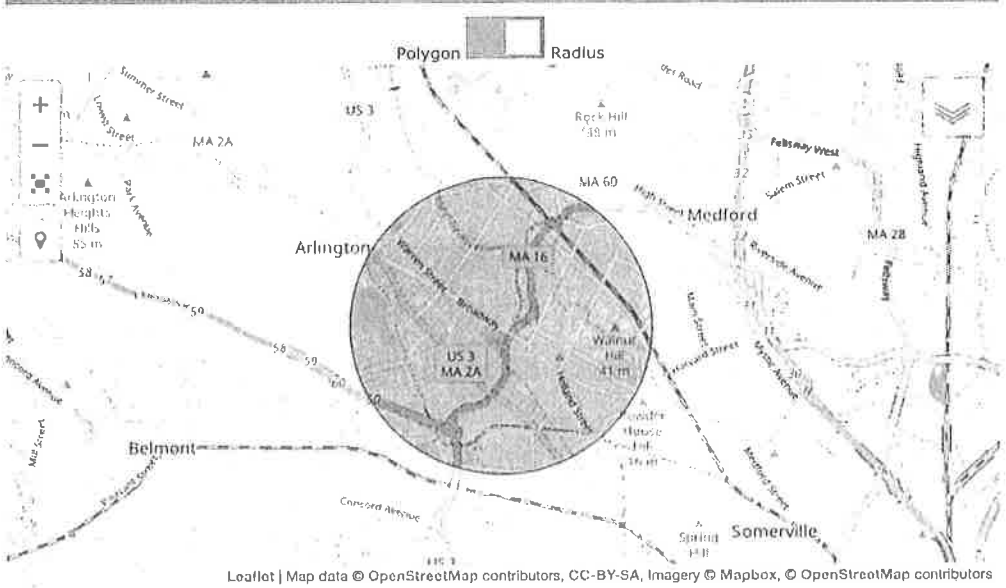
Arlington

Stages of Permit Process

Part of Process	Completed
Control of Property	X
Confirmed Approved Zoning	X
Local Municipality Approval	X
Signed LOI	
Host Community Forum	
Sign Community Host Agreement	
Obtain Special Permit	
State Application Complete	

Population Density

Population Inside a Area Search Map



Input

Add Radius manually : Radius 1.6093 km OR 1.00 miles Location : Search...

Output

The estimated population in the defined area is 61,250

Financials

Profit & Loss Forecast (5 Years)

	Year 1		Year 2		Year 3		Year 4		Year 5	
	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income	Total	% of Income
Income										
Flowers	$ 6,272,000	#NAME?	$ 6,460,160	64.0%	$ 6,653,965	64.0%	$ 6,853,584	64.0%	$ 7,059,191	64.0%
Concentrates	$ 2,597,000	26.5%	$ 2,674,910	26.5%	$ 2,755,157	26.5%	$ 2,837,812	26.5%	$ 2,922,946	26.5%
Edibles	$ 833,000	8.5%	$ 857,990	8.5%	$ 883,730	8.5%	$ 910,242	8.5%	$ 937,549	8.5%
Topicals	$ 98,000	1.0%	$ 100,940	1.0%	$ 103,968	1.0%	$ 107,087	1.0%	$ 110,300	1.0%
		0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Total Sales	$ 9,800,000	100.0%	$ 10,094,000	100.0%	$ 10,396,820	100.0%	$ 10,708,725	100.0%	$ 11,029,986	100.0%
Total Income	$ 9,800,000	100.0%	$ 10,094,000	100.0%	$ 10,396,820	100.0%	$ 10,708,725	100.0%	$ 11,029,986	100.0%
Cost of Goods Sold										
Flowers	$ 2,473,706	25.2%	$ 2,547,917	25.2%	$ 2,624,355	25.2%	$ 2,703,085	25.2%	$ 2,784,178	25.2%
Concentrates	$ 967,750	9.9%	$ 996,783	9.9%	$ 1,026,686	9.9%	$ 1,057,487	9.9%	$ 1,089,211	9.9%
Edibles	$ 416,500	4.3%	$ 428,995	4.3%	$ 441,865	4.3%	$ 455,121	4.3%	$ 468,774	4.3%
Topicals	$ 45,733	0.5%	$ 47,105	0.5%	$ 48,518	0.5%	$ 49,974	0.5%	$ 51,473	0.5%
		0.0%		0.0%		0.0%		0.0%		0.0%
	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Total Cost of Goods Sold	$ 3,903,689	39.8%	$ 4,020,800	39.8%	$ 4,141,424	39.8%	$ 4,265,667	39.8%	$ 4,393,637	39.8%
Gross Profit	$ 5,896,311	60.2%	$ 6,073,200	60.2%	$ 6,255,396	60.2%	$ 6,443,058	60.2%	$ 6,636,350	60.2%
Expenses										
Fixed Expenses										
Credit Card Fees		0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Insurance Expense										
Health	$ 10,000	0.1%	$ 10,200	0.1%	$ 10,404	0.1%	$ 10,612	0.1%	$ 10,824	0.1%
Liability	$ 20,000	0.2%	$ 20,400	0.2%	$ 20,808	0.2%	$ 21,224	0.2%	$ 21,649	0.2%
Workers Comp	$ 20,000	0.2%	$ 20,400	0.2%	$ 20,808	0.2%	$ 21,224	0.2%	$ 21,649	0.2%
Total Insurance Expense	$ 50,000	0.5%	$ 51,000	0.5%	$ 52,020	0.5%	$ 53,060	0.5%	$ 54,122	0.5%
Payroll Expenses										
Counter Staff/Cashiers	$ 240,000	2.4%	$ 247,200	2.4%	$ 254,616	2.4%	$ 262,254	2.4%	$ 270,122	2.4%
Bonus	$ 10,000	0.1%	$ 10,300	0.1%	$ 10,609	0.1%	$ 10,927	0.1%	$ 11,255	0.1%
Management	$ 260,000	2.7%	$ 267,800	2.7%	$ 275,834	2.7%	$ 284,109	2.7%	$ 292,632	2.7%
Stock Room Staff/ BOH	$ 80,000	0.8%	$ 82,400	0.8%	$ 84,872	0.8%	$ 87,418	0.8%	$ 90,041	0.8%
Payroll Taxes	$ 30,000	0.3%	$ 30,900	0.3%	$ 31,827	0.3%	$ 32,782	0.3%	$ 33,765	0.3%
Management Fee	$ 150,000	1.5%	$ 154,500	1.5%	$ 159,135	1.5%	$ 163,909	1.5%	$ 168,826	1.5%
Total Payroll Expenses	$ 770,000	7.9%	$ 793,100	7.9%	$ 816,893	7.9%	$ 841,400	7.9%	$ 866,642	7.9%
Rent Expense	$ 90,000	0.9%	$ 92,700	0.9%	$ 95,481	0.9%	$ 98,345	0.9%	$ 101,296	0.9%
Percentage Rent	$161,700		$ 166,551		$ 171,548		$ 176,694		$ 181,995	
CAM/ Real Estate Taxes	$ 22,060	0.2%	$ 22,722	0.2%	$ 23,403	0.2%	$ 24,106	0.2%	$ 24,829	0.2%
Total Rent Expense	$ 112,060	1.1%	$ 115,422	1.1%	$ 118,884	1.1%	$ 122,451	1.1%	$ 126,125	1.1%
Utilities										0.0%
Cable	$ 6,000	0.1%	$ 6,180	0.1%	$ 6,365	0.1%	$ 6,556	0.1%	$ 6,753	0.1%
Electric	$ 15,000	0.2%	$ 15,450	0.2%	$ 15,914	0.2%	$ 16,391	0.2%	$ 16,883	0.2%
Gas	$ 15,000	0.2%	$ 15,450	0.2%	$ 15,914	0.2%	$ 16,391	0.2%	$ 16,883	0.2%
Water	$ 10,000	0.1%	$ 10,300	0.1%	$ 10,609	0.1%	$ 10,927	0.1%	$ 11,255	0.1%
Total Utilities	$ 46,000	0.5%	$ 47,380	0.5%	$ 48,801	0.5%	$ 50,265	0.5%	$ 51,773	0.5%
Total Fixed Expenses	$ 978,060	10.0%	$ 1,006,902	10.0%	$ 1,036,599	10.0%	$ 1,067,177	10.0%	$ 1,098,661	10.0%
Variable Expenses										
Advertising/PR	$ 25,000	0.3%	$ 25,750	0.3%	$ 26,523	0.3%	$ 27,318	0.3%	$ 28,138	0.3%
Bank Service Charges	$ 500	0.0%	$ 515	0.0%	$ 530	0.0%	$ 546	0.0%	$ 563	0.0%
Counter Supplies/packaging	$ 200,000	2.0%	$ 206,000	2.0%	$ 212,180	2.0%	$ 218,545	2.0%	$ 225,102	2.0%
Cleaning	$ 42,000	0.4%	$ 43,260	0.4%	$ 44,558	0.4%	$ 45,895	0.4%	$ 47,271	0.4%
CPU & Internet	$ 22,000	0.2%	$ 22,660	0.2%	$ 23,340	0.2%	$ 24,040	0.2%	$ 24,761	0.2%
Contributions	$ 2,000	0.0%	$ 2,060	0.0%	$ 2,122	0.0%	$ 2,185	0.0%	$ 2,251	0.0%
Dues & Subscriptions	$ 2,000	0.0%	$ 2,060	0.0%	$ 2,122	0.0%	$ 2,185	0.0%	$ 2,251	0.0%
Equipment Rental		0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%	$ -	0.0%
Legal & Accounting	$ 20,000	0.2%	$ 20,600	0.2%	$ 21,218	0.2%	$ 21,855	0.2%	$ 22,510	0.2%
Licenses & Permits	$ 5,000	0.1%	$ 5,150	0.1%	$ 5,305	0.1%	$ 5,464	0.1%	$ 5,628	0.1%
Office Supplies	$ 12,000	0.1%	$ 12,360	0.1%	$ 12,731	0.1%	$ 13,113	0.1%	$ 13,506	0.1%
Payroll Fees	$ 5,000	0.1%	$ 5,150	0.1%	$ 5,305	0.1%	$ 5,464	0.1%	$ 5,628	0.1%
Printing & Production	$ 12,000	0.1%	$ 12,360	0.1%	$ 12,731	0.1%	$ 13,113	0.1%	$ 13,506	0.1%
Professional Fees	$ 15,000	0.2%	$ 15,450	0.2%	$ 15,914	0.2%	$ 16,391	0.2%	$ 16,883	0.2%
Repairs & Maintenance	$ 15,000	0.2%	$ 15,450	0.2%	$ 15,914	0.2%	$ 16,391	0.2%	$ 16,883	0.2%
Supplies	$ 25,000	0.3%	$ 25,750	0.3%	$ 26,523	0.3%	$ 27,318	0.3%	$ 28,138	0.3%
Security	$ 160,000	1.6%	$ 164,800	1.6%	$ 169,744	1.6%	$ 174,836	1.6%	$ 180,081	1.6%
Training	$ 10,000	0.1%	$ 10,300	0.1%	$ 10,609	0.1%	$ 10,927	0.1%	$ 11,255	0.1%
Trash Removal	$ 15,000	0.2%	$ 15,450	0.2%	$ 15,914	0.2%	$ 16,391	0.2%	$ 16,883	0.2%
Uniforms	$ 10,000	0.1%	$ 10,300	0.1%	$ 10,609	0.1%	$ 10,927	0.1%	$ 11,255	0.1%
Total Variable Expenses	$ 597,500	6.1%	$ 615,425	6.1%	$ 633,888	6.1%	$ 652,904	6.1%	$ 672,492	6.1%
Total Expenses	$ 1,575,560	16.1%	$ 1,622,327	16.1%	$ 1,670,487	16.1%	$ 1,720,081	16.1%	$ 1,771,153	16.1%
Net Operating Income	$ 4,320,751	44.1%	$ 4,450,873	44.1%	$ 4,584,910	44.1%	$ 4,722,977	44.1%	$ 4,865,197	44.1%
tax rate	20%									
Business Income Tax	$ 864,150		$ 890,175		$ 916,982		$ 944,595		$ 973,039	
Free Cash AFTER TAX for Distribution	$ 3,456,601	35%	$ 3,560,699	35%	$ 3,667,928	35%	$ 3,778,382	35%	$ 3,892,158	35%

Appendix: State Permitting Guidelines

It's fair to say a majority of the risk investing in a cannabis venture in Massachusetts is surviving the permitting process. Per the evidence presented in the market overview section, there will be a highly restricted market for cannabis retail locations. If a business can get a permit, one can predict with confidence, the venture will be extremely profitable. That being said, the permitting process is extremely complex and difficult to navigate. It is important to dedicate a section of the business plan to this process.

Establishing a Massachusetts Cannabis License

Types of License

Before applying for a license, the applicant needs to check with the local municipalities on the individual rules established in the town they are looking to establish their business. Note, many of the towns and municipalities have established moratoriums, a temporary ban on the use and sale of cannabis. An outright permanent ban is more complicated and less understood. The commission for now will not issue licenses in areas where the municipality has issued a ban. It should be noted the state permits the local municipalities to keep the moratorium in place "for a reasonable time." An establishment must be at least 500 ft from a school, though a bylaw or ordinance can be established for exceptions. Licenses in Massachusetts are good for one year at a time and must be renewed before they expire. The following licenses available are:

- **Cultivator**
  - License is based on square footage
  - License tier (size of facility) can be changed if output needs to be increased or reduced.
- **Craft Marijuana Cooperative**
- **Microbusiness**
- **Product Manufacturing**
  - An entity authorized to obtain, manufacture, process and package marijuana and marijuana products, to deliver marijuana and marijuana products to Marijuana
- **Testing**
- **Retail**
- **Transporter**
- **Research**

There are three major submission packets required You cannot start the submission process until at least one of the three packets are submitted. The three sections include the Intent packet, Background Check packet, and the Management and Operations packet. A more detailed process is outlined and is as follows:

1. **Create an account on the CCC website**
   1.1. https://mass-cannabis-control.com/
2. **Submit Intent Packet**
   2.1. Individual and entities involved in the submission
   2.2. Funding sources
   2.3. Proposed locations of the building
   2.4. Host agreement and outreach forms
      2.4.1. The agreement may include a community impact fee of up to 3% of gross sales to be paid to the host community, as long as the fee is reasonably related to real costs imposed on the municipality due to the establishment or RMD operating there. The agreement may not be effective for longer than five years.
   2.5. Social and economic impact analysis
3. **Submit Background Check Profile**
   3.1. Names and information of all people listed in the intent packet submission
4. **Submit Management and Operations Profile**
   4.1. Business Registration
   4.2. Business Plan
   4.3. Operating Policies and Procedure
5. **Pay Application Fee**

A more detailed process can be found here:
https://mass-cannabis-control.com/wp-content/uploads/2018/04/Guidance-for-Marijuana-Establishment-Licensure-Applicants.pdf

Once submitted the commission has 60 days to deny or approve the applicant. Please note beyond this, all members involved in the cannabis industry, must create a registered agent process.

Community Forum/Outreach

The community outreach must be filed 6 months prior to the submission of the intent package. An applicant must ensure that the meeting notice includes the time, place, and subject matter of the meeting and the proposed address of the marijuana establishment.

The notice must be:

- Published in the local newspaper
- Filed with the town or city clerk, the planning board, the contracting authority for the municipality, and local licensing authority for adult use of Cannabis, if applicable

- Mailed to abutters of the proposed address of the Marijuana Establishment, owners of land directly opposite on any public or private street or way, and to the abutters within 300 feet of the property line

The following template is provided to assist applicants seeking to be licensed as a Marijuana Establishment under 935 CMR 500.000, which establishes the regulatory requirements for adult use marijuana in the Commonwealth. This template is not legal advice. If you have questions regarding the legal requirements for licensure in the Commonwealth, you are encouraged to consult an attorney.

Notice is hereby given that a Community Outreach Meeting for a proposed Marijuana Establishment is scheduled for (insert date) at (insert time) at (insert location). The proposed (type(s) of Marijuana Establishment) is anticipated to be located at (insert address of proposed Marijuana Establishment). There will be an opportunity for the public to ask questions.

The follow issues should be addressed in the meeting:

- Location of the proposed Marijuana Establishment.
- What type(s) of Marijuana Establishment will be sited at the location?
- Is the proposed Marijuana Establishment allowed under current zoning bylaws/ordinances or is a zoning amendment required to allow it to go there?
- Is the proposed Marijuana Establishment allowed by right or does it require local zoning permitting? What permits are required?
- Is there a local licensing regulation pertaining to Marijuana Establishments?
- Is there a local Board of Health regulation pertaining to Marijuana Establishments?
- Does the proposed location comply with the 500-foot buffer zone from existing public or private school buildings (K-12)? Do local bylaws or ordinance create a smaller buffer zone?
- If the applicant is moving into an existing building or building a new one, will its premises comply with the security requirements set forth in 935 CMR 500?
- What steps will be taken by the Marijuana Establishment to prevent diversion to minors?
- Information demonstrating how the applicant intends to ensure that the location will not constitute a nuisance to the community as defined by law.
- A plan for how the Marijuana Establishment will positively impact the community. If the applicant is a marijuana retailer, be aware of whether the municipality has passed the local tax option and prepared to answer questions.
- Be familiar with the Host Community Agreement requirements and be prepared to answer questions about them.

Contact:

Michael Hunnewell
President
Eskar LLC
781-697-9323

Section 3, Question 6

Preliminary Security Plan

21 Broadway, Arlington, MA Draft Security Plan

The location 21 Broadway is an old bank which most of the security systems were left behind and intact. Security walls, video recording systems, and the vault were all left behind allowing Eskar to utilize the infrastructure for their marijuana retail business. This makes the location an ideal structure to hold a retail permit as the current bank infrastructure goes above and beyond some of the state cannabis commission requirements. That being said, upon a thorough review of the site with a security consultant, Eskar will add additional infrastructure to make sure the site completes the necessary security requirements for the state and town of Arlington. The following security plan is in response to both the town of Arlington and Cannabis Control Commission 500.110 Security Requirements for Marijuana Establishments and outline initial responses to the requirements stated. Responses to requirements are in red.

1. ***General Requirements***. *A Marijuana Establishment shall implement sufficient safety measures to deter and prevent unauthorized entrance into areas containing marijuana and theft of marijuana at the Marijuana Establishment. Security measures taken by the licensee to protect the premises, employees, consumers and general public shall include, but not be limited to, the following:*
    a. *Positively identifying individuals seeking access to the premises of the Marijuana Establishment or to whom or marijuana products are being transported pursuant to 935 CMR 500.105(14) to limit access solely to individuals 21 years of age or older;*
    Before entering the sale floor, all entrants will be greeted by a security guard along with staff to check IDs. One solution being evaluated is the IDVisor Sentry and IDentiFake combo system by TokenWorks Inc. (https://www.idscanner.com/solutions/cannabis-dispensaries-marijuana-retailers/). The system uses state of the art facial recognition software along with a database of all 50 states to ensure fake IDs are not accepted. Staff will also be trained to spot underage persons trying to enter.
    b. *Adopting procedures to prevent loitering and ensure that only individuals engaging in activity expressly or by necessary implication permitted by these regulations and its enabling statute are allowed to remain on the premises;*
    Staff and security will monitor the parking lot for loiterers as part of employee training. External cameras will monitor exterior of the building. If traffic becomes troublesome during first few months of opening, Eskar will work with police to mitigate both traffic and loiterers. Additionally, floor space will be designed to have a waiting area to prevent lines outside the building if it ever became an issue.
    c. *Disposing of marijuana in accordance with 935 CMR 500.105(12) in excess of the quantity required for normal, efficient operation as established within 935 CMR 500.105;*
    Per state requirements for disposal of cannabis products, trained staff will be sure to isolate cannabis products with active THC from other products. From there the products will be destroyed in a manner that renders the active ingredients inert. Per regulations, two registered agents will witness and document the process. Eskar will also work with a third party vendor to destroy and remove products that can't be disposed on site or cannot be removed with regular waste.

d. *Securing all entrances to the Marijuana Establishment to prevent unauthorized access*
Eskar will be modifying 21 Broadway to establish 2 entrances to store. The vestibule where the AtM machine was situated in the old bank will become the customer access point to the building. This will assure customers entering the store will not interfere with employees of other businesses in the building. The rear entry of the building will be for Eskar employees only to allow the delivery of goods into the building. Each door will be keycode locked.

e. *Establishing limited access areas pursuant to 935 CMR 500.110(4), which shall be accessible only to specifically authorized personnel limited to include only the minimum number of employees essential for efficient operation;*
Along with the modification of entry points to the building, areas of the store will be sectioned off with varying level of access to personnel through the use of security doors with electronic keycode locks. For example, all staff will have access to the front door but only the manager on duty will have access to the vault by establishing security levels for each employee.

f. *Storing all finished marijuana products in a secure, locked safe or vault in such a manner as to prevent diversion, theft and loss;*
The old bank vault which was left on the premise after the old bank moved out will become the new vault to store marijuana goods. This will go well beyond the required security protocol for the state and is an added benefit of retrofitting an old bank for the Eskar's purpose.

g. *Keeping all safes, vaults, and any other equipment or areas used for the production, cultivation, harvesting, processing or storage of marijuana products securely locked and protected from entry, except for the actual time required to remove or replace marijuana;*
As stated earlier. All doors containing product will be security doors with keycard access.

h. *Keeping all locks and security equipment in good working order;*
Equipment will be inspected daily by floor manager along with a full security audit quarterly.

i. *Prohibiting keys, if any, from being left in the locks or stored or placed in a location accessible to persons other than specifically authorized personnel;*
Keycards issued to staff will required to be worn at all times and will include a photo ID of the staff member. Any lost cards must be reported immediately. Upon notification, the old card will be deactivated and a new card will be issued to the staff member.

j. *Prohibiting accessibility of security measures, such as combination numbers, passwords or electronic or biometric security systems, to persons other than specifically authorized personnel;*
Alarm system and video surveillance area will be kept in a separate room in the back office of the store. The room will be locked with keycard access only awarded to the floor manager and security team.

k. *Ensuring that the outside perimeter of the Marijuana Establishment is sufficiently lit to facilitate surveillance, where applicable;*
Outside perimeter will install security cameras to monitor the parking lots, front entry and rear entry. The parking lot will have outdoor lighting with a timer to turn on at dusk.

l. *Ensuring that all marijuana products are kept out of plain sight and are not visible from a public place without the use of binoculars, optical aids or aircraft;*
Product will be kept within the building. No windows will see into the store. All customers will be given a bag to conceal their purchases as they leave the premise.

m. *Developing emergency policies and procedures for securing all product following any instance of diversion, theft or loss of marijuana, and conduct an assessment to determine whether additional safeguards are necessary;*
Reporting and theft policies will be documented in employee handbook and will be part of training with both customer service staff and security team.

n. *Developing sufficient additional safeguards as required by the Commission for Marijuana Establishments that present special security concerns; and*
Additional safeguards addressed throughout plan. Eskar will meet with municipal staff to address special security concerns that may arise.

o. *Sharing the Marijuana Establishment's security plan and procedures with law enforcement authorities and fire services and periodically updating law enforcement authorities and fire services if the plans or procedures are modified in a material way.*
Eskar will hold quarterly meetings with the chief of police and fire during the first year of operation to review security plans and procedures. From year 2 on, the meetings will be held once a year. Time and frequency of meetings can be altered based on feedback from community.

2. ***Alternate Security Provisions.***

a. *Notwithstanding the requirements specified in 935 CMR 500.110(1), (5) and (6), if a Marijuana Establishment has provided other, specific safeguards that may be regarded as an adequate substitute for those requirements, such measures may be taken into account by the Commission in evaluating the overall required security measures.*

b. *The applicant or licensee shall submit a request for an alternative security provision to the Commission on a form as determined and made available by the Commission. Upon receipt of the form, the Commission shall submit the request to the chief law enforcement officer in the municipality where the Marijuana Establishment is located or will be located. The Commission shall request that the chief law enforcement officer review the request and alternative security provision requested and, within 30 days,*

   i. *certify the sufficiency of the requested alternate security provision; or*
   ii. *provide the Commission with a statement of reasons why the alternative security provision is not sufficient in the opinion of the chief law enforcement officer.*

The Commission shall take the chief law enforcement officer's opinion under consideration in determining whether to grant the alternative security provision, provided that it shall not be determinative. If no response is received from the chief law enforcement officer or a designee within 30 days of submitting the request to the chief law enforcement officer, the Commission shall proceed with a determination.
At this time Eskar does wish to request any alternate security provisions.

3. ***Buffer Zone****. The property where the proposed Marijuana Establishment is to be located, at the time the license application is received by the Commission, is not located within 500 feet of a pre-existing public or private school providing education in kindergarten or any of grades one*

through 12, unless a city or town adopts an ordinance or by-law that reduces the distance requirement. The distance under 935 CMR 500.110(3) shall be measured in a straight line from the nearest point of the property line in question to the nearest point of the property line where the Marijuana Establishment is or will be located.

See appendix B

4. ***Limited Access Areas***
    a. *All limited access areas must be identified by the posting of a sign that shall be a minimum of 12" x 12" and which states: "Do Not Enter—Limited Access Area—Access Limited to Authorized Personnel Only" in lettering no smaller than one inch in height.*
    b. *All limited access areas shall be clearly described by the filing of a diagram of the registered premises, in the form and manner determined by the Commission, reflecting entrances and exits, walls, partitions, vegetation, flowering, processing, production, storage, disposal and retail sales areas.*
    c. *Access to limited access areas shall be restricted to employees, agents or volunteers specifically permitted by the Marijuana Establishment, agents of the Commission, state and local law enforcement and emergency personnel.*
    d. *Employees of the Marijuana Establishment shall visibly display an employee identification badge issued by the Marijuana Establishment at all times while at the Marijuana Establishment or transporting marijuana.*
    e. *All outside vendors, contractors and visitors shall obtain a visitor identification badge prior to entering a limited access area, and shall be escorted at all times by a marijuana establishment agent authorized to enter the limited access area. The visitor identification badge shall be visibly displayed at all times while the visitor is in any limited access area. All visitors must be logged in and out and that log shall be available for inspection by the Commission at all times. All visitor identification badges shall be returned to the Marijuana Establishment upon exit.*

    Comments to the requirements above: customers will be allocated to only one room. The back office of the store will be only accessible to staff via the keycard security system and will be label clearly at section 4 states.

5. ***Security and Alarm Requirements for Marijuana Establishments Operating Enclosed Areas***
    a. *A Marijuana Establishment located, in whole or in part, in a building, greenhouse or other enclosed area shall have an adequate security system to prevent and detect diversion, theft or loss of marijuana or unauthorized intrusion, utilizing commercial grade equipment which shall, at a minimum, include:*
        i. *A perimeter alarm on all building entry and exit points and perimeter windows, if any;*
        ii. *A failure notification system that provides an audible, text or visual notification of any failure in the surveillance system. The failure notification system shall provide an alert to designated employees of the Marijuana Establishment within five minutes after the failure, either by telephone, email or text message*
        iii. *A duress alarm, panic alarm or hold-up alarm connected to local public safety or law enforcement authorities*
        iv. *Video cameras in all areas that may contain marijuana, at all points of entry and exit and in any parking lot which shall be appropriate for the normal lighting*

conditions of the area under surveillance. The cameras shall be directed at all safes, vaults, sales areas and areas where marijuana is cultivated, harvested, processed, prepared, stored, handled or dispensed. Cameras shall be angled so as to allow for the capture of clear and certain identification of any person entering or exiting the Marijuana Establishment or area;

v. *24-four hour recordings from all video cameras that are available immediate viewing by the Commission upon request and that are retained for at least 90 calendar days. Recordings shall not be destroyed or altered, and shall be retained as long as necessary if the Marijuana Establishment is aware of a pending criminal, civil or administrative investigation or legal proceeding for which the recording may contain relevant information;*

vi. *The ability to immediately produce a clear, color still phone whether live or recorded;*

vii. *A date and time stamp embedded in all recordings, which shall be synchronized and set correctly at all times and shall not significantly obscure the picture;*

viii. *The ability to remain operational during a power outage; and*

ix. *A video recording that allows for the exporting of still images in an industry standard image format, including .jpg, .bmp and .gif. Exported video shall have the ability to be archived in a proprietary format that ensures authentication of the video and guarantees that no alternation of the recorded image has taken place. Exported video shall also have the ability to be saved in an industry standard file format that may be played on a standard computer operating system. All recordings shall be erased or destroyed prior to disposal.*

b. *All security system equipment and recordings shall be maintained in a secure location so as to prevent theft, loss, destruction and alterations.*

c. *In addition to the requirements listed in 935 CMR 500.110(5)(a) and (b), the Marijuana Establishment shall have a back-up alarm system, with all the capabilities of the primary system, provided by a company supplying commercial grade equipment, which shall not be the same company supplying the primary security system, or shall demonstrate to the Commission's satisfaction alternate safeguards to ensure continuous operation of a security system.*

d. *Access to surveillance areas shall be limited to persons that are essential to surveillance operations, law enforcement authorities, security system service personnel and the Commission. A current list of authorized employees and service personnel that have access to the surveillance room must be available to the Commission upon request. If the surveillance room is on-site of the Marijuana Establishment it shall remain locked and shall not be used for any other function.*

e. *All security equipment shall be in good working order and shall be inspected and tested at regular intervals, not to exceed 30 calendar days from the previous inspection and test.*

f. *Trees, bushes and other foliage outside of the Marijuana Establishment shall be maintained so as to prevent a person or persons from concealing themselves from sight.* It should be noted that typically installing security systems needed to meet the requirements above may cause complaints from the property owner and/or the

community nearby. Since the old bank already has most of these systems in place, Eskar sees no issues implementing these systems as they are already installed on site today.

6. ***Security and Alarm Requirements for Marijuana Establishments Operating an Open Cultivation Facility***

   Eskar will not be operating a cultivation facility at this time. This section of the code does not apply to the company's desired business use.

7. ***Incident Reporting***

   a. *A Marijuana Establishment shall notify appropriate law enforcement authorities and the Commission of any breach of security immediately and, in no instance, more than 24 hours following discovery of the breach. Notification shall occur, but not be limited to, during the following occasions:*

      i. *discovery of discrepancies identified during inventory;*
      ii. *diversion, theft or loss of any marijuana product;*
      iii. *any criminal action involving or occurring on or in the Marijuana Establishment premises;*
      iv. *any suspicious act involving the sale, cultivation, distribution, processing or production of marijuana by any person;*
      v. *unauthorized destruction of marijuana;*
      vi. *any loss or unauthorized alteration of records related to marijuana;*
      vii. *an alarm activation or other event that requires response by public safety personnel or security personnel privately engaged by the Marijuana Establishment;*
      viii. *the failure of any security alarm system due to a loss of electrical power or mechanical malfunction that is expected to last more than eight hours; or*
      ix. *any other breach of security.*

   b. *A Marijuana Establishment shall, within ten calendar days, provide notice to the Commission of any incident described in 935 CMR 500.110(7)(a) by submitting an incident report in the form and manner determined by the Commission which details the circumstances of the event, any corrective action taken, and confirmation that the appropriate law enforcement authorities were notified.*

   c. *All documentation related to an incident that is reportable pursuant to 935 CMR 500.110(7)(a) shall be maintained by a Marijuana Establishment for not less than one year or the duration of an open investigation, whichever is longer, and made available to the Commission and law enforcement authorities upon request.*

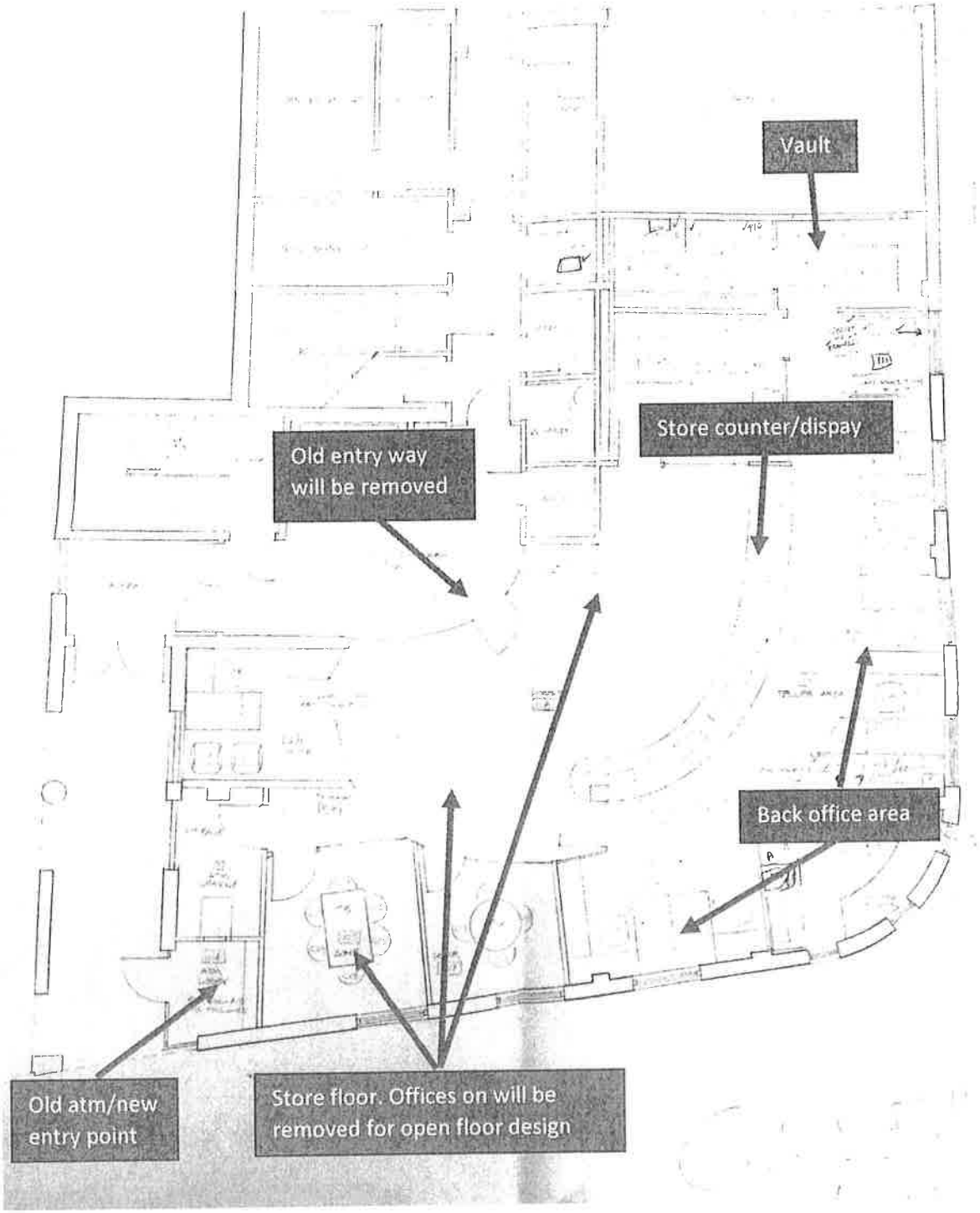
      The following incident reporting requirements will be covered in the employee handbook for both customer service staff and security personnel.

8. ***Security Audits***

   A Marijuana Establishment must, on an annual basis, obtain at its own expense, a security system audit by a vendor approved by the Commission. A report of such audit must be submitted, in a form and manner determined by the Commission, no later than 30 calendar days after the audit is conducted. If the audit identifies concerns related to the establishment's security system, the Marijuana Establishment must also submit a plan to mitigate those concerns within ten business days of submitting the audit.

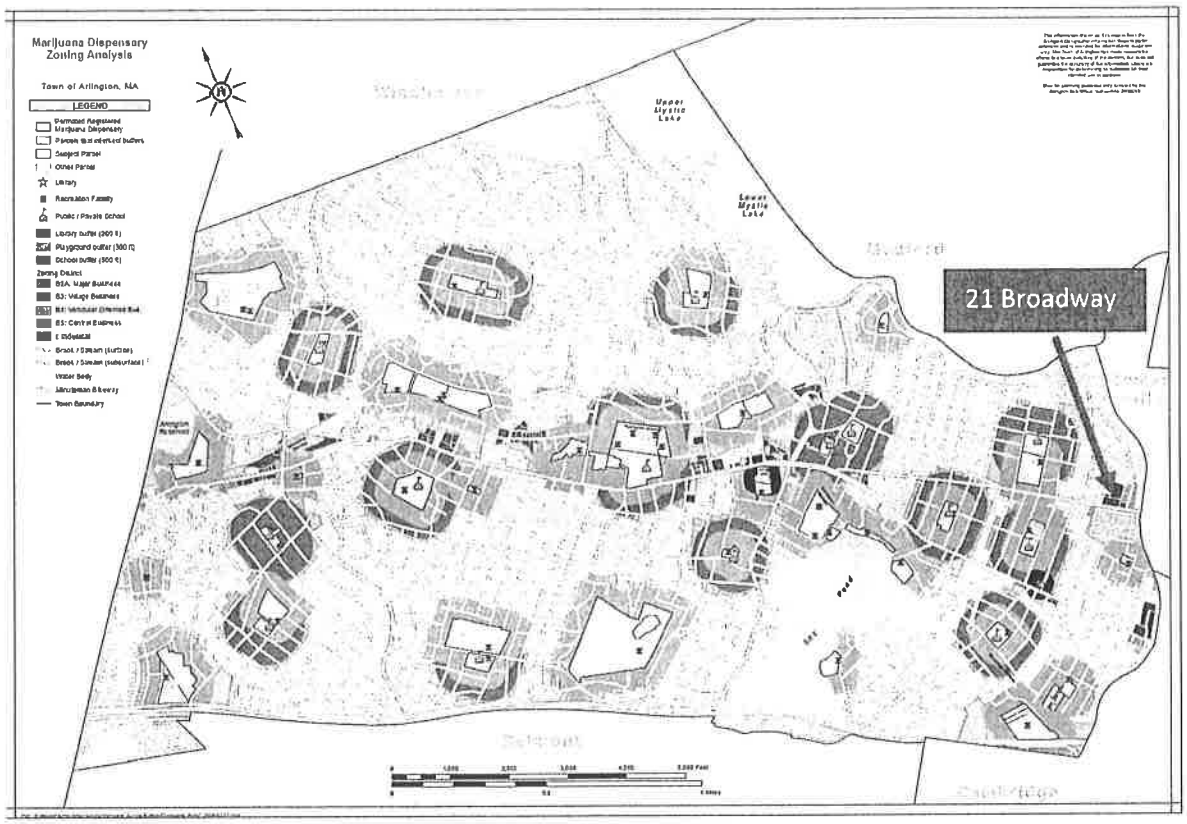
Appendix A: 21 Broadway Floor Plan

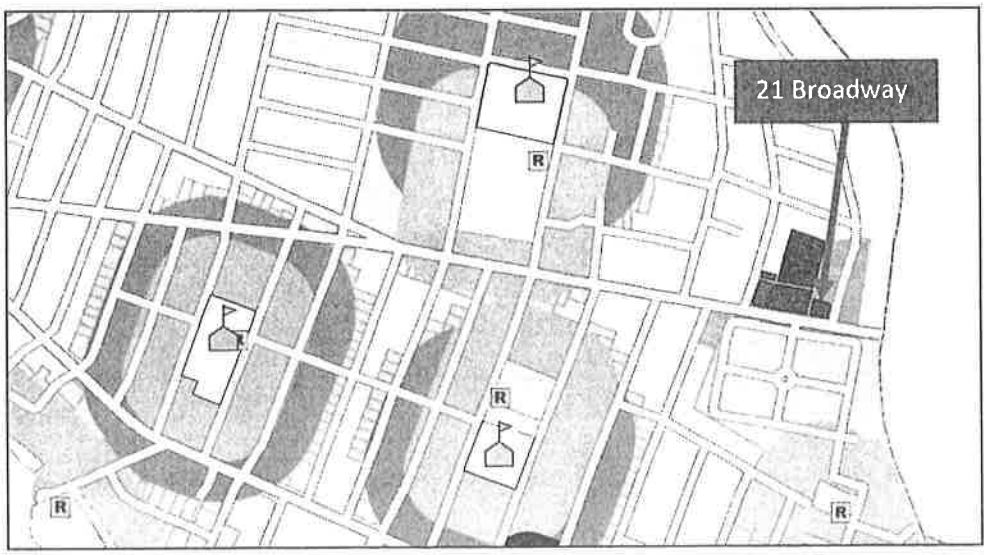
Below is the old floor plan to the bank at 21 Broadway. Eskar will be working with a design team and security consultant to insure modifications are within state requirements and town code.



Appendix B: Buffer Zone Map

This zoning map was provided by the town of Arlington highlighting all the buffer areas and viable properties within the right zoning outside the buffer zones. Buffer zones include schools, "recreatioinal areas", and public libraries. 21 Broadway is zoned B2A, major business, an approved zone to operate a marijuana business. The map all shows the store would be well beyond any require buffer zone distances.





Section 3, Question 7

Preliminary Traffic Study

21 Broadway, Arlington, MA Traffic and Parking Plan

Traffic is a major concern for local municipalities. If Eskar is awarded a permit to open in Arlington, the traffic impact will be nowhere near the volume some of the retail establishments are seeing today. This is due to additional stores opening up over the next few months, easing the supply shortage of product available to cannabis customers. Nevertheless, traffic mitigation is a serious criterion to consider. In response to the town's submission request, Eskar has performed a brief preliminary traffic study. 21 Broadway has provided at least 4 private parking spots for Eskar employees and is in negotiations to purchase more. An aerial view of the building highlights the large parking lot supporting the building in figure 1. There also looks to be at least another 20-40 public parking spots nearby situated on both Broadway and Sunnyside Ave. Eskar hired Vanasse & Associates Inc. to perform a traffic memo. The firm has performed over 20 traffic studies for various cannabis firms across the commonwealth and came highly recommend to Eskar. The full traffic summary is attached. At 3,000 sq ft, the retail store can expect the follow traffic:

Weekday Daily	760
Weekday Morning Peak Hour	
Entering	17
Exiting	14
Total	31
Weekday Evening Peak Hour	
Entering	33
Exiting	33
Total	66
Saturday Daily	778
Weekday Evening Peak Hour	
Entering	55
Exiting	54
Total	109

Based on these numbers, Eskar is confident they can work with Vanasse and the town of Arlington to effectively handle this traffic level. If additional spaces are needed, there are plenty of properties nearby with empty lots Eskar can work with to acquire additional parking.

Figure 1: Aerial view of the building. Lease includes at least 17 spots for parking. Parking lot enters on Broadway and exits onto Sunnyside Ave.

Figure 2: Zoomed out aerial view of the property. Over 700 feet of 1 hour parking is available along Broadway alone. These spaces are vacant most of the time given a cemetary abutts the road. Also, there are large parking lots available to the other businesses nearby.

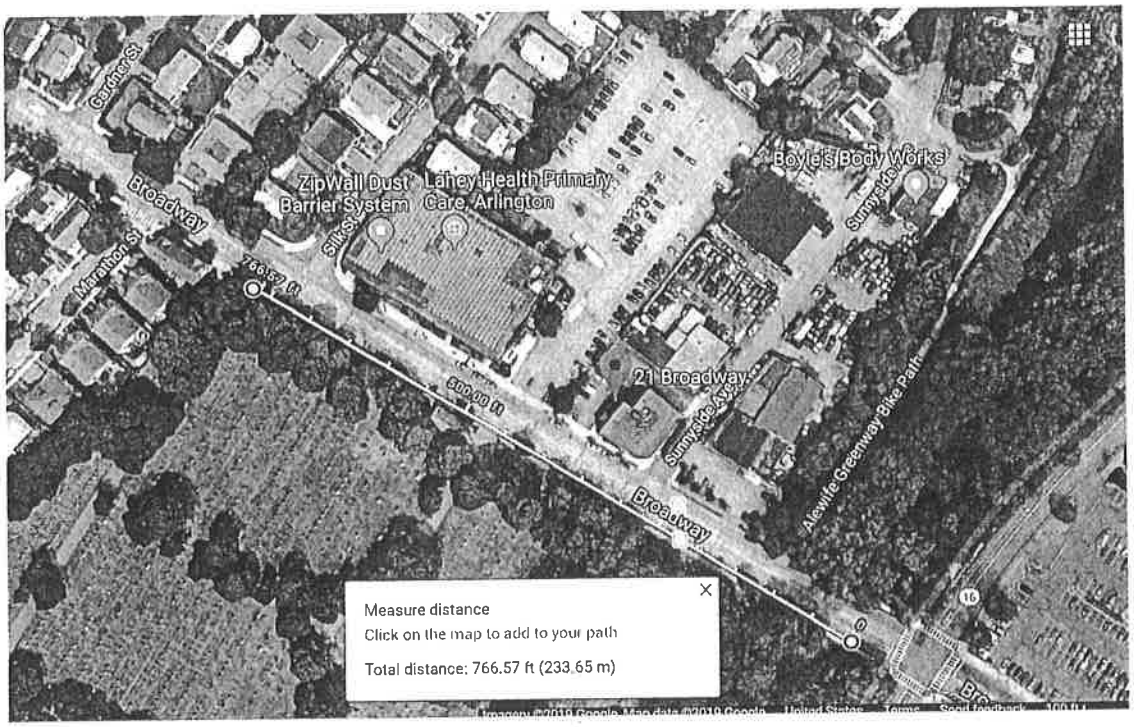


Figure 3: Image of Broadway. As you can see there is public parking on both sides of the road. One side is adjacent to a cemetery leaving plenty of open space throughout the day.

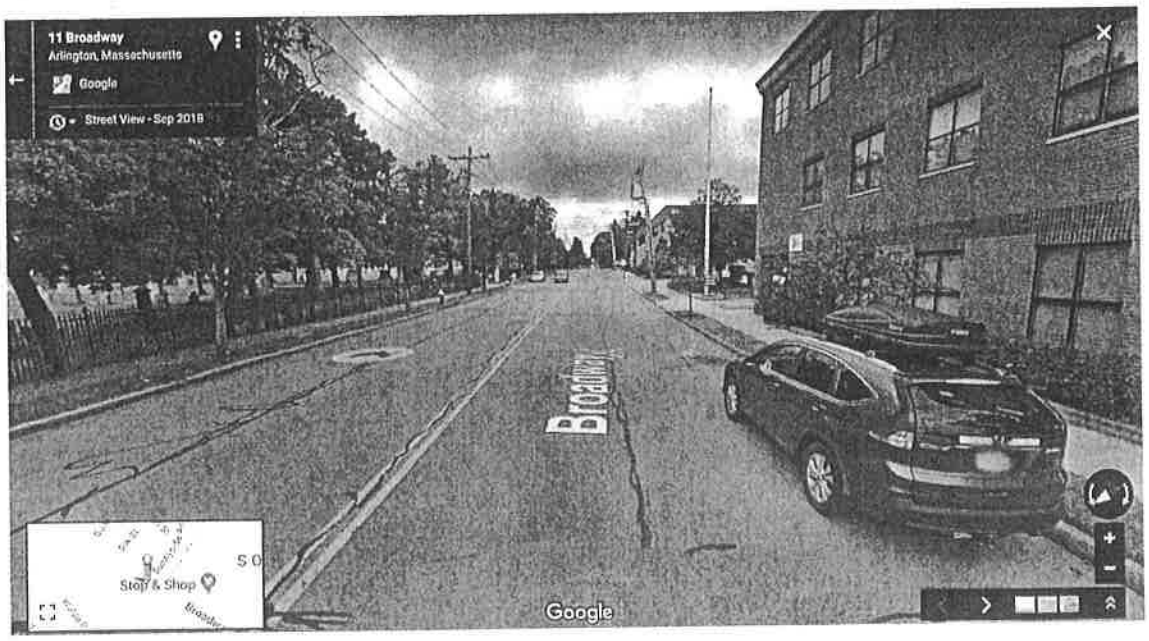


Figure 4: View of main section of the parking lot. Eskar private entrance seen on the right by the glass doors.

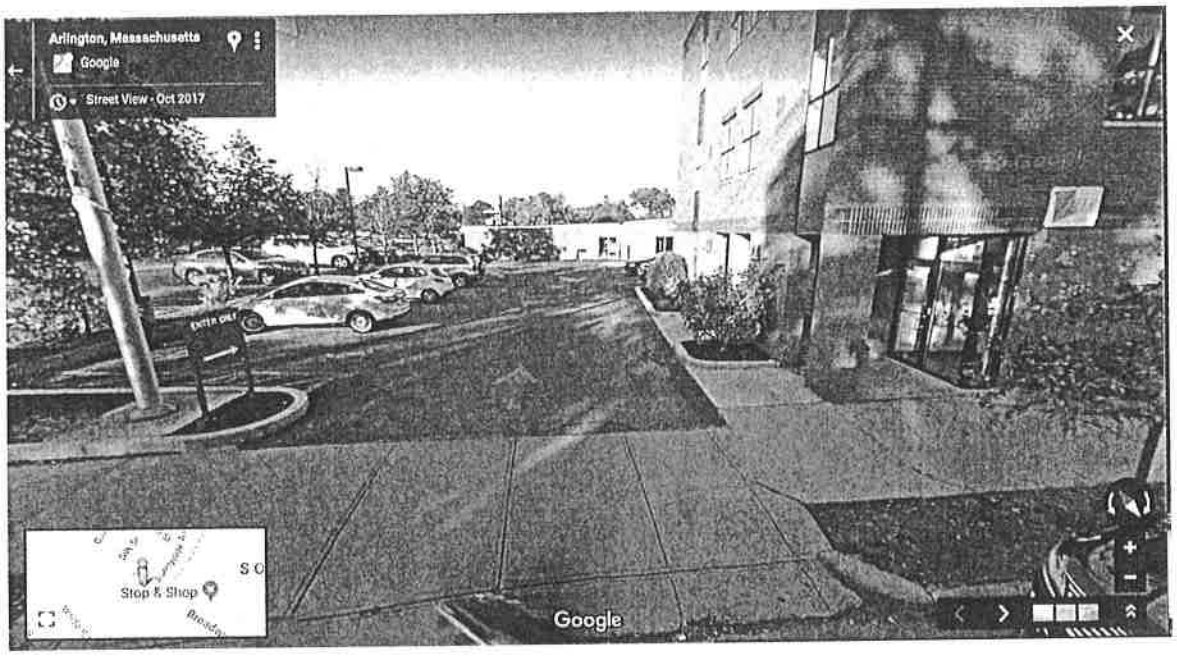


Figure 5: Backside of the building and exit out of the parking lot. Additional parking spaces can be seen on the left. These spaces are not visible in the aerial view.

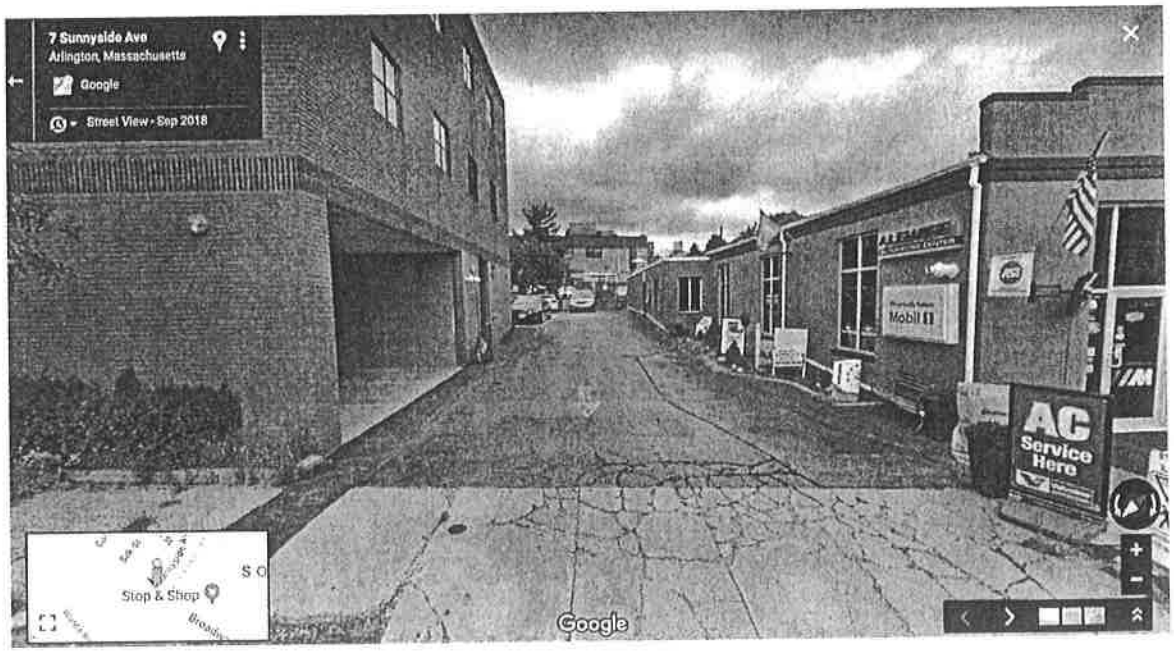
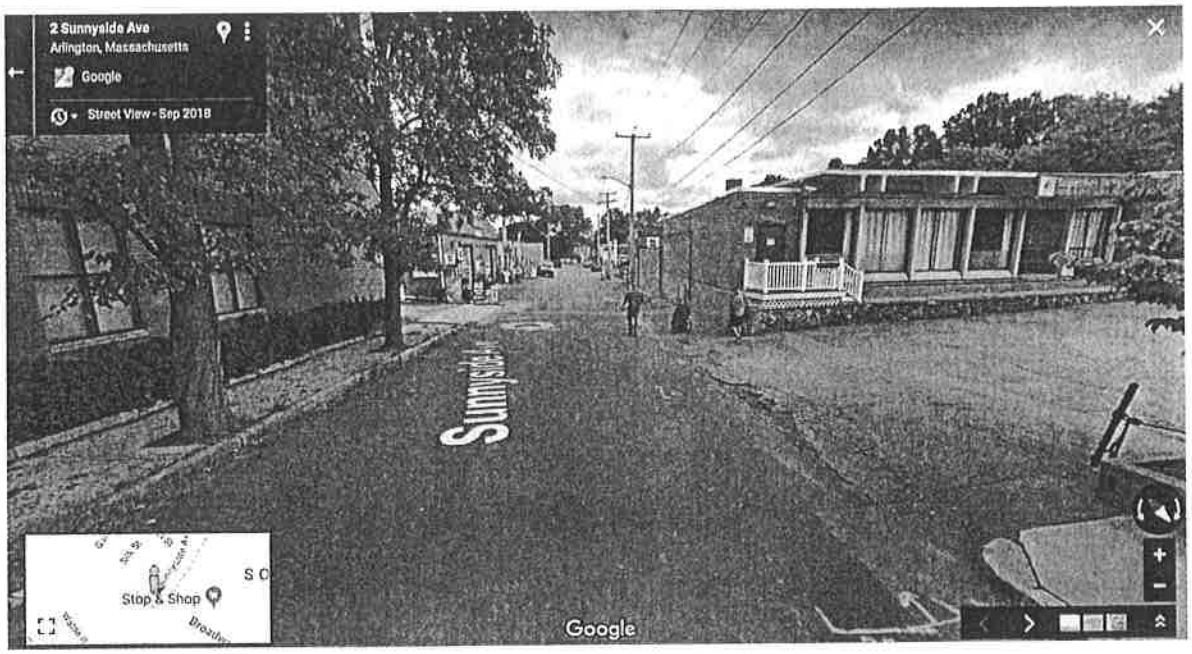


Figure 6: View of Sunnyside Ave. Additional street parking seen on the left of the image.



MEMORANDUM

TO:	Mr. Michael Hunnewell Eskar LLC 15 Forbes Street, Apt. #2 Boston, MA 02130	**FROM:**	F. Giles Ham, P.E. FGH Vanasse & Associates, Inc. 35 New England Business Center Drive Suite 140 Andover, MA 01810 (978) 474-8800
DATE:	April 25, 2019	**RE:**	8264
SUBJECT:	Proposed Marijuana Dispensary 21 Broadway Arlington, Massachusetts		

As requested, Vanasse & Associates, Inc. (VAI) has provided trip generation estimates for the proposed Marijuana Dispensary to be located at 21 Broadway in Arlington, Massachusetts. The proposed project will consist of a 3,000 sf retail dispensary with 20 parking spaces.

Trip Generation

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)[1] for Land Use Code (LUC) 882 – Marijuana Dispensary was utilized.

Table 1 provides the Trip Generation estimates.

Table 1
TRIP-GENERATION[a]

	3,000 sf
Weekday Daily	760
Weekday Morning Peak Hour:	
Entering	17
Exiting	14
Total	31
Weekday Evening Peak Hour:	
Entering	33
Exiting	33
Total	66
Saturday Daily	778
Weekday Evening Peak Hour:	
Entering	55
Exiting	54
Total	109

Source: *Institute of Transportation Engineers – Trip Generation 10th Edition.*
[a]ITE LUC 882 – Marijuana Dispensary

[1] *Trip Generation,* 10th Edition; Institute of Transportation Engineers; Washington, DC; 2017.

As can be seen in Table 1, the Project is expected to generate approximately 31 new vehicle trips (17 entering and 14 exiting) during the weekday morning peak-hour and 66 new vehicle trips (33 entering and 33 exiting) during the weekday evening peak-hour. During the Saturday midday peak hour, the Project is expected to generate approximately 109 new vehicle trips (55 entering and 54 exiting). On a daily basis, the project will generate 760 trips (380 entering and 380 exiting) during weekday and 778 trips (389 entering and 389 exiting) during a typical Saturday.

A more detailed traffic analysis can be provided to the Town, as the project move through the permitting process.

cc: File

APPENDIX

TRIP GENERATION

Institute of Transportation Engineers (ITE)
*Trip Generation, 10*th Edition
Land Use Code (LUC) 882 - Marijuana Dispensary

Average Vehicle Trips Ends vs: 1,000 sf of GFA
Independent Variable (X): 3

AVERAGE WEEKDAY DAILY

T = 252.7 * (X)
T = 252.7 * 3
T = 758.10
T = 760.00
T = 760 vehicle trips
with 50% (380 vpd) entering and 50% (380 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 10.44 * (X)
T = 10.44 * 3
T = 31.32
T = 31 vehicle trips
with 56% (17 vph) entering and 44% (14 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 21.83 * (X)
T = 21.83 * 3
T = 65.49
T = 66 vehicle trips
with 50% (33 vph) entering and 50% (33 vph) exiting.

SATURDAY DAILY

T = 259.31 * (X)
T = 259.31 * 3
T = 777.93
T = 778 vehicle trips
with 50% (389 vpd) entering and 50% (389 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 36.43 * (X)
T = 36.43 * 3
T = 109.29
T = 109 vehicle trips
with 50% (55 vph) entering and 50% (54 vph) exiting.

ESKAR, LLC.

HOST COMMUNITY AGREEMENT FOR THE SITING OF AN ADULT-USE MARIJUANA RETAILER ESTABLISHMENT IN THE TOWN OF ARLINGTON

This Host Community Agreement (the "**Agreement**") is entered into this ____ day of _____, 2019 (the "**Effective Date**") by and under the laws of the Town of Arlington, Massachusetts, a municipal corporation duly organized under the Laws of the Commonwealth, acting through its Board of Selectmen, with a principal address of_____ (hereinafter the "**Municipality**") and Eskar, LLC. with a principal office address of _____ (hereinafter "**Licensee**") (Municipality and Licensee, collectively the "**Parties**").

RECITALS

WHEREAS, Licensee intends to locate a licensed Marijuana Retailer Establishment ("**MRE**") at1 19-23 Broadway, Unit 1F, ,Arlington, MA (hereinafter the "**Facility**") for the dispensing of adult use marijuana in accordance with M.G.L. ch. 94G and 935 CMR 500.000 et seq. ("**State Law**"), and such approvals as may be issued by the Municipality, and other applicable regulations, as may be amended ("**Local Law**"); and

WHEREAS, M.G.L. ch. 94G, § 3(d), and the regulations issued thereunder, require that Municipality and Licensee execute an agreement setting forth the conditions to have the Facility within it that must include, but not be limited to, all stipulations of responsibilities between the host community and the marijuana establishment; and

WHEREAS, the Municipality recognizes this development and Facility will benefit the Municipality and its citizens through increased economic development, offering products in a safe, licensed and secure setting; additional employment opportunities for residents, and a strengthened local tax base; and

WHERAS, the Parties intend by this Agreement to satisfy the provisions of M.G.L. c.94G, § 3(d), applicable to the operation of a MRE in the Municipality; and

NOW THEREFORE, in consideration of the mutual promises of the Parties contained herein and other good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree as follows:

AGREEMENT

1. **Authorization**. The Parties respectively represent and warrant that:

    a. Each is duly organized and existing and in good standing, has the full power, authority, and legal right to enter into and perform this Agreement, and the

execution, delivery and performance hereof and thereof (i) will not violate any judgment, order, state law, bylaw, or regulation, and (ii) do not conflict with, or constitute a default under, any agreement or instrument to which either is a party or by which either party may be bound or affected; and

b. This Agreement has been duly authorized, executed and delivered and constitutes legal, valid and binding obligations of each party, enforceable in accordance with its terms, and there is no action, suit, or proceeding pending, or, to the knowledge of either party, threatened against or affecting wither wherein an unfavorable decision, ruling or finding would materially adversely affect the performance of any obligations hereunder, except as otherwise specifically noted in this Agreement.

2. **Local Permitting**. Licensee agrees that it is required to obtain all local permits required pursuant to Massachusetts Law and the Municipality's Bylaws and regulations. Provided the Municipality acts in accordance with the procedures set forth in G.L. c.44, §53G, Licensee shall be required to pay the reasonable costs of the employment by the Municipality's boards and/or officials of outside consultants, including without limitation, engineers, architects, scientists and attorneys required to review the application for such local permits required to operate the Facility.

3. **Community Impact**. Licensee anticipates that the Municipality will incur additional expenses and impacts upon the Municipality's road system, law enforcement, fire protection services, inspectional services and permitting services, public health services, abuse prevention efforts, and potential additional unforeseen impacts upon the Municipality. Accordingly, in order to mitigate the financial impact upon the Municipality and use of the Municipality's resources, the Licensee agrees to make a donation or donations to the Municipality, in the amounts and under the terms provided herein (the "**Community Impact Payments**")

4. **Host Community Payments**.

   a. **MRE Community Impact Payments**. In the event that Licensee obtains a final license, or any other such license/or approval as may be required under State Law, for the operation of a MRE in the Municipality from the Massachusetts Cannabis Control Commission ("**CCC**"), and receives all required approvals from the Municipality to operate a MRE at the Facility, then Licensee agrees to the following:

      i. The Licensee shall make quarterly community impact payments to the Municipality in an amount equal to three percent (3%) of the gross sales of all marijuana and marijuana-infused products at the Facility (the "**MRE Community Impact Payment**").

The initial MRE Community Impact Payment shall be due 30 days after the 90th day following commencement of operations which shall be the date that the Licensee is issued a certificate of occupancy and begins the retail sales of marijuana and/or marijuana-infused products in the Municipality (the "**Initial MRE Payment**"), and each subsequent payment shall be due on the same day of each quarter thereafter.

b. **Timely Payment**. Licensee acknowledges that time is of the essence with respect to performance of its obligations hereunder and that late payments shall be subject to interest at the rates prescribed by G.L. c. 59, §57, provided that no interest shall be due if such default is cured within ten (10) days following written notice of default. If Licensee fails to cure such default within said ten (10) days following written notice thereof, interest shall be due from the date of the original default. These payments or benefits shall be made payable to the Municipality at the direction of the Town Manager.

c. **Application of Payments**. The Licensee acknowledges and agrees that the Municipality is under no obligation to use the Impact Fee made herein in any particular manner.

5. **Annual Filing.** Licensee shall notify the Municipality when it commences sales at the Facility and shall submit quarterly financial statements to the Municipality, which shall include certification of itemized gross sales, and all other information required to ascertain compliance with the terms of this Agreement if required by applicable Massachusetts law.

   The Licensee shall maintain its books, financial records and any other data related to its finances and operations in accordance with standard accounting practices and any applicable regulations and guidelines promulgated by the Commonwealth of Massachusetts. All records shall be retained for a period of at least seven (7) years.

6. **Term and Termination**. The term of this Agreement shall be for five (5) years from the date the Facility first opens to the public ("Term"). All payments required hereunder shall remain in effect for the duration of the Term and shall be renewable by the Licensee for consecutive five (5) year renewal terms upon the expiration of each Term on the same terms and conditions as set forth herein.

7. **Acknowledgements**. The Municipality understands and acknowledges that Payment due pursuant to this Agreement are contingent upon the Licensee's receipt of all state and local approvals to operate a MRE at the Facility. The Licensee acknowledges that the Municipality's support for the Facility is contingent upon the Payment due pursuant to this Agreement.

8. **Local Property Taxes**. At all times during the Term of this Agreement, property, both real and personal, owned or operated by Licensee shall be treated as taxable, and all

applicable real estate and personal property taxes for that property shall be paid either directly by Licensee or by its landlord, and neither Licensee nor its landlord shall object or otherwise challenge the taxability of such property and shall not seek a non-profit exemption from paying such taxes. Notwithstanding the foregoing, (i) if real or personal property owned, leased or operated by Licensee is determined to be non-taxable or partially non-taxable, or (ii) if the value of such property is abated with the effect of reducing or eliminating the tax which would otherwise be paid if assessed at fair cash value as defined in M.G.L. ch. 59, §38, or (iii) if Licensee is determined to be entitled or subject to exemption with the effect of reducing or eliminating the tax which would otherwise be due if not so exempted, then Licensee shall pay to the Municipality an amount which when added to the taxes, if any, paid on such property, shall be equal to the taxes which would have been payable on such property at fair cash value and at the otherwise applicable tax rate, if there had been no abatement or exemption; this payment shall be in addition to the payments made by Licensee under Section 4 of this Agreement.

9. **Local Sales Taxes**. The Parties acknowledge that the Municipality has imposed a local sales tax upon the sale or transfer of marijuana or marijuana products by a marijuana retailer operating within the Municipality, pursuant to the provisions of G.L. c.64N. Accordingly, Licensee, as required by applicable law, shall remit to the Massachusetts Department of Revenue the excise tax rate determined by the Commonwealth of Massachusetts for the sale of adult-use marijuana and adult-use marijuana-infused products, currently at 3.0% of gross annual sales. Pursuant to G.L. c.64N, §3, the excise taxes received by the Department of Revenue "shall at least quarterly be distributed, credited and paid [to the Town] by the state treasurer". Nothing herein shall limit the ability of the Municipality to adjust the local sales tax in the future, should the law be amended to allow for an increase in such allowable sales tax.

10. **Community Support and Additional Obligations**.

a. Local Vendors – To the extent such practice and its implementation are consistent with federal, state, and municipal laws and regulations, Licensee shall use good faith efforts in a legal and non-discriminatory manner to give priority to qualified local businesses, suppliers, contractors, builders and vendors in the provision of goods and services called for in the construction, maintenance, and continued operation of the Facility.

b. Employment/Salaries – Except for senior management, and to the extent such practice and its implementation are consistent with federal, state, and municipal laws and regulations, Licensee shall use good faith efforts in a legal and non-discriminatory manner to hire qualified residents of the Municipality as employees of the Facility.

c. Approval of Manager - If requested by the Municipality, the Licensee shall provide to the Municipality, for review, the name and relevant information, including but not

limited to the information set forth in 935 CMR 500.030, of the person proposed to act as on-site manager of the Facility. The submittal shall include authorization and all fees necessary to perform a criminal history (CORI) check or similar background check. The Municipality shall consider such request for approval within thirty (30) days following submittal to determine, in consultation with the Police Chief, if the person proposed would not be qualified to act as on-site manager based on applicable Massachusetts laws and regulations. Such approval shall not be unreasonably denied, conditioned or delayed. This approval process shall also apply to any change of on-site manager.

d. Education - Licensee shall provide staff to participate in Municipality-sponsored educational programs on public health and drug abuse prevention, and to work cooperatively with any of the Municipality's public safety departments to mitigate any potential negative impacts of the Facility. In addition, Licensee commits to the provision of educational materials related to health, safety and responsible use of the products offered at the Facility. These materials shall be readily available at the point of purchase.

e. The Licensee shall, at least annually, provide the Municipality with copies of all reports submitted to the CCC regarding Licensee's operations at the Facility.

f. The Licensee will work cooperatively with all necessary municipal departments, boards, commissions, and agencies ensure that Licensee's operations are compliant with all of the Municipality's applicable codes, rules, and regulations.

11. **Application Support**. The Municipality agrees to submit to the CCC all documentation and information required by the CCC from the Municipality for the Licensee to obtain approval to operate a MRE at the Facility. The Municipality agrees to support Licensee's application(s) for a MRE with the CCC but makes no representation or promise that it will act on any other license or permit request in any particular way other than by the Municipality's normal and regular course of conduct and in accordance with their codes, rules, and regulations and any statutory guidelines governing them.

    This Agreement does not affect, limit, or control the authority of the Municipality's boards, commissions, and departments to carry out their respective powers and duties to decide upon and to issue, or deny, applicable permits and other approvals under the statutes and regulations of the Commonwealth, the General and Zoning Bylaws of the Municipality, or applicable regulations of those boards, commissions, and departments, or to enforce said statutes, Bylaws, and regulations. The Municipality, by entering into this Agreement, is not thereby required or obligated to issue such permits and approvals as may be necessary for a MRE to operate in the Municipality, or to refrain from enforcement action against the Licensee and/or the Facility for violation of the terms of said permits and approvals or said statutes, Bylaws, and regulations.

12. **Security**. Licensee shall maintain security at the Facility in accordance with a security plan presented to the Municipality and approved by the CCC. In addition, Licensee shall

at all times comply with State Law and Local Law regarding security of the Facility. Such compliance shall include, but will not be limited to: providing hours of operation; after-hours contact information and access to surveillance operations; and requiring Licensee's agents to produce their Program ID Card to law enforcement upon request.

To the extent requested by the Municipality's Police Department, and subject to the security and architectural review requirements of the CCC, the Licensee shall work with the Municipality's Police Department in determining the placement of exterior security cameras, so that at least two cameras are located to provide an unobstructed view in each direction of the public way(s) on which the facility is located.

Licensee agrees to cooperate with the Police Department, including but not limited to periodic meetings to review operational concerns, security, delivery schedule and procedures, cooperation in investigations, and communications with the Police Department of any suspicious activities at or in the immediate vicinity of the Facility, and with regard to any anti-diversion procedures.

To the extent requested by the Municipality's Police Department, the Licensee shall work with the Police Department to implement a comprehensive diversion prevention plan to prevent diversion, such plan to be in place prior to the commencement of operations at the Facility. Such plan shall include, but is not limited to, (i) training Licensee employees to be aware of, observe, and report any unusual behavior in authorized visitors or other Licensee employees that may indicate the potential for diversion; and (ii) utilizing seed-to-sale tracking software to closely track all inventory at the Facility.

13. **Governing Law**. This Agreement shall be governed and construed and enforced in accordance with the laws of the Commonwealth of Massachusetts, without regard to the principals of conflicts of law thereof.

14. **Amendments/Waiver**. Amendments or waivers of any term, condition, covenant, duty or obligation contained in this Agreement may be made only by written amendment executed by all Parties, prior to the effective date of the amendment.

15. **Severability**. If any term or condition of this Agreement or any application thereof shall to any extent be held invalid, illegal or unenforceable by the court of competent jurisdiction, the validity, legality, and enforceability of the remaining terms and conditions of this Agreement shall not be deemed affected thereby unless one or both Parties would be substantially or materially prejudiced. Elimination or reduction of any payment required hereunder shall constitute substantial or material prejudice to the Municipality. If any term or condition deemed unlawful concerns the right of the Municipality to the payment and use of any part of the Annual Payments, the parties agree that such part of the Annual Payments paid and to be paid to the Municipality hereunder shall constitute a grant or donation for the purposes set forth herein, and shall be held and used accordingly. Further, the Licensee agrees it will not challenge, in any jurisdiction, the enforceability of any provision included in this Agreement; and, the Licensee shall pay for all reasonable fees and costs incurred by the Municipality in defending and enforcing this Agreement.

16. **Successors/Assigns**. This Agreement is binding upon the Parties hereto, their successors, assigns and legal representatives. The Municipality shall not assign or transfer any interest or obligations in this Agreement without the prior written consent of the Licensee, which shall not be unreasonably delayed, conditioned, or withheld. The Licensee shall not assign, sublet or otherwise transfer any interest, its rights nor delegate its obligations under this Agreement unless in compliance with the applicable requirements, if any, of the CCC.

17. **Force Majeure**. If and to the extent that either party is prevented from performing its obligations hereunder by an event of *force majeure,* such party shall be excused from performing hereunder and shall not be liable in damages or otherwise, and the Parties shall instead negotiate in good faith with respect to appropriate modifications of the terms hereof. For purposes of this Agreement, the term *force majeure* shall mean the supervening causes described here, each of which is beyond the reasonable control of the affected party: acts of God, fire, earthquakes, floods, explosion, actions of the elements, war, terrorism, riots, mob violence, a general shortage of labor, equipment, facilities, materials, or supplies in the open market, failure of transportation, strikes, lockouts, actions of labor unions, condemnation, laws or orders of any governmental or military authorities, or any other cause similar to the foregoing, not within the control of such party obligated to perform such obligation.

18. **Entire Agreement**. This Agreement constitutes the entire integrated agreement between the Parties with respect to the matters described. This Agreement supersedes all prior agreements, negotiations and representations, either written or oral, and it shall not be modified or amended except by a written document executed by the Parties hereto.

19. **Notices**. Except as otherwise provided herein, any notices, consents, demands, requests, approvals, or other communications required or permitted under this Agreement shall be in writing and delivered by hand or mailed postage prepaid, return receipt requested, by registered or certified mail or by other reputable delivery service, and will be effective upon receipt for hand or said delivery and three days after mailing, to the other Party at the following address:

To the Municipality:

Town of Arlington

To the Licensee:

Eskar, LLC.
TBD

20. **Third-Parties**. Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either Municipality or the Licensee.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties hereto have duly executed this Host Community Agreement on the date set forth above.

TOWN OF ARLINGTON	ESKAR, LLC.
_____	_____
Name:	Name:
Title:	Title:

ASSIGNMENT AND ASSUMPTION OF LEASE

THIS ASSIGNMENT OF LEASE ("Assignment") is dated March 12, 2020 by and between **ESKAR LLC**, a Massachusetts limited liability company having an address of 15 Forbes Street, Apartment 2, Boston, Massachusetts 02130 ("Assignor") and **ESKAR ARLINGTON LLC**, a Massachusetts limited liability company having and address of 9 Wildwood Road, Middleton, Massachusetts 01949 ("Assignee").

RECITALS

WHEREAS, the Assignor is the original "Tenant" under the "Commercial Lease" dated June _____, 2019 ("Lease") by and between the Assignor and Kentury Ventures, LLC ("Landlord") for certain premises located at 23 Broadway, Arlington, Massachusetts (the "Premises"); and,

WHEREAS, the Assignor wishes to assign all of its right, title and interest in and to the Lease to the Assignee, and the Assignee wishes to assume the same.

NOW, THEREFORE, the parties hereby agree as follows:

1. The Assignor hereby assigns and transfers to the Assignee all of its right, title and interest in and to the Lease.

2. The Assignee hereby assumes all of the obligations of the Assignor arising or accruing on or after the date hereof under the Lease and shall make all payments and keep and perform all conditions and covenants of the Lease in the same manner as if the Assignee were the original "Tenant" thereunder.

3. Assignee's parent company, Eskar Holdings, LLC, hereby agrees to guarantee the obligations of Assignee as tenant under the Lease.

4. Assignee hereby represents that the Town of Arlington has agreed to the amendment of its Host Community Agreement with Assignor to replace Assignor with Assignee. Assignee has further agreed to proceed with the license application for a retail cannabis facility at the Premises with the Massachusetts Cannabis Control Commission in the name of Assignee

5. Landlord herby consents to the assignment of the Lease by Assignor to Assignee.

[Remainder of Page Intentionally Left Blank]

MRH

IN WITNESS WHEREOF, the parties have caused this Assignment to be executed the day and year first above written.

ASSIGNOR:
ESKAR LLC

By:_____
Michael Richard Hunnewell
Its: Manager

ASSIGNEE:
ESKAR ARLINGTON LLC

By:_____
Michael Richard Hunnewell
Its: Manager

GUARANTOR:

ESKAR HOLDINGS, LLC

By:_____
Michael Richard Hunnewell
Its: Manager

CONSENT TO ASSIGNMENT

MRH

The undersigned Landlord hereby consents to the Assignment of the Lease on the express conditions set forth herein as well as in the Lease.

LANDLORD:
KENTURY VENTURES, LLC

By:_____
Xiangping Chen
Its: Manager

MRH

EXHIBIT 3

EXHIBIT 4

Security Plan

Eskar Arlington, LLC ("Eskar") security plan is to protect the premises, provide a safe environment for patients, caregivers, staff, visitors and the general public, and to deter and prevent theft and diversion of product. Eskar recognizes and prepares for both internal and external security threats, all employees will go through security training. Security plans will be reviewed and amended as needed. Violation of security policies by Eskar agents and employees is grounds for immediate dismissal.

Pursuant to 935 CMR 500.110(1)(a)-(q), Eskar will implement sufficient safety measures to prevent unauthorized entrance into the Eskar facility and theft of marijuana from occurring. These security measures include, but are not limited to: properly identifying individuals entering the Eskar facility to limit access to those 21 years or older; preventing loitering; properly disposing of marijuana products; securing entrances and establishing limited access areas for authorized personnel; ensuring proper storage of marijuana and marijuana products; keeping locks in good condition and preventing keys to said locks from being accessible to unauthorized individuals; ensuring property lighting of the exterior of the Eskar facility; keeping marijuana products out of plain site; developing emergency procedures; and sharing Eskar's security plan and procedures and relevant updates with law enforcement and fire services. If Eskar identifies alternate security provisions that might be regarded as adequate substitutes for any security requirements, Eskar will submit a request for acceptance of these provisions pursuant to 935 CMR 500.110(2).

Eskar will have limited access areas identified with clear signage designating the access point for authorized personnel only, pursuant to 935 CMR 500.110(4). Identification badges will be required to be worn at all times by Eskar employees while at the facility or engaged in transportation. All outside vendors, contractors and visitors shall be required to wear visitor badges prior to entering limited access areas and shall be displayed at all times. Visitors shall be logged in and out and be escorted while at the Eskar facility. The visitor log will be available for inspection by the Commission at all times. All visitor badges will be returned to Eskar upon exit. All Limited Access areas will be clearly described by the filing of a diagram of the registered premises, as determined by the Commission, reflecting, where applicable, entrances and exits, walls, partitions, vegetation, flowering, processing, production, storage, disposal and retail sales areas. Access to Limited Access areas will be restricted to employees, agents or volunteers specifically permitted by Eskar, agents of the Commission, state and local law enforcement and emergency personnel. All Eskar employees will visibly display an employee identification badge issued by Eskar at all times while Eskar's Marijuana Establishments or transporting marijuana.

All finished marijuana products will be stored in a secure, locked safe or vault in such a manner as to prevent diversion, theft or loss, pursuant to 935 CMR 500.110(1)(f). Additionally, Eskar will prohibit keys, if any, from being left in the locks or stored or place in a location accessible to persons other than specifically authorized personnel. Eskar will also ensure that that all marijuana products are kept out of plain sight and are not visible from a public place without the use of binoculars, optical aids or aircraft.

Pursuant to 935 CMR 500.105(12)(b), all liquid waste containing marijuana or marijuana byproducts shall be disposed of in compliance with all applicable state and federal requirements. Any remaining marijuana waste shall be ground and mixed with other organic materials, as defined in 301 CMR 16.02 and in accordance with 935 CMR 500.105(12)(c)(2.b). Solid waste containing

cannabis waste generated at our Marijuana Establishment may be ground up and mixed with solid wastes such that the resulting mixture renders the cannabis unusable for its original purpose, in compliance with 935 CMR 500.105(12)(c). A minimum of two Marijuana Establishment Agents must witness and document how the marijuana waste is disposed or otherwise handled in accordance with 935 CMR 500.105(12).

In accordance with 935 CMR 500.110(5), Eskar will have a security system to prevent and detect diversion, theft or loss of marijuana. Pursuant to 935 CMR 500.110(5)(a)-(g), Eskar's security system shall include, but is not limited to: perimeter alarms within its structures; failure notification system; a failure notification system that provides notification of any failure in the surveillance system within five minutes after failure via telephone, email or text message; duress alarm; video cameras in all areas containing marijuana; 24-hour recordings that are retained for at least 90 days, contain a date and time stamp and can be exported as still images; and the ability to remain operational during power outages as a result of a secondary power back-up or gen-set power stream. Eskar will have video cameras in all areas containing marijuana, at all points of entry and exit and in the parking lot. Eskar will have video cameras directed at all safes, vaults and sales areas. All of the cameras shall be angled to identify any person entering or exiting the establishment. Additionally, the security system will be maintained in secure locations with a back-up alarm system provided by a company different than that provided by our primary system. Back-up video storage options include the "cloud" and off-site storage of footage in compliance with section 935 CMR 500.110(5) as noted above. Back-up alarm systems include battery power or diesel-powered generator(s) in case of power failure. Access to said systems will be limited to personnel essential to security operations, law enforcement, the security Eskar and the Commission. All equipment shall be in good working order at all times. All trees, bushes, and other foliage outside the establishment shall be maintained to prevent persons from concealing themselves from sight pursuant to 935 CMR 500.110(5)(g).

In accordance with 935 CMR 500.110(7)(a)(1), an on-site secure locked safe or vault used exclusively for the purpose of securing cash shall be maintained. Video cameras shall be positioned to provide images of areas where cash is kept, handled and packaged for transport to financial institutions or DOR facilities. Eskar shall have a written process for securing cash and ensuring transfers of deposits to its financial intuitions pursuant to 935 CMR 500.110(7)(a)(3). Eskar shall use an armored transport provider that is licensed pursuant to M.G.L. c. 147 §25 and has been approved by the financial institution or DOR facility. Eskar shall ensure the use of a locked bag for the transportation of cash from its facility to a financial institution or DOR facility if approved for an alternative safety measure. Transportation of cash shall be conducted in an unmarked vehicle if approved for an alternative safety measure. If this alternative safety measure is utilized to transport cash, Eskar shall adhere to the following safety measures: two marijuana establishment agents shall be present with the vehicle at all times; the vehicle shall be equipped with real-time GPS tracking, the vehicle shall have a two-way communication with the Eskar facility; marijuana or marijuana products will be prohibited from being transported at the same time as cash is being transported for deposit; and Eskar shall seek approval of the alternative safeguard by the financial institution or DOR facility.

Any incident occurring at the Eskar facility that is a breach of security shall be immediately reported within 24 hours to law enforcement and the Commission, pursuant to 935 CMR 500.110(9). Breaches include, but are not limited to: discovery of discrepancies of inventory; diversion, theft or loss of product; criminal action involving the Eskar facility; unauthorized

destruction of marijuana or suspicious acts involving said marijuana; loss or alteration of records; and alarm activation or failure of the security system. Incident reports shall be submitted to the Commission within 10 days of the occurrence of the act and documentation of the incident will be maintained for at least one year or throughout the duration of any related investigation.

Eskar will annually obtain a security system audit by a vendor approved by the Commission and at Eskar's expense, pursuant to 935 CMR 500.100(10). Eskar will submit said report within 30 days after the audit is completed and, if areas of concerns are identified, Eskar will submit a mitigation plan to address the issue.

Storage of Marijuana

Pursuant to 935 CMR 500.105(11)(a)-(e), Eskar Arlington, LLC ("Eskar") will provide adequate lighting, ventilation, temperature, humidity, space and equipment, in accordance with applicable provisions of 935 CMR 500.105 and 500.110. Eskar will have a separate area for storage of marijuana that is outdated, damaged, deteriorated, mislabeled, or contaminated, or whose containers or packaging have been opened or breached, unless such products are destroyed. Eskar storage areas will be kept in a clean and orderly condition, free from infestations by insects, rodents, birds and any other type of pest. The Eskar storage areas will be maintained in accordance with the security requirements of 935 CMR 500.110.

Eskar storage policy dictates that product may only be stored in areas under video surveillance. Only authorized marijuana establishment agents have access to product storage areas, product storage keys, and or access cards. Storage rooms must remain locked at all times except times needed to transfer product. Marijuana establishment agents in product rooms without authorization, or good reason, will be terminated. All product must be returned to storage at the end of processing work orders, or at the end of the business. For processing that takes more than one day, processing area and product must be locked inside an area with adequate security.

Pursuant to 935 CMR 500.105(13)(d), Eskar will transport marijuana products in a secure, locked storage compartment that is a part of the vehicle transporting the marijuana products and the storage compartment will be sufficiently secure that it cannot be easily removed. If Eskar plans to transport marijuana products to multiple other establishments in the future, it will seek the Commission's permission to adopt reasonable alternative safeguards.

AEPMI
Design & Building Consultants

OFFICE ADDRESS:
200 MAIN STREET
ANSONIA, CT 06401
203-751-9522

AEPMI.NET

June 30, 2020

Arlington Redevelopment Board
730 Mass Ave Annex
Arlington, MA 02476

RE: LEED Practices
Arlington Retail Dispensary
23 Broadway Arlington, MA 02474

To Whom It May Concern:

Please refer to the attached *LEED V4 For Interior Design and Construction Checklist (Retail)* for the first floor fit-out at 23 Broadway. The tenant space is currently a vacant banking establishment with finishes lighting, and partitions that will be completely removed. The existing HVAC units serving the space are to be reused. The Applicant proposes to implement the following sustainable methods in the design, construction and operation of the new retail environment:

- Ensure that all recyclable materials removed during demolition activities will be appropriately disposed of.
- Existing mercury containing fluorescent bulbs will be removed and recycled at a local mercury product drop-off location per Massachusetts department of Environment Protection Guidelines
- Potentially hazardous material discovered during construction will be disposed of per Commonwealth Guidelines
- Encourage alternative modes of transportation to the site for employees and customers. The Applicant will offer public transit reimbursements to employees who utilize the two-way bus stop located within 200 feet of the establishment. Public transportation information will be made available in-store and on its technology platforms for customers.
- Install bicycle storage onsite for customers and employees.
- Install interior and exterior energy efficient LED light fixtures
- Specify and install energy efficient appliances
- Specify and install new water conserving plumbing fixtures within the leased space
- Specify and install new finishes with low emitting VOC's
- New materials within the space will be selected with the highest possible recycled content.

Please feel free to reach out to me if you have additional questions.

Thank you,

Georges Clermont, RA | Principal
gclermont@aepmi.net

LEED v4 for ID+C: Retail

Project Checklist

Arlington Cannabis R
29-Jun-20

Y	?	N			
		2	Credit	Integrative Process	2

8	8	20	**Location and Transportation**		18
		18	Credit	LEED for Neighborhood Development Location	18
	8		Credit	Surrounding Density and Diverse Uses	8
7			Credit	Access to Quality Transit	7
1			Credit	Bicycle Facilities	1
		2	Credit	Reduced Parking Footprint	2

NOTES: Eskar will encourage the use of the two-way bus stop located within 200 feet of the customer entrance. Employess will be reembursed for use of public transportation. The bus schedule will be made available to customers and employees within the establishment . Eskar will make bicycle storage racks available for both customers and employees.

0	0	0	**Water Efficiency**		12
Y			Prereq	Indoor Water Use Reduction	Required
			Credit	Indoor Water Use Reduction	12

0	0	38	**Energy and Atmosphere**		38
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Fundamental Refrigerant Management	Required
		5	Credit	Enhanced Commissioning	5
		25	Credit	Optimize Energy Performance	25
		2	Credit	Advanced Energy Metering	2
		3	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

5	9	0	**Materials and Resources**		14
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1			Credit	Long-Term Commitment	1
	5		Credit	Interiors Life-Cycle Impact Reduction	5
2			Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	2		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2

5	7	4	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
	3		Credit	Enhanced Indoor Air Quality Strategies	3
3			Credit	Low-Emitting Materials	3
	1		Credit	Construction Indoor Air Quality Management Plan	1
	2		Credit	Indoor Air Quality Assessment	2
	1		Credit	Thermal Comfort	1
2			Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1

NOTES: Low-Emitting materials including adhesives, paints, wall coverings will be specified. All new lighting fixtures will be energy efficient LED.

0	0	6	**Innovation**		6
		5	Credit	Innovation	5
		1	Credit	LEED Accredited Professional	1

0	4	0	**Regional Priority**		4
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1

18	28	70	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80+

Town of Arlington, Massachusetts

Committee Appointment:

Summary:

7:30 p.m. Alex Bagnall, Envision Arlington Standing Committee

- Board will vote on committee appointment.

ATTACHMENTS:

	Type	File Name	Description
	Reference Material	Agenda_Item_2_Bagnall_Cover_Letter.pdf	A. Bagnall Cover Letter
	Reference Material	Agenda_Item_2_Bagnall_Resume.pdf	A. Bagnall Resume

ALEXANDER BAGNALL

10 Wyman Street Arlington, MA 02474 | 781-307-0515 | alex.bagnall@gmail.com

July 24, 2020

Envision Arlington Committee
730 Massachusetts Ave.
Arlington, MA 02476

To Whom It May Concern,

This is a letter to express my interest in serving on the Envision Arlington Committee. I have long admired the Committee's mission of actively working to engage the community and solicit the community's input on a variety of fronts.

My own involvement with town politics started with the Build Arlington's Future campaign in 2016, for which I was a captain for precinct 7, a role I reprised in 2019. I was elected to Town Meeting in 2017 and just re-elected this past spring (though to no opposition). As a parent of a child in the school system coming out of a school debt exclusion campaign, I started squarely in the "parents concerned with the schools" caucus of town meeting. During the lead up to the 2019 Town Meeting, I attended one session on the zoning articles led by Erin Zwirko and co-hosted a general precinct meeting (with encouragement and facilitation from Envision) to discuss the upcoming warrants with community members. I was new to zoning questions and both those sessions were quite eye-opening in hearing the vehement opposition to a little more housing raised by some community members. Over the following summer I read *The Color of Law* and began to make an active effort to educate myself on this issue. In the fall I was invited to join the Equitable Arlington group and get further into these discussions with some like-minded people. I also continued my own education by reading *Dream Hoarders, Segregation by Design, Neighborhood Defenders* and a variety of academic papers. I spent a few hours in the Envision booth last Town Day engaging in housing discussions and getting people to register their opinion on our housing challenges.

One of the things that has drawn me into town politics is that the issues are concrete and immediate. I have always thought of Arlington as a progressive town that was continually looking for ways to improve the town and make its residents' lives better. With zoning, the more I read, the more I realized that our town zoning bylaws were quietly making inequality worse along both race and class lines. While many of society's issues with race and class seem huge and intractable, zoning one seems like one area where we can make meaningful improvements.

I recognize that town action alone isn't going to solve the housing crisis, but think, like Niebuhr, that we need the courage the change the things we can. I think sentiment is moving in the direction but it is going to take a lot of community engagement and discussion to educate people on the issue and develop solutions suitable to the town. The problem has been 50 years in the making and it won't get solved overnight.

On non-housing fronts, my wife Cristin (chair of ACAC and on the Economic Recovery Task Force) and I went around to local businesses to encourage them to apply for assistance from the town as part of the Amazing Arlington effort. I think we drummed up a few applications and made a few businesses feel like the town really did care about them. Though neighbors have now taken the lead, I helped organize our first several block

parties, which include my grilled stuffed flatbread that is famous on Wyman Street from Mass Ave to Broadway. I also spent a few years helping coach youth soccer.

Thank you for inviting me to apply and for your consideration.

Alexander Bagnall

Alexander Bagnall

10 Wyman Street, Arlington MA 02474 ph: 781-307-0515 alex.bagnall@gmail.com

PROFESSIONAL EXPERIENCE

Cavanaugh Tocci Principal Consultant *2014 - present*
Senior Consultant *10/2007 - 2014*

·Consult with architects and owners on design of audiovisual and theatrical consulting, including design of lighting, rigging, platforming, seating and general performance and support space design
·Projects including theaters, schools, athletic facilities, courthouses, and conference rooms

Yale School of Drama Adjunct Lecturer *9/2010 – present*

·Teach graduate school class on theatrical lighting system design

High Output Systems Sales Project Manager *8/2006-10/2007*

·Manage installation of lighting, rigging and sound systems in new construction and renovations
·Primary contact for owners, contractors, architects, consultants and end users

Auerbach Pollock Friedlander Technical Designer *9/2002-6/2006*

·Design and documentation of theatrical equipment, rigging, audio and lighting systems
·Assist with room design including seating , sightlines and accessibility requirements
·Draft technical and architectural details

Kimmel Center for the Performing Arts Assistant Production Manager *6/2000 - 8/2002*

·Represented owner's interests in completion of new facility
·Configured and implemented computerized event management software
·Purchased $1.5 million of owner purchase theatre equipment and FF&E items
·Supervised IATSE crews

Yo-Yo Ma, Obrigado Brazil Tour Tour Lighting Designer *9/2002*

Yo-Yo Ma and The Silk Road Ensemble Tour Lighting Designer *1/2001, 2/2006*

Cesar Pelli & Associates Intern *Summer 1999*

·Drafted and built models for Orange County PAC and South Coast Repertory Theater

Theatre Projects Consultants Intern *Summer 1998*

·Drafted details, riser diagrams, lighting layouts for projects including RPAC, Bard College, Shakespeare Rep., The Goodman, Selwyn/Roundabout

Barbizon Light of New England Sales *2/95 – 8/97*
Web Site Manager *9/95-5/2000*

ACADEMIC EXPERIENCE

Yale School of Drama *1997 - 2000*

Production experience included: Lighting Designer, Master Electrician, Sound Designer, Sound Engineer, Asst. Technical Director, Asst. Props Master

Oberlin College *1989 - 1993*

Lighted 3 mainstage, 7 blackbox and several concerts

EDUCATION

M.F.A. ,Yale School of Drama, New Haven, CT - 2000
Technical Design and Production Dept., Theater Engineering Concentration
Course work included: Theatre Planning, Architectural Practice, Acoustics, Rigging, Structural Design, Sound System Design, Production Management

B.A., Oberlin College, Oberlin, OH - 1993
Theater Major, Technical Theater Concentration

References available upon request

Town of Arlington, Massachusetts

Presentation and Discussion:

Summary:

7:40 p.m. Residential Design Guidelines and Design Review Process for R0, R1, R2 Zoning Districts

• Representatives from Harriman and the Department of Planning and Community Development will make a presentation and facilitate a discussion with the Board

ATTACHMENTS:

	Type	File Name	Description
	Reference Material	Agenda_Item_3_Arlington_Residential_Design_Guidelines.pdf	Arlington Residential Design Guidelines
	Reference Material	Agenda_Item_3_ARB_Presentation.pdf	ARB Presentation

DRAFT

Arlington

Residential Design Guidelines

Epping Street, Arlington

Prepared for:

Design Review Working Group

Town of Arlington

Town of Arlington
Department of Planning and Community Development

Draft Report:

Last Updated: 09.21.20

Acknowledgments

Town of Arlington

Arlington Redevelopment Board

Design Review Working Group

Andrew Bunnell, Arlington Redevelopment Board

Patrick Hanlon, Zoning Board of Appeals

Wynelle Evans, Resident

Ann Forsyth, Resident

Alane Hodges, Resident

Wendy Richter, Resident

Michael Ciampa, Inspectional Services

Department of Planning and Community Development

Jennifer Raitt, Director of Planning and Community Development

Erin Zwirko, Assistant Director of Planning and Community Development

Kelly Lynema, Senior Planner

Planning Team

Harriman

Emily Innes, Director of Urban Planning

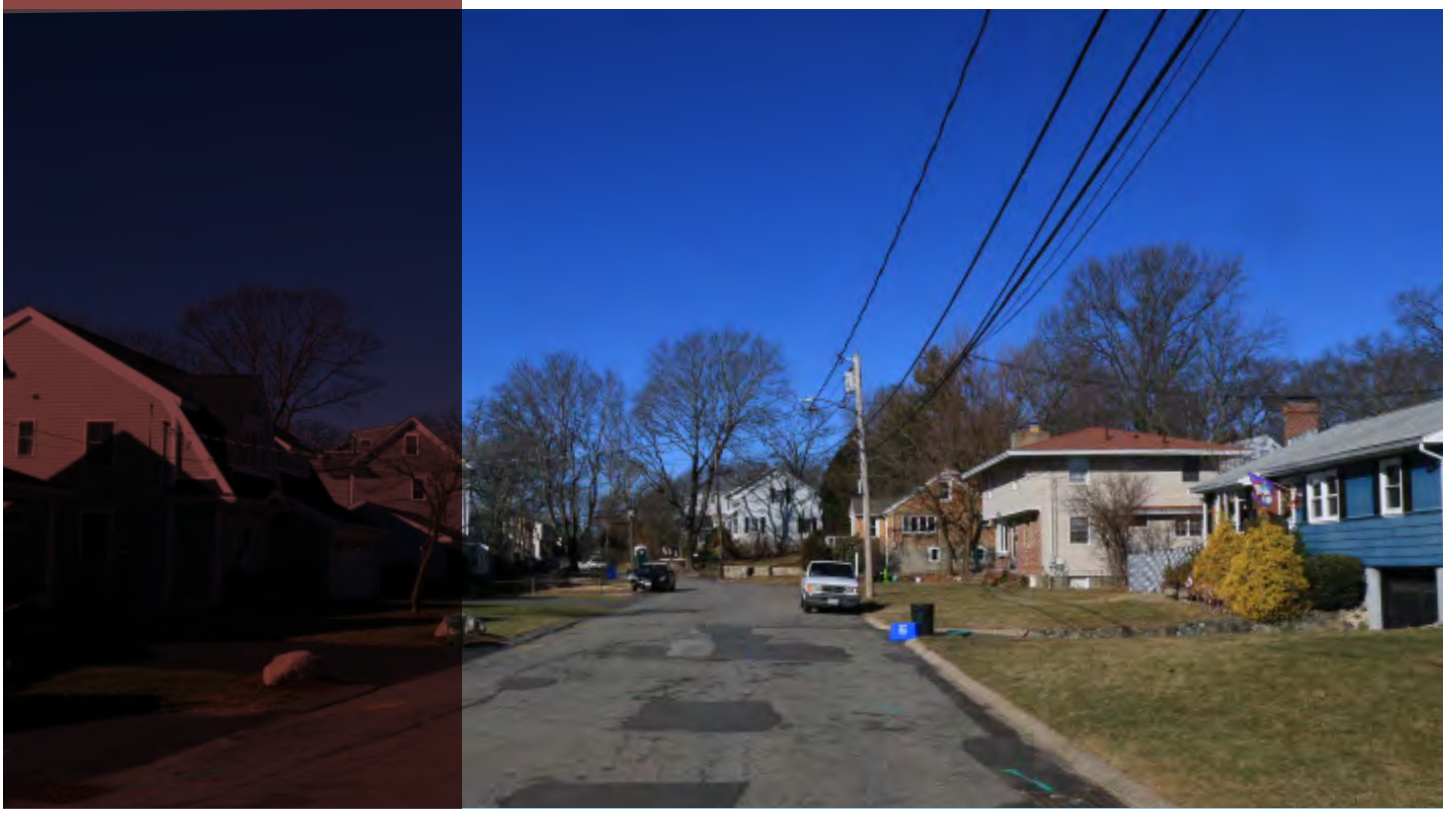
Phillip Hu, Urban Designer/Planner

Jessica Wilson, Urban Designer/Planner

Contents

DRAFT

1 Introduction and Background



Epping Street in Morningside

Arlington is made up of several unique neighborhoods. The diverse houses that make up these neighborhoods give them character and identity. The Residential Design Guidelines will help homeowners, neighbors, and builders to construct and renovate homes that fit within their context.

In May 2015, the Arlington Town Meeting voted to endorse the Arlington Master Plan, "Your Town Your Future", which sets forth policy goals and strategies for the community. In response to a key recommendation from the Master Plan, the Town adopted "The Design Standards for the Town of Arlington." These design guidelines help the Town regulate built form and clarify expectations for both developers and the community. The design standards focus on shaping projects in Arlington's primary commercial and transportation corridors along Massachusetts Avenue and Broadway. The Design Standards address building siting and orientation, height and setbacks, parking strategies, and signage. The Arlington Redevelopment Board incorporates these design standards in their review of projects that trigger Environmental Design Review. Multi-family, mixed-use, and commercial developments are generally subject to Environmental Design Review as part of a Special Permit process.

While the current design guidelines apply to commercial, multi-family, and industrial districts, 73% of Arlington is dedicated to low-density residential districts (R0, R1, R2). Most small residential projects in these areas are not subject to the 2015 Design Standards. The Master Plan noted that as local residential real estate values increased, older, smaller homes have been replaced by larger houses that are out of scale with the character of existing neighborhoods. Following a year-long research project on the effect of replacement housing on the community, DPCD determined that a set of Residential Design Guidelines, similar to the Design Standards that apply to the commercial corridor, would help guide future development in the low-density residential districts.

Project Goals

The Town of Arlington would like to work with the community to create Residential Guidelines that:

- Address three sets of interests: the preferences of neighborhood residents; the desires of property owners to add onto or replace existing housing; and the general public interests of the Arlington community.
- Reflect and strengthen the unique character of each neighborhood.
- Codify the balances between different needs in a clear and understandable way - community and individual, aesthetics and market needs, control and flexibility.
- Recommend an approval process that ensures the balance is embodied in the built environment as new structures are built.

Sections of the Document

The following sections supplement the Design Guidelines and describe the methodology used to inform the neighborhood-centric Design Guidelines.

- **Existing Conditions Analysis:** Inventories the current conditions of Arlington's residential neighborhoods and helps define the process.
- **Community Engagement:** Summarizes the feedback received from the two community workshops, online visual preference survey, and draft review comments. The section also will describe what changes were made to the Design Guidelines in response to community feedback.

From the Existing Conditions Analysis, the residential design guidelines will provide strategies to balance differences in lot size between houses. They will also provide strategies to mitigate the appearance of new, larger houses while allowing property owners to build to the allowed zoning envelope. Because any street in Arlington is a diverse mix of styles, the residential design guidelines will not be prescriptive about regulating style. A well-designed modern house can fit in better than a poorly-designed Colonial-style house.

Instead, the Residential Design Guidelines will provide tailored guidance to each of the prevalent House typologies in each neighborhood.

DRAFT

2 Existing Conditions Analysis

Working Group members discuss the elements that make up a newer duplex built in East Arlington.

To strengthen each neighborhood's sense of place, future developments need to be designed in response to their surroundings. At the heart of the Guidelines is an understanding of what characteristics shape each of Arlington's many neighborhoods. The Existing Conditions Analysis will describe Arlington's many neighborhoods and the different housing typologies that help to define the neighborhoods.

In the early to mid-20th century, Arlington developed into a streetcar suburb in the Boston area. Today, it is a densely developed, vibrant town seeing increased interest in redevelopment in its many low-density residential neighborhoods.

Key Questions

The Existing Conditions Analysis will seek to understand the following:

- What are the different neighborhoods in Arlington and what urban design factors give them their unique sense of place?
- Many residents are concerned that recent constructions are oversized and do not fit the context; is this actually true and what is the root cause of this issue, from both a regulatory and design perspective?

Methodology

The Existing Conditions Analysis will first outline the key design issues and patterns of residential redevelopment that impact the identity of a neighborhood.

Next, the Analysis will use mapping and an architectural typology inventory to better understand the factors that differentiate the neighborhoods from each other. The Existing Conditions Analysis will then propose "fuzzy" boundaries for different neighborhoods based on community feedback and data.

Finally, the Analysis will review the current zoning regulations and review process to better understand how a Design Review would be added to the existing process.

Fast Facts (2018)

The population grew 6.6% to 45,624 Residents from 2010.

59% of Arlington's 18,600 households owned their homes.

The median value of owner-occupied housing was $609,800.

The median household income was $107,085.

Source: US Census, ACS 2018.

2.1 Existing Patterns and Concerns

Many residents say that many of the newly built homes and renovations do not fit in their context. Demand for more living space, the need for garage space, and a lack of clarity about best design practices have led to new construction that feels out of scale with the rest of the neighborhood.

Heat Map of permitting data in Arlington from 2010 - 2017

Recently, homeowners and developers have been replacing or renovating older housing. While household size has decreased in the Boston region, the average size of Arlington's houses has increased. The median size of a single-family house in Arlington is 1,846 sf, but the median size of a newly-built single-family house in Arlington between 2010 and 2020 is 3,446 sf. As housing prices rise, homeowners and developers are incentivized to replace existing, smaller houses on large lots with much larger homes.

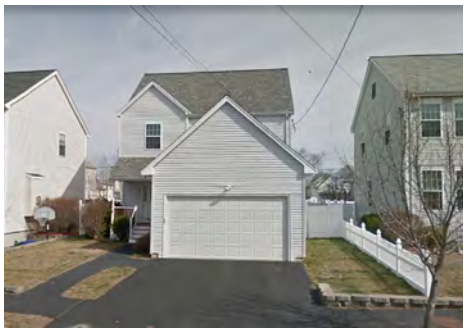
Furthermore, much of Arlington was developed as a streetcar suburb, prior to the advent of the car. In 2017, 61 percent of commuters drove alone, compared to 20 percent of commuters who took transit. Most households own one or even multiple cars to get around. Arlington, in most cases, does not allow overnight street parking for residents. The combination of these two factors means that most homes need off-street parking spaces, even if the original lots were not designed to accommodate parking.

These trends have resulted in new housing that is designed for a very different lifestyle than the current neighborhood fabric. The challenge will be to create design guidelines that allow families to adapt their homes but also to ensure new homes are designed to fit their context.

Residential Design Concerns Overview

Oversized shed dormers on gable roof effectively create three-story houses; South Boston, MA.
Source: Google Streetview.

Large home with many elements; Lexington, MA.
Source: Google Streetview.



Garage on a "snout house"; Medford, MA.
Source: Google Streetview.

Lack of clarity and consistency in design

Many renovations, visible from the street, can cause an updated home to appear more massive or out of place with the neighborhood. A new, oversized dormer can add the appearance of significant height, effectively transforming a two-and-one-half-story house into a three-story house. Mismatched rooflines and other additions that do not fit the architectural language of the existing buildings can also create the appearance of significant massing.

More living space, bigger houses

New houses are often built to their maximum zoning envelope or built to the maximum height and setbacks allowed by zoning. Attached garages and site topography have also pushed living space further above the street, creating houses that seem significantly larger than their neighbors.

Parking that dominates the principal facade

New houses are required by zoning to include off-street parking. Narrow lots prevent many houses from including side driveways and a rear, detached garage.

One solution has been the "park-under"; while the typology is common even in older homes, the average garage door width has increased. Side-by-side townhomes also require two driveways and often place them side-by-side, further emphasizing the garage. Recent updates to maximum driveway slopes and counting driveway spaces as off-street spaces have helped mitigate some of these issues.

Note: Examples from other communities were used to protect privacy of Arlington residents.

2.2 Defining Arlington's Neighborhoods

Arlington is made up of several unique neighborhoods. The diverse houses that make up these neighborhoods give them character and identity. Neighborhoods are distinguished by their development history, urban design, and layout.

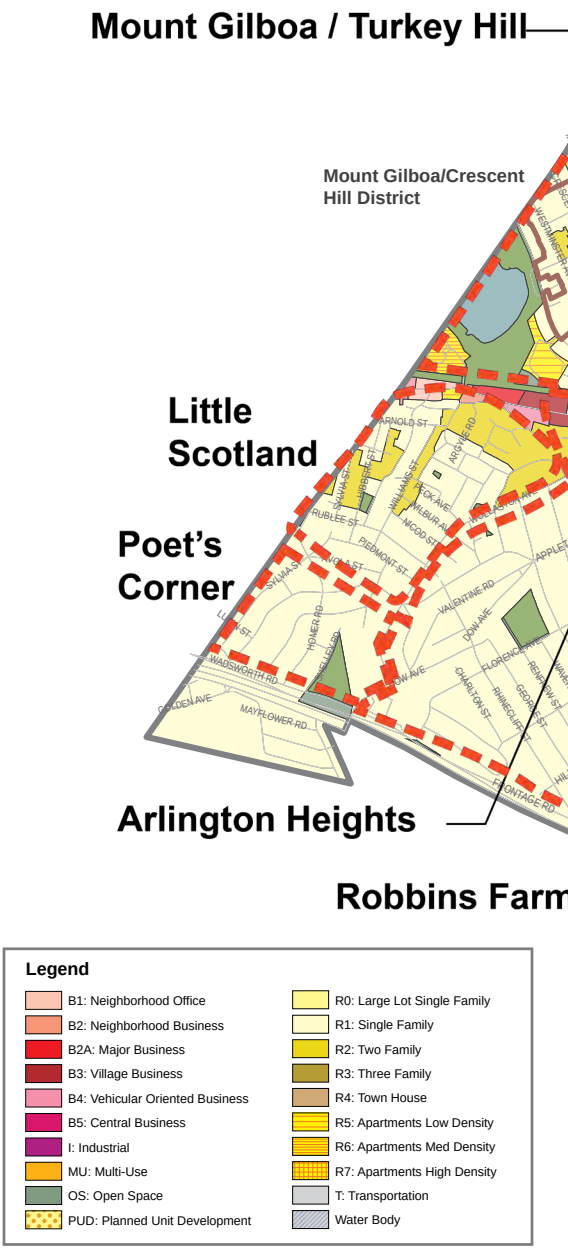
The way Arlington residents describe their neighborhoods differ greatly from the blunt dimensional requirements in zoning. While most of Arlington is zoned as either R0, R1, and R2, the areas within these zoning districts can vary greatly, depending on the neighborhood. Achieving more responsive and comprehensive residential urban design guidelines requires a more fine-grained understanding of Arlington's many neighborhoods.

Many of the names and boundaries of neighborhoods exist only in each resident's mental map. The boundary between East Arlington and Arlington Center will be different for each person. This analysis acknowledges that boundaries are fluid and constantly shifting. Through an analysis of assessor's data and input from the community, these neighborhoods will help shape different sets of guidelines for each neighborhood's collection of housing typologies.

Unlike zoning and its rigid boundaries, the analysis proposes a set of "fuzzy" boundaries to define neighborhoods. Arlington's neighborhoods are filled with diverse housing typologies, so the urban design guidelines provide flexibility to homeowners and designers. The neighborhoods are meant as a guiding, starting point in order to understand the development patterns and building characteristics in each of Arlington's neighborhoods.

The analysis synthesized the following information to create the Neighborhood Map:

- Assessor's data, including year built, lot size, Floor Area Ratio (FAR), and Exterior Style
- Community input and "mental maps" provided by DPCD staff and Design Review Working Group members
- Existing maps, including Zoning and other websites



Zoning map of Arlington with Residential Design Guidelines "fuzzy boundaries" overlaid on top. Boundaries subject to change throughout process.

DRAFT


Morningside
Arlington Center
Russell District
Avon Place District
Broadway District
Jason Heights
East Arlington
Pleasant Street District,
Jason/Grey Street District,
Central Street District
Kelwyn Manor
Miles
0
0.2
0.6
1.0

2.3 Neighborhood Attributes

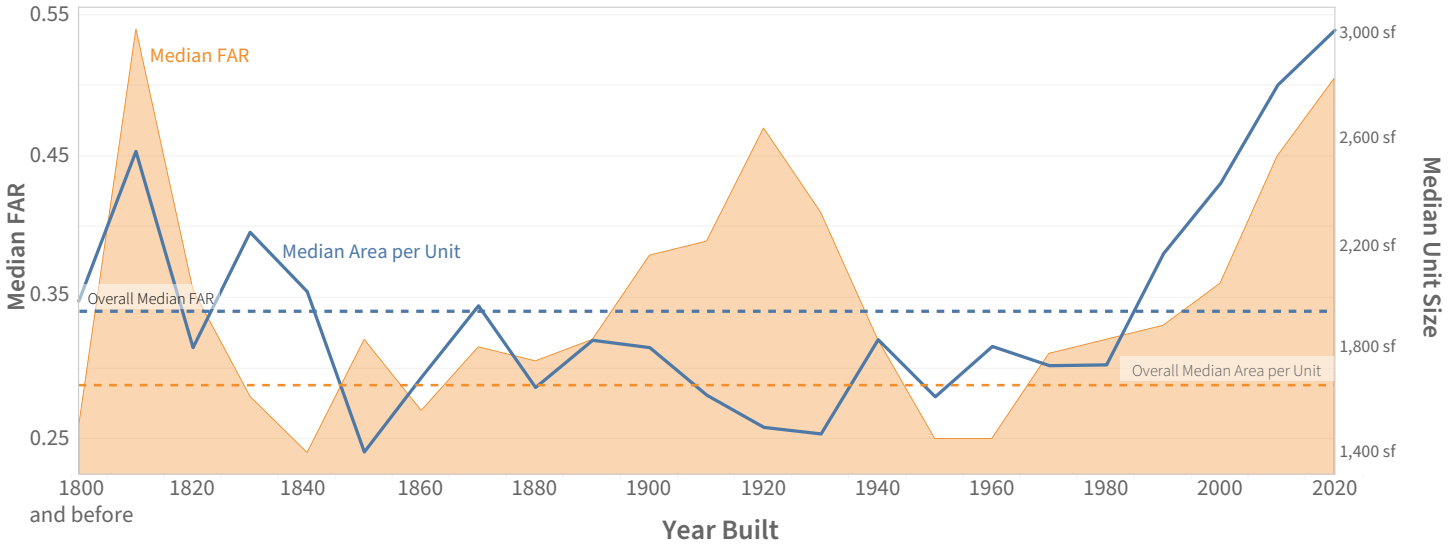
A neighborhood's sense of place depends on its residents but also the physical characteristics that make up a neighborhood. Elements that help to distinguish different neighborhoods include the history and pattern of development, landmarks and open space, street layout and lot size, architectural styles, and massing.

To study the different neighborhoods, the existing conditions analysis primarily used 2019 Assessor's data provided by the Town of Arlington and images from site visits, community members, and Google Streetview.

Overall, neighborhoods that have a denser urban fabric were developed earlier. This is probably because these areas were closest to the original streetcar line on Massachusetts Avenue (East Arlington, Arlington Heights). Neighborhoods that were predominantly developed when car ownership increased have a less dense urban fabric, meaning the lots are bigger.

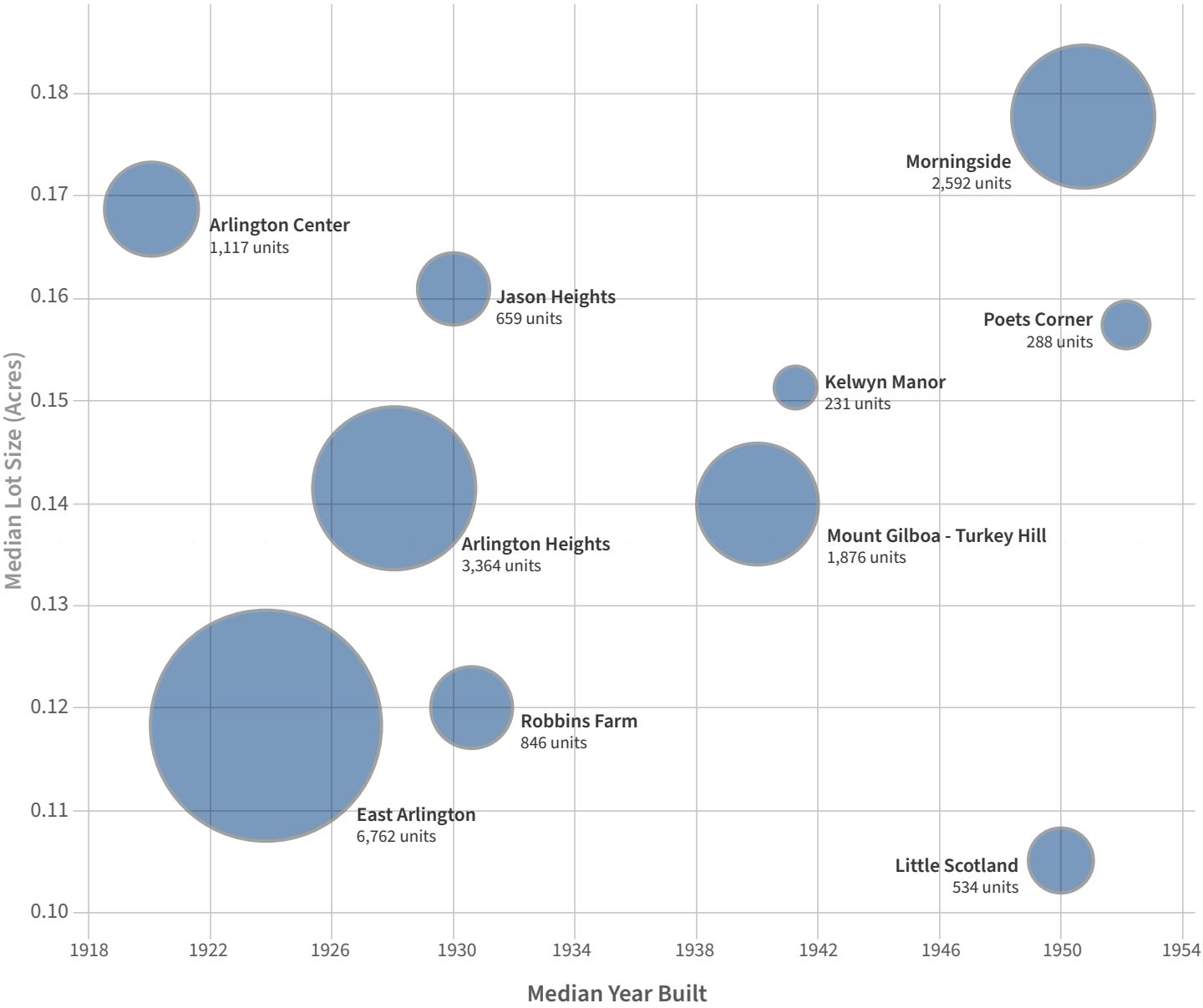
Another key pattern of development is a change of density over time. The median floor area ratio (FAR, calculated by dividing the gross square footage by the lot size), of development increased in the early 20th century as many two-family houses were built. While the total square-footage of development increased, the median area per unit decreased slightly. Recently, the median FAR of new homes has increased due to the increased size of household units.

Median Floor Area Ratio (FAR) and Median Area per Residential Unit Over Time in Arlington



Comparison of Floor Area Ratio (FAR) of housing and size of residential units over time. Note that in the early 20th-century, denser 2-families with smaller units were being built (High FAR, Small units), but more recently, larger single-family houses are being built (High FAR, Large units).

Median Lot Size (Acres), Median Year Built, and Number of Units by Neighborhood



Neighborhoods are plotted by median lot size and median year built. Lot size describes how compact the neighborhood's street layout might be. Generally, older neighborhoods such as East Arlington and Arlington Heights are more compact than more recently developed neighborhoods such as Morningside.

2.3 Neighborhood Attributes - History of Development

Arlington was primarily developed as a streetcar suburb in the 1920s when its population grew by more than 90 percent.

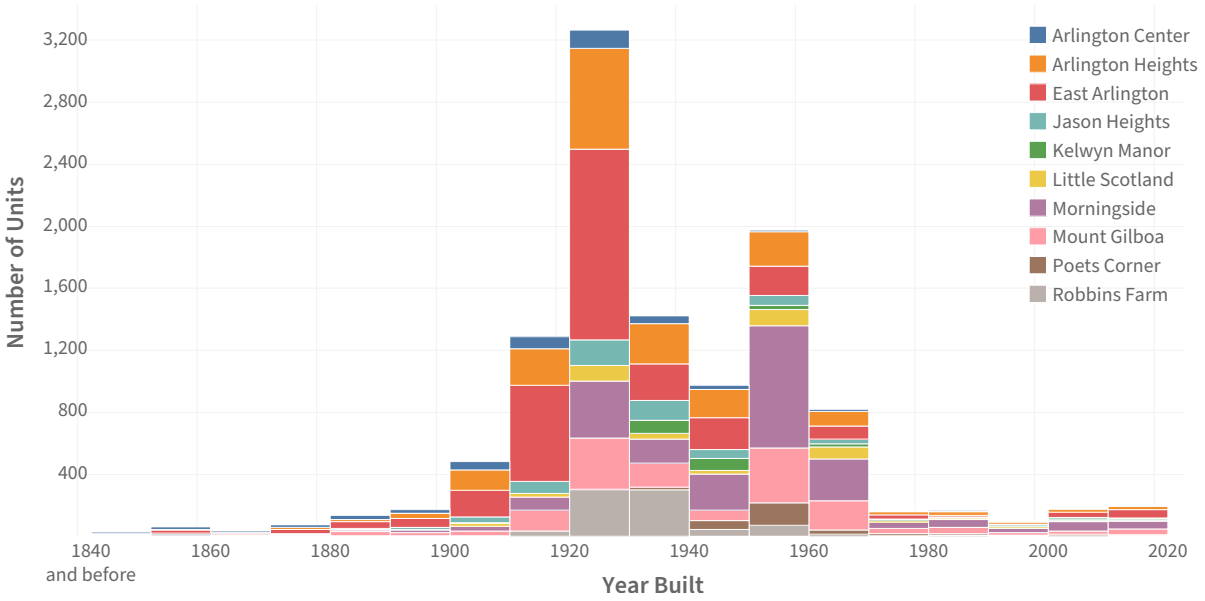
Arlington was originally called Menotomy, a rural village and considered part of Cambridge. Mills were built along Mill Brook; the Old Schwamb Mill claims to be located on the oldest continuously-used mill site, with documented operation dating back to about 1684. On the first day of the Revolutionary War, a battle fought in front of the Jason Russell House resulted in 25 colonial casualties.

Most of Arlington was developed during the advent of the streetcar in the early 20th century. East Arlington and Arlington Heights saw the bulk of new units being built.

The 79 Streetcar went from Harvard Square in Cambridge to Arlington Heights but ended service in 1955. Today, the MBTA 77 bus roughly follows the same route.

When more families could afford cars in post-war America, new subdivisions were built in neighborhoods further from Massachusetts Avenue, such as Morningside. In the 1960s, Arlington expanded many of the multi-family zoning areas in response to higher demand for apartments, and a variety of apartments were built, ranging from smaller 6-8 family "pill boxes" to larger towers. By 1975, after a moratorium, the master plan and zoning called for more restrictive zoning areas to protect single-family and two-family homes. Furthermore, more review, such as the Environmental Design Review and Special Permit process, were added to review new multi-family projects.[1]

Year Built of Existing Housing by Neighborhood



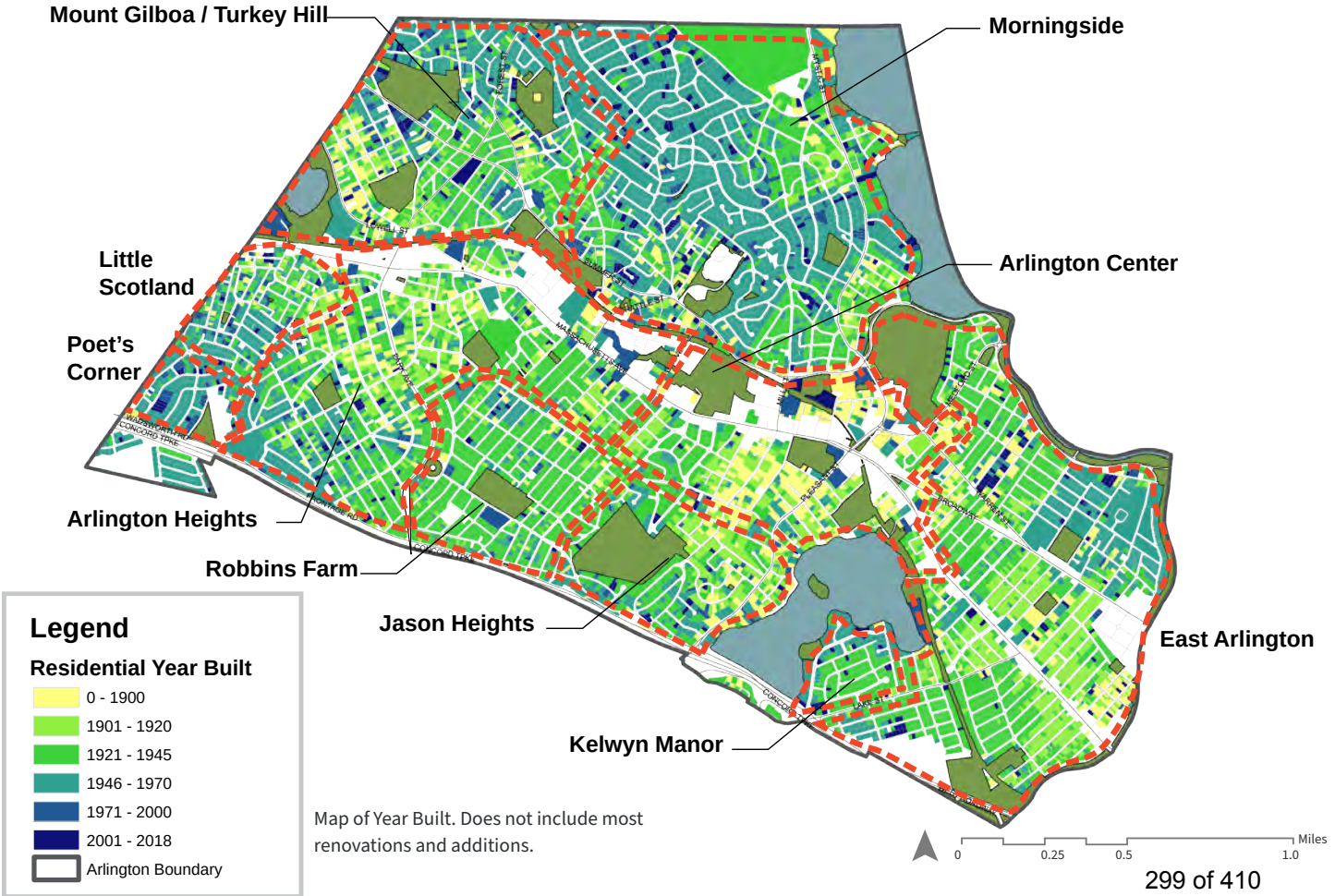
This graph summarizes the year built of current structures that stand today. Note that if an original house was demolished and redeveloped, it would not be included. This does not display permitting data.

1. Hoffman, Alexander Von. Creating and Anti-Growth Regulatory Regime: A Case from Greater Boston, 2006.

The Jason Russell House, a yellow colonial built in 1740. It is the site of an early battle of the American Revolution. *Source: Wikimedia.*

Example of a 'Garrison" Colonial built in the mid-20th century. *Source: Google Streetview.*

Example of a contemporary colonial house built in the 2010s.



Map of Year Built. Does not include most renovations and additions.

Summary of Arlington Development and Style History

Arlington Center, Colonial Revival 1884

Colonial Revival (1860 - Today)
Dutch Colonial, Garrison

Cutter House, Greek Revival, Federal, 1830

Cushman House Queen Anne, 1880s

Historic Styles "Old Style" (1800 - 1910)
Stick Victorian, Queen Anne, Federal, Tudor Revival, Second Empire, Greek Revival

Menotomy
Pre-1806

Before European settlement, there were significant Native American settlements. Farms and a small commercial center were developed during Colonial times.

West Cambridge: Country Retreat
1807 - 1866

Transportation improvements link Arlington to Boston. Small-scale industrial operations move in. Genteel country houses were developed near the town center. Many homes built during this period were demolished.

Early Suburbanization
1867 - 1910

Mills and factories briefly peaked but were replaced by market gardening. Electric railway service was extended throughout town. Farm areas closer to Mass Ave were subdivided for middle-class housing.

Jason Heights, Dutch Colonial, 1926

Jason Heights, Garrison, 1935

Turkey Hill, Modern Colonial, 2018

Arlington Heights, Cape, 1941

Morningside, Ranch, 1965

Minimal Traditional (1910 - 1950): *Cape, Bungalow*

Ranch, Raised Ranch (1950 - 1970)

East Arlington, 1924

East Arlington, 2016

Stacked Two-Family (1900 - 1940)

Garden Apartments, Multi-family

Townhouse Two-Family (2000s)

Accelerated Suburbanization
1911 - 1940

Farms were sold to be subdivided for dense, single- and multi-family housing to house an increasingly working-class and immigrant population in East Arlington.

Modernization
1941 - 1970

Subdivisions of single-family, Colonial-Revival and ranch houses continued to be developed. The automobile becomes even more important as a way to get around. Areas such as Morningside were developed.

Mature Town
1970 - 2020

Arlington continues to be a residential-focused town and is largely built out. Small infill development and renovations replace older housing stock.

This timeline is intended for illustrative purposes only. For a more detailed account of Arlington's historic architectural resources, please refer to the Arlington Historic Preservation Survey Master Plan, released in April 2019.

2.3 Neighborhood Attributes - Density

Lot Size and Floor Area Ratio (FAR) are two ways to measure built density. The pattern of massing gives neighborhoods different characters.

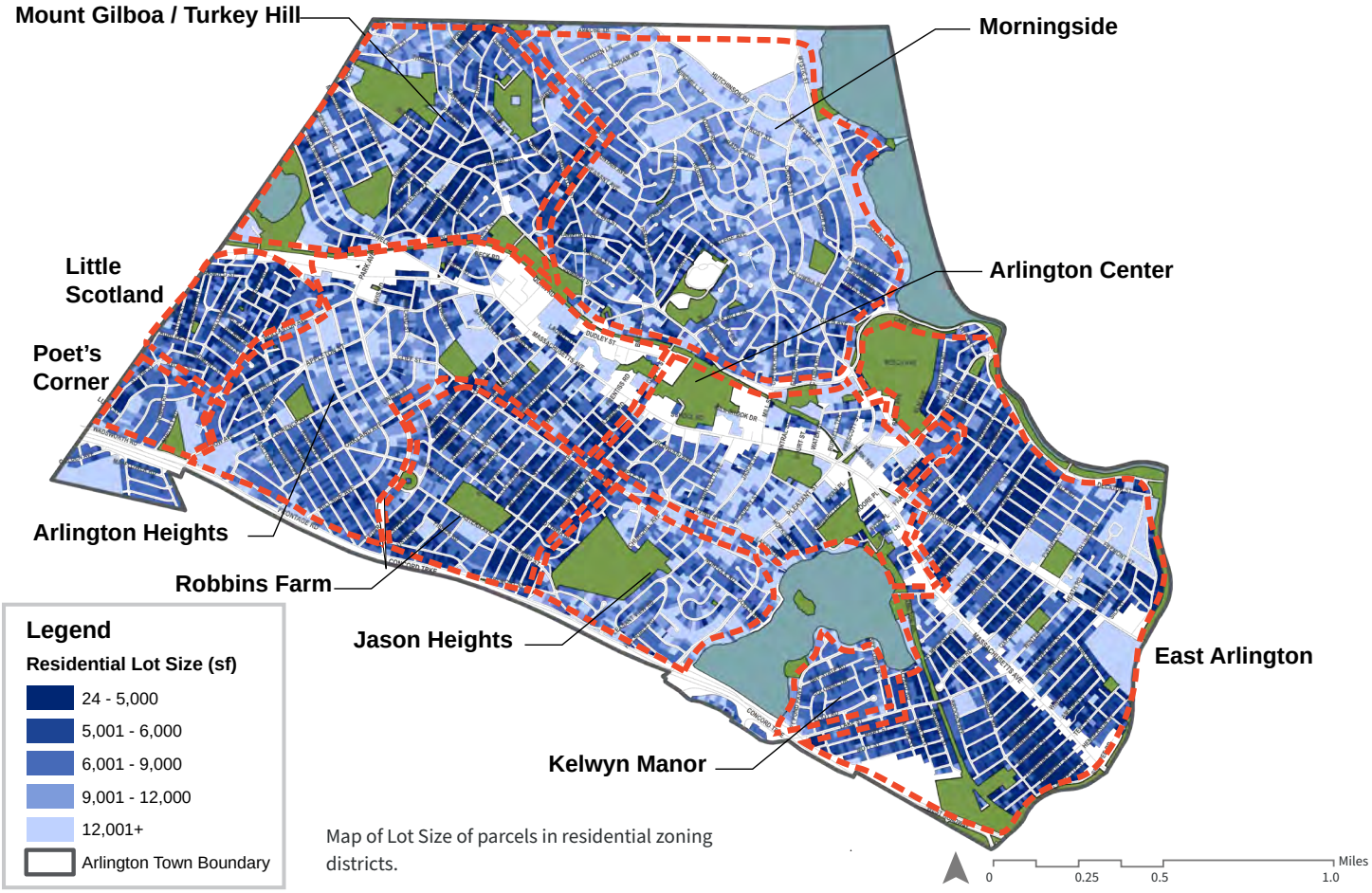
East Arlington and the Massachusetts Avenue Corridor are Arlington's densest neighborhoods. Much of the neighborhood fabric consists of larger two-family houses that are closely spaced together on smaller lots.

Morningside is the least dense as it was mostly developed later and on larger lots. Homes generally have a garage and more spacious yards.

Some historic homes in neighborhoods such as Arlington Heights, Arlington Center, and Jason Heights also have larger lots.

Larger houses on large lots next to smaller houses can cause an abrupt change in the neighborhood fabric.

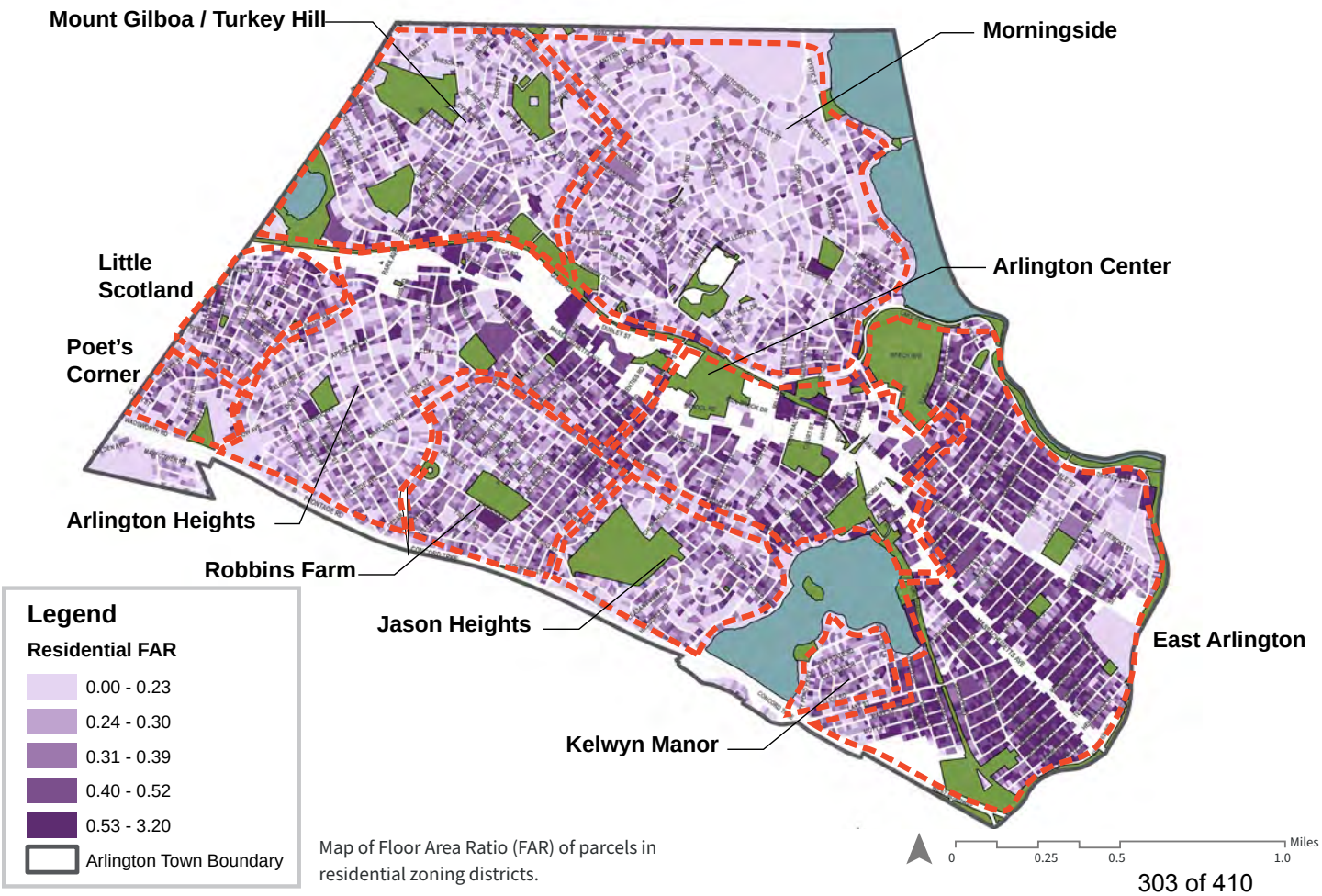
The initial design of a subdivision can create another abrupt change between neighborhoods. For example, Little Scotland has a much finer block pattern than the neighboring Arlington Heights.



Map of Lot Size of parcels in residential zoning districts.

Example of two homes located across the street. Larger lots allow for a larger house while smaller lots constrain development due to side and rear yard requirements. *Source: Google Streetview.*

New developments generally are built to their zoning envelope maximum.



Map of Floor Area Ratio (FAR) of parcels in residential zoning districts.

2.3 Neighborhood Attributes - Style and Typology

Architectural style is characterized by a building's different elements, massing, and arrangement of elements. Developed over time, each neighborhood consist of a diversity of styles, from small bungalows to grand colonials.

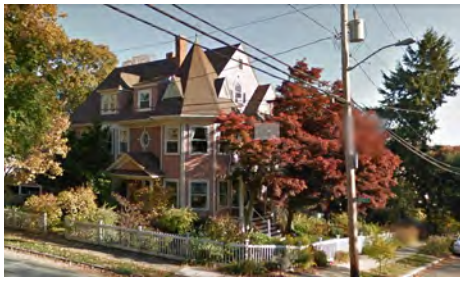
The Assessor's data categorizes homes by exterior style; the analysis consolidated many categories. Much of Arlington's homes take inspiration from Colonial-Revival style. These homes borrow elements common in Colonial homes such as the types of windows, shutters, roof slope, and other decorative elements.

Smaller typologies (Capes, Bungalows) also borrow from the Colonial tradition but are distinct in their smaller massing.

A few other historic, eclectic, or unique style houses (categorized as "Old Style") also are interspersed. These homes borrow elements from movements such as Second Empire, Victorian, and Tudor.

Popular in post-war America, the ranch-style house is the next most common typology. Many of these Ranch homes have low profiles but also borrow common, Colonial decorative elements (e.g., windows).

Example of a Tudor-inspired house. *Source: Google Streetview.*



Example of a Victorian-inspired house. *Source: Google Streetview.*

Example of an older Colonial-style house. *Source: Google Streetview.*

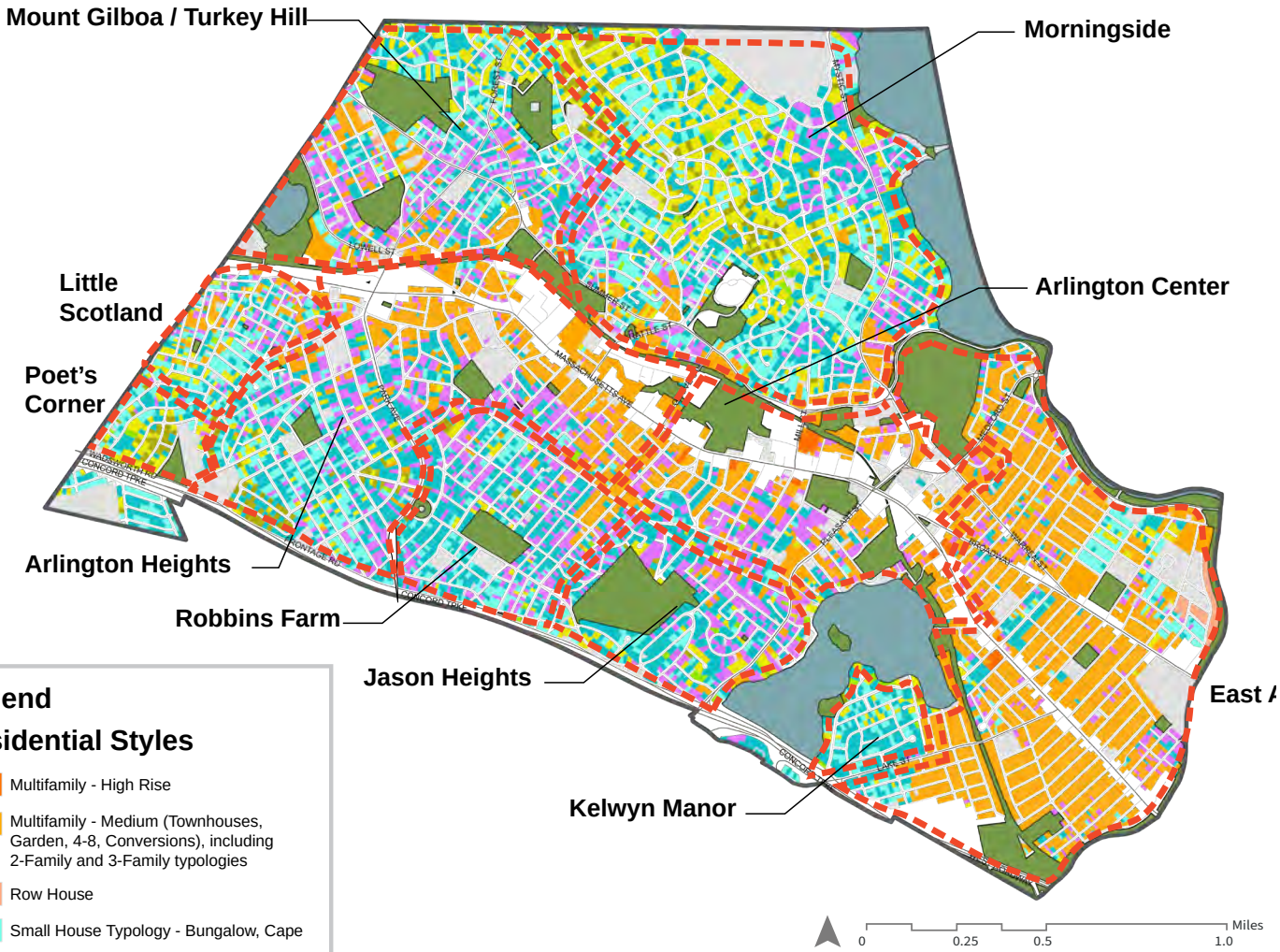
Example of a Dutch-Colonial-style house with gambrel roof. *Source: Google Streetview.*

Example of a one-story Ranch-style house with Colonial elements. *Source: Google Streetview.*

Example of Cape-style houses with Colonial elements.

Example of a Bungalow-style house. *Source: Google Streetview.*

Example of two-family houses. *S ource: Google Streetview.*



Legend

Residential Styles

- Multifamily - High Rise
- Multifamily - Medium (Townhouses, Garden, 4-8, Conversions), including 2-Family and 3-Family typologies
- Row House
- Small House Typology - Bungalow, Cape
- Colonial, Colonial Garrison
- Antique, "Old Style", Tudor
- Split Level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other

Map of exterior style of parcels in residential zoning districts, assigned by Assessors Department.

2.4 Neighborhood Profiles - East Arlington

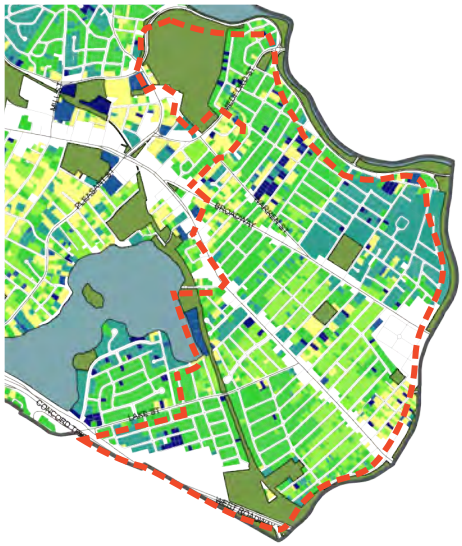
Dominant Styles
Two-Family, Multi-family, Old Style, Colonial

Year Built, Median
1924

Floor Area Ratio, Median
0.49 *(0.34 Arlington median)*

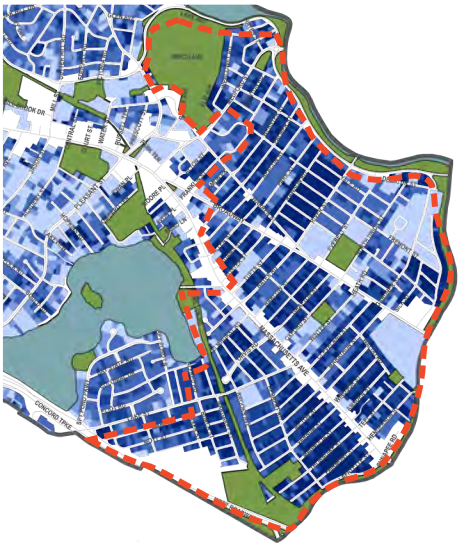
Lot Size, Median
5,149 sf *(6,081 sf Arlington median)*

East Arlington is Arlington's densest neighborhood and is centered around Broadway and Massachusetts Avenue. Between 1900 and 1924 agriculture yielded to suburban density and East Arlington saw explosive growth. It is a mix of primarily two-family houses and multi-family residential buildings. The housing stock is primarily pre-war with a corner of post-war developments such as Menotomy Manor managed by Arlington Housing Authority to the northeast. More recently, East Arlington has seen more condo conversions and duplexes.



Year Built

Before 1900 1920 1945 1970 2000 2018

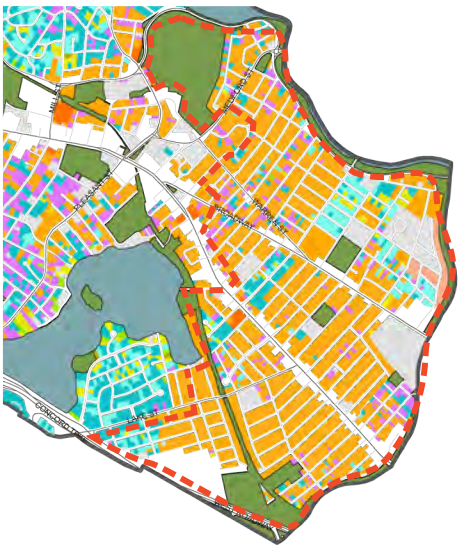


Lot Size (square feet)

0 5,000 6,000 9,000 12,000 More than

Floor Area Ratio (FAR)

0 0.24 0.31 0.40 0.53 More than



Residential Style

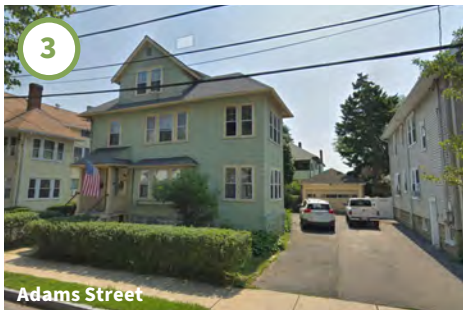
- 2F, 3F, Multi-family (Small-Medium)
- Multi-family (High-rise)
- Row House
- Small Typology (Cape, Bungalow)
- Colonial, Colonial Garrison
- "Old Style", Tudor
- Split level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other

Arlington Historical Commission (AHC) or Historic District properties

Historic District boundary

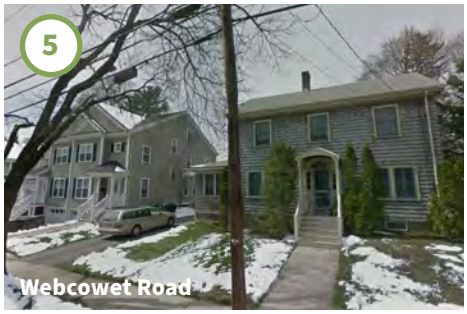
Cleveland Street

Sunnyside Avenue



Adams Street

Orvis Road (AHC)



Webcowet Road

Beacon Street

Source: Google Streetview.

2.4 Neighborhood Profiles - Kelwyn Manor

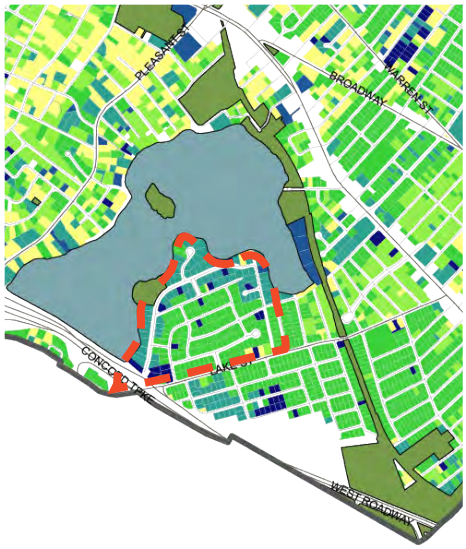
Dominant Styles
Colonial, Cape, Ranch

Year Built, Median
1941

Floor Area Ratio, Median
0.29 *(0.34 Arlington median)*

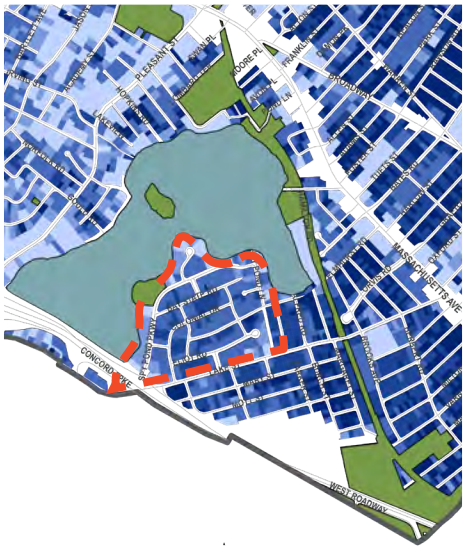
Lot Size, Median
6,632 sf *(6,081 sf Arlington median)*

Initially developed in 1938 by the Kelly Coal Company, the central core of the subdivision is distinctive in its uniform use of period Colonial Revival style homes. Lots are generally larger and the layout is suburban with a curved grid and cul-de-sac's. Most homes have an attached garage. Some newer homes in the neighborhood are larger, particularly on the edges.



Year Built

Before | 1900 | 1920 | 1945 | 1970 | 2000 | 2018

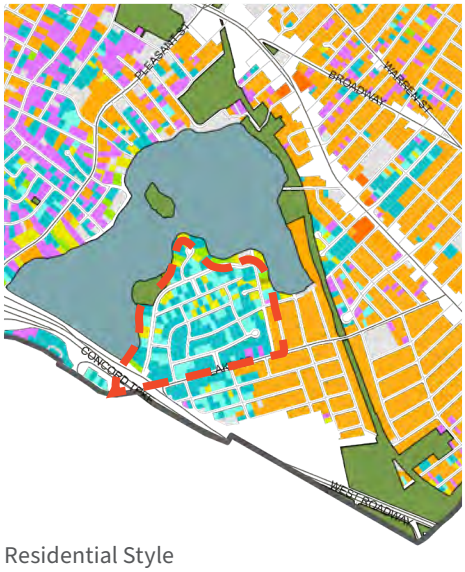


Lot Size (square feet)

0 | 5,000 | 6,000 | 9,000 | 12,000 | More than

Floor Area Ratio (FAR)

0 | 0.24 | 0.31 | 0.40 | 0.53 | More than



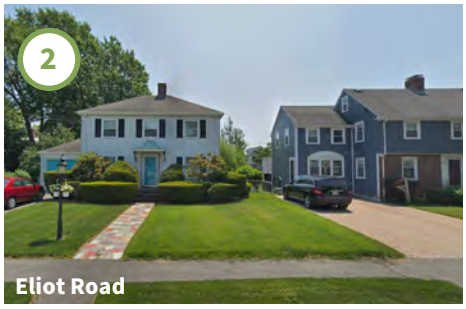
Residential Style

- 2F, 3F, Multi-family (Small-Medium)
- Multi-family (High-rise)
- Row House
- Small Typology (Cape, Bungalow)
- Colonial, Colonial Garrison
- "Old Style", Tudor
- Split level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other

Arlington Historical Commission (AHC) or Historic District properties

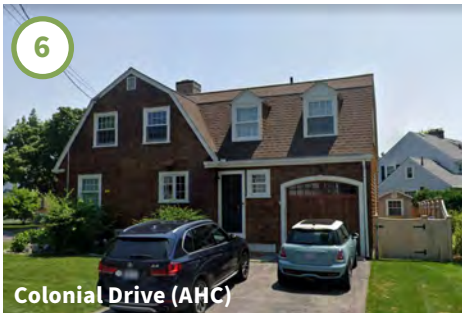
Historic District boundary

Spy Pond Road



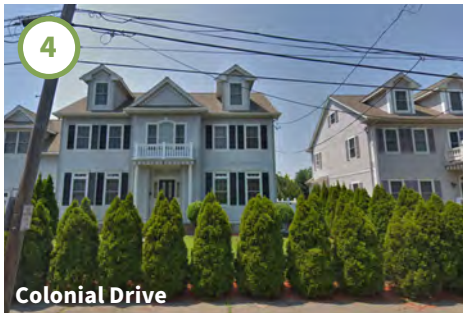
Eliot Road

Roanoke Road



Colonial Drive (AHC)

Colonial Drive (AHC)



Colonial Drive

Source: Google Streetview.

2.4 Neighborhood Profiles -Arlington Center

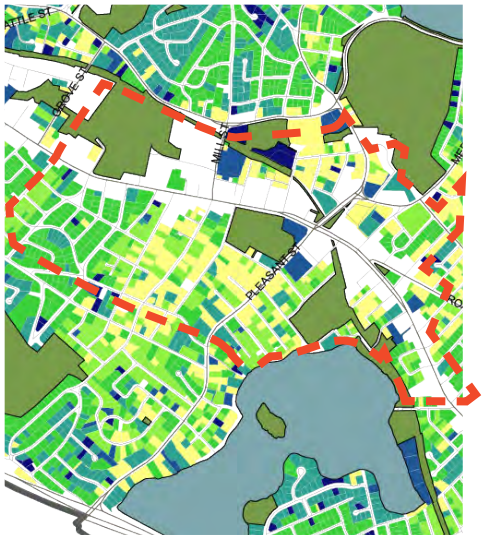
Dominant Styles
Old Style, Colonial, Two-Family and Multi-family

Year Built, Median
1920

Floor Area Ratio, Median
0.37 *(0.34 Arlington median)*

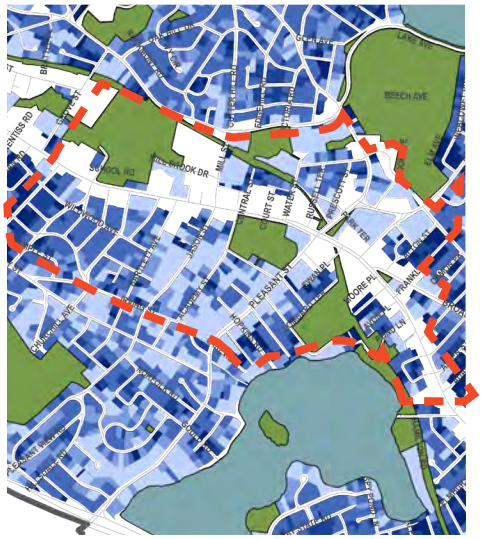
Lot Size, Median
7,329 sf *(6,081 sf Arlington median)*

Arlington Center is Arlington's main commercial and civic areas. This includes Town Hall and other cultural institutions. The Minuteman bikeway marks its boundary to the north. At the meeting point of its surrounding neighborhoods, it is a mix of two-family and single-family houses. There are pockets of denser development closer to Massachusetts Avenue, intermixed with commercial uses. Arlington Center also consists of multiple historic districts and historically significant houses.



Year Built

Before | 1900 | 1920 | 1945 | 1970 | 2000 | 2018

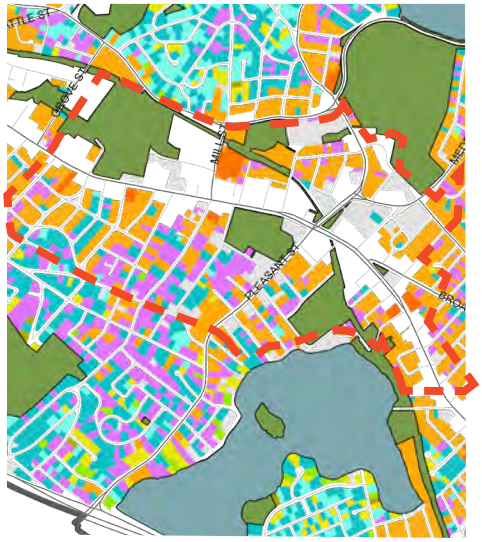


Lot Size (square feet)

0 | 5,000 | 6,000 | 9,000 | 12,000 | More than

Floor Area Ratio (FAR)

0 | 0.24 | 0.31 | 0.40 | 0.53 | More than



Residential Style

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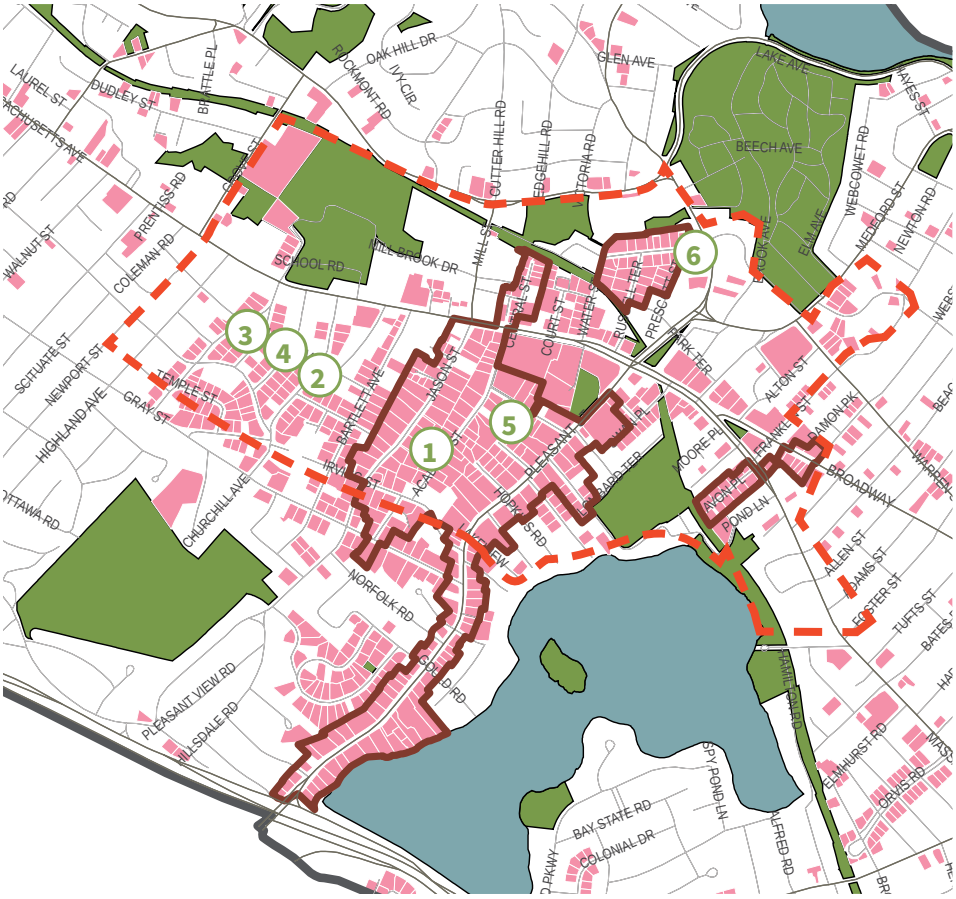
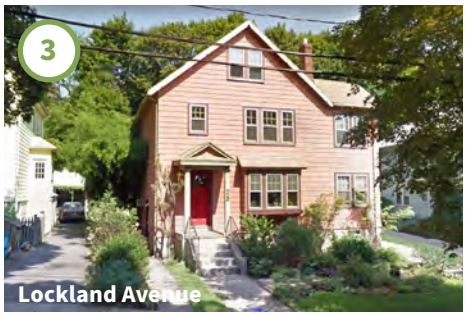
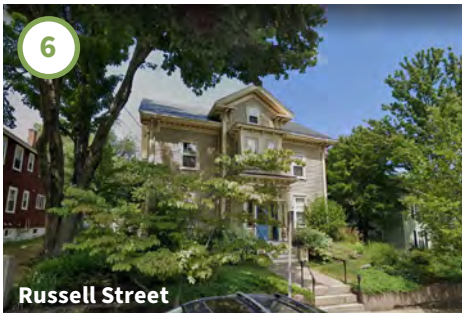
- Non-residential, Other



Arlington Historical Commission (AHC) or Historic District properties

Historic District boundary





Source: Google Streetview.

2.4 Neighborhood Profiles - Jason Heights

Dominant Styles
Colonial, Old Style, Cape

Year Built, Median
1930

Floor Area Ratio, Median
0.31 *(0.34 Arlington median)*

Lot Size, Median
7,041 sf *(6,081 sf Arlington median)*

South of Arlington Center, Jason Heights is distinguished by its larger lot sizes and many older houses. The core of the neighborhood was a 1928 subdivision of George Hill's market garden. Many of the homes incorporate eclectic elements such as a Tudor-revival front chimney.

Year Built

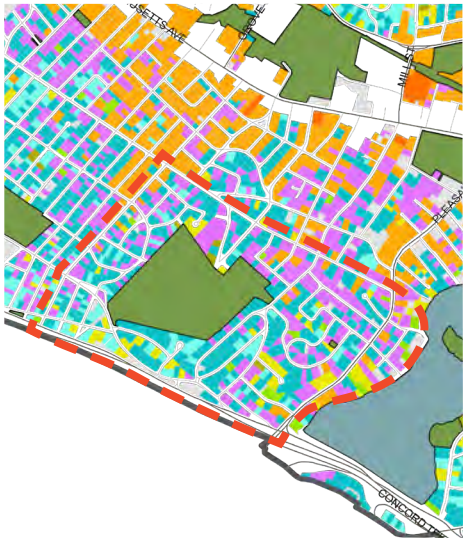
Before | 1900 | 1920 | 1945 | 1970 | 2000 | 2018

Lot Size (square feet)

0 | 5,000 | 6,000 | 9,000 | 12,000 | More than

Floor Area Ratio (FAR)

0 | 0.24 | 0.31 | 0.40 | 0.53 | More than



Residential Style

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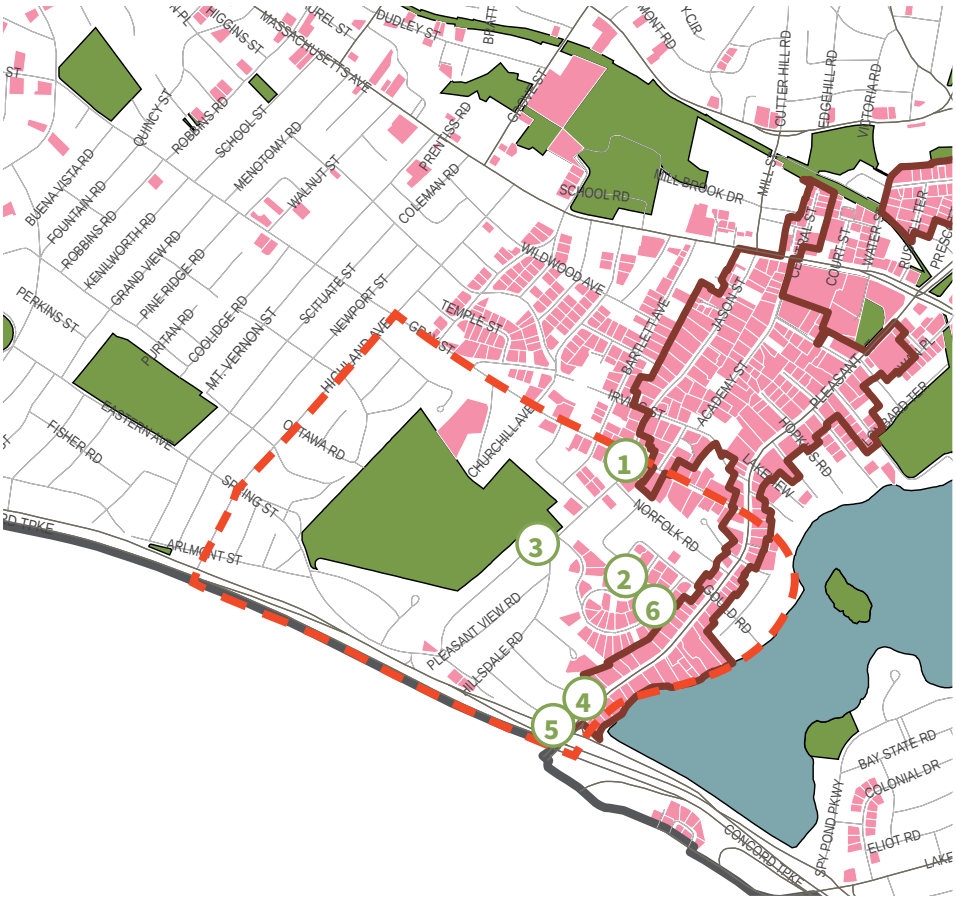
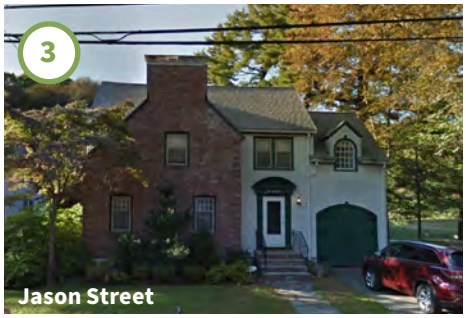
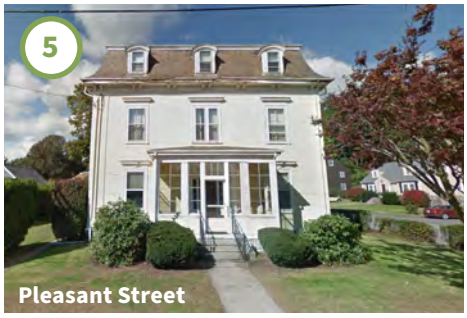
- Row House
- Small Typology (Cape, Bungalow)
- Colonial, Colonial Garrison
- "Old Style", Tudor
- Split level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other



Arlington Historical Commission (AHC) or Historic District properties

Historic District boundary





Source: Google Streetview.

2.4 Neighborhood Profiles
Arlington Heights, Poets Corner, Little Scotland

Dominant Styles
Colonial, Old Style, Cape, Two-Family

Year Built, Median
1928 | Arlington Heights
1952 | Poets Corner
1950 | Little Scotland

Floor Area Ratio, Median
0.31 | Arlington Heights
0.27 | Poets Corner
0.37 | Little Scotland

(0.34 Arlington median)

Lot Size, Median
6,197 sf | Arlington Heights
6,841sf | Poets Corner
4,582 sf | Little Scotland

(6,081 sf Arlington median)

Arlington Heights originally started as an agricultural community with larger houses and farmland. It marks the west end of the Massachusetts Avenue spine that bisects Arlington. In the early 20th-ceuntury, Arlington was built out with subdivisions and infill development .Little Scotland, originally built in 1895-96, is the unofficial name of the Arlington Heights Park subdivision where all the streets are named after places in Scotland. Poets Corner was generally developed later in the post-war time.

Year Built

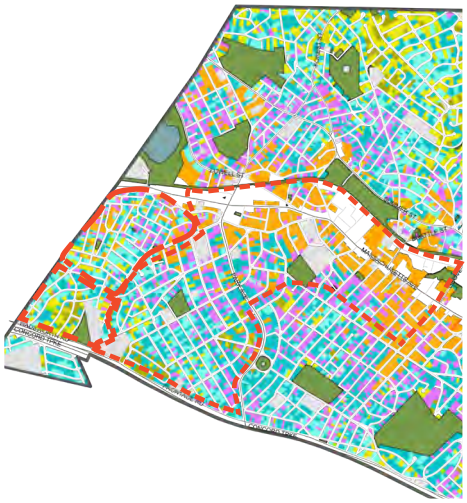
Before 1900 1920 1945 1970 2000 2018

Lot Size (square feet)

0 5,000 6,000 9,000 12,000 More than

Floor Area Ratio (FAR)

0 0.24 0.31 0.40 0.53 More than

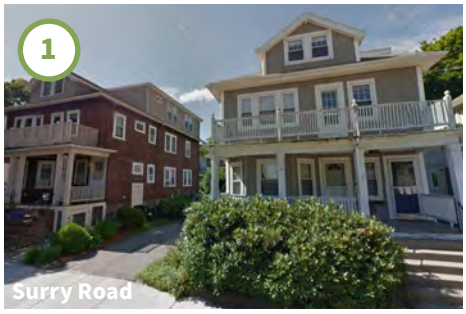


Residential Style

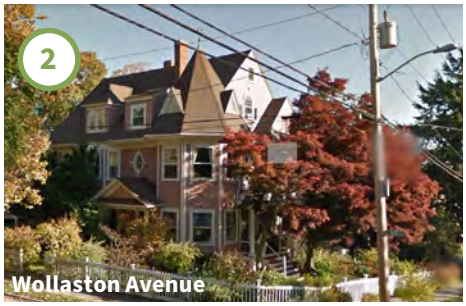
- 2F, 3F, Multi-family (Small-Medium)
- Multi-family (High-rise)
- Row House
- Small Typology (Cape, Bungalow)
- Colonial, Colonial Garrison
- "Old Style", Tudor
- Split level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other

Arlington Historical Commission (AHC) or Historic District properties

Historic District boundary



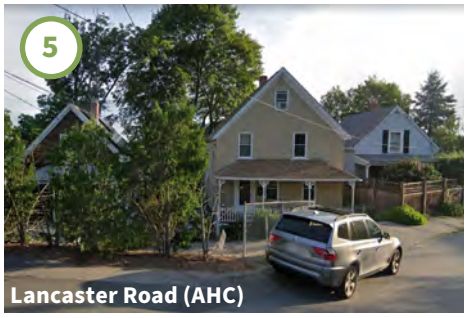
Surry Road



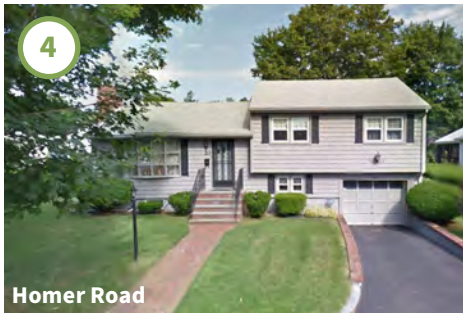
Wollaston Avenue

Inverness Road

Claremont Avenue (AHC)



Lancaster Road (AHC)



Homer Road

Source: Google Streetview.

2.4 Neighborhood Profiles - Robbins Farm

Dominant Styles
Colonial, Old Style, Cape

Year Built, Median
1931

Floor Area Ratio, Median
0.33 *(0.34 Arlington median)*

Lot Size, Median
5,222 sf *(6,081 sf Arlington median)*

Robbins Farm is named after its large park at its core. It is a sub-area of Arlington Heights. The street grid runs up the hill, creating a stepped condition between houses. The houses were also generally built in the 1920s and built on smaller lots. There are many examples of Cape-style or Bungalow-style houses, particularly along George Street. Some of them have been redeveloped in the recent decade.

Year Built

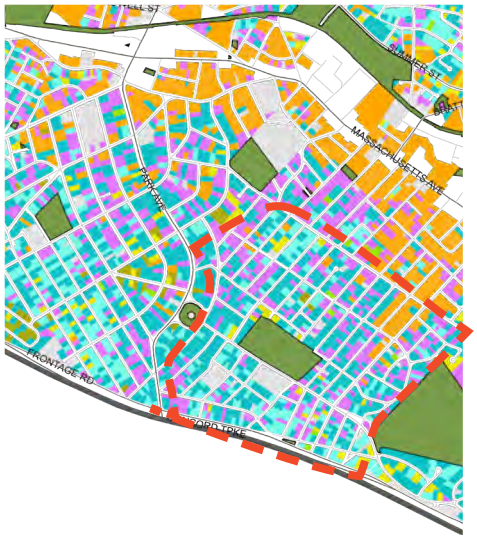
Before | 1900 | 1920 | 1945 | 1970 | 2000 | 2018

Lot Size (square feet)

0 | 5,000 | 6,000 | 9,000 | 12,000 | More than

Floor Area Ratio (FAR)

0 | 0.24 | 0.31 | 0.40 | 0.53 | More than



Residential Style

- 2F, 3F, Multi-family (Small-Medium)
- Multi-family (High-rise)
- Row House
- Small Typology (Cape, Bungalow)
- Colonial, Colonial Garrison
- "Old Style", Tudor
- Split level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other

Arlington Historical Commission (AHC) or Historic District properties

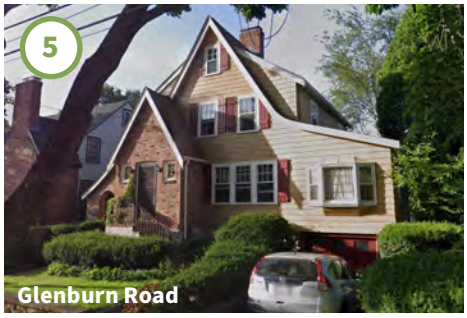
Historic District boundary

Gray Street

Gray Street

Mt Vernon Street

George Street



Glenburn Road

Puritan Road

Source: Google Streetview.

2.4 Neighborhood Profiles - Mount Gilboa, Turkey Hill

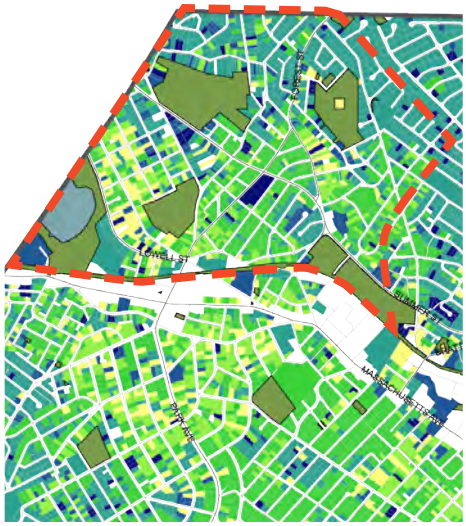
Dominant Styles
Old Style, Colonial, Cape, Ranch

Year Built, Median
1940

Floor Area Ratio, Median
0.29 *(0.34 Arlington median)*

Lot Size, Median
6,101 sf *(6,081 sf Arlington median)*

The area around Mount Gilboa is characterized by its historic district and diversity of styles. Meanwhile, the area around Turkey Hill has many mid-20th century and modern-day constructions. There are many new, larger homes being built, particularly around Turkey Hill.



Year Built

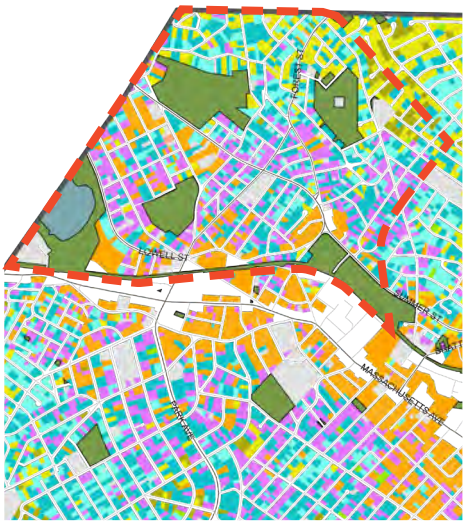
Before | 1900 | 1920 | 1945 | 1970 | 2000 | 2018

Lot Size (square feet)

0 | 5,000 | 6,000 | 9,000 | 12,000 | More than

Floor Area Ratio (FAR)

0 | 0.24 | 0.31 | 0.40 | 0.53 | More than



Residential Style

- 2F, 3F, Multi-family (Small-Medium)
- Multi-family (High-rise)
- Row House
- Small Typology (Cape, Bungalow)
- Colonial, Colonial Garrison
- "Old Style", Tudor
- Split level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other

Arlington Historical Commission (AHC) or Historic District properties

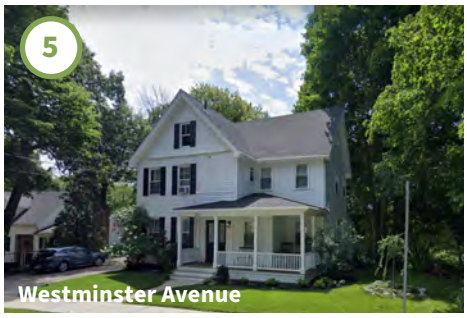
Historic District boundary

Mountain Avenue

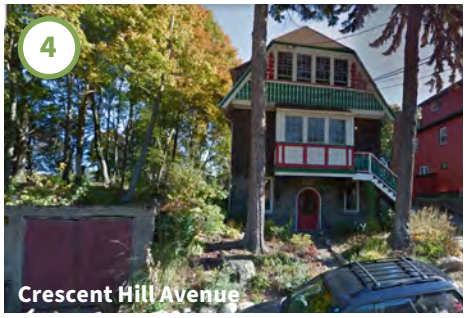
Summer Street

Summer Street

Thesda Street



Westminster Avenue



Crescent Hill Avenue

Source: Google Streetview.

2.4 Neighborhood Profiles - Morningside

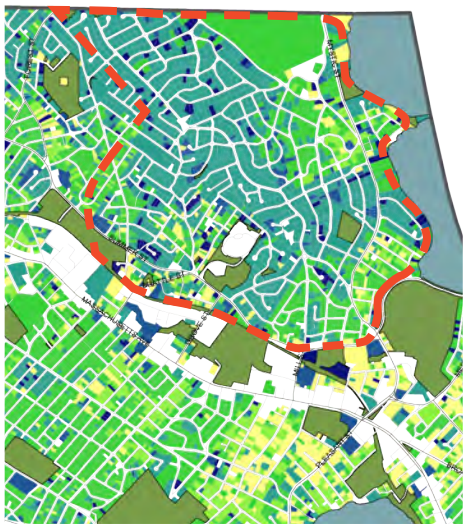
Dominant Styles
Ranch, Colonial, Cape, Old Style

Year Built, Median
1951

Floor Area Ratio, Median
0.27 *(0.34 Arlington median)*

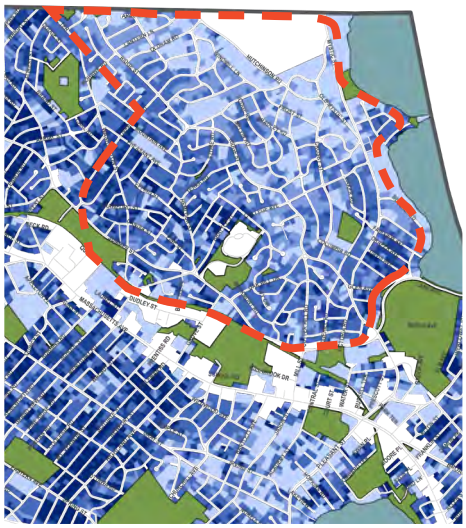
Lot Size, Median
7,719 *(6,081 sf Arlington median)*

Morningside consists of larger lots. In the 1950's and 1960's, much of the area was developed with colonial revival ranch homes. In the historic pockets, there are many examples of "old style" and colonial houses. These older pockets are generally closer to Arlington Center and Mill Brook. New constructions are replacing some of the ranch homes, such as on Epping Street.



Year Built

Before 1900 1920 1945 1970 2000 2018

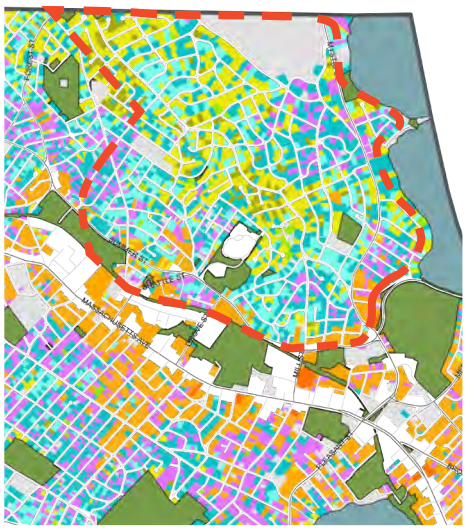


Lot Size (square feet)

0 5,000 6,000 9,000 12,000 More than

Floor Area Ratio (FAR)

0 0.24 0.31 0.40 0.53 More than



Residential Style

- 2F, 3F, Multi-family (Small-Medium)
- Multi-family (High-rise)
- Row House
- Small Typology (Cape, Bungalow)
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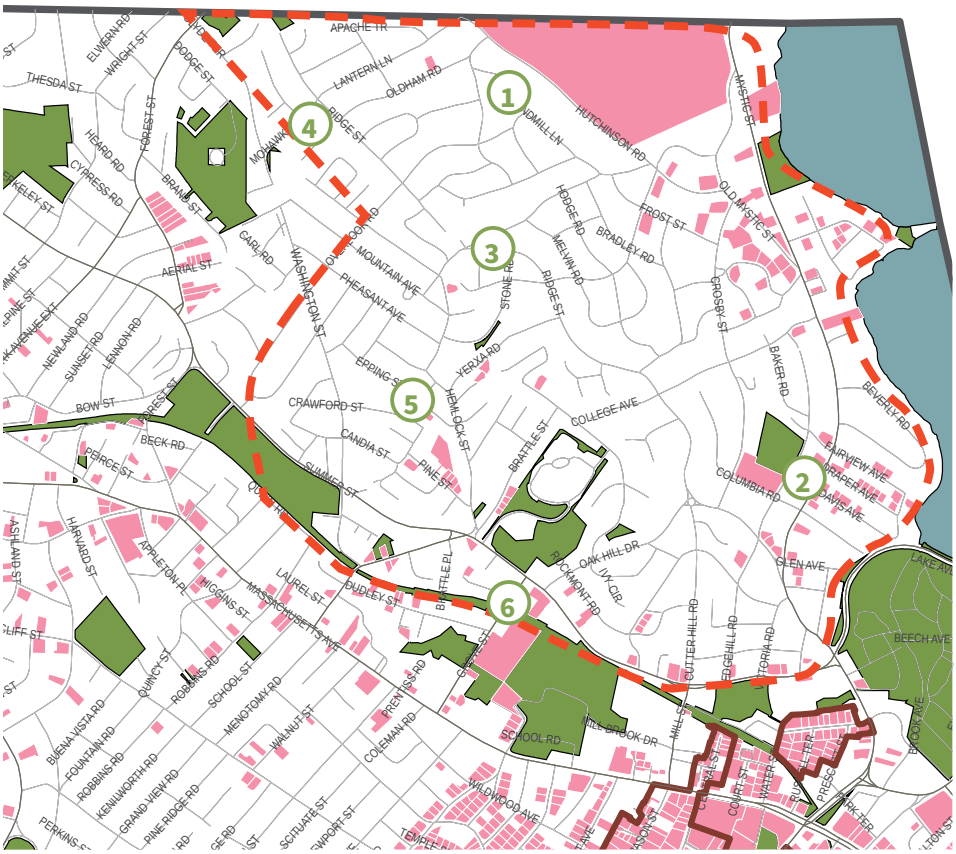
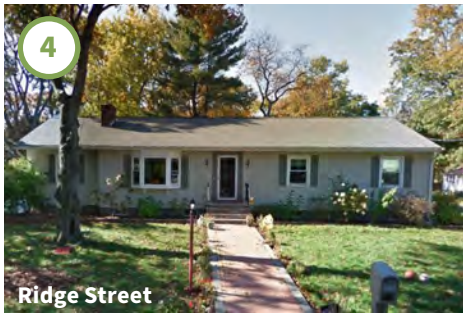
- "Old Style", Tudor
- Split level
- 1-story Ranch, Raised Ranch
- Conventional, Contemporary
- Non-residential, Other



Arlington Historical Commission (AHC) or Historic District properties

Historic District boundary



Source: Google Streetview.

2.4 Zoning and Permitting Process Analysis

Differences between neighborhoods and housing typologies are not captured by the broad zoning districts.

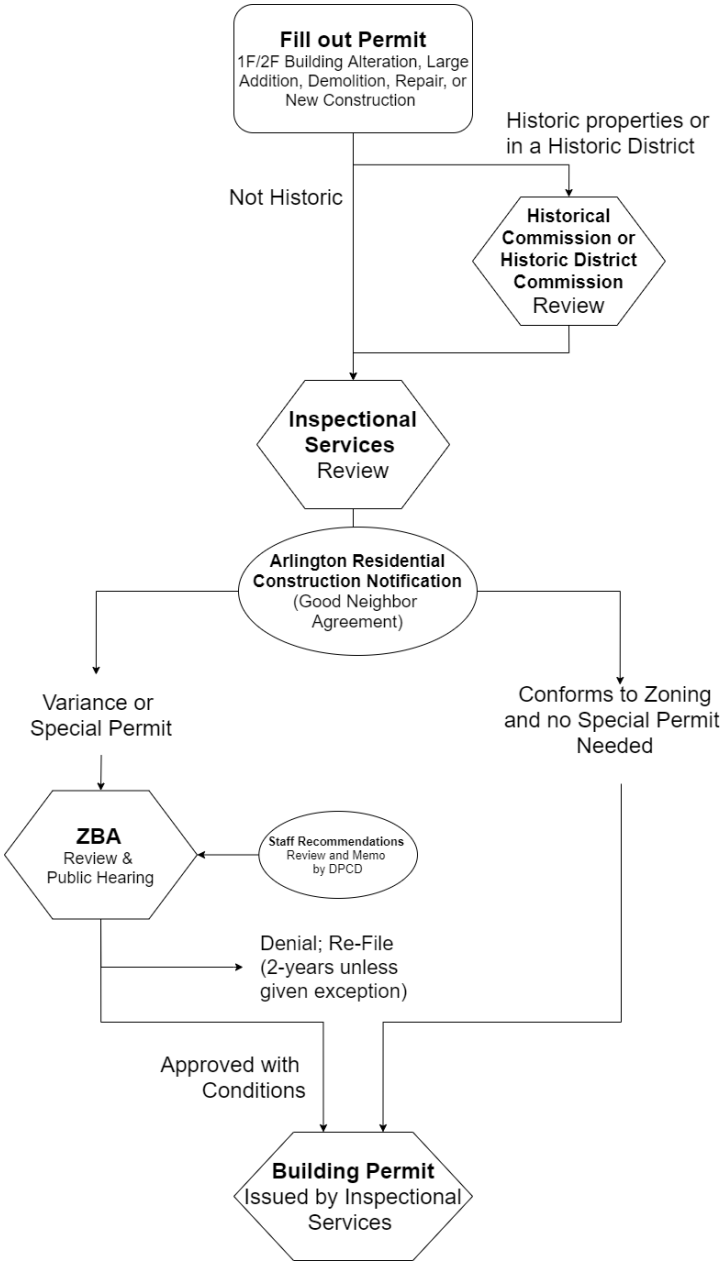
Most of Arlington is zoned as R0, R1, or R2 districts. R0 and R1 are single-family residential districts; R2 is a two-family residential district.

Before the Inspection Services Department (ISD) review, if a property is on the Arlington Historical Commission's list or in a local historic district, it is first passed to the appropriate commission for review prior to ISD's review. More than 1,200 properties are either in a historic district or an Arlington Historical Commission (AHC)-designated property. All alterations, demolitions, and new construction of these properties that are visible by the public must receive a Certificate of Appropriateness by either the relevant historic district commission or AHC.

The Arlington Residential Construction Notification or 'Good Neighbor Agreement' requires projects to give at least seven day's notice to all abutters within 200 feet of the construction site before work can commence.

Projects that require a variance or special permit will need to be reviewed and voted on by the Zoning Board of Appeal.

Existing Zoning - Permitting Process



Zoning Bylaw- Residential Zoning Subdistricts

	R0	R1	R2	R3	R4	R5	R6	R7
Single-family detached dwelling	Y	Y	Y	Y	Y	Y	Y	Y
Six or more single family dwellings on one or more contiguous lots	SP	SP	SP	SP	SP	SP	SP	SP
Two-family dwelling, duplex			Y	Y	Y	Y	Y	Y
Six or more units in two-family dwellings or duplex dwelling on one or more contiguous lots			SP	SP	SP	SP	SP	SP
Three-family dwelling				SP	SP	SP	SP	SP
Townhouse				SP	SP	SP	SP	SP
Apartment building						SP	SP	SP
Conversion to apartments, up to 18 units per acre, with no alteration to the exterior of the building					SP	SP		
Single-room occupancy building				SP	SP	SP	SP	SP
Group home	Y	Y	Y	Y	Y	Y	Y	Y
Conversion of one- or two-family dwelling to bed and breakfast	SP	SP	SP	SP	SP	SP	SP	SP
Assisted living residence							SP	
Dormitory			SP	SP	SP	SP	SP	SP

(empty) - Not Permitted *Y - Permitted* *SP - Special Permit - Zoning Board of Appeals or Redevelopment Board, as applicable.*

Zoning Bylaw- Dimensional Requirements

	Minimum Lot Area (sf)	Minimum Lot Area per Unit (sf)	Minimum Lot Frontage (ft)
R0	9,000	---	75
R1, R2	6,000	---	60
R3 - Townhouse	---	2,500	45
R3 - Other permitted residential use	5,000	---	45

Zoning Bylaw- Dimensional Requirements

	Front Yard (ft)	Side Yard (ft)	Rear Yard (ft)
R0, R1	25	10	---
Rear (lot depth 100 ft or more)	---	---	20
Rear (lot depth < 100 ft)	---	---	20% lot depth
Accessory buildings and garage structures	25	6	6
R2	20	10	---
Rear (lot depth 100 ft or more)	---	---	20
Rear (lot depth < 100 ft)	---	---	20% lot depth
Accessory buildings and garage structures	25	6	6
R3			
Townhouse	10	10	20
Other permitted residential use	10	One side: min. 10 Sum of two sides: min. 16	20% lot depth
Accessory buildings and garage structures	25	6	6

	Landscaped Open Space (Min.)	Usable Open Space (Min.)	Maximum Lot Coverage
R0 - Permitted residential structure	10%	30%	35%
R1, R2 - Permitted residential structure	10%	30%	35%
R3 - Townhouse	10%	30%	---
R3 - Other permitted residential use	10%	30%	45

Zoning Bylaw- Dimensional Requirements

	Maximum Height (ft)	Maximum height (stories)	Maximum Floor Area Ratio (FAR)
R0, R1 - 1F detached dwelling	35	2 1/2	(.35 applies only to "other permitted structure")
R2 - 1F detached dwelling, 2F dwelling, or duplex dwelling	35	2 1/2	(.35 applies only to "other permitted structure")
R0, R1, R2			
Accessory Structures (>80 sf) and private garages	20	2	---
Minor Accessory building (<=80 sf)	7	1	---
R3			---
Principal building or structure	35	3	0.75
Detached accessory structure (> 80 sf)	20	2	---
Detached accessory structure (<= 80 sf)	7	1	---

Zoning Bylaw- Off-street Parking Regulations

Single-, Two-, or Three-family dwelling: 1 space per dwelling unit

Detached Garage placement:

- Side Yard Minimum (Garage in rear yard): 6 ft.
- Side Yard Minimum (Garage in side yard): 10 ft.
- Rear Yard Minimum: 6 ft.

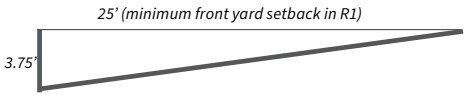
Slope:

Cannot exceed a 15% downward slope, unless by special permit

Where Parking is allowed:

- Side yard and rear yard on a paved driveway;
- Attached or detached garage; or
- Within the foundation of a dwelling.

Examples of "Park-Unders" built before the new slope regulations were put into place.



DRAFT

3 Residential Design Guidelines

Working Group members discuss the elements that make up a newer duplex built in East Arlington.

Introduction

Purpose

The purpose of the Residential Design Guidelines is to provide residents, builders, and Arlington's review staff a set of best practices to guide new construction and renovations in Arlington's residential neighborhoods.

Based on the existing zoning analysis, the Residential Design Guidelines will provide area-specific strategies to balance creative freedom with enforceable guidelines to encourage welcoming and walkable neighborhoods. Rather than regulating through hard numbers, the design guidelines can give designers and community stakeholders more flexibility to find creative solutions.

Using the Document

The Design Guidelines are separated into three primary parts. For example, a homeowner looking to add dormers to a Cape-style house in Arlington Heights could understand which site and building design elements to consider in the Small Lot Streetscape and specific dormer guidelines in the Dormer and Other Roof Elements page.

- **Streetscape Design**
  Site design guidelines that apply to all neighborhoods and neighborhood-specific design guidelines.
- **Building Design:**
  Building guidelines that apply to all housing types and house type-specific guidelines.
- **Building Elements:**
  Guidelines that apply to specific elements, such as dormers, roof lines, and entrance placement.

Design Review Process

[Review Procedure to be discussed in future conversations among key stakeholders and the Town]

[Discuss relationship with zoning]

Vision and Goals

Vision

Arlington's residential neighborhoods are defined by their different, unique tight-knit communities. Arlington...

- Welcomes new residents but also helps existing and older residents stay and flourish.
- Offers diverse housing options for families and households at all different stages of life – including students, multi-generational families, and the elderly.
- Balances compact, walkable urban living with openness and opportunities to connect with nature.
- Allows for innovation and creativity but also respects the Town's diverse and historic architecture.

Goals

The following goals reflect past planning efforts and the community feedback:

- Balance the "streetcar suburb" history of Arlington's residential neighborhoods with the changing needs of a growing, dynamic community.
- Encourage creative, sustainable renovations and additions that complement the existing house and neighborhood in scale and style.
- Encourage new houses that are consistent in scale with the neighborhood and designed to be a welcoming presence on the street.
- Maintain, protect, preserve, and promote historic and diverse cultural resources in all neighborhood.

Guideline Principles

Streetscape Design Principles

- A-1: Arlington's residential neighborhoods are distinct and organized into Neighborhood Block Categories to reflect differing lot sizes.
- A-2: New houses and significant additions should be oriented and located in a way that is consistent with their Neighborhood Block Category.
- A-3: Streetscapes should feel welcoming to people walking down the street and should minimize disruptions from driveways.
- A-4: Creative solutions and exceptions are encouraged to help new houses and renovations with special circumstances and non-conforming lots in a way that is consistent with the Neighborhood Block Category.

Building Design Principles

- B-1: Arlington's residential neighborhoods are made up of diverse architectural styles; new houses and renovations are encouraged to borrow elements from existing block styles and avoid being too plain or too complex.
- B-2: Creative solutions are encouraged to ensure new houses are designed to be consistent with the streetscape's rhythm.
- B-3: New additions are encouraged to match or complement the style of the original structure and match the rhythm of other houses on the street.

Building Elements Principles

- C-1: Building elements such as entrances, roofs, dormers, and windows should be used in a way to help the house to feel welcoming and active.

Definitions

- ***Neighborhood Block Categories:*** Common block patterns based on lot size, width, and depth.
- ***Additions:*** an expansion to the original building, often built on the side, in the rear, or above the original house.
- ***Streetscape:*** the appearance or view of a street.
- ***Non-conforming lot:*** a lot or parcel that is smaller than allowed in a certain zoning subdistrict.
- ***Rhythm:*** Visual rhythm, just like musical rhythm, is a strong, regular, repeated pattern. In this case, it refers to the established pattern of house sizes and spacing between houses.

Principle A-1: Arlington's residential neighborhoods are distinct and organized into Neighborhood Block Categories to reflect differing lot sizes.

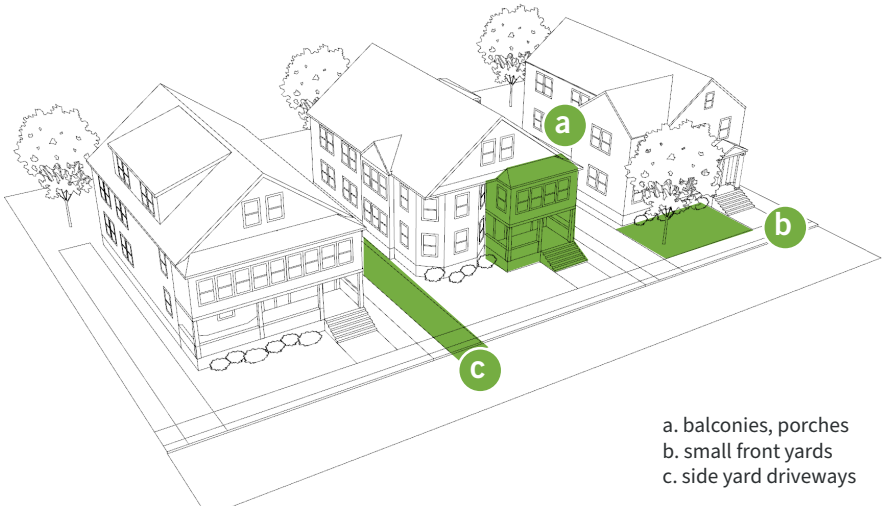
While Arlington's residential neighborhoods primarily fall into only three zoning districts (R0, R1, R2), many blocks within a given zoning district differ in size and feel. The following Neighborhood Block Categories illustrate the differences. New houses and additions should design with the streetscape pattern in mind.

Two-Family, Town core

Found in East Arlington and other Two-Family areas along Massachusetts Avenue.

Primary Characteristics

- Mostly 2-family houses.
- Typically 2 ½ Stories.
- Typical Lot Size: Smaller than 5,000 sf. Small front yards.
- Balconies and Porches.
- Side Yard Driveways.



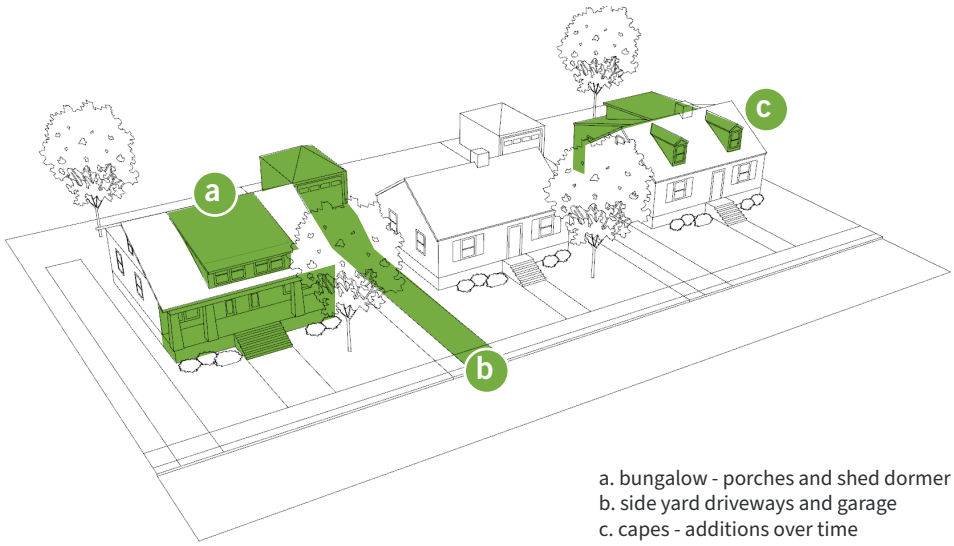
a. balconies, porches
b. small front yards
c. side yard driveways

Single-Family, Small Lots

Found in parts of Arlington Heights, Poets Corner, Robbins Farm, Mount Gilboa/Turkey Hill.

Primary Characteristics

- Capes, Bungalows, and smaller Colonial styles.
- Typically 1 ½ story with some 2 ½ story.
- Typical Lot Size: Smaller than 5,000 sf or 5,000 sf –6,000 sf. Front Yards between 10 ft to 20 ft.
- Side Yard Driveways, Front Yard Driveway, No off-street parking.



a. bungalow - porches and shed dormer
b. side yard driveways and garage
c. capes - additions over time

Principle A-1 (continued)

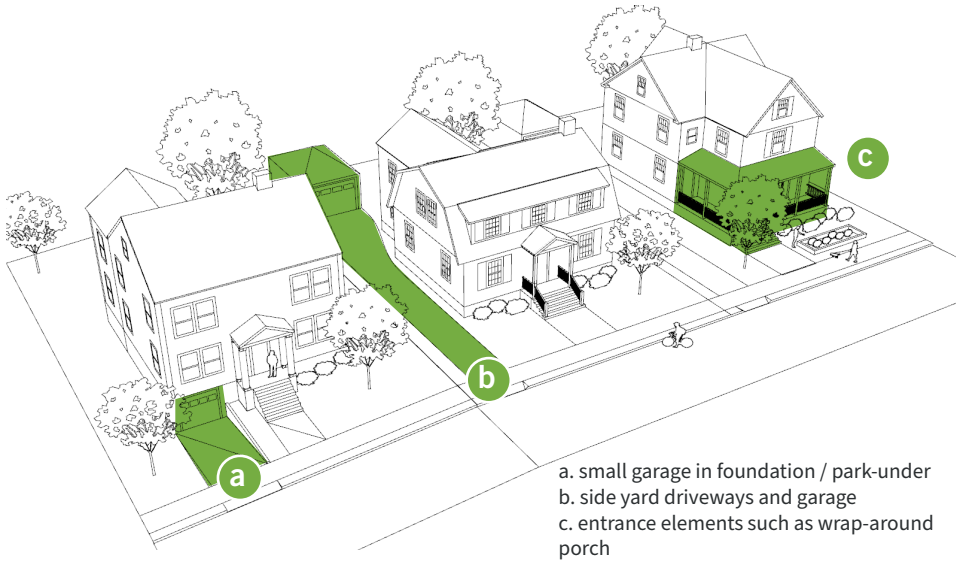
► *For more info on building styles, refer to Principle B-1 on page 58.*

Single-Family, Medium Lots

Found across Arlington in Kelwyn Manor, Arlington Center, Jason Heights, Poets Corner, Arlington Heights, Mount Gilboa/Turkey Hill, Morningside.

Primary Characteristics

- Diverse styles.
- Typically 2 story or 2 ½ story.
- Typical Lot Size: 5,000 sf – 6,000 sf or 6,000 sf – 9,000. Front Yards between 20 ft to 30 ft.
- Side Yard Driveway with or without rear garage, Park-Under.



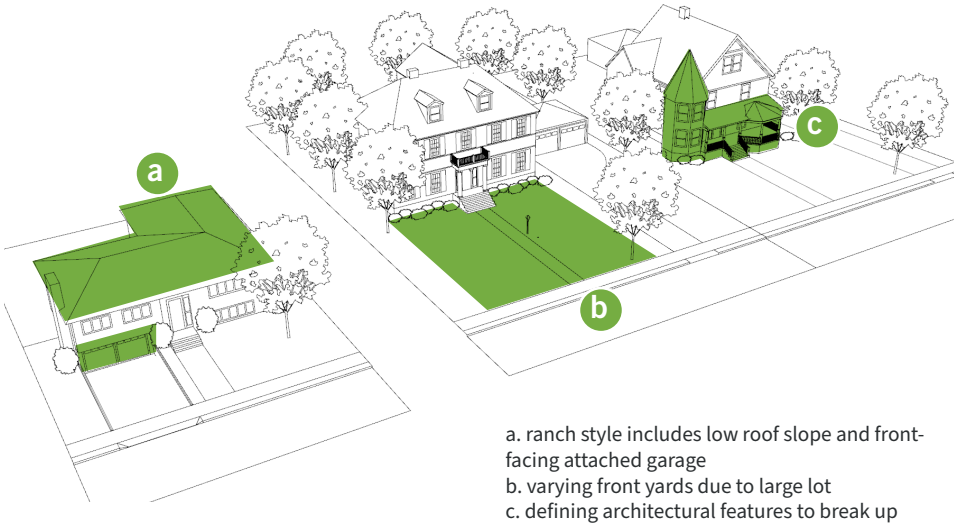
a. small garage in foundation / park-under
b. side yard driveways and garage
c. entrance elements such as wrap-around porch

Single-Family, Large Lots

Found in Jason Heights, Arlington Center, Morningside, Arlington Heights.

Primary Characteristics

- Colonial/Ranch Style (Morningside) and Victorians, Large Colonials (Jason Heights, Arlington Center, Arlington Heights).
- Typical Lot Size: Larger than 9,000 sf. Front yards larger than 25 ft.
- Side Yard Driveway with rear garage, Attached garage.

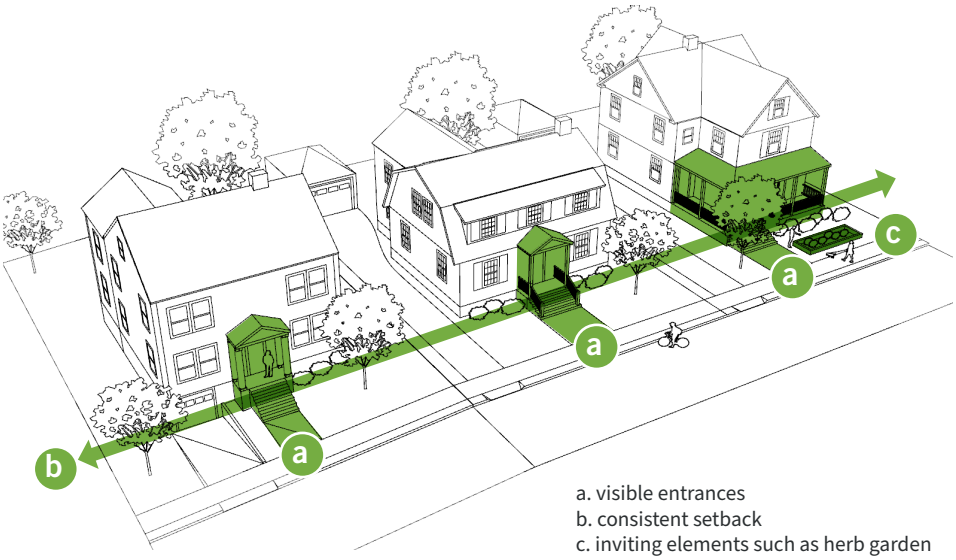


a. ranch style includes low roof slope and front-facing attached garage
b. varying front yards due to large lot
c. defining architectural features to break up massing of larger houses

Principle A-2: New houses and significant additions should be oriented and located in a way that is consistent with their Neighborhood Block Category.

Front yard areas should add life to the streetscape and feel inviting.

Zoning Note: See 5.4.2 Table A for full table of dimensions. See 5.3.9 for projections (e.g., bay windows, decks) into yards.



a. visible entrances
b. consistent setback
c. inviting elements such as herb garden

Definition

Front yard setback is the distance between the house's front façade and the front lot line, or lot line along the street.

Encourage

- Consistent setbacks with neighbors: If the setbacks do not align, align it somewhere in the middle or with one of the neighboring residential buildings.
- Greenery: Think beyond the grass lawn, such as vegetable gardens and low-maintenance native plantings.
- Entrance: The primary entrance should face the street and have a separate walkway from the driveway.
- Public-facing projections: Porches, stoops, and bay windows help break apart the massing to create a human-scaled house.

Discourage

- Off-street parking: driveways should not be directly in front of the house.
- Mechanicals: air conditioner units and similar equipment should not be in front of the house.
- Paved front yards.

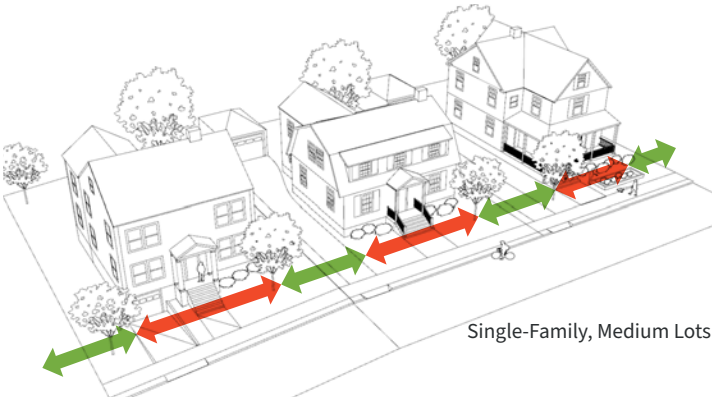
Block-Specific Recommendations

- Two-Family Lot Category: Plantings and landscaping can help make smaller yards (less than 10 feet) feel inviting.

Principle A-2 (continued)

► *For more information on Corner Lots, see Principle A-4 on page 56.*

Side Yards should reinforce the existing spacing between houses and provide enough privacy between neighbors.


Single-Family, Medium Lots


Two-Family, Town core


Single-Family, Small Lots

Definition

Side yard setback is the distance between the house and the side lot lines, or the lot lines perpendicular to the street.

Encourage

- Consistent spacing and rhythm: Follow the existing spacing between houses on the block.
- Greenery and plantings.
- Driveways with landscaping.
- Mechanicals: These should be screened with plantings and not very visible from the street.

Discourage

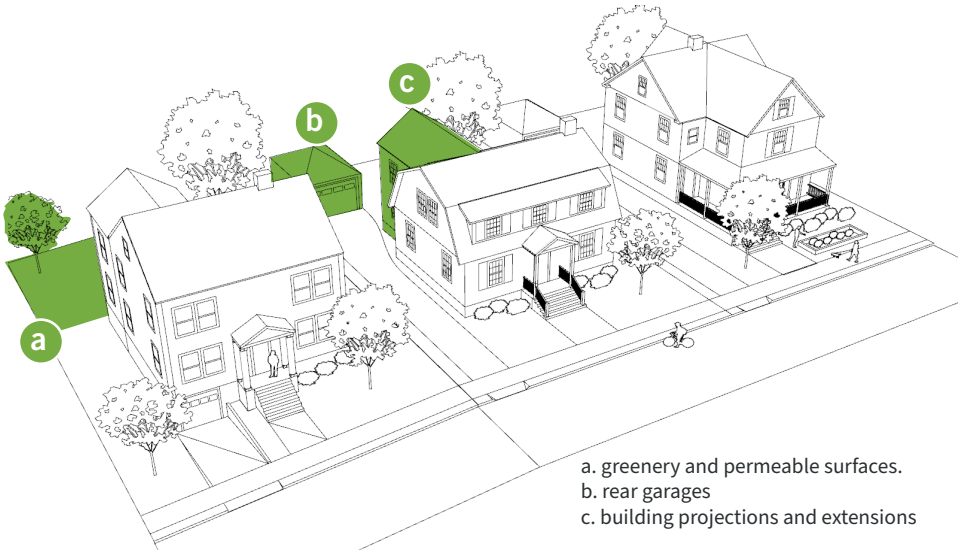
- Paved side yards.
- Disrupting the streetscape rhythm: Avoid changing the pattern of spacing between houses by placing houses too close to each other.

Block-Specific Recommendations

- Two-Family Lot Category: Many of the two-family houses are close together and use side yard driveways to create space between neighboring houses. New two-family houses without side yard driveways should include sufficient distance from the neighboring structure to reinforce the existing rhythm and pattern of spacing.

Principle A-2 (continued)

Because rear yards are generally not visible from the street, they can be used and built into in many ways.



a. greenery and permeable surfaces.
b. rear garages
c. building projections and extensions

Definition

Rear yard setback is the distance between the house and the rear lot line.

Encourage

- Non-impactful uses: Most activities are acceptable as long as they do not negatively impact neighbors.
- Permeable surfaces: Lawns, landscaping, gardens, shrubbery, permeable hardscaping and other green ground cover allow rainwater to pass through and reduce runoff.
- Projections: Unenclosed decks or 1-story or 2-story rear additions.
- Rear Garages.
- Mechanicals: Air conditioning units, rainwater cistern.

Discourage

- Fully paved rear yards.

Principle A-2 (continued)

Permeable open space helps with stormwater and brings natural landscapes to neighborhoods.

a. green open space

Definition

Lot coverage is the percentage of the lot size covered by the house.

Permeable surfaces are surfaces that allow rainwater to soak into the ground.

Stormwater run-off is rainwater that does not soak into the ground and is redirected to the sewer system. Heat islands are urbanized areas that experience higher temperature due to buildings, roads, and paved surfaces absorbing heat.

Permeable open space is the percentage of the lot that is not covered by the house or impermeable, paved surfaces such as driveways.

Encourage

- Landscaped open space: Ample permeable, landscaped open space to reduce stormwater run-off and heat island effect. Preserve mature trees and replace trees to add tree canopy for shading.
- Minimize impermeable spaces: where possible, such as efficient driveways and parking areas.
- Low-maintenance alternatives to lawns: Alternatives to lawns such as ornamental grasses add texture and reduce maintenance costs.

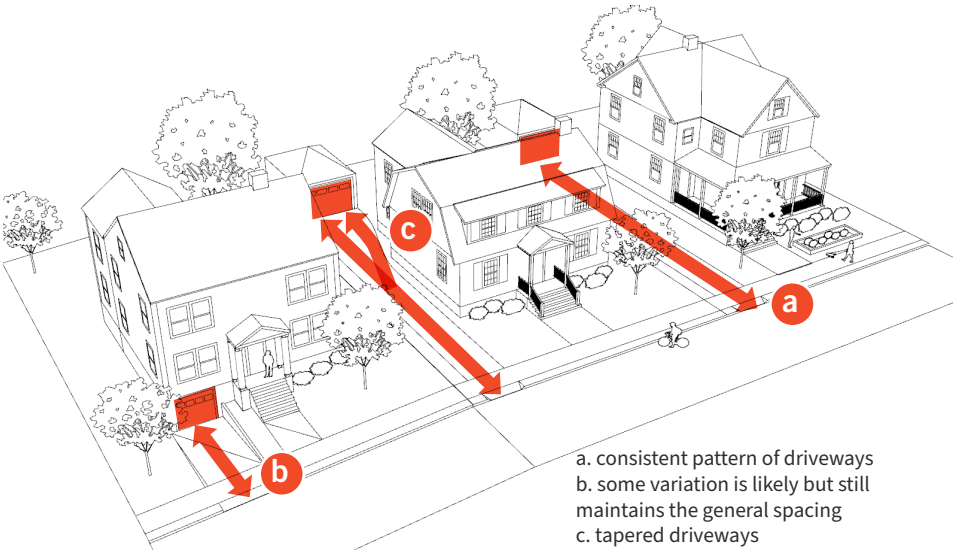
Discourage

- Over-sized parking areas and paved areas.

Principle A-3: Streetscapes should feel welcoming to people walking down the street and should minimize disruptions from driveways.

Driveways, curb cuts, and garages should be as unobtrusive as possible.

See (6.1.10.A) for zoning requirements on residential off-street parking regulations.



a. consistent pattern of driveways
b. some variation is likely but still maintains the general spacing
c. tapered driveways

Encourage

- Rhythm: Match the existing pattern and spacing of driveways.
- Minimal driveways: Reduce width to one-car wide driveways and curb cuts. Use landscaping to buffer between driveway and neighbors.
- Rear garages: Place garages in the rear yard and partially screened from the street.
- Garage doors and detailing: For highly visible garages, use garage doors with built-in windows and architectural details such as outdoor wall light fixtures or planters.

Discourage

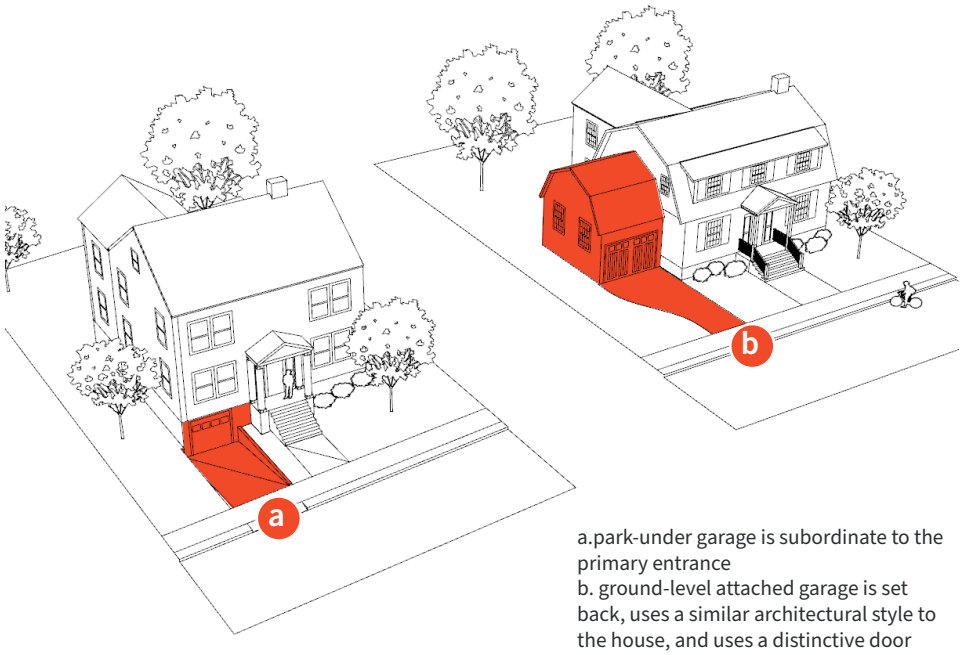
- Wide driveways: Wider than one-car.
- Excessive slopes: Slopes exceeding 15%.

Block-Specific Recommendations

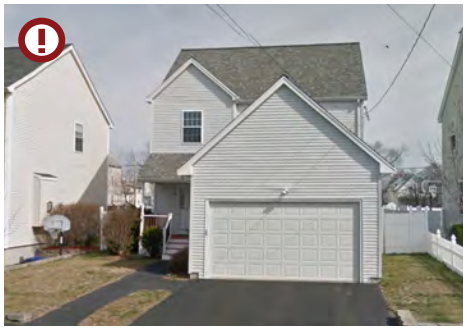
- Two-Family Lot Category: A side yard driveway without a garage is ideal if there is not enough lot size to accommodate a garage.
- Small Lot Category: On some streets with narrow lots or difficult topography, a small, front yard parking pad may be the only way to fit a parking spot. The parked car should not block the sidewalk. The parking pad should be placed on the side of the house and not block the front entrance. Parking pads should be limited to one car.

Principle A-3 (continued)

Attached, street-facing garages tend to dominate the front of the house. Consider other off-street parking solutions first.



a.park-under garage is subordinate to the primary entrance
b. ground-level attached garage is set back, uses a similar architectural style to the house, and uses a distinctive door



Encourage

- Minimized presence: Set the attached garage back from the front face of the house. Consider differentiating the garage in a smaller side wing to the main house. Size the garage to be one-car wide.
- Bay windows and porches: these elements draw the eye away from the garage.
- Small park-under garages: For park-under garages or garages within the house foundation, avoid adding another story to the house. Match the foundation height of the house to other houses on the street, based on the existing topography.
- Front walkway: Create a dedicated entrance walkway for people separate from the driveway.

Discourage

- Prominent garage doors: Do not put garage door in front or flush with the primary face of the house. Avoid placing the garage door in the center of the house.
- Wide garage doors: Two-car garages should be split into two bays and two garage doors.

Principle A-4: Creative solutions and exceptions are encouraged to help new houses and renovations with special circumstances and non-conforming lots in a way that is consistent with the Neighborhood Block Category.

Corner Lots

Encourage

- Off-street parking: Where possible, driveways and garages located on the smaller street or side of the house without the main entrance.

Discourage

- Visible mechanicals and blank facades: Mechanicals and blank facades should not be on a public facing side of the house.

Garage and driveway are on secondary street.

Non-conforming Lots

Encourage

- Streetscape Rhythm: Use the existing streetscape rhythm of building spacing.
- Off-street parking: Choose the least disruptive off-street parking design.
- Emphasized front entrance.

These lots are smaller than allowed by zoning.

Principle A-4 (continued)

Steep Topography

Encourage

- Consistent heights: Follow existing foundation height pattern of the street.
- Step backs: Step down where appropriate to not overshadow neighbors at a lower elevation.
- Park-under Garages: If applicable, minimize the visibility of park-under garages.

Discourage

- Dramatic differences in height: Excessive appearance of height, relative to neighbors.

Use a consistent foundation height that matches the pattern of other houses on the street.

The foundation height of this house greatly exceeds the house's neighbors due to the attached garage.

Principle B-1: Arlington's residential neighborhoods are made up of diverse architectural styles. Borrow and reference styles strategically.

Because Arlington developed over time, its neighborhoods consist of diverse architectural styles. While there is no "ideal" style, new houses are encouraged to reference the proportions and styles of existing houses on the same block. New houses should draw from the rich architectural history of Arlington and avoid a plain exterior or overly-complex design. This section is a brief catalogue of Arlington's common architectural styles.

Neighborhoods are diverse stylistically and are not monotonous. These elements help distinguish styles:
a. entrance elements
b. roofline styles and roof pitch
c. window styles and proportions

Reference existing elements from other houses on the street.

Avoid oversimplifying elements and using the wrong proportions.

Encourage

- Consistent style: Observe which styles help define the streetscape. Borrow elements but do not be afraid of introducing new styles and ideas.
- Details: Include appropriate details to create a cohesive design.
- New styles: For a new house in a style not yet on the block, try to reference the proportions of doors, windows, roof types, and other building elements to match the scale of the existing neighborhood. See Principle C-1 for more information on types of building elements.
- Consistent additions and renovations: Match the style of the existing house. But in some cases, a well-designed contemporary-style side or rear addition can complement the visibility of the main house.

Discourage

- Plain faces: Focus details on visible parts of the house, such as the front entrance.
- Too many styles: Do not over-complicate the design and mix too many different styles.
- Over-simplification: In renovations, avoid covering up or over-simplifying previous detailing work.

Principle B-1 (continued)

Colonial-Revival

- Very common and found throughout Arlington.
- Most were built during Arlington's growth spurt as a streetcar suburb.
- Sub-categories include Georgian and Federalist Colonial styles.

Dutch Colonial-Revival

- Somewhat common and frequently found around Arlington Heights.
- Easily identifiable by its second-story Gambrel roof and dormers.

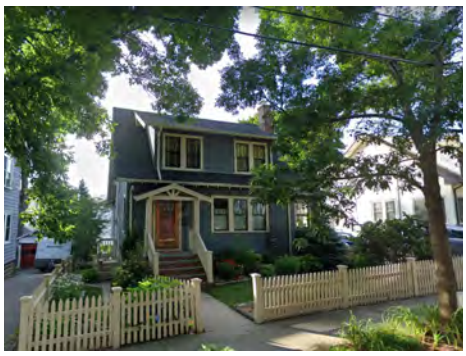
Cape

- Somewhat common.
- Small footprint, 1 1/2 stories, single gabled roof.
- Many have been added onto over the years, including dormers, side additions and rear additions.

Principle B-1 (continued)

Bungalow

- Less common.
- Mostly Craftsman-style but some are Colonial.
- 1 1/2-story with full, partial, or enclosed front porches. Square, tapered columns. Low-pitched gable roof with shed dormer.

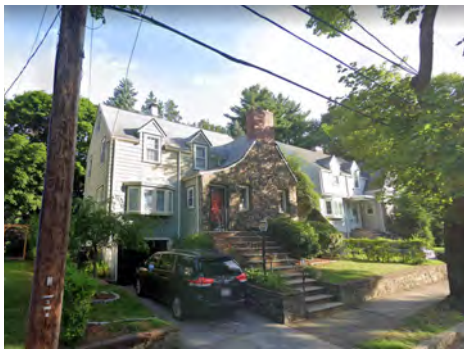


Victorian

- Less common.
- Asymmetric. Generally ornamented. Complex, asymmetric houses. Steeply-pitched roofs. Projecting elements such as porches and bay windows.

Tudor-Inspired

- Less common
- Inspired by English medieval styles.
- Decorative half-timbering and steeply pitched roofs. Prominent chimney or arched wing wall.



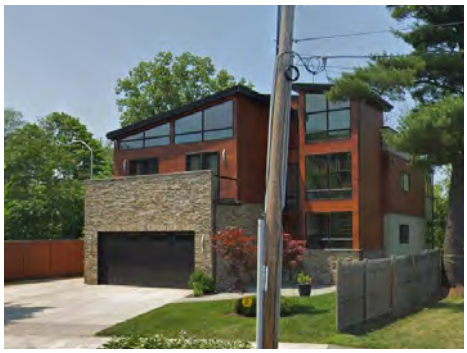
Principle B-1 (continued)

Ranch

- Somewhat common and found in Morningside.
- Low-sloped roofs and simple massing. Includes both 2-story Raised Ranch and 1-story Ranch houses.
- Attached side garage or park-under garage in foundation.

Contemporary, Modern

- Rare.
- Diverse and evolving style that draws inspiration from modernism and sustainable construction methods. Generally combines different geometric volumes.

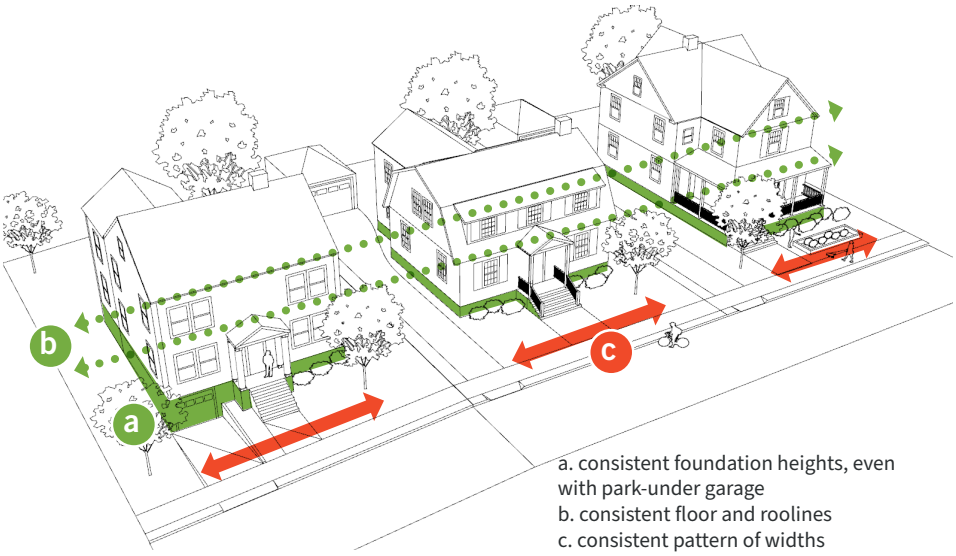


New Traditional

- Refers to new homes that borrow elements from historical styles.
- Strong examples closely resemble the proportions and details of historical styles while using new materials.
- Weaker examples have prominent front-facing garage, shallow porches, blank side walls with no windows, and improperly proportioned roofs and details.

Principle B-2: Creative solutions are encouraged to ensure new houses are designed to be consistent with the rhythm and size of other houses on the street.

General Guidelines for New Construction



a. consistent foundation heights, even with park-under garage
b. consistent floor and roolines
c. consistent pattern of widths

Uses the primary massing of a Cape and adds setback elements such as the garage as side wings.

Oversimplified front facade. Windows are optimized for the interior but seem disorganized.

Encourage

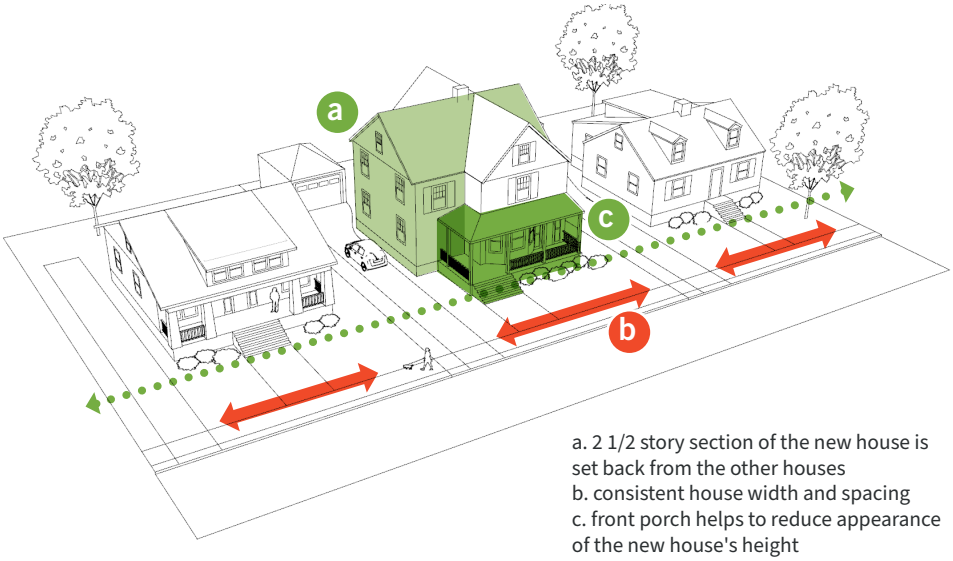
- Consistent foundation heights: Match the height of the foundation and front entrance to other houses on the street, especially for houses with garages in the foundation.
- Consistent scale and width: Match the scale and width of other houses on the street on a similar lot size.
- Break up long sections: For houses with more street frontage than neighboring houses, break up the massing with side wings that are set back from the primary front façade.
- Appropriate roof size: Roof and dormers should not add significant appearance of height beyond two stories. See 'Principle C-1 – Roofs and Dormers' for more detailed strategies on ½ stories, roofs, and dormers.

Discourage

- Inside-out design: Designing houses from the "inside-out" often results in an attractive interior but unfocused and distracting exterior with poorly placed windows.
- Dramatic foundation height differences: Avoid dramatic differences in height between first floor and street level, especially for houses with garages in the foundation.
- Wide front face: Avoid wide houses without breaking the massing apart, especially ones with a ground-level attached garage.

Principle B-2 (continued)

Additional Guidelines for New Construction in Single-family, Small Lot Blocks



a. 2 1/2 story section of the new house is set back from the other houses
b. consistent house width and spacing
c. front porch helps to reduce appearance of the new house's height

This new house, though it is taller, matches the spacing of the existing pattern of Cape houses.

Consider side and rear additions that preserve the form of the existing Cape instead of replacement.

Encourage

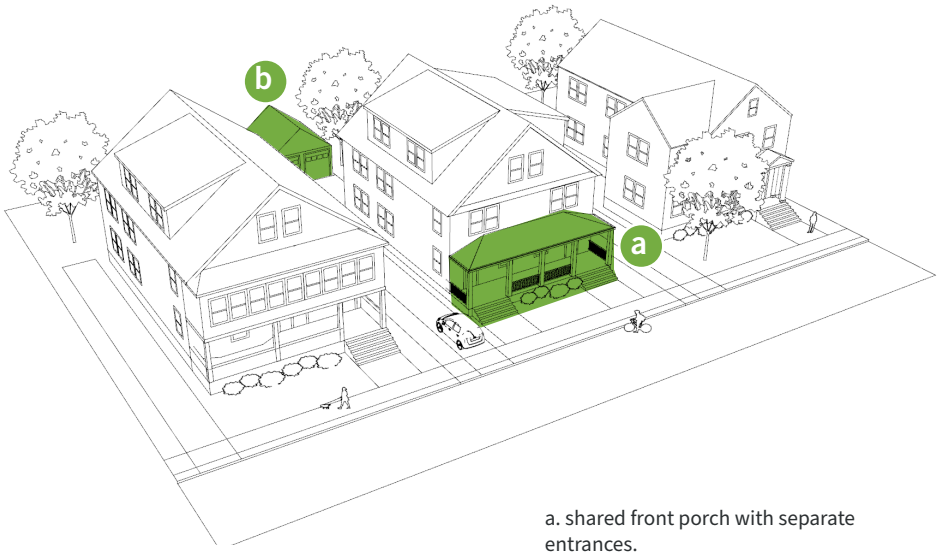
- Entrance elements: Elements such as covered, usable front porches and stoops can help to reduce the appearance of height. Usable front porches refers to a porch with sufficient depth and length to place furniture such as a bench or chairs.
- Half-stories: Consider using a ½ story such as dormers and the roof space to add additional space instead of a full story.

Discourage

- Dramatic foundation height differences: Avoid dramatic differences in height between first floor and street level, especially for houses with garages in the foundation or basement.
- Dramatic height differences: Avoid dramatic differences in height between neighboring houses, particularly in relation to Capes and Bungalows.

Principle B-2 (continued)

Additional Guidelines for New Construction in Two-Family Blocks



a. shared front porch with separate entrances.
b. rear, shared garage

Consider asymmetric units to break the massing apart.

Disruption of the pattern of front yards and prominent front driveway.

Encourage

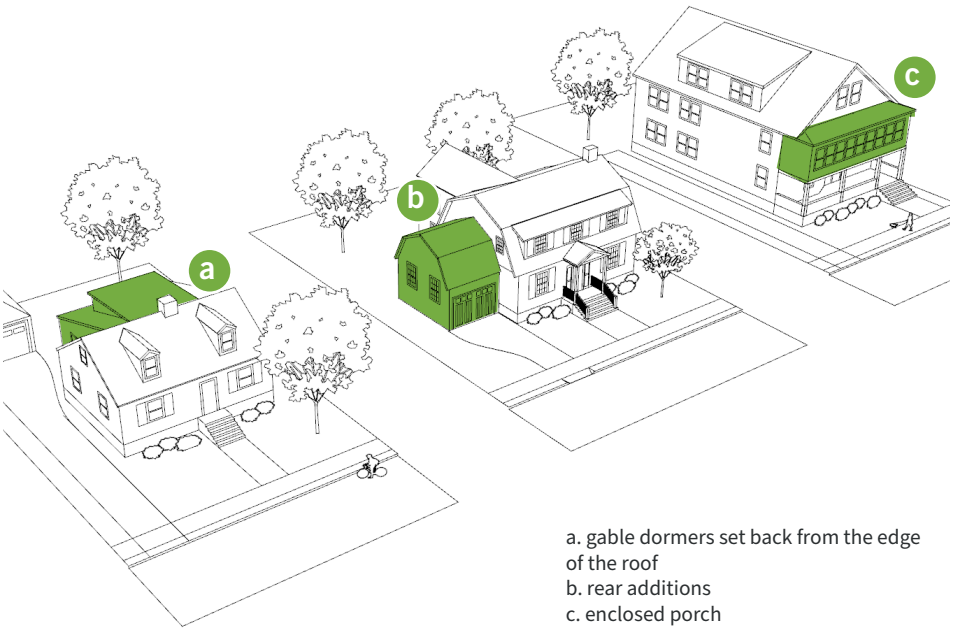
- Townhouse hybrids: For new side-by-side townhouses or duplexes, consider breaking up the house to distinguish the two units. Consider creating a larger unit paired with a smaller unit. Front entrances for both units should be visible and prominent on the street.
- Shared spaces: Include welcoming, usable front porches if possible, especially if surrounding houses have a pattern of shared porches.

Discourage

- Double-car garages in the front: Double-car, front-facing garages for each unit can dominate the primary façade.

Principle B-3: New additions are encouraged to match or complement the style of the original structure and match the rhythm of other houses on the street.

Additions, Side Additions, and Rear Additions



a. gable dormers set back from the edge of the roof
b. rear additions
c. enclosed porch

The side addition to this Dutch Colonial is smaller and matches the style of the existing house.

This side addition overtakes the original house.

Definition

Additions are an attached extension to add more living space to an existing house.

Encourage

- Matching materials: Use similar materials, level of detailing, windows, and other elements to the original structure.
- Smaller size: Size the additions to appear smaller or subordinate to the existing building.
- Side addition strategies: Side additions can be very visible to the street. Match the spacing of the original house's windows and bays to break up the massing. If matching materials and detailing is cost prohibitive, set the addition back from the existing house further to reduce its prominence.
- Rear additions: Rear additions are less visible from the street. While matching detailing and materials would be ideal, the rear can be a lower priority.

Discourage

- Over-sized additions.
- Plain additions that do not match the style and quality of the existing building.
- Large side additions that are flush with or projected in front of the primary face of the house. Side additions with blank facades.
- Large rear additions that extend past the existing width of the house.

Principle C-1: Building elements such as entrances, roofs, dormers, and windows should be designed to be welcoming.

Main Entrance, Porches, Stoops, and Porticos


Pediment over pilaster.


Double porch.


Entrance is set behind garage.


Contemporary entryway.


New Traditional Colonial Portico.


Two-story entryways generally call too much attention to the house and make it seem larger.

Definition

- A stoop is a small staircase ending in a platform and leading to the entrance.
- A pediment over pilasters is an ornamental archway with columns that projects from the wall and highlights the front entrance.
- A portico is a small, covered structure that leads to the entrance, typically supported by columns.
- A porch is a covered outdoor area attached to the front of the house or wraps around the house.

Encourage

- Obvious entrance: In most cases, entrances should face the street. A pedestrian pathway should link the entrance and sidewalk, instead of a driveway.
- Entrance elements: Stoops, pediments, and porticos can help highlight the front entrance and add interest to the front façade. Porches should be deep enough to be usable as a furnished space.
- Detailing: Use appropriately sized columns, railings, and trimmings around doors, windows, and roofs.

Discourage

- Obscured or under-sized entrances.
- Oversized, two-story entrances.
- Inconsistent entrances: Entrance elements help to establish a pattern of front doors on the streetscape. Distrupting the pattern can call unwanted attention to the new house. For example, if there is a defined pattern of porches or stoops, the new house should match the positioning and style of the entrance and avoid introducing something completely new.

Principle C-1 (continued)

Roof and Rooflines


Gable roof.


Gambrel roof.


Gable roof with corner turret and dormers.


Hipped roof with dormers.


Mansard roof is an uncommon roof style in Arlington.


Complex combination of gable roofs attempts to break up the mass to hide the half-story.

Definition

Roofline and roof detailing make up a prominent aspect of the house and should be well balanced with the rest of the house and surrounding neighborhood.

Types of roofs found in Arlington include:

- Gable Roof
- Hipped Roof
- Gambrel Roof
- Other Roof Styles

Encourage

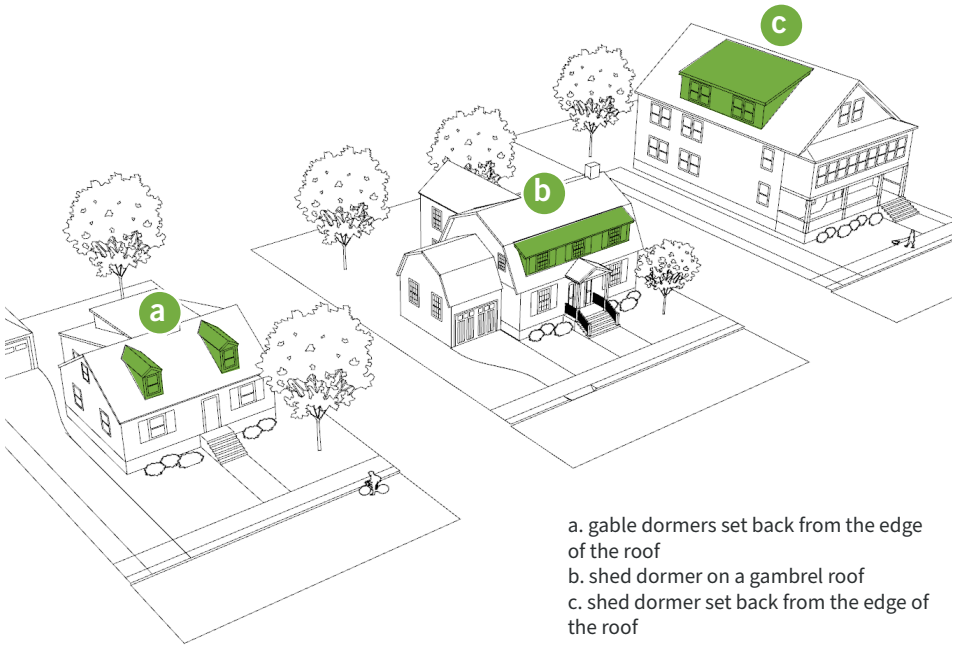
- Appropriately sloped roofs: New roofs should be compatible with the rooflines of surrounding houses. Mansard and Gambrel roofs should typically only be used above the first story.
- Organized roof design: Use a minimal approach and do not mix too many styles of roof forms.
- Roof detailing: Where appropriate, use well-proportioned trimming to detail eaves and how the roof meets the walls of the house.

Discourage

- Overly complex roofs: These roofs add the appearance of unnecessary bulk and height. Roofs should join together simply, without an extra bulge protruding from the primary roof line.
- Lack of detailing: Poorly designed details, such as large, obvious porkchop eaves, can look bulky and call unwanted attention to the new house.

Principle C-1 (continued)

Dormers and other Roof Elements



a. gable dormers set back from the edge of the roof
b. shed dormer on a gambrel roof
c. shed dormer set back from the edge of the roof

Dormers are set back from roof and are barely visible from street.

While the height is not excessive, the dormer is too large relative to the house.

Definition

A dormer is a roofed structure that projects vertically beyond the plane of a pitched roof. It usually has a window or multiple windows and is used to increase usable space in the attic or roof space. Two common types of dormers are gable and shed.

Other roof elements include chimneys and other defining features of certain styles, such as turrets.

Encourage

- Well-proportioned dormer: Dormers should be a detail on the roof rather than the dominant feature.
- Consistent dormer types: Use similar dormer types and level of detailing to dormers on surrounding houses, if applicable.
- Setback from the roof: To reduce their appearance, dormers, especially larger shed dormers, should be set back. Small wall dormers are acceptable to be flush with the front wall.
- Dormer alignment: Line up dormers and windows with existing elements on the wall below.

Discourage

- Large dormers: Inconsistent dormers can disrupt the streetscape pattern. Dormers should not occupy more than half the width of the roof.
- Inconsistent dormer types: Multiple, conflicting styles of dormers.
- Undersized windows: Small windows and lack of detailing on dormers can create too much blank space.

Principle C-1 (continued)

Windows

Windows do not necessarily align vertically but are ordered and symmetric.

Window combines contemporary finishes and materials with traditional proportions.

Ground floor lacks windows.

Windows are inspired by neighborhood window styles but use contermporary finishes.

Blank side face with no windows.

Windows are not ordered or aligned in a logical fashion.

Definition

Windows let natural light into the house. From the outside, they add visual interest and are a key element to make the house look more inviting from the street.

Encourage

- Consistent window proportions: Establish a clear logic for the placement of windows of varying sizes and design, using the surrounding houses as a guide.
- Window distribution: All sides of the house should have windows, keeping in mind existing pattern of window spacing.
- Sustainable practices: Energy-efficient strategies to use better insulating windows, better natural daylighting, and better solar orientation.
- Detailing: Attractive detailing and trimming when appropriate, such as multi-pane windows, that is compatible with surrounding buildings on prominent windows facing the street. Use similar materials to the windows of surrounding buildings.

Discourage

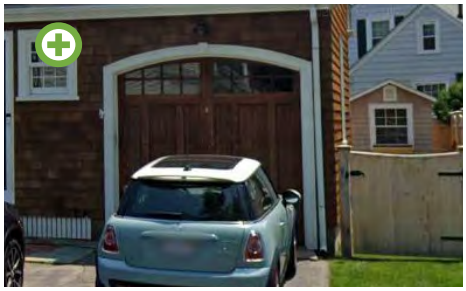
- Complex window combinations: Too many window styles, haphazardly placed.
- Blank façades: Significant areas without windows.
- Oversimplified window style: Overly plain windows may not fit the style of the house and surrounding buildings. For example, un-detailed, single-pane, punched windows generally do not fit many traditional styles.
- Inconsistent window style: Overly ornate windows may not fit the style of the house and surrounding buildings.

Principle C-1 (continued)

Architectural Detailing and Materials

Shutters are sized closely with the window size.

Multiple materials are used but in a way that is consistent with the style of the house.



Front-facing garage matches seamlessly in style and material with the house.

Shutters are purely decorative and do not appear 'functional'

Multiple materials are used, but it is obvious that the stone material is merely "stuck on."

Plain garage doors are fine in the rear but not in a prominent front area.

Definition

Detailing refers to features ranging from window frames to the roof edge treatment. The right level of detailing and material selection help to add texture and visually organize the front façade to reduce the bulkiness of a new house. Good detailing and materials can help the new house fit in with surrounding houses, even if it is significantly larger or taller.

Encourage

- Consistent proportions: Use similar materials, proportions, and patterns of detailing inspired by surrounding buildings. For example, window shutters should match the size of the window, so they appear functional.
- Consistent materials and detailing: Use detailing and materials that are appropriate to the style of the house. Use details and different materials with restraint.
- Differing materials, when appropriate: Different materials, such as between floors, can help define different parts of the house and break up the front façade.
- Detailing on garages: Use detailing to make front-facing, attached garage doors consistent with the rest of the front of the house and not appear as a blank void (see more on attached garages in Principle A-3)

Discourage

- Unsuccessful detailing: Under-sized or over-sized detailing adds too much visual complexity and draws unnecessary attention to the house.
- Complex material combinations: Too many conflicting materials or colors draws unnecessary attention to the house. For example, stone, brick, colorful siding, and contrasting trimming would be difficult to combine in a logical design.

1884 Aerial map fof Arlington.

DRAFT

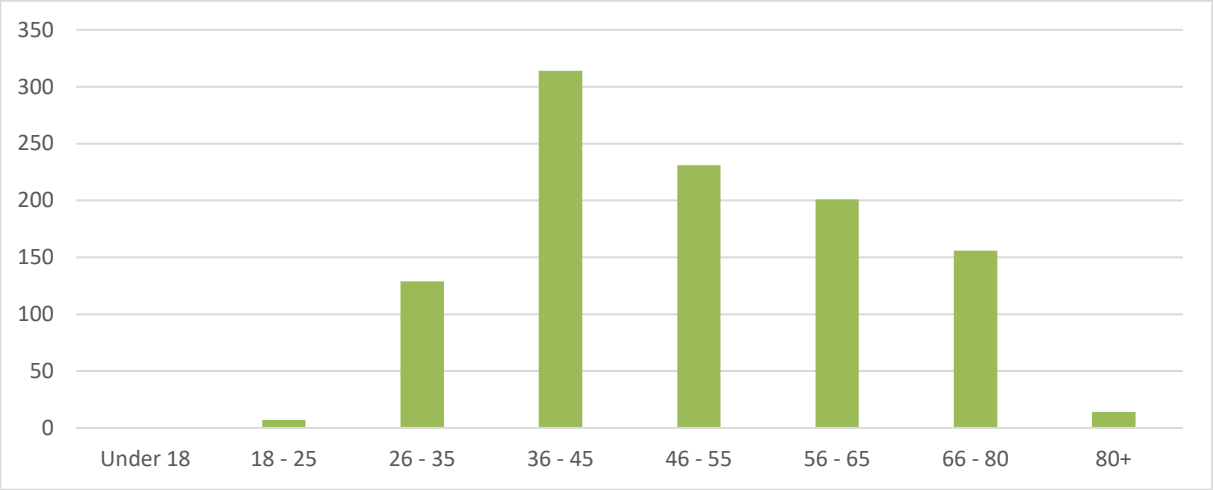
5 Community Engagement

Working Group members discuss houses in Morningside.

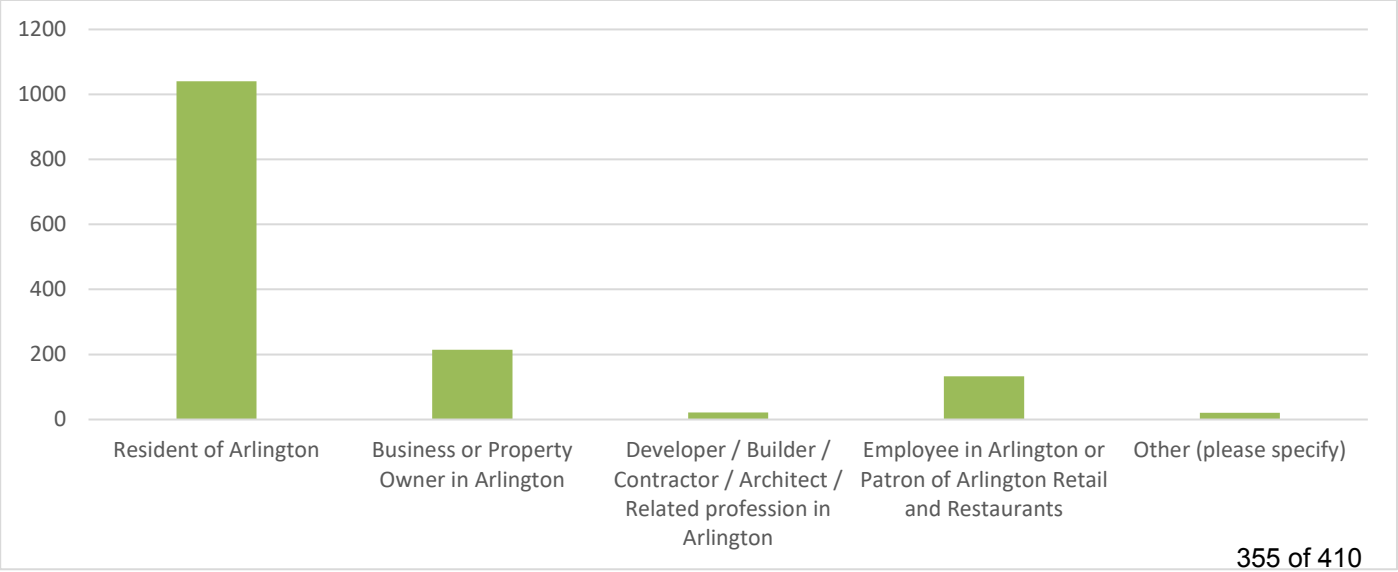
Visual Preference Survey - May 2020

A total of 1,071 responses were received. The survey was open from May 6, 2020 to June 8, 2020.

1. Please select your age group:



2. Please select your association(s) with the Town of Arlington:



3. What do you like about Arlington's residential neighborhoods?

Emergent themes from the 884 responses include:

- Walkable, friendly neighborhoods that are convenient to many amenities and good for families.
- Balance between density and quietness.
- Variety of neighborhoods and architectural character that reflect Arlington's history.
- Green spaces, yards, and trees.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *" Walkability. Even the densest sections of East Arlington maintain a feeling of openness that you simply do not get if you walk through Somerville or Cambridge. This is what I like most about Arlington-- a happy medium between the dense city and the suburban Lexington."*
- *"They are walkable and family oriented. I like that they have unique character, such as stained glass in East Arlington. Those that have green space for gardens or play areas are also nice."*
- *"The walkability, how neighbors in my neighborhood often hang out in their front yards and porches, the tree canopy, the variety of housing styles especially older homes."*
- *"Charm of the historic homes, small but attractive yards/ gardens, walkability to parks and businesses."*
- *"They are quiet, but access to shops and transportation is nearby."*
- *" The feeling of community and quiet neighborhoods, safe for raising children and forming lifelong connections with other families."*
- *" I like the different characteristics that define the many different neighborhoods in Arlington. I like the bungalows and the clear history that similar style houses were built around the same time. I like that there's a mix of large and small houses, apartment buildings and 2 and 3 family houses."*

Word cloud generated based on frequency of different words.

4. What are your thoughts on more recently built or renovated houses (from 2000 to today) in Arlington's residential neighborhoods?

Emergent themes from the 904 responses include:

- Inappropriate scale of many of the new houses relative to parcel and surrounding neighborhood context.
- Many new houses feel generic, boxy, oversized, and priced higher.
- Sensitive renovations were preferred.
- A sizable minority felt neutral or positive towards recent constructions.

Example quotes have been compiled to illustrate a variety of viewpoints:

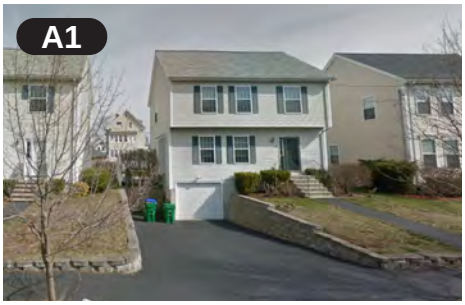
- *"Some are well designed, fit well with the neighborhood, respect neighbors rights and property, and are improvements to the neighborhood. However, a substantial number are completely out-of-place/character with respect to scale and massing, intrude significantly on neighbor's property with respect to loss of sunlight (shading), loss of privacy, and loss of sightlines/visual impairment..."*
- *" Too big and too expensive."*
- *" Most are pretty plain (nice word for ugly) and similar in design."*

Word cloud generated based on frequency of different words.

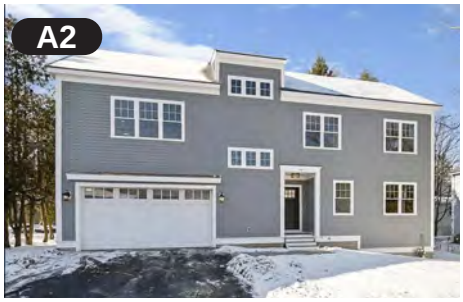
- *"Houses should not occupy 100% of the lots they are built on. Most new houses are far too large."*
- *" I am concerned about the size of the homes and the lack of yard space."*
- *"Renovations are usually attractive, but new construction is often bland and lacks character compared to older houses."*
- *" A few new homes are a good fit in the neighborhood, but most are generic "Home Depot boxes" built to the limit of the setbacks and height restrictions. Renovations are mostly sympathetic to the existing home, but some are unsuccessful attempts at dramatic style transformation and others are simply inappropriate changes to the structure that look awful."*
- *"I think they add to a sense of modernization. Many of the houses they replace are run-down, small, and out of scale."*

Single-Family House (A1 - A5) - Preference Results

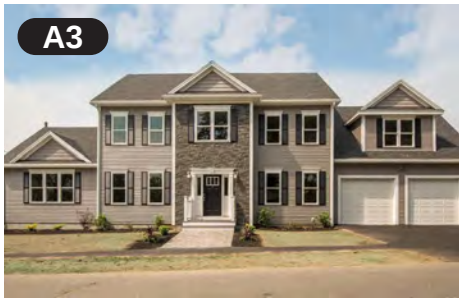
Survey participants ranked images of single-family houses from Highly Undesirable (1), Undesirable (2), Neutral (3), Desirable (4), and Highly Desirable (5). A rating for each image was calculated and is displayed in the following graph.



Google Streetview

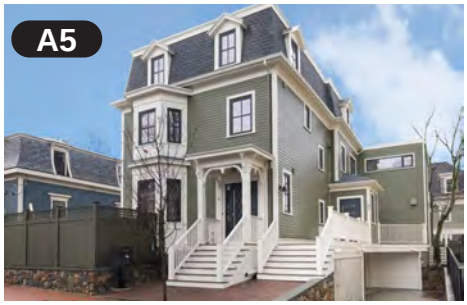


Zillow, Coldwell Banker Residential Brokerage

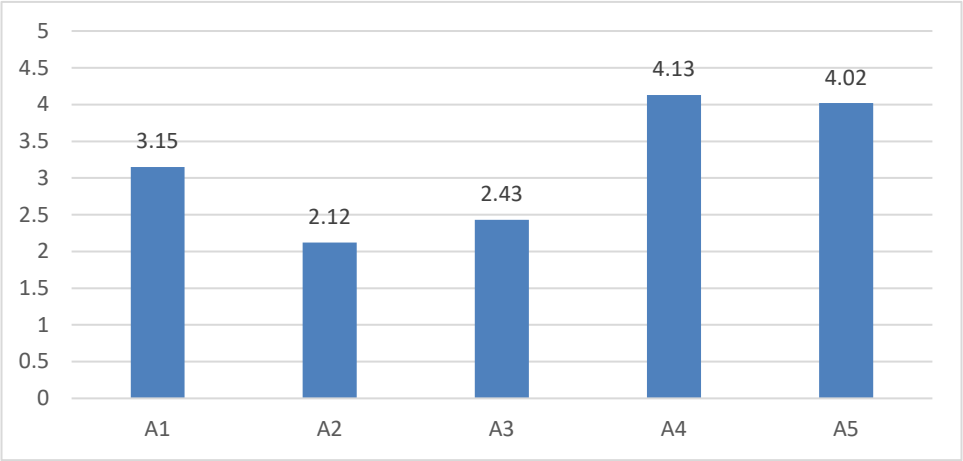


Codwell Banker Residential Brokerage

Zillow, Compass



Compass



414 respondents shared additional thoughts about single-family houses in Arlington and some of the reasoning for their ranking.

Emergent themes from the responses include:

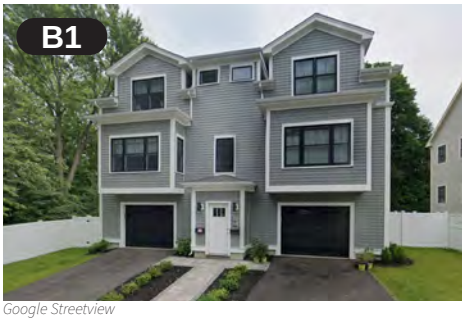
- Respondents noted that many of the examples were bland in design (A1, A2) or too large and suburban (A3).
- The other two examples (A4, A5) were rated higher for their smaller scale and detailing.
- Concerns about how houses are maximizing lot coverage and lack architectural details such as porches that reflect their context and create a welcoming street presence

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"Some are just boring. I like porches to help house relate to street. Don't love highly visible garage doors. Not sure my or my neighbors opinion should have sway in what private parties build. The more we regulate housing, the less we get of it."*
- *" I like front porches, gables & other details that give the house character & depth."*
- *"The first 3 looked very generic and lacking in character. All were relatively short on the trees and shrubs found in Arlington."*
- *"Don't like the garage right on the street (A2); lot grading A-1 is disruptive; like the way A5 fits in with the neighborhood"*
- *"A1 is just blah. A2 is interesting but too big for it's neighbor. A3 is just ugly. A4 is wonderful. A5 is wonderful but does look a little more Cambridge than Arlington."*
- *"A-2 is an abomination with no outward features of interest or community facing qualities. It looks like a fortress designed to keep everyone else at bay."*
- *" The two that I felt were highly desirable have combine a traditional look with modern materials. The first two had a boxy look that felt too imposing."*
- *" Property designs that emphasize porches and gardens that face the street are much more neighborly and inviting than garages. There are creative ways to accommodate cars without centering vehicles in the street-facing design."*
- *" A-2 and A-3 are too large for the context. I'd rather see homes with smaller footprints for single-family use. Lot A-3 would be better suited to a two or three family residence. A-1 has little street appeal, but fits the neighborhood. A-2 is visually unappealing. A-4 has street appeal but still lacks windows on the sides of the house. A-5 is a large single family but looks appropriate in context. It is attractive."*
- *" These examples are not a graceful as I would like. They are clearly maximizing size or minimizing cost and only some strive for architectural value."*
- *" A-2 and A-3 typify "mcmansion" style houses with bizarre layouts, nonsensical rooflines, and external features like window size and placement placed seemingly at random to accommodate strange internal features"*

Two-Family House (B1 - B6) - Preference Results

Survey participants ranked images of two-family houses from Highly Undesirable (1), Undesirable (2), Neutral (3), Desirable (4), and Highly Desirable (5). A rating for each image was calculated and is displayed in the following graph.

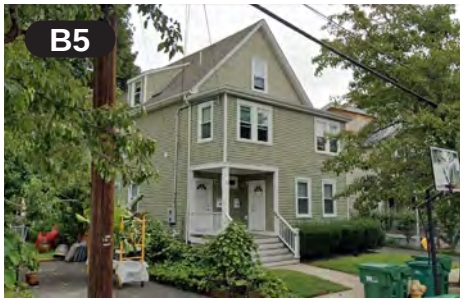


Google Streetview

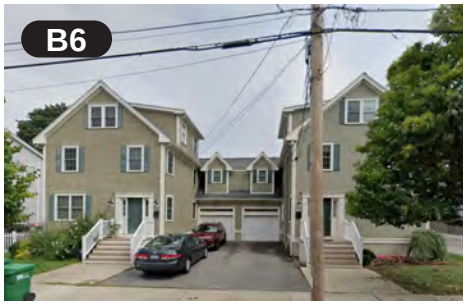
Redfin, MLS Property Information Network, Inc

Zillow, Eastern Massachusetts Realty Group

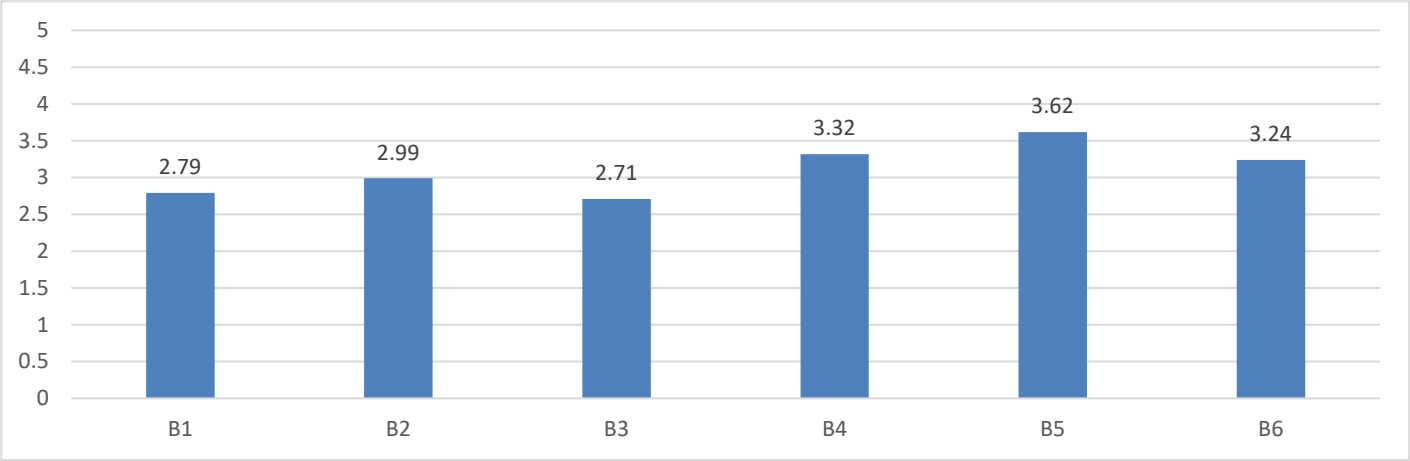
Google Streetview



Google Streetview



Google Streetview



305 respondents shared additional thoughts about two-family houses in Arlington and some of the reasoning for their ranking.

Emergent themes from the responses include:

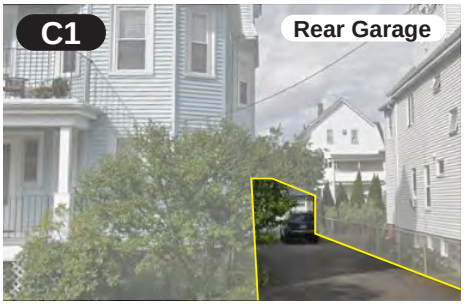
- Preference for traditional "stacked" two-family buildings (B5) rather than side-by-side townhouses (B1, B2, B3).
- Concern about dominating garages, lack of front yards, and bulky, bland design.
- The feedback was overall less positive for all of these chosen examples, relative to the rest of the survey.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"All of the above are visually fine, some more interesting than others, but no issues. The only ones that would work for me as an older person are those where I could get a first floor unit on one floor."*
- *" Density is good! These buildings do not look out of place."*
- *" B3 has an awful lot of paved space and not much green grass/ natural plantings, nor room for trees. They all look very tall to me - does everyone require a third floor to store all of their "stuff" these days??"*
- *" The parking minimums and requirements present a huge problem for townhouses. I am strongly supportive of densifying Arlington, but want it done in a pedestrian friendly way."*
- *" A lot of modern townhouses force garages into the scheme in awkward ways. I prefer the traditional two-family over/under rather than the side by side, for Arlington."*
- *" The first several images are too big, come too close to the sidewalks, and overshadow everything else. I don't understand why we can't have more moderately-sized homes in new construction. The last image is the only one I prefer. It is of moderate size, its porch feels cozy and not intimidating and its style fits with the neighborhood."*
- *" I prefer options with porches. Some of these examples seemed very wide compared with what we have today. They seem like two separate homes that happen to be conjoined. I have a hard time seeing these fit well on our existing two-family lots, certainly not in East Arlington."*

Parking Strategies (C1 - C8) - Preference Results

Survey participants ranked images of parking strategies from Highly Undesirable (1), Undesirable (2), Neutral (3), Desirable (4), and Highly Desirable (5). A rating for each image was calculated and is displayed in the following graph.



Google Streetview

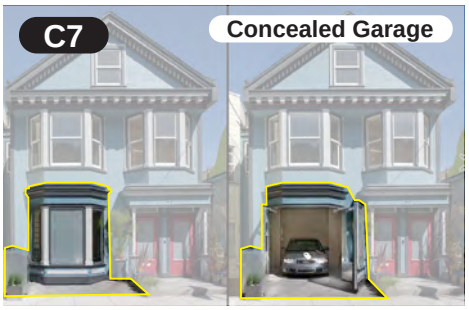
Google Streetview

Google Streetview

MLS Property Information Network, Inc

Google Streetview

Google Streetview



Architect -Levy Art N Architecture; Ken Gutmaker Photography

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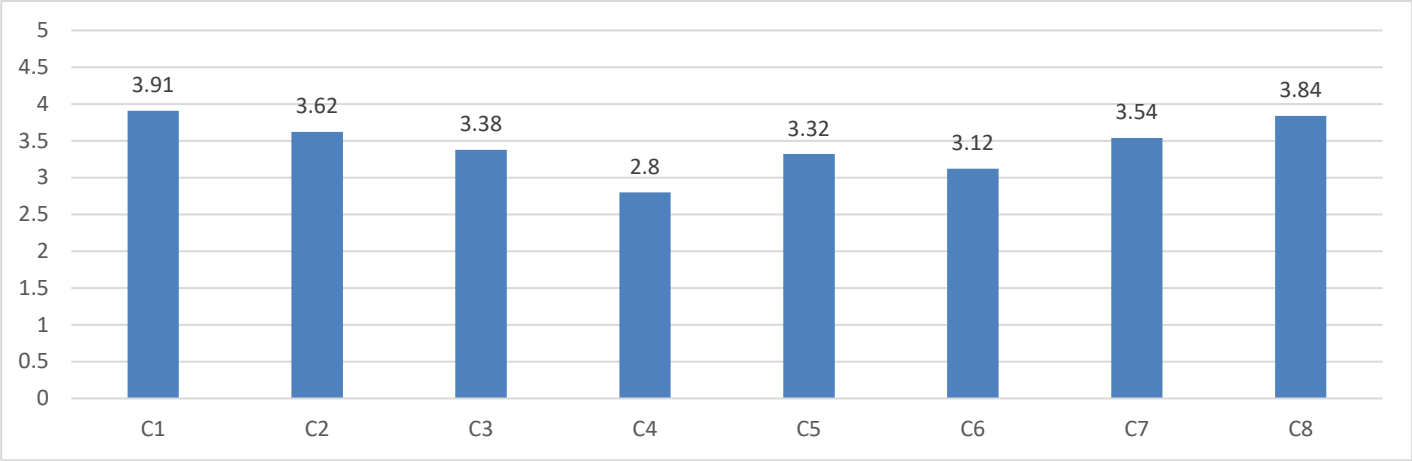


302 respondents shared additional thoughts about parking strategies in Arlington.

Emergent themes from the responses include:

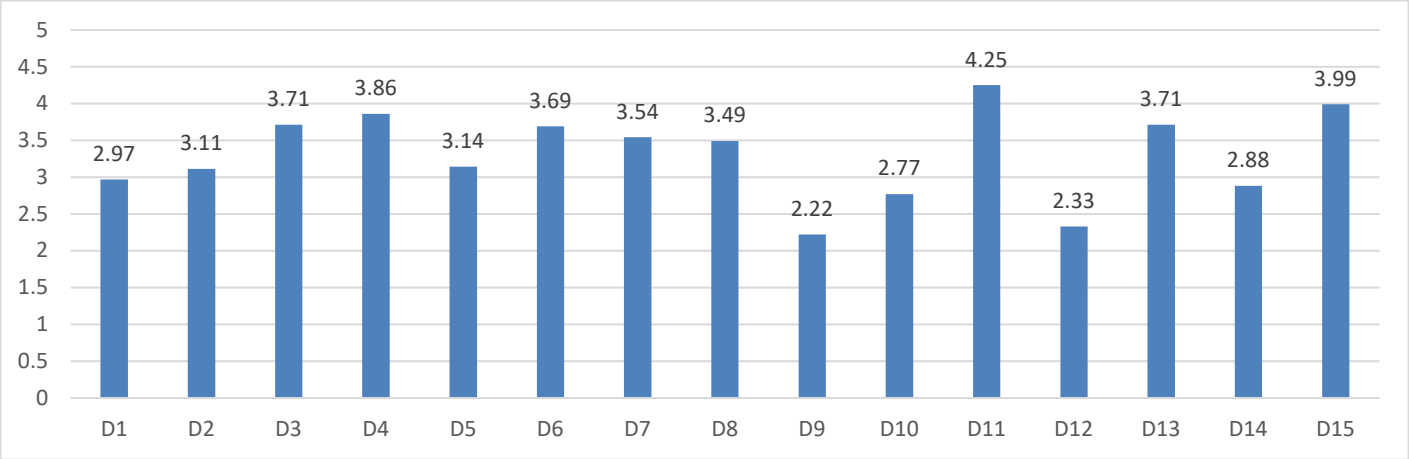
- Desire to see reduction in paved surfaces and some flexibility in parking requirements.
- Desire to keep garage and parking not at the forefront of the house.
- Parking and garages should not increase the height of the house.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"Please find a way to reduce the impermeable surface. Many two families in particular have all yard space covered in asphalt. I would like to see new developments required to provide some green space both for aesthetics and climate resilience."*
- *"Would prefer on street parking be available. Would enable increased density."*
- *"The garage should not be the most prominent feature of the house"*
- *"The steep grade of park-under garages is an undesirable eyesore and a parking hassle for the residents. If the lot is large enough for an alternative type of garage (ground-level, side, etc), the town should not allow for park-under garages simply so that developers can put an oversized home on the lot."*
- *" These ground level, concealed garages will only work if they do not increase the height of the home. In that case, garages on the property itself are better."*
- *"Driveways and garages are best on the sides and back of houses."*
- *"All these parking strategies are mostly fine and are really dependent on the lot characteristics. Allow for flexibility in parking."*

Additions (D1 - D15) - Preference Results

Survey participants ranked images of additions from Highly Undesirable (1), Undesirable (2), Neutral (3), Desirable (4), and Highly Desirable (5). A rating for each image was calculated and is displayed in the following graph.



Google Streetview

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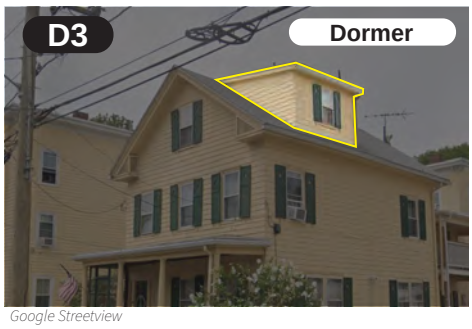

Google Streetview

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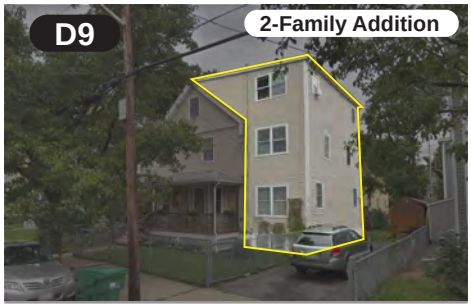
Old House Online, Gordon Bock,

Old House Online, Gordon Bock,

Old House Online, Gordon Bock,



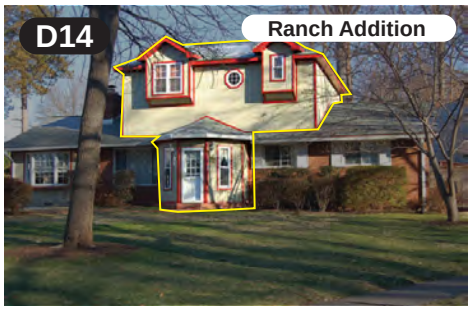
Google Streetview

Angela DiRusso of William Raveis R.E. & Home Services

Keith Robertson, Crismatec

Old House Journal, Additions 101

Old House Online, Gordon Bock



Old House Journal, Additions 101

Metzler Home Builders

237 respondents shared additional thoughts about additions and renovations in Arlington.

Emergent themes from the responses include:

- Ideal additions renovations (D4, D6, D11) look as if they were part of the original structure rather than an afterthought.
- Good additions use the same details and materials as the original house. They also are smaller than the original house.
- Guidelines for additions are important but should not overly restrict residents from updating their houses.
- Some respondents noted ADUs and opinions were divided.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"With the high cost of housing in Arlington, it's important to allow homeowners to make additions to their houses and not impose an arduous review process for most additions (less than 1,000 sf)."*
- *"Additions would need to consider scale, proportion to lot and surroundings - other homes, street, etc... Some of these additions are huge! I do not think Arlington lots can accommodate such additions."*
- *"Many additions are essentially new, larger houses attached to older, smaller houses. They are oversized and the original house is the size of what one would have considered an addition."*
- *"The ideal addition doesn't affect the facade as visible from the street."*
- *" Arlington is a special place to live in. With the rise in property prices, not just in town but in the metro west area, more and more residents are choosing to stay and renovate their existing homes. As a homeowner, I strongly feel that residents should have the flexibility to design their homes as per their needs. Restricting renovations due to aesthetics is not useful. There also needs to be equity in rules governing expansions. A single family homeowner with a large lot can get away with a lot more than a multi-family owner."*
- *"It is hard to describe what is good or bad but the addition must look like it could have been part of the original architectural design of the house to be aesthetically pleasing."*
- *"Best are the ones that incorporate the existing architectural features and blend in the additions. Some literally look like boxes stuck on the sides/top. Those are not as attractive."*

5. Now that you've taken the visual preference survey, what do you hope the Residential Design Guidelines will accomplish?

Emergent themes from the 620 responses include a desire for the guidelines to:

- Encourage diversity in high-quality design.
- Encourage new houses that fit in with the neighborhood, particularly around scale and lot coverage.
- Promotes better designs without creating too many restrictions to new housing and renovations.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"Give some guidelines without being overly intrusive."*
- *"To preserve some of the character of Arlington residential neighborhoods."*
- *"I hope the guidelines will thoughtfully allow modernizing Arlington's neighborhoods for today's living needs."*
- *"Flexibility to allow homeowners to build or add space while not completely being out of scale with neighbors, and while maintaining a pedestrian-scale street environment and "neighborly" feel. Along those lines front porches/stoops should be required or highly encouraged."*
- *"Keep Arlington from having too many ugly new houses, while allowing people to have more spacious, modernized, energy efficient homes."*

6.What concerns or reservations do you have about the Residential Design Guidelines?

Emergent themes from the 557 responses include concerns that the guidelines will:

- Be too strict and discourage any new development.
- Regulate taste, creating too much uniformity, or still allow oversized houses and lack enforcement.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"I am afraid if we make the guidelines appear very strict or arbitrary they will not be accepted, yet we need something to protect the integrity of the town architecture and greenspaces."*
- *"Too much restriction on people's freedom and ability to choose how to renovate their homes."*
- *"They allow way to much density, not enough set backs and too small lots."*
- *" Too lenient to developers, so they use cheap materials; rip up existing green space and trees; create huge, out-of-scale housing; disregard surrounding properties (design, scale)."*
- *"I am concerned that individual taste in housing design may be stifled to meet a community norm."*
- *" How will they be made attractive to builders? If the trade-offs for adherence are allowing larger houses I'd be opposed."*
- *" Not everyone has the same aesthetic preferences which may make it harder for someone to renovate in a style they personally prefer."*

7.Finally, what questions do you have about the Residential Design Guidelines?

Emergent questions from the 309 responses include:

- Clarity around goals, timeline, and process for the guidelines.
- How the guidelines will be used and enforced.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"Does Arlington want to maintain or to achieve an unique style while staying affordable? Does Arlington encourage sustainable building practices? Do other communities send out surveys?"*
- *"How will guidelines impact what becomes regulation?"*
- *"What is the purpose of the guidelines? Who will be the final arbiter? Will they be used to unjustly prevent something from being built?"*
- *"If they are voluntary, how will they be enforced? Enforcement of Zoning Bylaws is already spotty."*
- *"Will these be guidelines or requirements, will exceptions be permitted and under what circumstances?"*
- *"Is this a binding initiative with public forums, or what is the next step for input into this process?"*

8.In addition, while the focus of the design guidelines will be on the design of the building itself, landscaping around the house is important as well. Do you have any thoughts about landscaping?

Emergent themes from the 517 responses include:

- Emphasis on the need for green space and tree cover while avoiding impermeable, paved yards.
- Avoid regulating or requiring a certain kind of landscaping and leave landscaping design decisions to homeowners.

Example quotes have been compiled to illustrate a variety of viewpoints:

- *"Landscaping can improve the visual look of a neighborhood. I think how one landscapes (if at all) should not be regulated."*
- *"I used to live in a neighborhood with a Homeowner's Association. They stifle creativity. Let's let people decide how they want to landscape for themselves."*
- *"Eco-friendly landscaping vs. generic grassy lawns would be great. Gardens and raised beds also enhance quality of life and food security. Consider edible plants and fruit-bearing trees over simply aesthetically "pleasing" trees and shrubs."*
- *"Landscaping can be tremendously costly, and is often beyond the reach of most already financially stressed community members. Be generously indulgent to homeowners with any guidelines."*
- *"It is important for houses to have yards with unpaved surfaces for rainwater management."*

Summary of Findings

The survey collected varied perspectives about different perspectives on Arlington's residential neighborhoods.

Overall, respondents love Arlington because of its balance between urban convenience and the community feel of a quieter, smaller town. Respondents also appreciated the green open spaces and leafy feel of the residential streets. Finally, many celebrated Arlington's architectural history and diversity.

Many residents had concerns about recent developments. Some noted that new homes were too large and thus priced significantly higher, reducing the stock of relatively affordable homes. Many perceived that these new homes were built to their zoning maximum and did not provide adequate open space and setbacks from the street and abutting houses. Others criticized the "boxiness" and lack of architectural quality of new houses.

Specifically for single-family houses, the images with the highest ratings (A4, A5) were noted for their higher quality of architectural details and smaller presence on the street. Many noted that they wanted to see more space dedicated to green space in the front yard.

For two-family houses, the image with the highest rating (B5) looked closer to the common stacked two-family houses. Many respondents reacted less favorably to the duplex or townhouse options, noting that they were too high and dominated by the garage and driveway.

For parking strategies, the images with higher ratings tend to minimize the visual impact of the garage or driveway. These include rear garages (C1), side garages (C2), and the garage designed to blend in with the house (C8). The park-under that worked with the topography and did not include a steep downward slope (C3) was rated higher than the park-under duplex (C4).

For renovations, the images that showed additions that looked as if they were originally built as part of the house were the most successful (D4, D11). Over-sized additions and dormers were least successful (D9). Another example of a successful renovation completely transformed the original house while maintaining the same frontage, so the entire house felt cohesive as one (D15).

For the goals of the Design Guidelines, most respondents wanted a set of guidelines that would promote quality design that fits well in the neighborhood but would not overly restrict development, constraining supply or stifling creativity.

Next Steps

Based on the survey results, the next step of the community process focus on gathering feedback on the specific tools that will be used to evaluate new homes and renovations. Differentiating between zoning, requirements, and guidelines will be key. The priority should be to demonstrate how these design tools, without changing the underlying zoning, can help to mitigate the perception of size of new homes. There should also be clarification of how these guidelines will be used and at what step of the building permitting process.

Virtual Community Forum- June 30, 2020

Overview

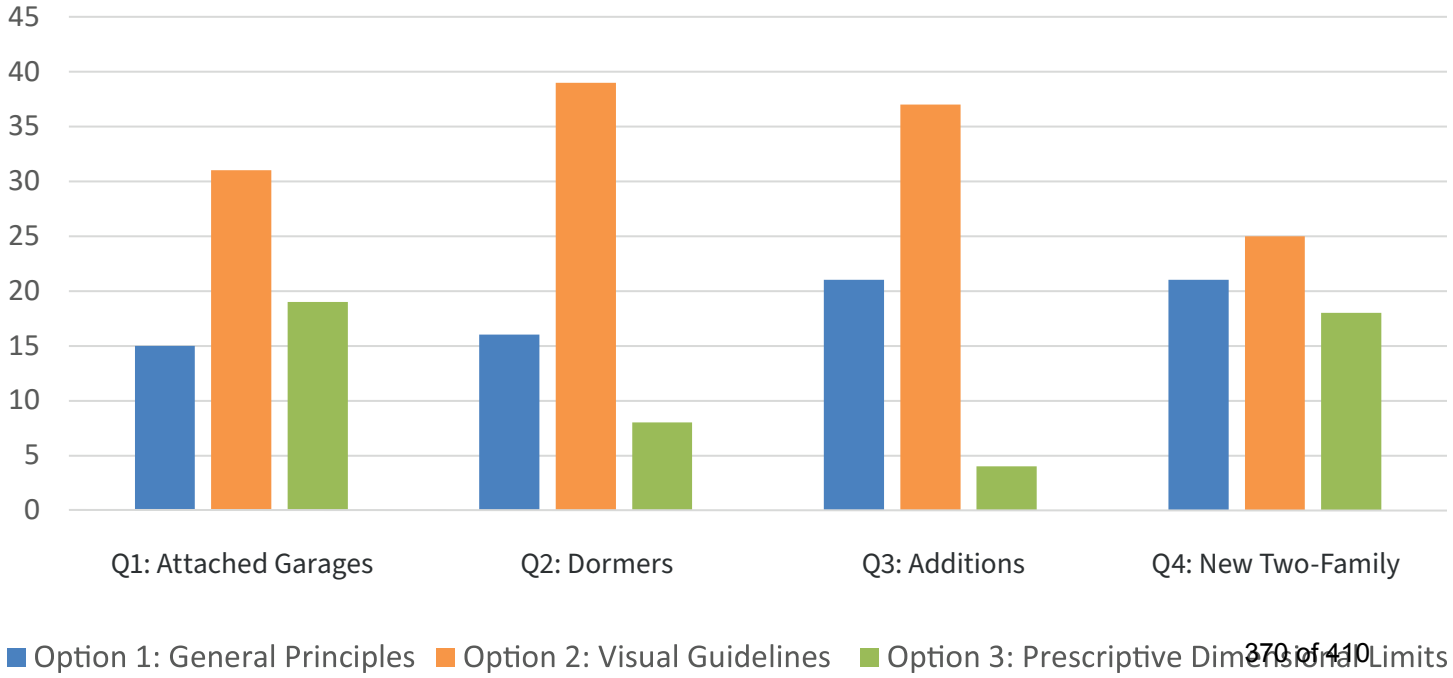
On June 30, 2020, the Town of Arlington and Harriman hosted an online virtual community forum. There were approximately 42 participants who attended the meeting. After the forum, a do-it-yourself survey adaptation of the community forum and recording of the forum allowed additional residents who did not attend the meeting to participate. There were 27 respondents to the follow-up survey.

After the presentation on the project overview and schedule, existing conditions report, and visual preference survey results, there were two open Question and Answer sections and an online poll. Participants were asked to respond to three approaches to design guidelines, ranging from high-level urban design principles to more prescriptive dimensional limits.

Results

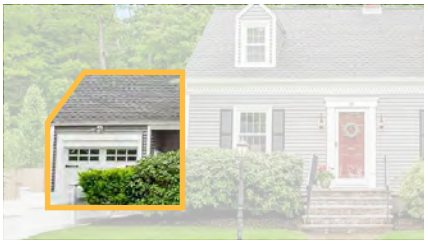
The results of the forum poll and survey are shown in the graph below. The example guidelines are shown on the subsequent pages. Overall, most respondents preferred seeing a "middle" approach - specific visual guidelines that act as suggestions rather than requirements. This strikes a balance between being too prescriptive and being too general and lacking "teeth." During the Q&A, participants pointed out specific design issues they hoped to see addressed, such as the prevalence of garages and the desire to see welcoming yards and porches. Some participants, including local designers and developers, were concerned that the guidelines would be too restrictive and would increase costs.

Aggregate Forum Live Poll and Follow-up Survey Results



Question 1: Which approach to design guidelines for attached garages do you prefer?

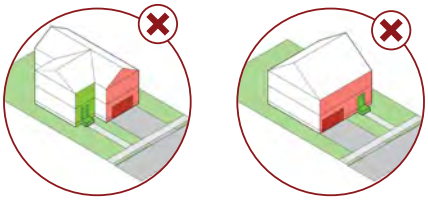
Option 1



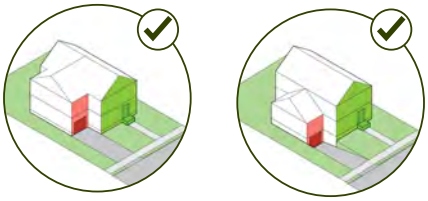
The appearance of Attached Garages should be minimized. The attached garage should not dominate the principal façade.

Specific Recommendations are for illustrative purposes only.

Option 2

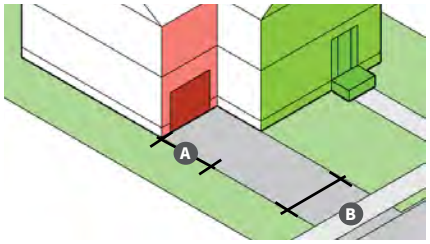


The appearance of Attached Garages should be minimized. Attached Garage should not be flush with the principal façade or extend past the principal façade.



Ground-level and park-under, attached garages should be set back from the principal façade to minimize their visual impact.

Option 3



A Front-facing garage setback from primary façade: 8 ft

B Single-car garage doors are preferred. Double-car garages should use two single-car doors instead of one double-wide garaged door. Driveways should taper and not be wider than 12 ft at the point of intersection with the sidewalk.

Question 2: Which approach to design guidelines for shed dormers do you prefer?

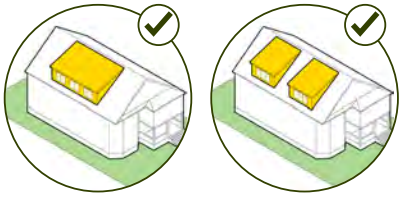
Option 1

Shed dormer additions should be designed to be consistent in scale and style with the existing building and neighborhood. The dormer should be sized appropriately.

Specific Recommendations are for illustrative purposes only.

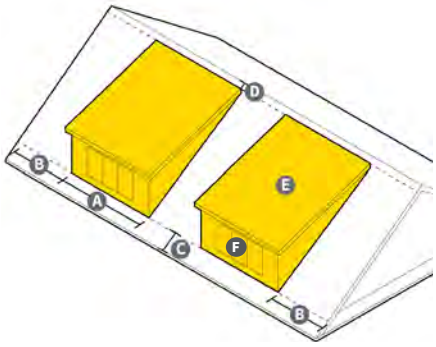
Option 2

The dormer should not overpower the primary roof and create the appearance of an additional story.



The total width of the dormer(s) should not exceed 50% of the eave length of the roof below and be set back appropriately from the top ridge and edges of the roof. Large shed dormers are encouraged to be broken up into multiple dormers. A majority of the dormer façade should be glazed.

Option 3



- **A** Total dormer width should not exceed 50% of the eave length of the roof below.
- **B** Side wall setback: 3 ft
- **C** Front/Rear wall setback: 3 ft
- **D** Ridge setback: 1 ft
- **E** Shed roof slope (min): 4:12, 18.4°
- **E** Glazed width of dormer percentage (min): 75% of total dormer width

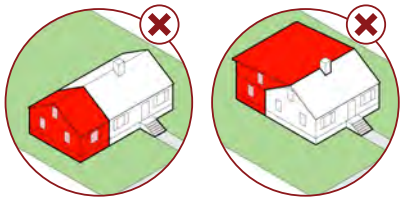
Question 3: Which approach to design guidelines for additions on small house typologies, such as Capes and Bungalows, do you prefer?

Option 1

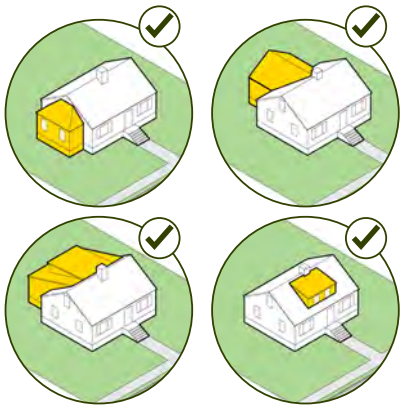
- A Cape Cod house is a low, broad, single-story frame building with a moderately steep pitched gabled roof, a large central chimney, and very little ornamentation.
- Additions should match the scale, material, window pattern, and roof style of the existing house.
- Additions should not significantly alter the visual alignment, rhythm, and spacing of the street.

Specific Recommendations are for illustrative purposes only.

Option 2

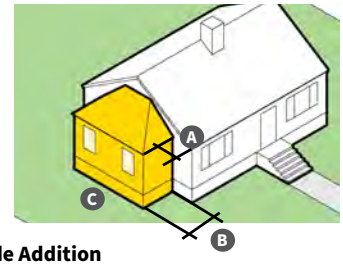


Additions should be designed to be smaller in scale to the existing Cape-styled house.



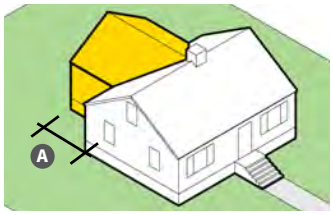
Additions should match the scale, material, window pattern, and roof style of the existing house. Rear additions and dormers are preferred.

Option 3



Side Addition

- **A** Set back from primary façade: 3 ft
- **B** Front width of addition: 25% of primary façade
- **C** Side width of addition: 75% of side façade



Rear Addition

- **A** Visual impact of addition should be minimized. Length of rear addition should not exceed width of existing structure. Additions should remain 1 1/2 story.

Question 4: Which approach to design guidelines for new two-family duplexes do you prefer?

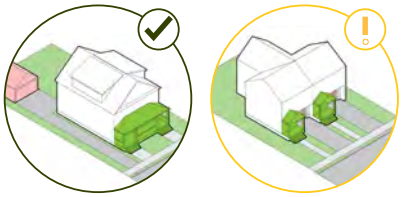
Option 1

- The massing of new two-family duplexes should be designed to be in context with the existing buildings on the street.
- Wide duplexes should be broken up visually to match the rhythm of building spacing.
- Front-facing attached garages should not dominate the primary façade.

Specific Recommendations are for illustrative purposes only.

Option 2

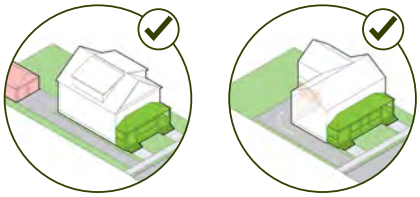
Front-facing attached garages are discouraged. The massing of new two-family duplexes should be designed to be in context with the existing buildings on the street.



Duplexes are encouraged to use rear or side garages and not locate garages on the primary façade, whenever feasible.

Front-facing attached garages should be set back from the primary façade. Spacious front porches are encouraged. Front-facing garages should incorporate transparency, materials, and details (e.g., hardware such as hinges) to create a welcoming design.

Option 3



Rear Garage *Side Garage*

Duplex - No front-facing attached garage

Duplexes are encouraged to not locate garages on the primary façade, whenever feasible.

Duplex - Front-facing attached garage

Duplexes with front-facing attached garages must meet the following:

- **A** Width of garage (max): 50% of primary façade
- **B** Garage setback from primary façade and/or entrance elements (min): 8 ft
- **C** Front-facing garages should incorporate transparency, materials, and details (e.g., hardware such as hinges) to create a welcoming design.

Question 5: What are your thoughts on including simple alternatives and improvements in the design guidelines?

Note that any recommendations in the design guidelines will not be applied retroactively to existing houses; it will only apply to new projects. For example, an existing homeowner will not need to update their garage door. But if they are building a new home with a garage door, the design guidelines will suggest numerous alternatives to the plain white door in order to create a welcoming front façade.

Front-facing garage door can be replaced or repainted to be more welcoming.

Before

After

Before

After

Specific Recommendations are for illustrative purposes only.

Arlington Residential Design Guidelines Study

ARB Presentation - October 5, 2020

Town of Arlington, Department of Planning and Community Development

HARRIMAN

Project Background

- 2018 Residential Study Group and the DPCD Report on Demolitions and Replacement Homes.
- 2019 RFP for Residential Design Guidelines.
  Design Review Working Group Established.
  Harriman selected as consultant.
  Project kickoff.
- 2020 Development of Residential Design Guidelines.

Project Goals

The Town of Arlington would like to work with the community to create Residential Guidelines for <u>one-family and two-family residential projects</u> in R0, R1, and R2 districts that:

- Address three sets of interests: the preferences of neighborhood residents; the desires of property owners to add onto or replace existing housing; and the general public interests of the Arlington community.
- Codify the balances between different needs in a clear and understandable way - community and individual, aesthetics and market needs, control and flexibility.
- Recommend an approval process that ensures the balance is embodied in the built environment as new structures are built.

Process

Working Group Meeting

Working Group Meeting

Online VPS May 2020

Virtual Workshop June 2020

Working Group Meeting

Public Review

Start Up
December 2019

1. Existing Conditions Analysis
December 2019 - February 2020

2.Neighborhood Engagement
March 2020 - June 2020

3. Draft Guidelines
June 2020 - October 2020

4. Final Guidelines and Review

Introduction Meeting

Site Visit

Document Review

Existing Conditions Analysis

Visual Preference Survey

Virtual Community Forum

Staff Review of Draft

Discusss proposed design review process with ISD, ZBA, ARB, and DPCD

Final Design Guidelines

Community Forum

Existing Conditions Analysis and Community Feedback

Existing Conditions Analysis - Overview

Through the analysis, the team worked to understand:

- **Key design issues and patterns that impact the identity of a neighborhood.**
- **Design factors that differentiate Arlington's single-family and two-family neighborhoods.**
- **Current permitting process.**

Existing Conditions - Key Design Issues

Additions that do not fit the design context of the existing house and neighborhood.

New Construction that is not in scale with the neighborhood.

Parking that dominates the principal façade.

Existing Conditions - Neighborhood Identity

- **A ‘sense of place’ is the relationship between people and place and includes the physical characteristics of a neighborhood.**

- **Elements that help to distinguish different neighborhoods include:**
  - History of development - Streetcar suburb vs. post-war suburb. Arlington’s population nearly doubled in the 1920s and saw other waves of development after WWII in the 1950s.
  - Landmarks and open spaces.
  - Street layout and lot size.
  - Age, style, historic districts.
  - Massing, density, height.

Existing Conditions - Neighborhood Identity

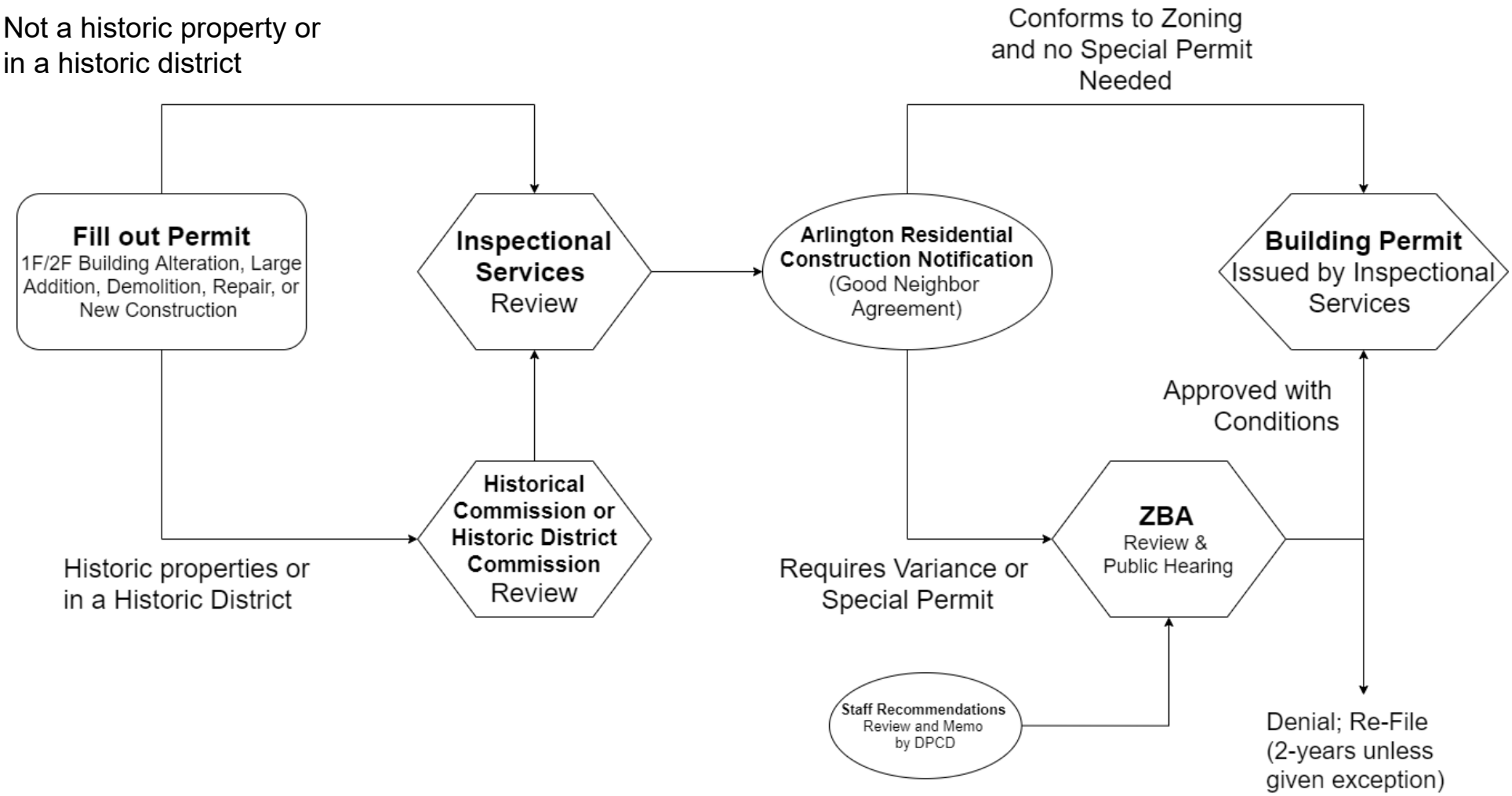
This ‘fuzzy boundary’ map was drafted by synthesizing information from unofficial mental maps, zoning, key open spaces, and maps of Assessor’s Data such as lot size, age, FAR, and style.

Draft boundaries are for discussion purposes only.

Community Engagement - Key Takeaways

- Participants **love Arlington** because of its balance between urban convenience and the community feel of a quieter, smaller town.
- **Off-street parking and the perceived size of new houses were the top concerns.** Parking strategies that de-emphasized the garage and car were well-received. Garages that dominated the façade were not well-received. Participants noted how some new homes were boxy and felt too large, relative to the lot and neighborhood.
- Participants wanted **guidelines that were more visual and less prescriptive**. They hope that it will promote quality designs that fit well in the neighborhood and provide enough flexibility to not overly restrict development.

Existing Approval Process



HARRIMAN

Draft Residential Design Guidelines Overview

Purpose of Design Guidelines

- **For Homeowners**

  Provide a “pattern book” of design best practices, given the neighborhood context.

- **For Builders, Architects, and other Professionals**

  Provide guidance on how new houses and renovations can fit a neighborhood context better.

- **For Town Staff and ZBA**

  Provide clear standards to evaluate new construction. For houses that are not zoning compliant, meeting the guidelines will help the variance process move more smoothly.

Organization of Design Guidelines

Three Sections	Design Principles	Recommendations
Streetscape Design	A-1	*Encourage/Discourage*
	A-2	*Encourage/Discourage*
	A-3	*Encourage/Discourage*
	A-4	*Encourage/Discourage*
Building Design	B-1	*Encourage/Discourage*
	B-2	*Encourage/Discourage*
Building Elements	C-1	*Encourage/Discourage*

Design Guideline Principles

- **Streetscape Design**
  - A-1: Arlington’s residential neighborhoods are distinct and organized into Neighborhood Block Categories to reflect differing lot sizes.
  - A-2: New houses and significant additions should be oriented and located in a way that is consistent with their Neighborhood Block Category.
  - A-3: Streetscapes should feel welcoming to people walking down the street and should minimize disruptions from driveways.
  - A-4: Creative solutions and exceptions are encouraged to help new houses and renovations with special circumstances and non-conforming lots in a way that is consistent with the Neighborhood Block Category.

Design Guideline Principles

- **Building Design**
  - B-1: Arlington's residential neighborhoods are made up of diverse architectural styles; new houses and renovations are encouraged to borrow elements from existing block styles and avoid being too plain or too complex.
  - B-2: Creative solutions are encouraged to ensure new houses are designed to be consistent with the streetscape's rhythm.
  - B-3: New additions are encouraged to match or complement the style of the original structure and match the rhythm of other houses on the street.
- **Building Elements**
  - C-1: Building elements such as entrances, roofs, dormers, and windows should be used in a way to help the house to feel welcoming and active.

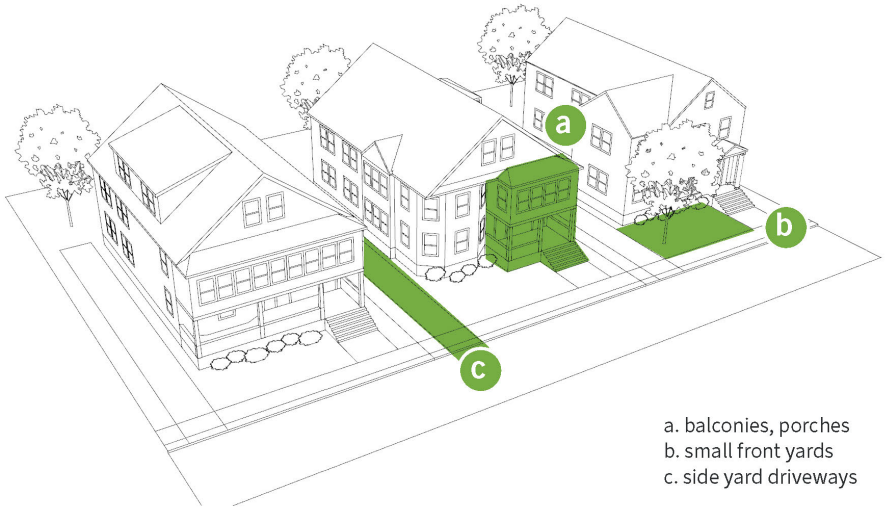
Four Neighborhood Block Categories

1. Two-Family, Town core

Found in East Arlington and other Two-Family areas along Massachusetts Avenue.

Primary Characteristics

- Mostly 2-family houses. Typically 2 ½ Stories.
- Typical Lot Size: Smaller than 5,000 sf. Small front yards.
- Balconies and Porches.



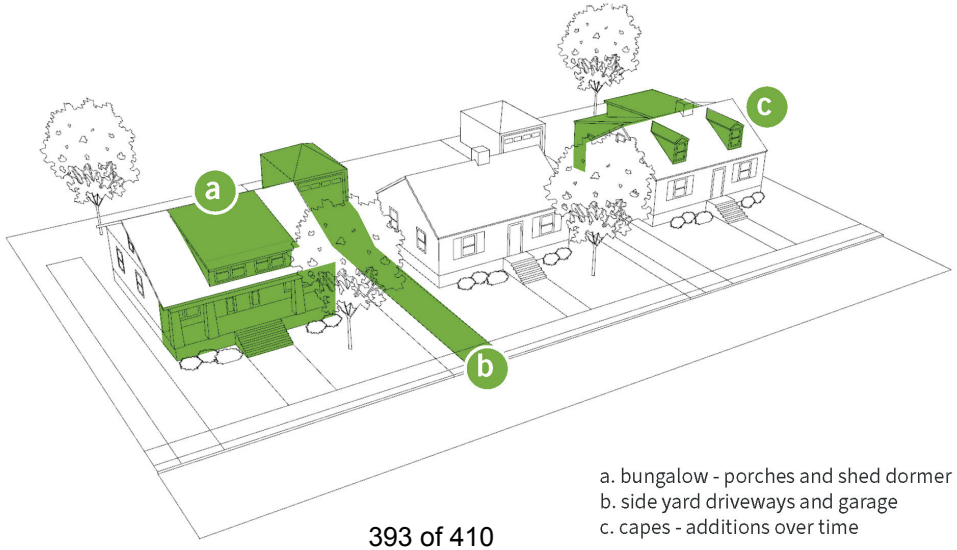
a. balconies, porches
b. small front yards
c. side yard driveways

2. Single-Family, Small Lots

Found in parts of Arlington Heights, Poets Corner, Robbins Farm, Mount Gilboa/Turkey Hill.

Primary Characteristics

- Capes, Bungalows, and smaller Colonial styles.
- Typically 1 ½ story with some 2 ½ story.
- Typical Lot Size: Smaller than 5,000 sf or 5,000 sf –6,000 sf. Front Yards between 10 ft to 20 ft.



a. bungalow - porches and shed dormer
b. side yard driveways and garage
c. capes - additions over time

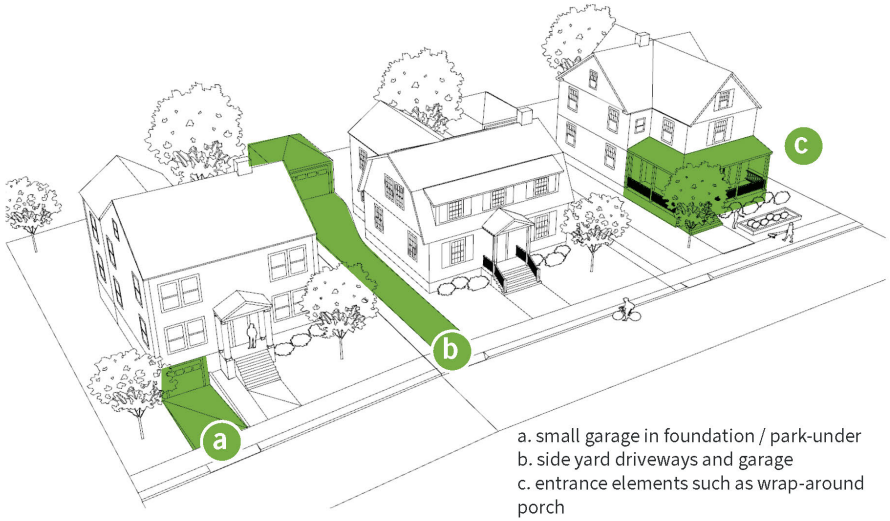
Four Neighborhood Block Categories

3. Single-Family, Medium Lots

Found across Arlington in Kelwyn Manor, Arlington Center, Jason Heights, Poets Corner, Arlington Heights, Mount Gilboa/Turkey Hill, Morningside.

Primary Characteristics

- Diverse styles.
- Typically 2 story or 2 ½ story.
- Typical Lot Size: 5,000 sf – 6,000 sf or 6,000 sf – 9,000. Front Yards between 20 ft to 30 ft.



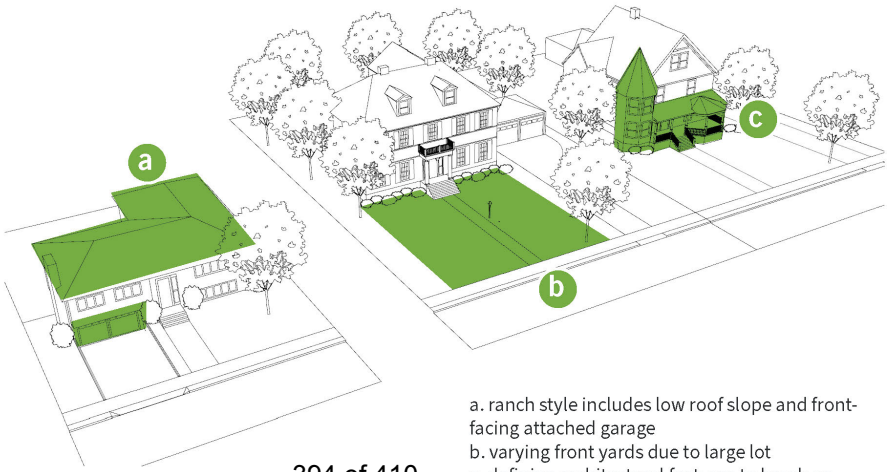
a. small garage in foundation / park-under
b. side yard driveways and garage
c. entrance elements such as wrap-around porch

4. Single-Family, Large Lots

Found in Jason Heights, Arlington Center, Morningside, Arlington Heights.

Primary Characteristics

- Colonial/Ranch Style (Morningside) and Victorians, Large Colonials (Jason Heights, Arlington Center, Arlington Heights).
- Typical Lot Size: Larger than 9,000 sf. Front yards larger than 25 ft.



a. ranch style includes low roof slope and front-facing attached garage
b. varying front yards due to large lot
c. defining architectural features to break up massing of larger houses

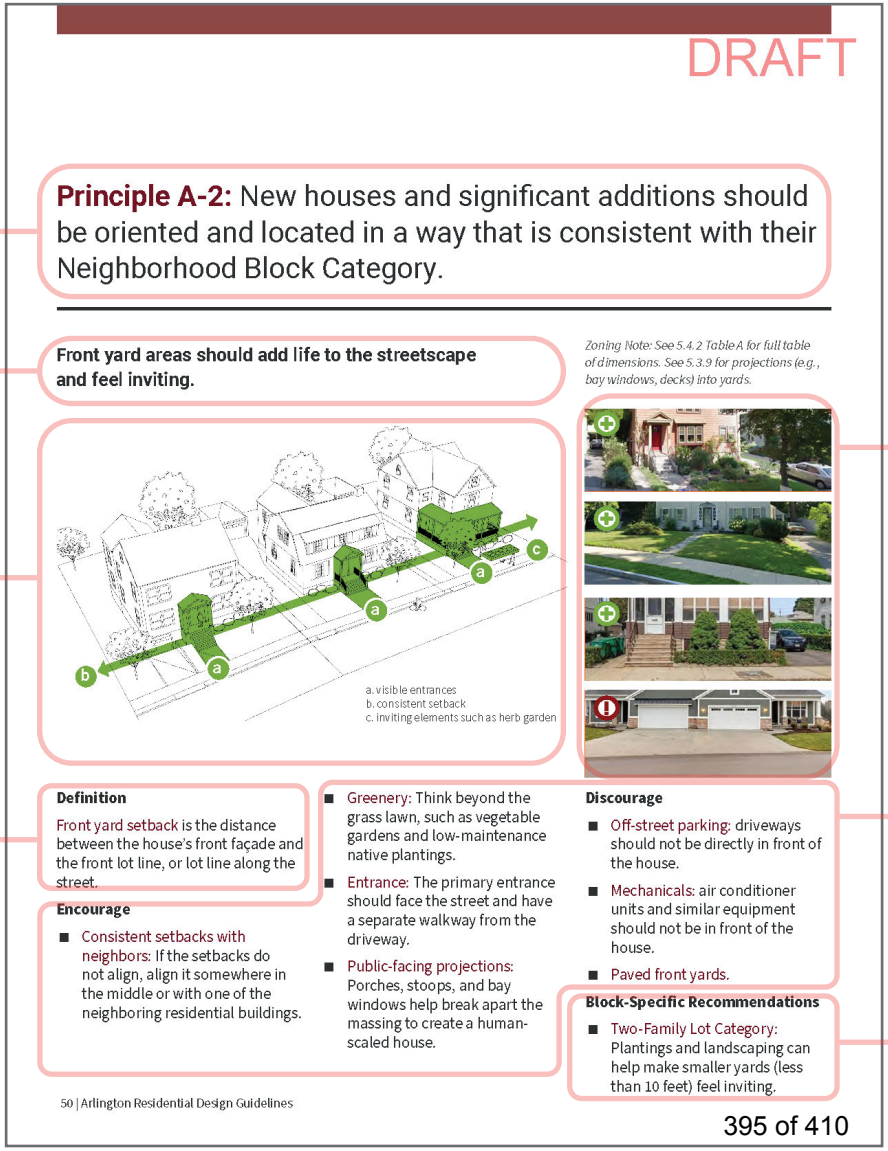
Sample Layout

Design Principle

Page Heading

Annotated Diagram

Definition



DRAFT

Principle A-2: New houses and significant additions should be oriented and located in a way that is consistent with their Neighborhood Block Category.

Front yard areas should add life to the streetscape and feel inviting.

Zoning Note: See 5.4.2 Table A for full table of dimensions. See 5.3.9 for projections (e.g., bay windows, decks) into yards.

Definition

Front yard setback is the distance between the house's front façade and the front lot line, or lot line along the street.

Encourage

- Consistent setbacks with neighbors: If the setbacks do not align, align it somewhere in the middle or with one of the neighboring residential buildings.
- Greenery: Think beyond the grass lawn, such as vegetable gardens and low-maintenance native plantings.
- Entrance: The primary entrance should face the street and have a separate walkway from the driveway.
- Public-facing projections: Porches, stoops, and bay windows help break apart the massing to create a human-scaled house.

Discourage

- Off-street parking: driveways should not be directly in front of the house.
- Mechanicals: air conditioner units and similar equipment should not be in front of the house.
- Paved front yards.

Block-Specific Recommendations

- Two-Family Lot Category: Plantings and landscaping can help make smaller yards (less than 10 feet) feel inviting.

50 | Arlington Residential Design Guidelines

395 of 410

Sample Images

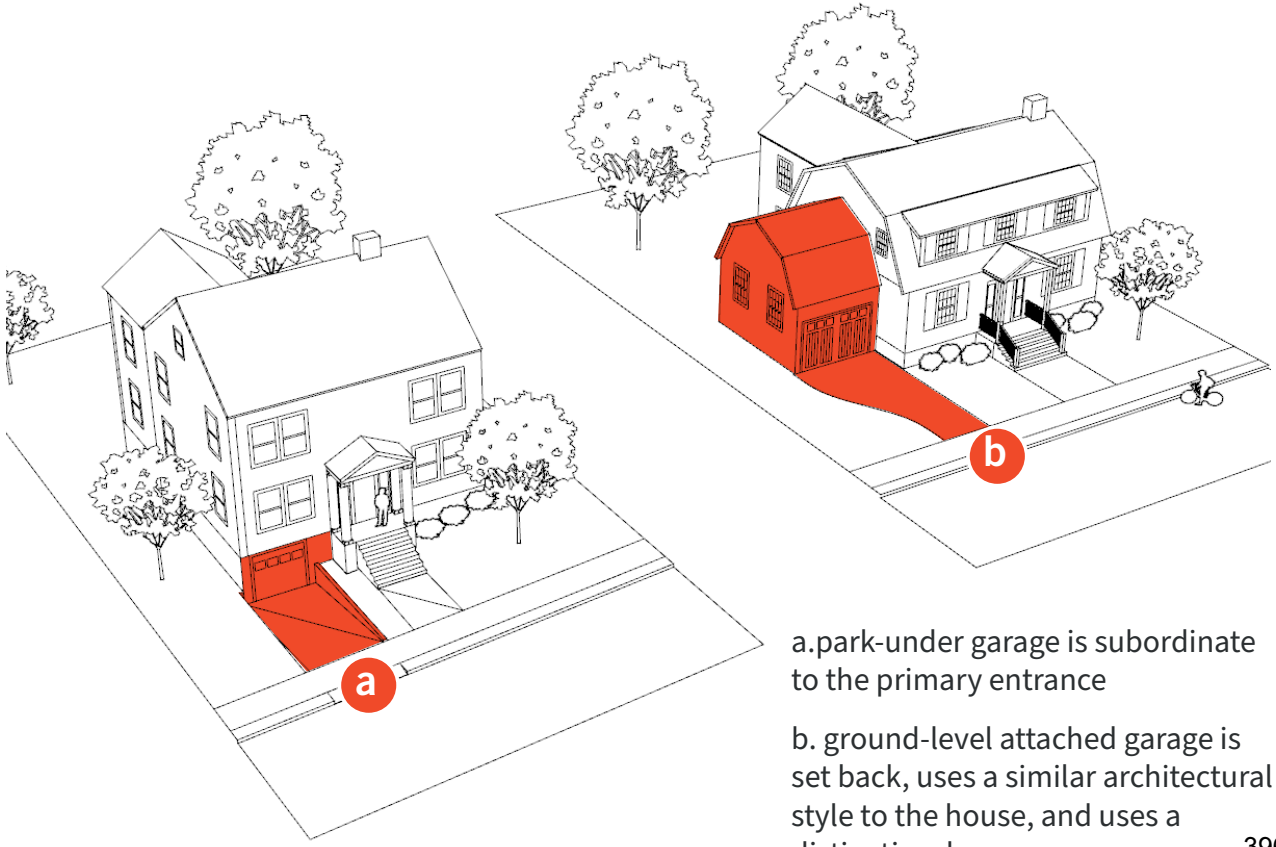
Recommendations (Encourage/ Discourage)

Block-Category Recommendations

Streetscape Design Guidelines - Sample Graphic

Principle A-3: Streetscapes should feel welcoming to people walking down the street and should minimize disruptions from driveways.

Attached, street-facing garages tend to dominate the front of the house. Consider other off-street parking solutions first.



a.park-under garage is subordinate to the primary entrance

b. ground-level attached garage is set back, uses a similar architectural style to the house, and uses a distinctive door

Streetscape Design Guidelines - Sample Text

Encourage

- Minimized presence: Set the attached garage back from the front face of the house. Consider differentiating the garage in a smaller side wing to the main house. Size the garage to be one-car wide.
- Bay windows and porches: these elements draw the eye away from the garage.
- Small park-under garages: For park-under garages or garages within the house foundation, avoid adding another story to the house. Match the foundation height of the house to other houses on the street, based on the existing topography.
- Front walkway: Create a dedicated entrance walkway for people separate from the driveway.

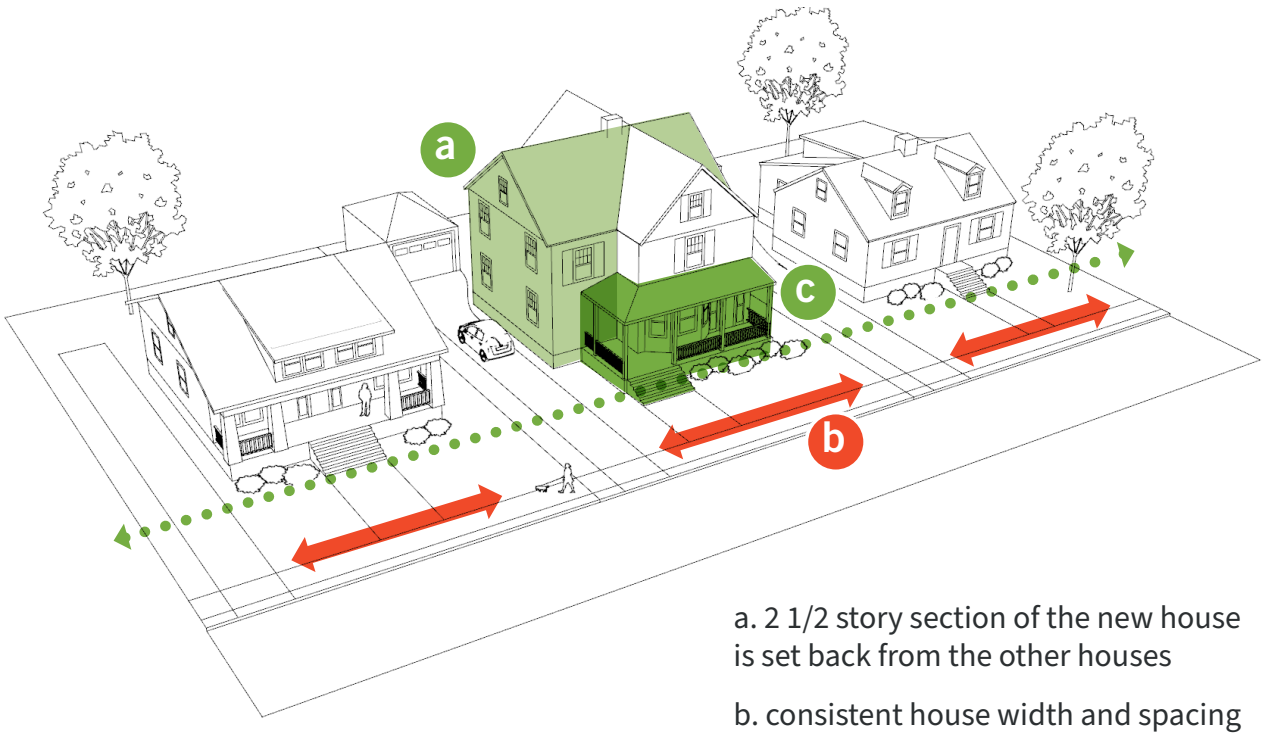
Discourage

- Prominent garage doors: Do not put garage door in front or flush with the primary face of the house. Avoid placing the garage door in the center of the house.
- Wide garage doors: Two-car garages should be split into two bays and two garage doors.

Building Design Guidelines - Sample Graphic

Principle B-2: Creative solutions are encouraged to ensure new houses are designed to be consistent with the rhythm and size of other houses on the street.

Additional Guidelines for New Construction in Single-family, Small Lot Blocks



a. 2 1/2 story section of the new house is set back from the other houses

b. consistent house width and spacing

c. front porch helps to reduce appearance of the new house's height

This new house, though it is taller, matches the spacing of the existing pattern of Cape houses.

Consider side and rear additions that preserve the form of the existing Cape instead of replacement.

Building Design Guidelines - Sample Text

Encourage

- Entrance elements:
  Elements such as covered, usable front porches and stoops can help to reduce the appearance of height. Usable front porches refers to a porch with sufficient depth and length to place furniture such as a bench or chairs.
- Half-stories:
  Consider using a ½ story such as dormers and the roof space to add additional space instead of a full story.

Discourage

- Prominent garage doors:
  Do not put garage door in front or flush with the primary face of the house. Avoid placing the garage door in the center of the house.
- Wide garage doors:
  Two-car garages should be split into two bays and two garage doors.

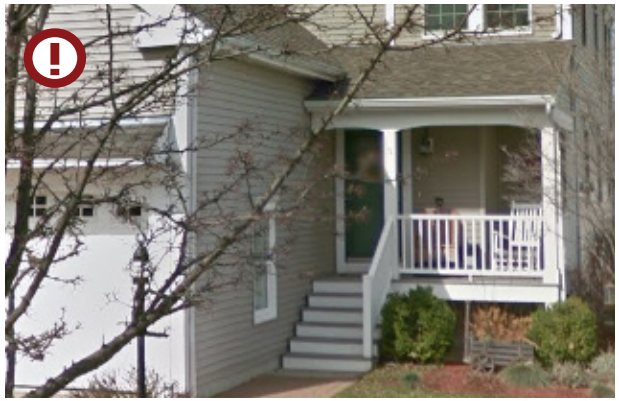
Building Element - Sample Graphic

Principle C-1: Building elements such as entrances, roofs, dormers, and windows should be designed to be welcoming.

Main Entrance, Porches, Stoops, and Porticos

Pediment over pilaster.

Double porch.



Entrance is set behind garage.

Contemporary entryway.

New Traditional Colonial Portico.

Two-story entryways generally call too much attention to the house and make it seem larger.

Building Element - Sample Text

Definition

- A stoop is a small staircase ending in a platform and leading to the entrance.
- A pediment over pilasters is an ornamental archway with columns that projects from the wall and highlights the front entrance.
- A portico is a small, covered structure that leads to the entrance, typically supported by columns.
- A porch is a covered outdoor area attached to the front of the house or wraps around the house.

Encourage

- Obvious entrance:
  In most cases, entrances should face the street. A pedestrian pathway should link the entrance and sidewalk, instead of a driveway.
- Entrance elements:
  Stoops, pediments, and porticos can help highlight the front entrance and add interest to the front façade. Porches should be deep enough to be usable as a furnished space.
- Detailing:
  Use appropriately sized columns, railings, and trimmings around doors, windows, and roofs.

Discourage

- Obscured or under-sized entrances.
- Oversized, two-story entrances.
- Inconsistent entrances:
  Entrance elements help to establish a pattern of front doors on the streetscape. Disrupting the pattern can call unwanted attention to the new house. For example, if there is a defined pattern of porches or stoops, the new house should match the positioning and style of the entrance and avoid introducing something completely new.

Next Steps and Discussion

1. Design Residential Guideline Comment Period and Workshop: October - December 2020
2. Final Residential Design Guidelines: December 2020

Town of Arlington, Massachusetts

Meeting Minutes (07/20/20)

Summary:

8:25 p.m. • Board will vote on approval of minutes.

ATTACHMENTS:

	Type	File Name	Description
	Reference Material	07202020_Draft_ARB_Minutes.docx	07202020 Draft ARB Minutes

Arlington Redevelopment Board
Monday, July 20, 2020, 7:00 PM
Meeting Conducted Remotely via Zoom
Meeting Minutes

This meeting was recorded by ACMi.
PRESENT: Andrew Bunnell (Chair), Kin Lau, Eugene Benson, David Watson, Rachel Zsembery
STAFF: Jennifer Raitt, Director of Planning and Community Development, and Erin Zwirko, Assistant Director

The Chair called the meeting to order and notified all attending that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair asked if anyone would like to speak to please use the raise hand function and the Chair will allow time to speak during the Open Forum portion of the meeting.

The Chair introduced the first agenda item, Docket #3625, 882-892 Mass. Ave. Continued Public Hearing. The Chair introduced Bob Annese, who represents the applicant. Mr. Annese said that the applicant met with both Mr. Lau and Ms. Zsembery for design guidance as recommended by the Board. Mr. Annese said that after reviewing the EDR section 3.4 of the bylaw that the Board should have the flexibility to grant relief for this project. Mr. Annese introduced John Murphy who said that the floor to ceiling height was increased in the commercial space design, the space is up to 1800 square feet including the increased basement storage. Mr. Murphy said that the project is not financially feasible without the two ground floor housing units. Mr. Murphy said that sometimes deep retail/commercial spaces sit vacant because businesses also do not want to pay for space greater than needed. Mr. Murphy said that he feels that they have the best design solution after taking many people's opinions in mind. Mr. Murphy said that we need housing, there is a demand for it and with this project we can provide it. Mr. Murphy said removing the two ground level units makes the argument irrelevant because this project would not be possible financially.

Adam Wagner from Market Square Architects introduced himself and said there have been significant design changes as a collaborative design effort with Mr. Lau and Ms. Zsembery to enhance the design to fit the location on Mass. Ave. Mr. Wagner said that they increased the height of the first floor retail area and added additional windows so there is no mistaking that it is a retail area. Mr. Wagner said that they are also thinking through the hood vent design in case the commercial/retail space tenant is a restaurant. Ms. Zsembery said she is pleased that the additional retail storage space was added in the basement and the plans for a possible hood vent. Ms. Zsembery said that overall most of her design elements that they discussed were addressed. Ms. Zsembery said that she would like to see the lighter beige colored materials used on the first floor plans carried through building entry at the chamfered corner. Ms. Zsembery asked about the updated plans for open space vs. usable open space. Aaron Mackay, from Allen and Major Associates, said that they tried to maximize the grass areas for the tenants and converted a landscaped island to a bicycle pad. Mr. Mackay said the applicant is willing to remove two parking spaces to increase the landscaped space. Mr. Lau suggested a common space in the back of building for the tenants to gather. Mr. Benson said he thinks that the project is making a lot of progress in the right direction. Mr. Benson said he agrees with Ms. Zsembery that the front entrance to the residential area should be changed to look more like a residential entrance instead of a commercial entrance. Mr. Benson asked to confirm that the open space was computed from the residential floor area and not the entire land area. Mr. Benson asked about parking and adding a parking space for electric vehicles. Mr. Murphy said that the applicant is comfortable committing to a parking space for

electric vehicles and to Mr. Lau's open space suggestion. Mr. Benson said he is comfortable giving relief for the set-backs because this plan would not encroach more than the existing building and the residential side yard set-back. Mr. Benson said he is not comfortable granting relief for the 4th story step-back on the Mass. Ave. side. Mr. Murphy said that the 4th story units would be too small with the step-back. Mr. Annese asked to take the environmental cleanup costs into account. Mr. Watson said he agrees with Mr. Benson about the 4th floor step-back. Mr. Murphy said that the 4th story units would be unlivable at approximately 300 square feet with the step-back. Mr. Annese said that moving the building back two feet creates more space and a safer space for the bus shelter. Mr. Benson said he is in favor of reducing the number of parking spaces in exchange for a TDM plan. Mr. Benson asked about reducing the number of units on the 4th floor to allow for the step-back. Mr. Murphy said that that would not make sense for the project economically. Mr. Benson said he would be in favor if there is a way to reconfigure the top floor to remove one unit to allow for the step-back. The Chair said that he feels that the applicant has been accommodating in making changes that the Town requested. The Chair said that reconfiguring the 4th floor would lose one of the affordable units which is where we should be focused since affordable housing is in short supply. Mr. Murphy said that the other option is to push the building forward to allow for the step-back.

The Chair opened the floor to public comment.
Wynelle Evans, 20 Orchard Place, said she feels that these buildings are generic looking. Ms. Evans said that more time should be spent on the exteriors to make the building visually appealing, especially since the building is on Battle Road.

Richard Pelletier, 23 Eustis Street, does the commercial space have a dedicated parking spot. Mr. Murphy said that there is no designated parking for the commercial space.

Don Seltzer, 104 Irving Street, said he has concerns about the parking and the calculation of floor area. Mr. Seltzer said that the parking lot is not wide enough for two rows of parking. Mr. Seltzer said he feels that incorrect calculations for floor area and open space were used. Mr. Seltzer said that narrow strips and small areas do not meet the usable open space requirements. Mr. Seltzer said that a 14,000 square foot lot is not adequate for a 21 unit apartment building.

Annie LaCourt, 48 Chatham Street, member of the board of Food Link supports the project. We need the housing. Ms. LaCourt said that she feels lively streetscape would have buildings the same distance from the street and a row of commercial spaces all along. Ms. LaCourt said that the builder should be allowed to build this building at the same height as the neighboring building to allow for the step-back. Ms. LaCourt said that we are missing out on diversity in who lives in this community because Arlington is so uniformly single family, and adding one bedrooms and studios will increase that diversity into Arlington.

JoAnne Preston, 42 Mystic Lake Drive, said that 55% of the housing units in Arlington are multi-family units, not single family homes which is higher than neighboring communities. Ms. Preston asked why fewer units would not make this building profitable. Ms. Preston said that the proposed commercial space is far too small.

Chris Loreti, 56 Adams Street, said he wanted to discuss the authority of the ARB to waive certain requirements. Mr. Loreti said that the ARB does not have the flexibility to rescind the requirements of the zoning by-law unless the by-law specifically says the ARB does. Mr. Loreti said that when he was a member of the Board there were no private meetings between the Board Members and the developer, these meetings should be made public. Mr. Loreti said that other developers have gone before the ZBA before meeting with the ARB. Mr. Loreti said that the developer should get a parking variance from the ZBA. Mr. Loreti does not see the need or the ARB's ability to grant parking relief.

James Flemming, 54 Gardner Street, said the building could easily go to 5 stories and meet the aesthetics of the neighborhood. Mr. Flemming said that perhaps changing the color scheme to match the neighboring brick buildings. Mr.

Flemming said that the developer wants to make sure that the commercial space is rentable so he does not see the need for arguments over the size of the commercial space.

Denuta Forbes, 4 Iroquois Road, said she is a Town Meeting Member and agrees with Mr. Flemming about putting more thought into the façade color scheme and design.

Ben Rudick, 40 Webcowet Road, said he hopes that even after the pandemic that remote meeting participation will continue so it is easier for residents to participate. Mr. Rudick said that he is involved in a group called Arlington Neighbors for More Neighbors which is for securing housing for everyone. Mr. Rudick said there is a tremendous amount of enthusiasm in town to have more housing built. Mr. Rudick says he hopes that the bias in these conversations is to improve these projects and not to risk them in any way because Arlington and Greater Boston has done such a poor job building housing over the last 40 years. Mr. Rudick said he has a background in commercial real estate and the developer's financing concerns ring true.

John Worden, 27 Jason Street, said that the Boston Globe had an article that stated that the virus spreads in crowded housing. Mr. Worden said that that is one of the reasons that some think that density is not a good idea. Mr. Worden said he agrees that there is a need for housing in the Greater Boston area, but Mr. Worden said that Arlington has done its share. Mr. Worden said that Arlington already has enough neighbors. Mr. Worden asked why the entire ground floor is not commercial space, this is not the definition of mixed-use that was discussed in 2016 Town Meeting. Mr. Worden said that some feel that Arlington is already developed and we do not need more luxury units.

Aram Hollman, 12 Whittemore Street, said that he feels that the development is too dense, not enough parking, and had inadequate living space. Mr. Hollman said he would like to see an ARB setting as policy that business mixed-use would not lead to a wholesale conversion of commercial space to residential space with only a token quantity of commercial space. Mr. Hollman said that the Town should not have to give breaks to help pay for the necessary remediation to deal with the environmental issues. Mr. Hollman said that affordability is still an issue, most of the units in this development will not be affordable.

Richard Pelletier, 23 Eustis Street, said he is in support of this project but is not sure why there is such a demand for commercial space when there are empty storefronts everywhere and there is a demand for housing.

Don Seltzer, 104 Irving Street, said he found the floor area calculation is off by 50%. Mr. Seltzer said the gross floor area for commercial use the developer only calculated the floor space of each unit, not including hallways, etc.

Ms. Zsembery said that the 4th story step-back still needs to be discussed. Ms. Zsembery said that in pushing the building back and creating softening with the landscaping at base makes Ms. Zsembery comfortable that the building meets the provision that is intended in the by-law. Mr. Lau said he agrees with Ms. Zsembery and feels comfortable granting relief since the building has been pushed back. Mr. Lau said that the step-back makes very little difference in the shadow studies. Mr. Lau said that he would like to see amenities added to make the usable space usable. Mr. Lau said the one-bedroom units in a building with an elevator will allow residents to age in place and help the town to diversify. Mr. Lau said that not everyone can afford to purchase a single-family house in Arlington.

Mr. Benson said he likes the project. Mr. Benson said he wanted to address the Boston Globe article that was mentioned. Mr. Benson said that people should not be concerned that there is a relationship between COVID infection rates and density. Mr. Benson said that overcrowding in apartments is the factor that causes the increase in COVID infection rates. People should not be concerned about density. Mr. Benson said that for the step-backs, open space, and width of the

driveway maybe the proponent should go to the ZBA for a variance.

Mr. Watson said he likes the project but does agree with Mr. Benson. Mr. Watson said it is not clear to him that the Board should grant all of the relief requested under the Board's EDR and Special Permit authority.

Mr. Annese said that he agrees with Mr. Benson with respect to the EDR section of the bylaw 3.4.4 discussed earlier. Mr. Annese said he interprets the bylaw to say that the ARB has flexibility to grant relief. Mr. Annese said that he thinks that this building will serve a very important purpose in this town. Mr. Benson said that if the Board uses 3.4.4 the Board can get to flexibility to open space and parking, but not step-backs. Mr. Murphy said that the plans can be changed to push the building forward three feet to create space for the full step-back on the 4th floor.

The Chair said that Town Counsel agrees with Mr. Annese's interpretation of 3.4.4. The Chair said that one of the things the Board has always done is to advance affordable housing and we have a developer who is here to provide that housing with relief. Mr. Watson said that he feels that the current pushed back building design is a better design than pushed forward with a step back.

Ms. Raitt said that she has consulted with Town Counsel multiple times and with Inspectional Services as to what the Board is allowed to do. Ms. Raitt said that EDR intended to provide the Redevelopment Board with improved powers to get the kind of development needed along the town's main corridors. Ms. Raitt said that items that need to be addressed can be built into the special conditions of the permitting process. Ms. Raitt asked the Board to consider if adverse impacts outweigh the overall project benefits. The Chair said that he strongly urges the Board to approve this project. The Chair closed the hearing to public comment.

Ms. Zsembery moved to approve the project with the conditions that the proponent work with the Planning Department to update the usable space to include outdoor amenities for the residential units, work to continue to improve the design of the corner entry, move forward with site plan that includes 23 spaces, provide a transportation demand response plan, the developer commit to including at least one electric charging station, work with department for final approval of signage, and include venting for commercial use. Mr. Lau seconded, approved 4-1 (Mr. Benson opposed).

The Chair introduced the second agenda item, Presentation and Discussion: Whittemore Park renovations. Ms. Raitt introduced Carlo Urmy and Ali Carter, Arlington's Economic Development Coordinator, who presented the designs to the Board. Ms. Raitt said that this is a Community Preservation Act funded project and came about as part of the Mass. Ave. phase II redesign. Mr. Urmy said that the new design will allow for a central lawn area, more entrances to the park and a circular walkway. Mr. Urmy said that the monuments and signage would be included in a zone around the walkway with a more cohesive design. Mr. Lau suggested removing the fencing between the park and the retail area to increase the foot traffic in the area. Mr. Urmy said that they are concerned about the health of the trees in that area and do plan to add benches or tables in the area at a later date. Mr. Lau asked if it was possible to include a public paid bathroom in the area. Ms. Carter said that the paid bathrooms are very expensive and out of the scope for this project. Mr. Lau said people using the bike path could use a bathroom in this area. Mr. Watson asked about bike parking in the park. Mr. Watson said that bike parking was an issue when the Aeronaut beer garden was being held. Ms. Carter explained that phase II is ADA accessibility around and Jefferson Cutter House and phase III bike parking can be addressed. Ms. Raitt said that in the third phase bathrooms and bike parking should be addressed. Ms. Zsembery said having secondary gathering spaces in the park would be something to take a look at instead of planning the whole space.

The Chair introduced the third agenda item, Meeting Minutes (4/27, 5/4, 5/18). Mr. Benson moved to approve the meeting meetings for 4/27 with amendments, Ms. Zsembery seconds, and approved 5-0.

Mr. Benson moved to approve the meeting minutes for 5/4, Mr. Watson seconded, approved 5-0.

Mr. Benson moved to approve the meeting minutes for 5/18 as amended, Mr. Watson seconded, approved 5-0.

The Chair opened the floor to comment from the public for the Open Forum portion of the meeting.
There were no comments

Mr. Lau moved to adjourn, Ms. Zsembery seconded, approved 5-0.

Meeting adjourned.

Town of Arlington, Massachusetts

Correspondence received:

Summary:

Correspondence received from J. Berson 093020 re Docket 2717 23 Broadway

ATTACHMENTS:

Type	File Name	Description
Reference Material	Correspondence_received_from_J._Berson_093020_re_Docket_2717_23_Broadway.pdf	Correspondence received from J. Berson 09032020 re Docket #2717

From: Julie Berson <julieberson@hotmail.com>
To: "jraitt@town.arlington.ma.us" <jraitt@town.arlington.ma.us>
Date: 09/30/2020 11:30 AM
Subject: Please VOTE NO on permitting a marijuana retail establishment on Broadway in Arlington.

Hi Jennifer,

I'm writing to say that as a resident of East Arlington (31 Silk Street) I am
strongly **AGAINST** a marijuana retail establishment being approved for Broadway.

This is a small neighborhood with lots of children and teenagers. I believe that a store selling marijuana should be located in a place that not in the middle of the
daily life of our kids.

We don't have liquor stores in our town for a good reason and it should be applied to marijuana stores as well.

Also, it will increase traffic and parking problems in our small neighborhood.

Please VOTE NO on this proposal.

Thank you.

Best,
Julie Berson
31Silk Street
East Arlington, MA