

Building a Better Broadway

Planning Study for the Broadway Corridor, Arlington, MA



Prepared for the Town of Arlington Department of Planning & Community Development as part of MIT's practicum course 11.360 - Community Growth and Land Use Planning, Fall 2019.

Presented to:

The Arlington Redevelopment Board

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Unless otherwise noted, all figures are credited to the U.S. Census American Community Survey (2017).

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OVERVIEW

In September 2019, a team of ten students from MIT's Department of Urban Studies and Planning began a semester-long study of the Broadway Corridor, an area of East Arlington that had yet to benefit from an in-depth planning study. This report summarizes our analysis, the views we heard from community members, and our recommendations for improving mobility, housing and neighborhood character along the corridor.

The report is structured in several sections. We begin with an introduction that outlines our understanding of the town's history, and mentions demographic and environmental characteristics of the corridor that have influenced our analysis and recommendations. The introduction also explains our approach to community engagement for this project and cites some of the opinions that we heard about what town residents would like to see along Broadway in the future. We close the introduction by presenting the three study goals that shape the report's recommendations: Safety & Walkability; Housing Affordability & Variety; Vibrance & Quality of Life.

The body of the report focuses on our analysis and recommendations for mobility, housing and neighborhood character along Broadway. Each concludes with a vision for a specific focus area. The mobility section provides a vision for a new Broadway streetscape that includes bike lines on both sides of the street, and leaves room for more greenery and pedestrians. The housing section reimagines the Lahey Building and parts of Sunnyside Avenue as the site of a new mixed-use development that incorporates housing, retail and commercial space. Finally, the neighborhood character section proposes an urban design concept that pulls the public from Broadway into Lussiano Field, and highlights the potential for that site to become a community gathering space for the entire neighborhood.



Figure 1. Three sections of our report conclude with a vision for the future of Broadway at specific focus areas: Lussiano Field, the Broadway Streetscape, and the Lahey Building site.

I. PLANNING CONTEXT



INTRODUCTION

The Town of Arlington, through their Department of Planning and Community Development (DPCD), invited graduate students from MIT's Department of Urban Studies and Planning (DUSP) to conduct a neighborhood study of the Broadway corridor. As the culmination of a semester-long course titled Community Growth and Land Use Planning, this document presents student findings developed through conversations with residents, site visits, and additional quantitative and qualitative research.

The Broadway corridor features in a number of Town planning documents, including the 2015 Master Plan, the 2017 Arts & Culture Action Plan, and the Arlington Complete Streets Policy. However, the Broadway corridor has not yet been the focus of its own planning study. As part of the Town's efforts to focus more specifically on the needs of residents and businesses along Broadway, this report aims to provide a foundational understanding of current conditions on the corridor as well as to identify high-level actions the Town could take to enhance Broadway while furthering the Town's overarching planning goals.

In developing this document, we have sought to align the historic legacy of the neighborhood with potential future changes, while respecting the distinct residential character that the town holds dear. This report uses a land use perspective to analyze demographic and development trends, mobility issues, as well as less-tangible aspects of planning, while recognizing the needs and desires declared by residents and users of the neighborhood. We believe that incorporating the findings

of this study into the vision of Arlington can provide equitable benefits to all residents, present and future.

ABOUT ARLINGTON

Known by many previous names, the pre-European settlement of the lands now encompassing Arlington were inhabited by the Massachusetts tribe, a member of the larger Algonquin community. Widowed and facing disease ravaging her community, the 'Squaw Sachem of Mistick' deeded much of the Massachusetts' tribal lands to English colonists in 1635. Taking form as a farming village of Cambridge, which borrowed the native place-name 'Menotomy,' the northwest precinct eventually split off and became West Cambridge in 1807, and was renamed Arlington in 1867 in honor of the Arlington National Cemetery.

Arlington is now a predominantly residential 'streetcar suburb' of nearby Boston comprised of approximately 45,000 residents living within 5.5 square miles, making it among the most densely populated towns in Massachusetts.¹ Lying six miles northwest of the state capital, the town is bordered by Cambridge, Somerville, Medford, Winchester, Lexington and Belmont. Defined by the civic spirit that helped spark the American Revolution, Arlington takes a particularly New England approach to local governance, issuing an annual Warrant for Town Meeting where 252 elected representatives vote on the year's proposed Articles.

¹ Metropolitan Area Planning Council, 2008.

STUDY AREA

The map displays the city grid of Lowell, Massachusetts, with a focus on the area around the city center. Key features include:

- Streets:** A dense grid of streets is shown, including major thoroughfares like Broadway, Mass Avenue, and various numbered streets (e.g., 350, 77, 79, 87, 89, 194, 88).
- Schools:** Three schools are highlighted with pink icons and labels: Thompson Elem. School, Lesley Ellis School, and Hardy School.
- Transportation:** The map shows the locations of several bus stops, marked with yellow 'T' icons, along major routes.
- Geography:** The map includes a north arrow in the bottom right corner and a scale bar in the top right corner.

Despite its proximity to the technological hubs of Boston and Cambridge, Arlington remains distinctly town oriented in many approaches to its daily workings. Rejecting a proposed terminus of the MBTA's Red Line into Arlington Center in the 1980's with slogans such as "128 or nothing" helped insulate the town from denser development, preserving the organic nature of some pre-zoning development. However, as Arlington and Greater Boston continue to grow, residential growth and mixed-use development have become more pressing issues, and have been the subject of heavily-debated Articles in recent years' Town Meetings.

The Broadway corridor ("the study area") extends generally southeast from Arlington Center, ending at the border with Somerville along Alewife Brook Parkway. As with most commercial corridors, the density of homes and businesses along Broadway is higher than the single- and two-family residential uses in the surrounding neighborhood. Public lands and open spaces are interspersed throughout the study area, including the Alewife Brook Greenway, Lussiano Field, and Crosby Park. In addition, the neighborhood is home to multiple schools, including the Thompson Elementary School, the Gibbs School, and the Lesley Ellis School.

Much of the zoning along Broadway reflects a patchwork of different historical land uses, not all of which have kept pace with the current needs of residents. For example, vehicular-oriented zoning dominates much of the study area, which is partially responsible for the large number of parking lots and auto repair shops along the corridor.

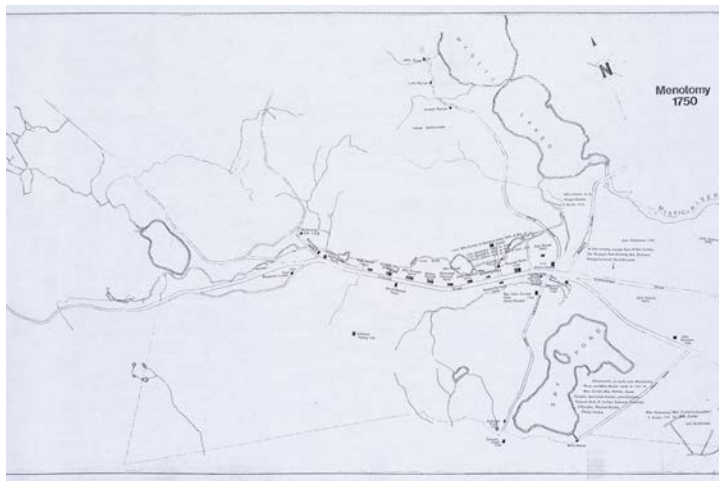


Figure 2. A 1750 map of Menotomy.
Source: Digital Commonwealth

The Broadway corridor, like much of Arlington, is experiencing demographic changes. For example, the share of non-white residents in the study area has increased from 18% in 2010 to 25% in 2017. Similarly, the share of foreign-born residents has climbed from 19% of the corridor's population in 2010 to 25% in 2017. Larger families are the exception as opposed to the rule around the corridor, as roughly 71% of residential units are occupied by 1- or 2-person households, and the majority of those are renters. As a result of this trend, age cohorts in the corridor have been bifurcating, with increasing shares of children and aging Arlington residents. Residents aging in place, as is the tendency regionally, can help explain some of the trends seen in this demographic data.



Figure 3. Broadway is near amenities such as the Minuteman Bikeway.
Source: Flickr.

East Arlington Environmental Challenges

East Arlington, including the study area, suffers from localized heat islands, meaning that uncovered surfaces may be much hotter than the neighborhood's air temperature.¹ The area's thin tree canopy combined with high amounts of impermeable surfaces exacerbates the public health impacts of warm weather by making it more difficult for residents to stay cool.² The relatively sparse tree canopy of East Arlington was further cleared by recent severe weather events and has yet to fully recover.

Connected to the local permeability issues, and compounded by the low-lying topography of the corridor, freshwater flooding after rainstorms has been reported by some residents along Alewife Brook. The current floodplain along the Mystic River and Alewife Brook may shift due to the impacts of climate change, making more structures vulnerable to flooding.³ The brook itself is susceptible to contamination from pollutants in storm water, which damages watershed environments. In July 2019, the town received a Coastal Zone Management grant to construct bioretention basins and infiltration trenches along Alewife Brook (south of Mass Ave) to mitigate aquatic pollution. It is also targeting a decrease in town-wide impervious surface coverage to improve pollutant filtering.⁴

1 US EPA, "Learn About Heat Islands."

2 MA Climate Change Clearinghouse, "Rising Temperatures."

3 Town of Arlington, "Community Resilience Building Workshop: Summary of Findings."

4 "Notice of Intent for Coverage for Small MS4 General Permit."

BUILDING A VISION

Our process to learn about the Broadway corridor drew on a combination of outreach to residents and businesses in the neighborhood, site visits, conversations with town committees and staff members, and additional quantitative and qualitative research. To meet different members of the community, we designed different forms of both general public outreach and targeted outreach to specific groups. Our aim was to develop a better understanding of what people thought were the strengths of the neighborhood, as well as what changes they might like to see. We then used the ideas we heard from community members to generate a set of goals for the study which helped shape the recommendations we have included in this report.

In addition to community outreach, our group made several site visits to Broadway to observe and discuss the current conditions in the neighborhood. We also conducted additional research using information from the U.S. Census and other sources to understand issues such as environmental and flooding risks, demographic change, and the distribution of services and amenities in and around the study area.

COMMUNITY ENGAGEMENT PROCESS

We engaged in different forms of community outreach, with the aim of gathering diverse perspectives on the neighborhood's strengths and areas for improvement. Members of our team attended Town Day on September 14th and held two tabling sessions on different days where we set up a table along Broadway to talk with residents who walking in the neighborhood. During these sessions, we asked questions about Broadway that were intentionally open-ended so that people could provide their own perspectives on the neighborhood. In addition to attending Town Day and tabling on Broadway, members of the team also stopped in at businesses along the corridor to speak with owners and employees.

We followed up these general outreach activities with more targeted outreach to speak with local groups. We met with members from the following organizations:

- Equitable Arlington
- Arlington Residents for Responsible Redevelopment
- Housing Corporation of Arlington
- Mystic River Watershed
- The Thompson Elementary School Parent-Teacher Organization

WHAT WE HEARD

In addition, we spoke with the following Town committees and department heads to hear about the work they have been doing along Broadway:

- Transportation Advisory Committee
- Tree Committee
- Police Department
- The Department of Planning and Community Development
- Recreation Department

After an initial round of community engagement, our team convened a community workshop on October 28th. The workshop began with a half-hour presentation from our team that included an overview of the perspectives we had heard so far on the neighborhood, as well as a draft set of goals for the report. Following the presentation, the workshop participants gathered around small tables, each focused on a different focus site along Broadway, to discuss different ideas that community members had for the neighborhood.

Finally, while the bulk of our community engagement occurred through in-person activities, we also created a project email address and posted a flyer describing the project in different stores along Broadway. We received several pieces of feedback through this email address, and also followed up with our own email-based questionnaire, which focused on getting feedback on mobility issues along Broadway. The Transportation Advisory Committee in particular was helpful in distributing the written mobility questionnaire.



Figure 4. Students and community members discuss potential mobility improvements to the corridor at the public workshop on October 28th.



Figure 5. Students presenting initial findings at the public workshop.



Figure 6. Arlington residents at Town Day.



Figure 7. Students collecting community feedback while tabling along Broadway.



Figure 8. Community members and students discuss Lussiano Park at the October 28th workshop.

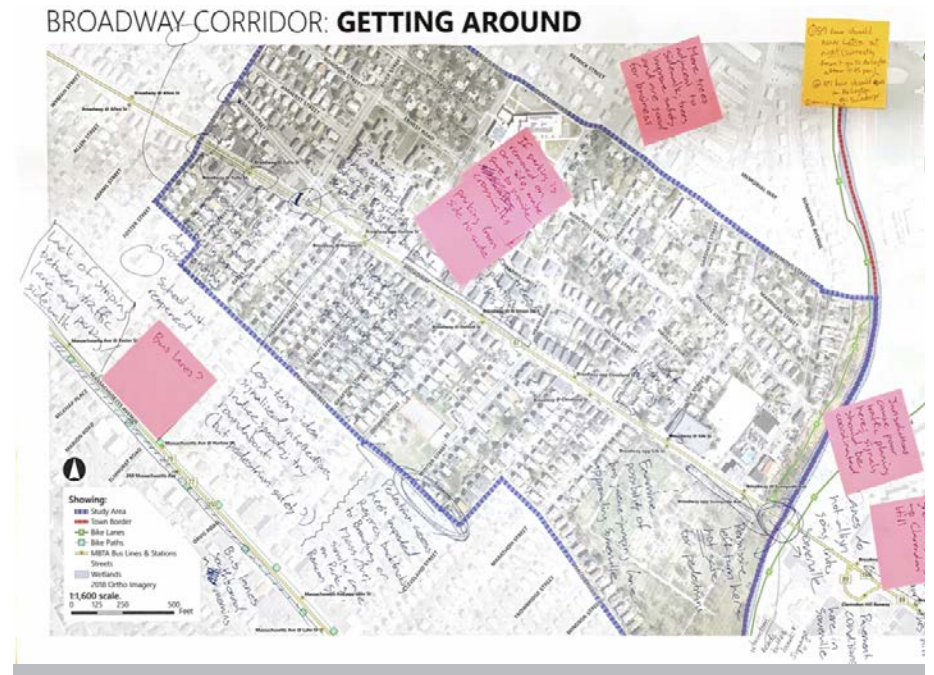


Figure 9. Study area map from the public workshop annotated with feedback on mobility issues.

WHAT WE HEARD

COMFORT, SAFETY, AND STREETScape

Many of the comments we heard focused on changes the Town could make to improve the comfort and feel of Broadway. While the sidewalks along Broadway are generally in good shape, and include intersections with accessible tip-downs for strollers and wheelchairs, many residents felt that Broadway could be made safer for pedestrians and cyclists, and that the Town could consider bigger changes at some of the difficult intersections, such as the triangle where Broadway, Warren Street, and River Street converge.



Figure 10. Crossing the intersection where Broadway, Warren Street, and River Street converge can be difficult.

“I’d like to see a safer bike path along Broadway.”

“I worry about kids going to school walking along Broadway. I don’t think the cars slow down there.”

“The traffic along River St. & Alewife can really back up, particularly in the morning.”

HOUSING

Housing repeatedly came up in conversations with residents. Many residents noted the increasing cost of rental housing in the neighborhood, as well as the difficulty of finding a home to buy, particularly for families with kids.

“There aren’t enough good housing options for people with middle incomes.”

“The housing market is really tight. Broadway could be a great place to help create more supply.”



Figure 11. Triple-deckers are an example of existing housing density along Broadway.

QUALITY OF LIFE

Many residents appreciated the sense of community in the neighborhood, as well as the unique public assets, such as Lussiano Park and both new and longstanding businesses. At the same time, people felt like there could be more vibrancy along the corridor and a greater number of amenities and destination points along Broadway.

“It’d be great to bring more of the vibe of Arlington Center down here to the Broadway corridor.”

“The empty lots on Broadway are an issue.”



Figure 12. While Lussiano Park (above) is a key asset in the neighborhood, there is potential to reinvigorate vacant and underutilized lots.

STUDY GOALS

Based on our research, qualitative analysis and the conversations we had with community members, we identified the following three goals for the study area that we have used to shape the recommendations in this report.

1. *Safety & Walkability*

Ensure that the street design for Broadway is safe and comfortable for all users, while facilitating connections between the neighborhood, the town and the wider region.

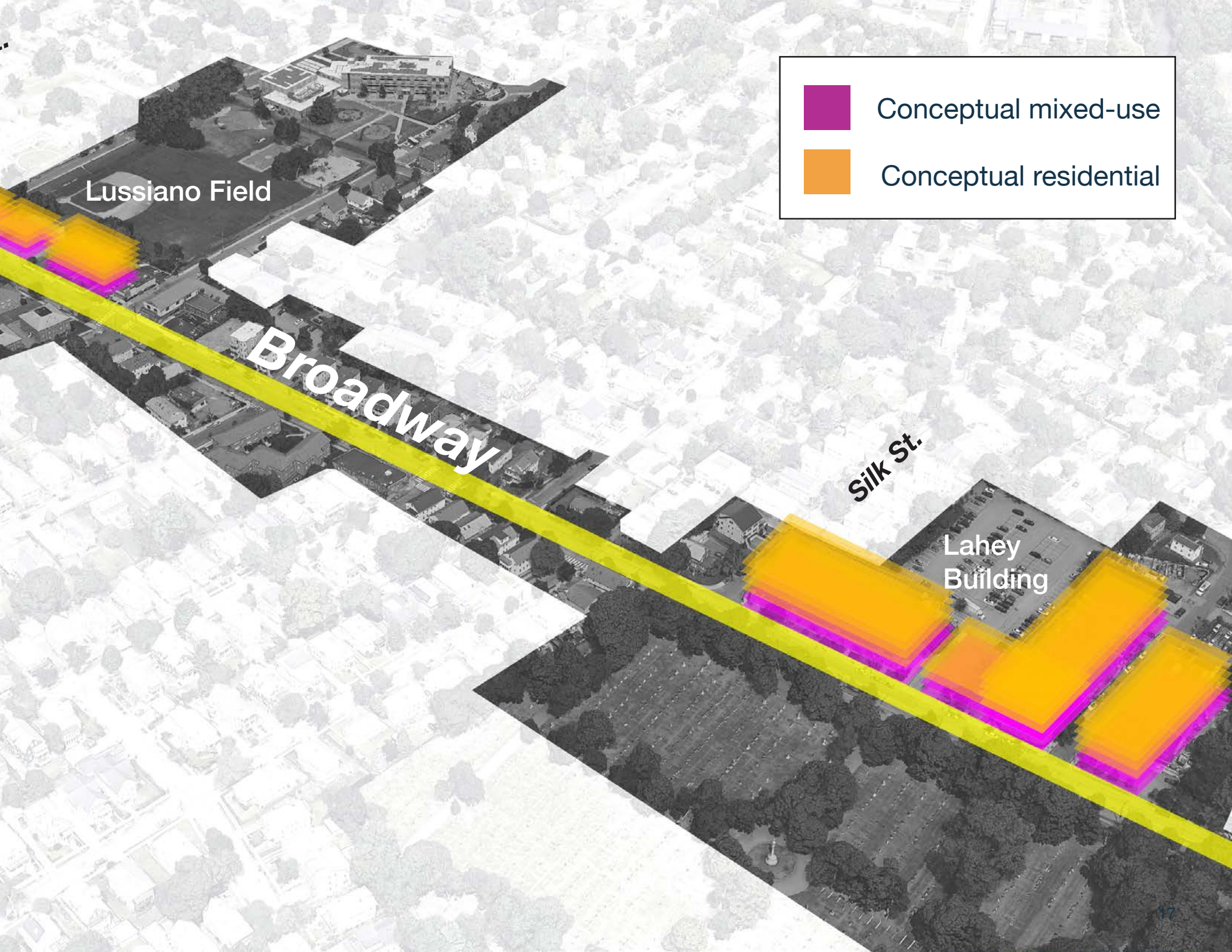
2. *Housing Affordability & Variety*

Maintain a healthy housing supply that provides options for a range of income levels.

3. *Vibrance & Quality of Life*

Build on the neighborhood feel of the corridor while enhancing the social, economic and cultural opportunities that are available locally in the community.





Lussiano Field

Broadway

Silk St.

Lahey Building

- Conceptual mixed-use
- Conceptual residential

II. MOBILITY



MOBILITY

Getting To, From, & Around Arlington

Today Arlington boasts some 95 miles of public streets and 24 miles of private roadways and is traversed by 6 miles of state highways and parkways.¹ While the town is less dense than other areas in the metropolitan area, goods and people need to move freely across town. The mobility infrastructure and systems should make an ease of movement possible, integrating Arlington, and Broadway specifically, into regional activities and the economy.

Bus services supplied primarily by the MBTA have been the transit mode serving Arlington, including the Broadway corridor, since passenger rail on the Lexington Branch through Town Center closed. The MBTA number 87 bus connects Broadway to transit elsewhere.

The Broadway corridor today is a key mobility corridor connecting the Arlington Town Center with Somerville, Davis Square, the Alewife Brook and Parkway and areas further afield, while also providing connecting pathways for the residents and businesses in our study area. In this section, we outline the current state of mobility and offer recommendations informed by the views of residents and business people seeking to build on existing strengths.



Figure 13. Broadway currently has room for cars, but minimizes space for trees and pedestrians, and forces bicyclists to ride in traffic.

¹ Town of Arlington, <https://www.arlingtonma.gov/>.

THEMES & GOALS

In this report we focus on four key modes of mobility: walking, biking, transit use, and private automobile travel. In developing this plan for the Broadway corridor, goals for the transportation study arose from consultation with the local community. Our overarching goal for mobility is to ensure that the street design for Broadway is safe and comfortable for all users, while facilitating connections between the neighborhood, the town, and the wider region.

Our research indicates that most residents of the Broadway study area get to work by car. However, the area has a relatively high percentage of bicyclists and transit riders, for both the state and the Town. Current census statistics indicate that 5.4% of residents in the Broadway study area bike as compared to 3.3% in Arlington generally and 0.8% in Massachusetts as a whole. Twenty-three percent of residents in the study area use public transit compared to 20.4% in Arlington and 10.2% across the state. A full 60.4% of residents drive but this is lower than 66.5% in Arlington and 78.1% in Massachusetts.

Most residents of the study area do not work in Arlington and must commute each weekday to and from the cities of Boston, Cambridge, and Somerville. Those who do work along Broadway mostly commute from other cities or towns. Reliable regional transportation connectivity is a priority for the constituents of the Broadway study area.



Figure 14. Overlooking the Broadway / Warren St. intersection, facing north.

WALKING THE CORRIDOR

The Broadway corridor has sidewalks along every street and frequent crosswalks. However there are some spots which are problematic.

There are cases, such as the Broadway/Warren St./River St. intersection (discussed further on page 34), where the in-street crossing distance for pedestrians is unsuitably long. There are instances where curbs are cut for non-existent entrances and a few streets where marked crossings for pedestrians have not been implemented.

“The corridor has sidewalks on both sides, in varying states of repair. Corners are often impassible during the winter, due to piled up snow. It [Broadway] is a fairly wide street with long crossing distances, and no curb extensions or refuge islands at the crosswalks.”

“The bridge over the Alewife Brook is an issue when it snows, as it’s often not shoveled and becomes packed with ice.”

“I live on Sunnyside Avenue. Walking here is a problem. The city was supposed to repave sidewalks but got sidetracked by the tree root issue. The sidewalk is narrow, the street has no curbing...so people end up walking in the street.”

SIDEWALK SAFETY RECOMMENDATIONS

Residents of the area made numerous suggestions for pedestrian safety, accessibility, and comfortability improvements along the corridor. The following recommendations synthesize what we heard from both residents and visitors, what we heard from various Town departments, and what we know about regional transportation needs and initiatives.

1. Broadway needs to be made safe for children crossing streets on their way to school. We recommend strategic placement of high-visibility marked crosswalks and signs at intersections along common paths to schools. The following are our suggestions:

Near Gibbs School: Broadway/Foster St./Rawson St., Broadway/Tufts St., Tufts St./Raleigh St., Bates Rd./Raleigh St.

Near Thompson Elementary School: Everett St./University Rd., Everett St./Purcell Rd., N. Union St./Purcell Rd./Fremont St., N. Union St./Norcross St., Broadway/N. Union St./Oxford St.

Near Lesley Ellis School: Oxford St./Raleigh St., Broadway/N. Union St./Oxford St. (also mentioned above).

2. Physical safety and visibility conditions at crosswalks on Broadway itself should be improved. Curb extensions (“bulb-outs”) and removal of 1 or 2 parking spaces on either side of a crosswalk (“daylighting”) are excellent for this purpose.

3. A redesign of the Broadway/Warren St./River St. intersection altogether, with an emphasis on safety conditions, is necessary. This is also discussed later in this same chapter.

We believe the Town can make a compelling case for any of these example pedestrian safety improvements when pursuing capital funding grants from other levels of government.



Figure 15. Curb extensions could help shorten crossing distances and slow traffic. Source: NACTO Urban Street Design Guide.

BIKING BROADWAY

The Strava Map and Lime Bike map shown on this page represent the best data we have on current bike travel along Broadway. They illustrate the routes most heavily traveled by cyclists. The Strava Map indicates riders who have opted to provide geolocation data on the Strava mobile app. Lime Bikes, a brand of dockless bikeshare presently operating in Arlington, also have built-in geolocation tracking.

In each case we see large flows of cyclists using Broadway—seemingly almost as much as travel along Massachusetts Avenue or the Minuteman Bikeway. Line color (blue to red in the Strava Map, faint to dark red in the Lime Map) indicates the number of riders using a particular road. It is clear that many bicyclists are riding on Broadway, despite a complete lack of bicycle infrastructure on the street.

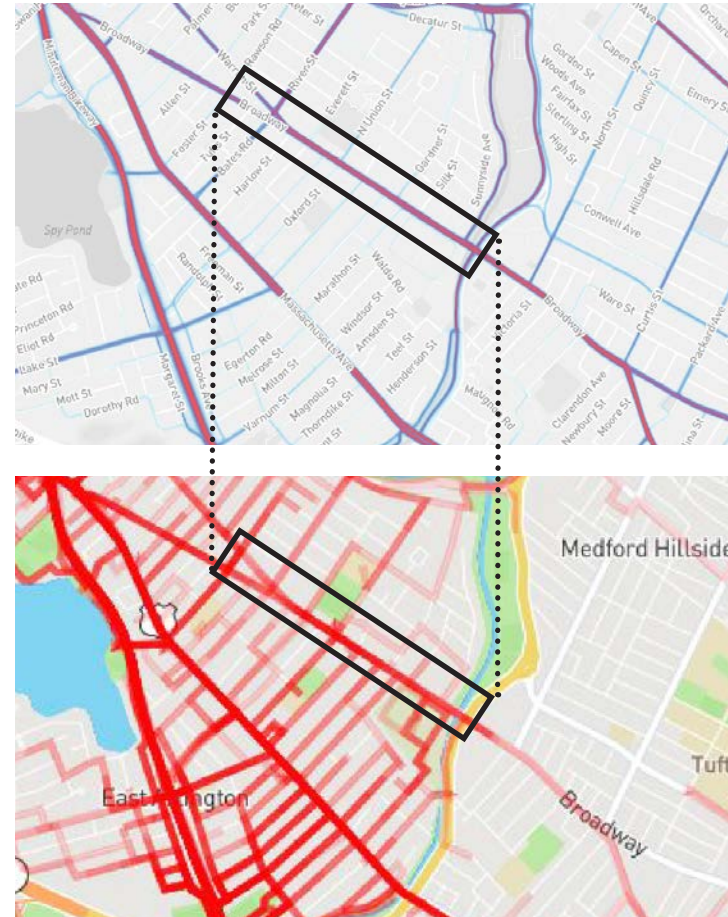


Figure 16. (Top) Map of bicycle traffic from Strava, an app for recreational and athletic users. Source: Strava.

Figure 17. (Bottom) Map of bicycle traffic from Lime, a local dockless bike-share service. Source: Daniel Amstutz, Town of Arlington Dept. of Planning & Community Development.

BIKE SAFETY AND INFRASTRUCTURE

Currently, there is no cycling infrastructure along Broadway. We received many comments in favor of making improvements to bike safety along Broadway and connecting to further destinations.

Somerville has implemented bike lanes on much of Broadway, and bike lanes exist along much of Mass Ave. Implementing bike lanes on Broadway in Arlington may spur Somerville to add the missing link and create a seamless route into Davis Square. The ever popular Minuteman Bikeway could be reached if bike lanes were extended down Broadway to Massachusetts Avenue creating a safe connection to the Bikeway.

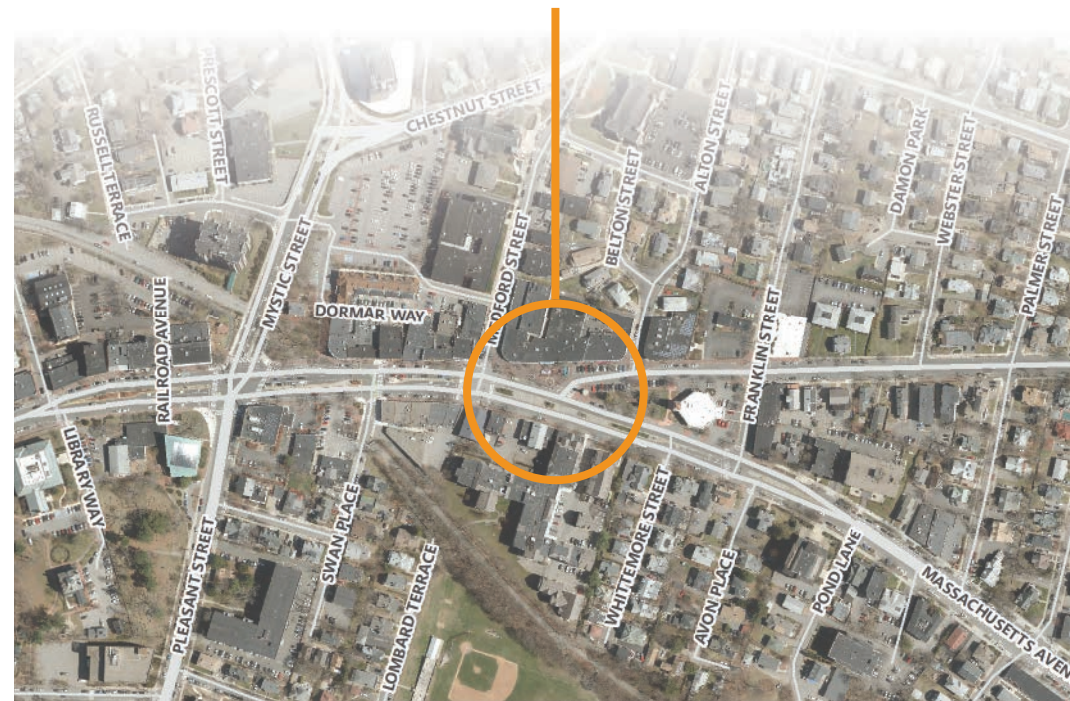
Currently, cyclists are in mixed traffic and a number that we spoke with have raised serious concerns about safety on the roads. With the increasing numbers of cyclists in Arlington, and the Broadway corridor, these concerns should be taken seriously.

Three particular intersections are problematic for cyclists:

MASSACHUSETTS AVENUE & BROADWAY*

*Near our study area, though outside of its boundary

“Cycling westbound on Broadway between Franklin and Mass Ave is a drag, though I’m not sure how to fix it off the top of my head.”



WARREN STREET & BROADWAY

“The intersection of Warren and Broadway is not great as a westbound cyclist. I feel at risk both of westbound vehicle traffic turning right onto Warren ahead of me and of eastbound traffic on Warren turning across me as soon as they identify a gap in vehicle traffic.”

ALEWIFE GREENWAY BIKE PATH & ROUTE 16

“At the intersection with Route 16... bikes get severely pinched and often have to ride on the sidewalk.”

“For the Alewife Greenway, there is no provision for crossing Broadway other than using sidewalks and the signal at Route 16.”



INCREMENTAL IMPLEMENTATION OF BIKE LANES

This report recommends the installation of bike lanes along all of the Broadway corridor. We recommend 5'-6' lanes with a 1'-2' inside-edge striped buffer where possible, and physical barriers (e.g. plastic bollards) if snow-plowing equipment permits. Furthermore, we recommend placing the bike lanes on the outside edge of the parking lane(s), next to the curb. Recent research has shown that bike lanes without any physical protection are not as safe.¹

We have generally found there is community buy-in to removing on-street parking on one side of Broadway to create space for these bike lanes—however, this is welcome in some areas and not others. For this sensitive decision, we recommend a needs-based approach such as:

- Preserve on-street parking next to commercial or mixed-use land uses without their own off-street customer parking.
- Remove on-street parking near commercial land uses with their own off-street customer parking.
- Preserve some on-street parking near residences so that visitors can park.
- Remove on-street parking next to the cemetery.
- Anywhere on-street parking is removed on either side of the road, ensure crosswalks are nearby and safe to use.

¹ Marshall and Ferencsak, "Why Cities with High Bicycling Rates Are Safer for All Road Users."



Figure 18. This report recommends the installation of bike lanes along all of the Broadway corridor.

THE STATE OF TRANSIT

Currently Arlington is served by a number of buses, with the Massachusetts Avenue and Broadway buses having some of the highest boarding numbers out of all MBTA east-west bus lines.¹ Broadway is served on weekdays and Saturdays by the #87 bus which connects with the Red Line at Davis Square and the Green Line at Lechmere.

However, the 87 bus has a number of shortcomings according to local residents. It does not operate along the corridor on Sundays, instead terminating at Clarendon Hill just outside the Town border. Furthermore, commuters and local residents complain that evening runs of the bus are rarely reliable and service is often delayed due to traffic congestion and operational ineffectiveness. The MBTA #88 and #89 buses connecting with central Somerville stop at Clarendon Hill and do not even enter Arlington.

It is clear that the residents in the study area as well as those working in the area could benefit by an improved bus service.

“[On Sunday] people who live further in town have a much longer walk to Clarendon Hill.”

“It would be great to have the 87 bus continue to Arlington Center on every trip rather than stopping at 8PM. The 87 has a very long route, which causes lots of variability in its arrival time in the evenings.”

“There should be a consolidation of the inbound 87 bus stops at Silk and Sunnyside. They are only one block apart and typically there are only one or two people at each, in the AM at least.”

¹ MBTA, “Better Bus Project.”

TRANSIT INFRASTRUCTURE AND FURNITURE

Most bus stops on Broadway are quite minimal, consisting solely of a small pole-mounted sign indicating the bus line. There is no street furniture or shelters for passengers, and of course there are no dedicated bus lanes on Broadway. In Somerville, however, there are a number of metal benches, and larger stops have glass bus shelters to protect commuters from inclement weather.

Similar bus shelters, benches and lighting as those witnessed on Massachusetts Avenue and on Broadway in Somerville could be accommodated along the corridor to provide a more comfortable experience for transit riders.



Figure 19. Most bus stops on Broadway are quite minimal, consisting solely of a small pole-mounted sign indicating the bus line.

“The 87 is second only to the Mass Ave buses in density of boarding at its stops along Broadway. The stops have only the most rudimentary accommodation [just a sign]. There are no shelters, usually no hard surfaced landing pads [needed for wheelchair access], and the stops are poorly cleared in winter. The stops at the eastern end of Broadway are not near any convenient pedestrian crossings. At the outbound stop near Rawson Road, illegally parked cars sometimes prevent the bus from pulling to the curb.”

ENVIRONMENTAL ISSUES

Improving the Broadway streetscape could be an opportunity for the town to address existing environmental concerns in the neighborhood. Any modification to the streetscape of the corridor should try to mitigate the additional weather-related challenges faced by pedestrians and cyclists. Arlington should consider:

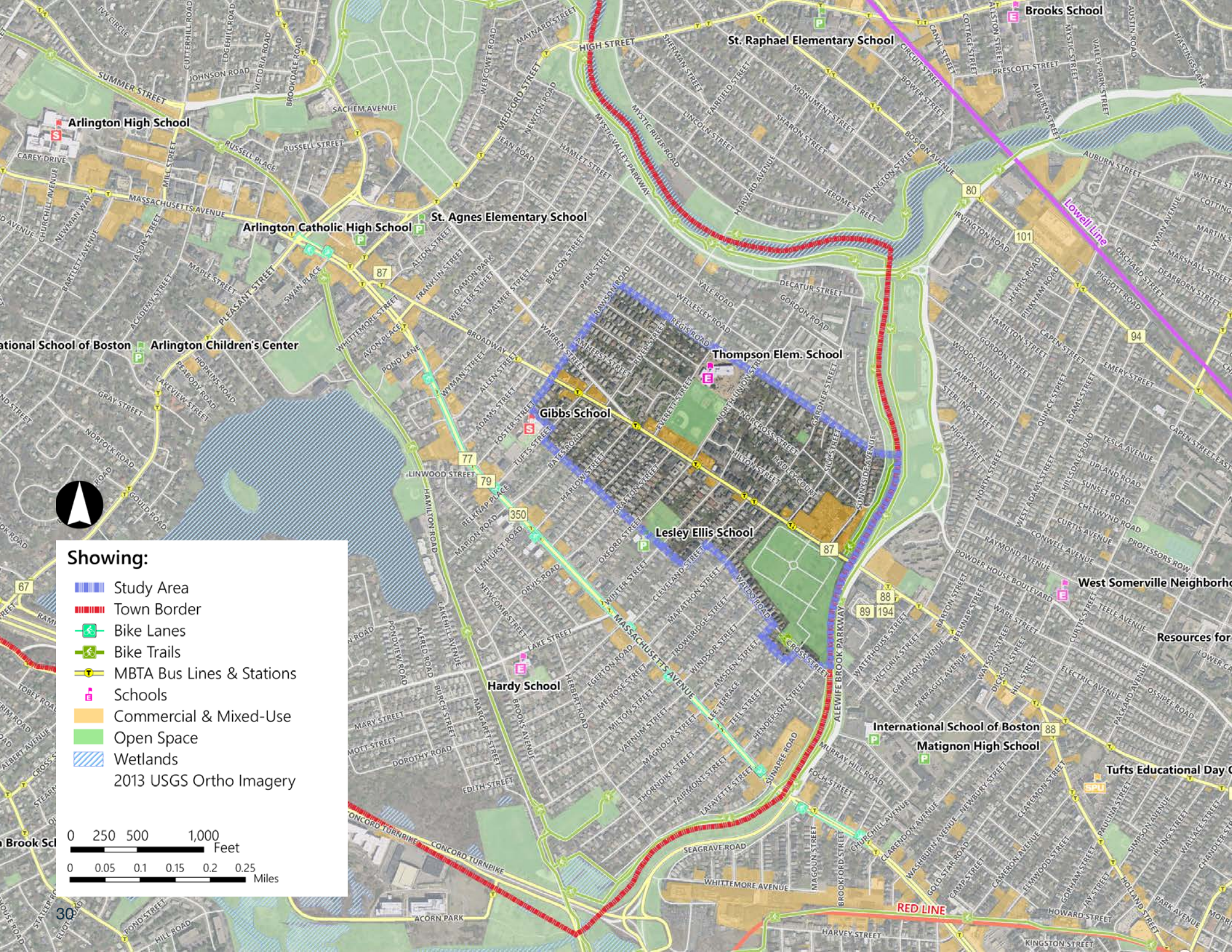
- Planting additional trees along stretches where gaps exist to provide shade and mitigate neighborhood heat islands. The town should also analyze existing minor gas leaks along the street, and work with the local gas utility to remedy them, as these leaks threaten tree health.
- Devoting more space to tree pits parallel to the sidewalk in order to improve tree health.
- Installing water fountains at strategic locations, such as near bus stops, to aid pedestrians in the hot summer months.
- Making streetscape modifications that are fully plowable in the winter, and do not lead to ice build-up in the bike lane or sidewalk.
- Implementing low-maintenance rain gardens or bioswales on the corridor to capture and process storm water.



Figure 20. Existing street trees along Broadway, with gaps highlighted in red. Source: Arlington Tree Committee.

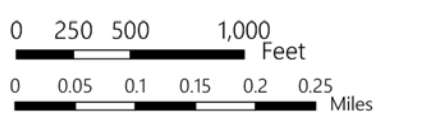


Figure 21. Green infrastructure, like this rain garden in East Arlington, could improve the street aesthetically and provide environmental services.



Showing:

- Study Area
 - Town Border
 - Bike Lanes
 - Bike Trails
 - MBTA Bus Lines & Stations
 - Schools
 - Commercial & Mixed-Use
 - Open Space
 - Wetlands
- 2013 USGS Ortho Imagery





REGIONAL TRANSIT

Without any stops on the Green Line, Red Line or Commuter Rail in Arlington, it is important to maintain frequent bus service, connecting the Town to the region. Rail transit connections (Davis Square, Alewife, and to a lesser extent Lechmere) are well utilized by Arlington residents and workers traveling to and from the Town by bus, yet the only direct connection from Broadway without a transfer is Davis Square. All other connections to the regional rail system require changing buses.

The future addition of rail stations at Tufts/Medford, Ball Square and a potential future terminus at Route 16 on the under-construction Green Line Extension will increase this interconnectivity, however the MBTA is not yet certain how bus service will change once it opens.¹

¹ MBTA, "Better Bus Project."

Figure 22. Map of regional transportation. Note that the Red Line Alewife station, connecting to many bus routes through Arlington, is just off-map to the south. Additionally, note the alignment of the Green Line Extension to the east of the corridor.

TRANSIT RECOMMENDATIONS

At Broadway Plaza terminus of the 87 bus, where there are the most daily on-boardings and also a transfer from other lines arriving from Arlington Heights, we recommend a bus shelter with real-time arrival predictions. We also recommend benches at the higher-frequented stops, such as Broadway/Oxford St./North Union St., and Broadway/Cleveland St. at a minimum.

To improve the reliability of the 87 bus, we recommend:

- Piloting a red-painted bus and zbike-only queue-jump lane on the eastbound approach to Alewife Brook Parkway. This will entail the removal of a short distance of on-street parking, but no existing traffic lanes.
- Considering the elimination of the Broadway/Silk St. stop, given that it has the lowest daily on-boardings for the corridor and other stops are approximately 400 feet away in either direction.

To improve the utility of the #87 for transit-dependent users, we strongly recommend extending Sunday service on that line from Clarendon Hill up to the regular daily terminus at Broadway Plaza. Aspirationally, if new developments envisioned in this study (or other similar initiatives) manifest on Broadway, we suggest that the MBTA could extend the #88 and/or #89 along Broadway to Broadway Plaza.

The often delayed service should also be discussed with the MBTA, particularly in the early mornings and the evening commute.

Note that the westbound 87 bus is poised to have its layover stop moved to Franklin St. (two blocks before Broadway Plaza) and travel from there to Broadway Plaza upon beginning the eastbound trip. We do not expect this to meaningfully impact service quality.



Figure 23. To improve the reliability of the 87 line, we recommend piloting a queue-jump lane and considering eliminating the Broadway/Silk St. stop.

TRAVELING BY CAR

Generally cars move at high speed down the Broadway corridor. However, there is heavy throughput during rush hour periods in the morning and evening, leading to complaints about congestion at certain signalized intersections.

The public impression is that congestion is increasing and a number of key intersections have become difficult in rush hour while driving. Places of growing peak hour congestion are around the schools, at the Broadway/Sunnyside Ave. intersection, the Broadway/Alewife Brook Parkway intersection and the Broadway/Warren St./River St. intersection.

Apart from the congestion-related issues, numerous residents complain about safety issues primarily at those three intersections. The area of Broadway near Sunnyside Ave. and Alewife Brook Parkway is a bottleneck, and the Broadway/Warren St./River St. intersection has been described by some as very dangerous due to poor visibility and unsafe merging.

We discuss these sites in some detail over the following pages and suggest solutions for the Town to consider. Intervening in these two groups of intersections will improve safety for all modes of transportation.

“Traffic has gotten progressively worse over the years. Rush hour is especially difficult for residents trying to enter Broadway towards route 16.”

“The number of students in the Arlington school system is growing every year and Thompson now has over 500 students...A low estimate would be that half of them are driven to school by their parents. That would mean 250 cars between 7:30 and 8:00 o'clock every morning.”

WARREN STREET INTERSECTION

The Warren Street, Broadway, River Street intersection is the confluence of a number of roads in a small geographical area. A number of issues make this intersection dangerous:

- The distance that pedestrians have to cross is particularly long, due to corners that have been cut for firetrucks' turning radii and the long distance to cross both Broadway and Warren Street.
- River Street, Bates Street and Tufts Street also come together with Warren Street and Broadway in the same area.
- Many of the approach angles for cars moving between the various streets are very acute or obtuse angles, impeding visibility of cars on the other streets and making it more difficult to anticipate the movements of other vehicles. This is particularly the case when merging from Warren Street eastbound onto Broadway.

Our recommendation:

Improve safety for all transportation modes at the Broadway/Warren St. intersection through a redesign of the intersection looking at the following potential interventions:

Basic improvements:

- Crosswalk safety improvements, as discussed earlier on page 22.
- Signal and/or crosswalk retiming.
- Painted bike lanes in both directions.

More ambitious option, for the Town's consideration:

- Closing eastbound lanes on Warren St. between River St. and Broadway, and redirecting that traffic onto southbound River St. to intersect Broadway at a right angle.



Figure 24. We recommend improving safety at the Broadway/Warren St. intersection through crosswalk safety improvements, signal and/or crosswalk retiming, and painted bike lanes in both directions.

SUNNYSIDE AVE INTERSECTION

This intersection is complicated because it includes a number of transport modes and two adjacent intersections each with impacts on the other. We have heard numerous complaints and comments from local residents about this confluence of intersections.

There is a clear need to improve safety and traffic flow for all modes of transportation at the Sunnyside Ave. & Alewife Brook Parkway intersections with Broadway.

Our Recommendation:

We recommend:

- *Basic improvements:* Commission an engineering study on weekday AM congestion and the difficulty of turning motions, examining potential solutions in signal retiming. Consider our earlier suggestion for piloting a bus and bike-only queue-jump lane on the eastbound approach to Alewife Brook Parkway.
- *More ambitious option, for the Town's consideration:* Consider shifting southbound traffic exiting Sunnyside Ave. onto Silk St. where a signalized intersection may be placed. Sunnyside Ave. is too close to Alewife Brook Parkway for a signal. Our vision for the Lahey Building site, discussed on pages 55-62, supports this change.

“Driving south towards the Route 16 intersection, it’s unclear when the road goes from one lane to two — a clear delineation there is needed. The no-turn-on-red from Broadway onto North Union seems to be unnecessary.”

“The intersection with Route 16 is complicated. Cars are always skipping the red lights because the intersection gets clogged due to poor left turn design. This affects the safety of both pedestrians and cyclists, with many close calls.”

“Turning into and out of Sunnyside Ave. is challenging.”

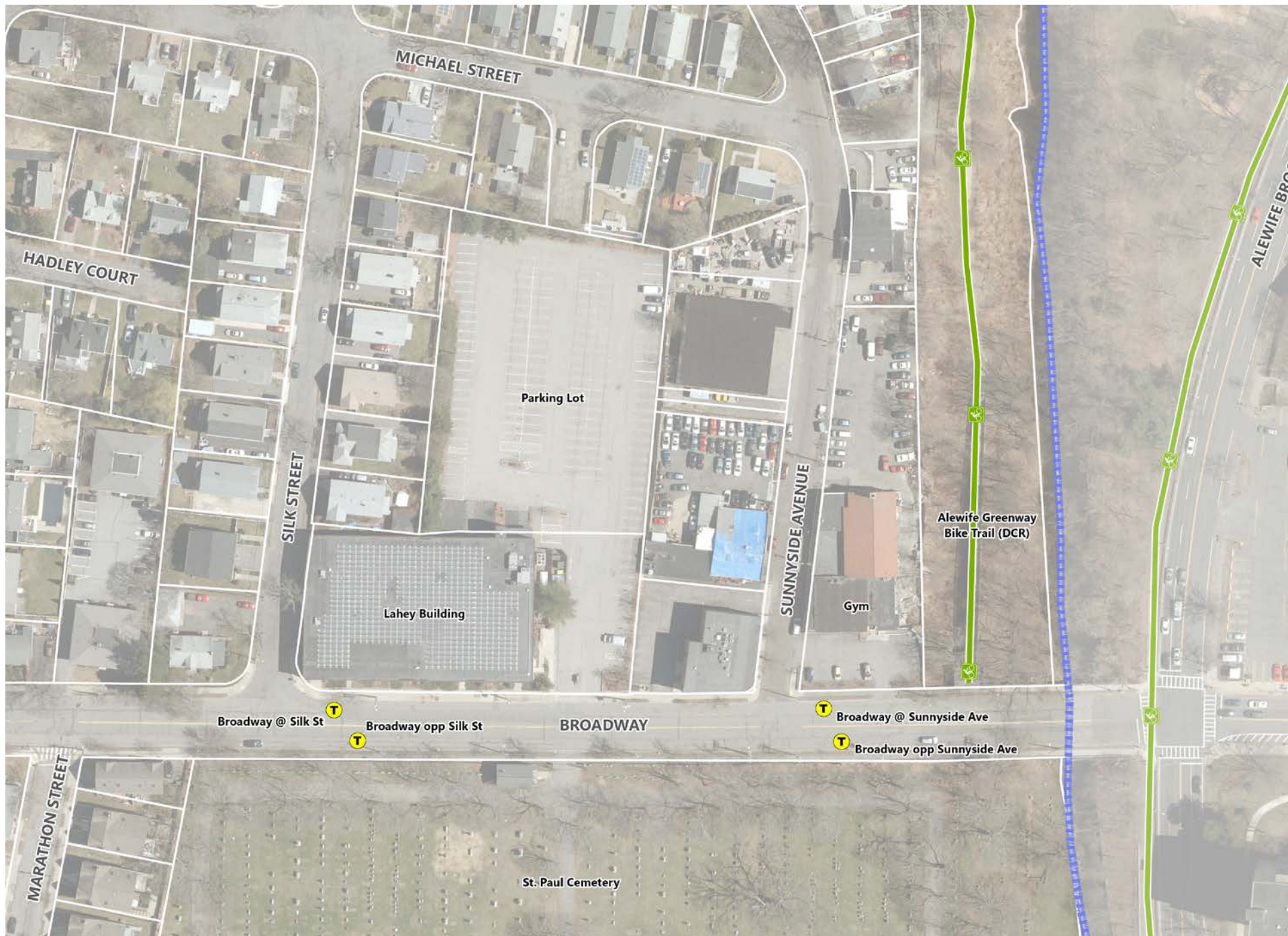


Figure 25. There is a clear need to improve safety and traffic flow for all modes of transportation at the Sunnyside Ave. and Alewife Brook Parkway intersections with Broadway.

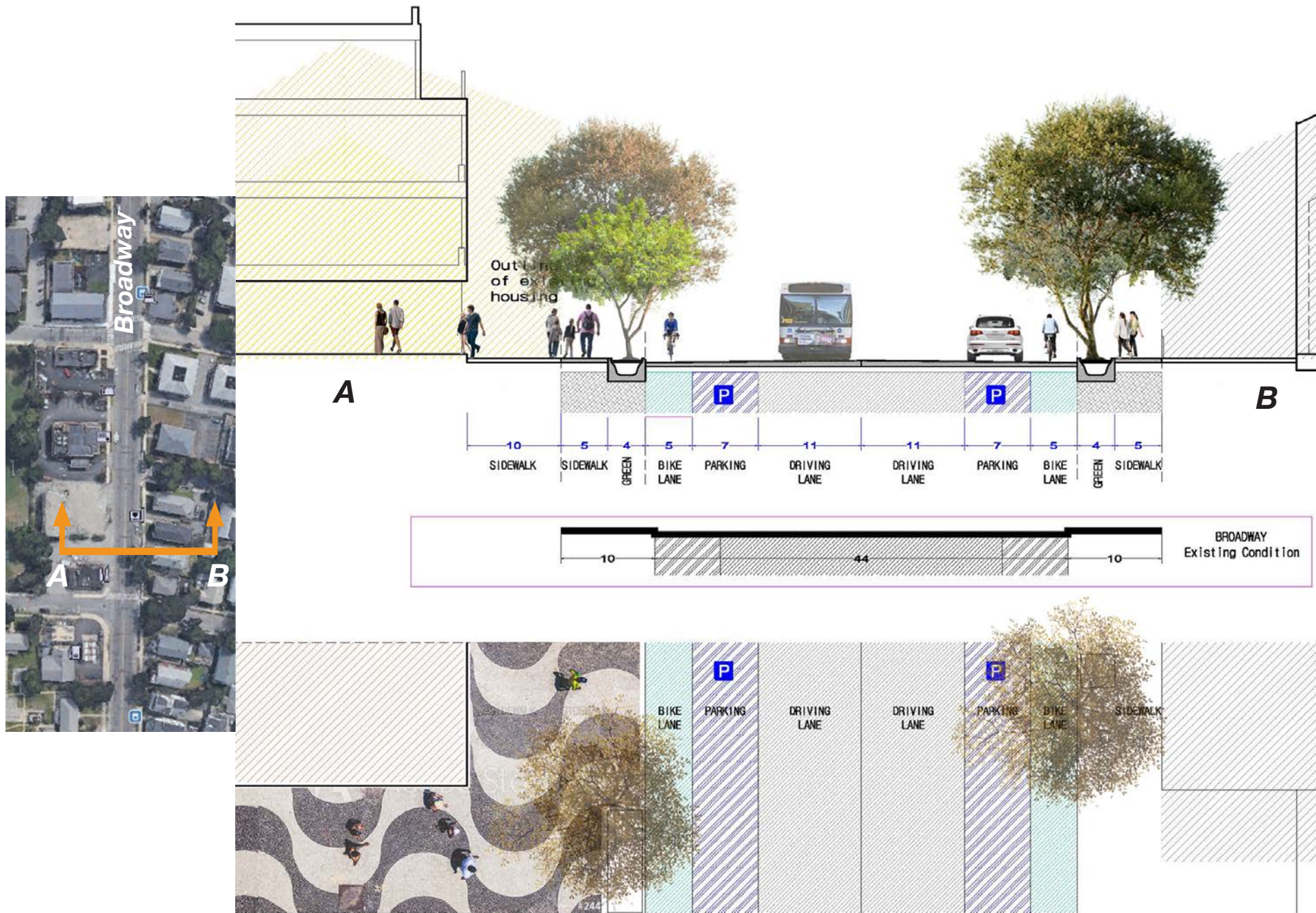


Figure 26. Streetscape example with bicycle lanes and parking on both sides of the street.

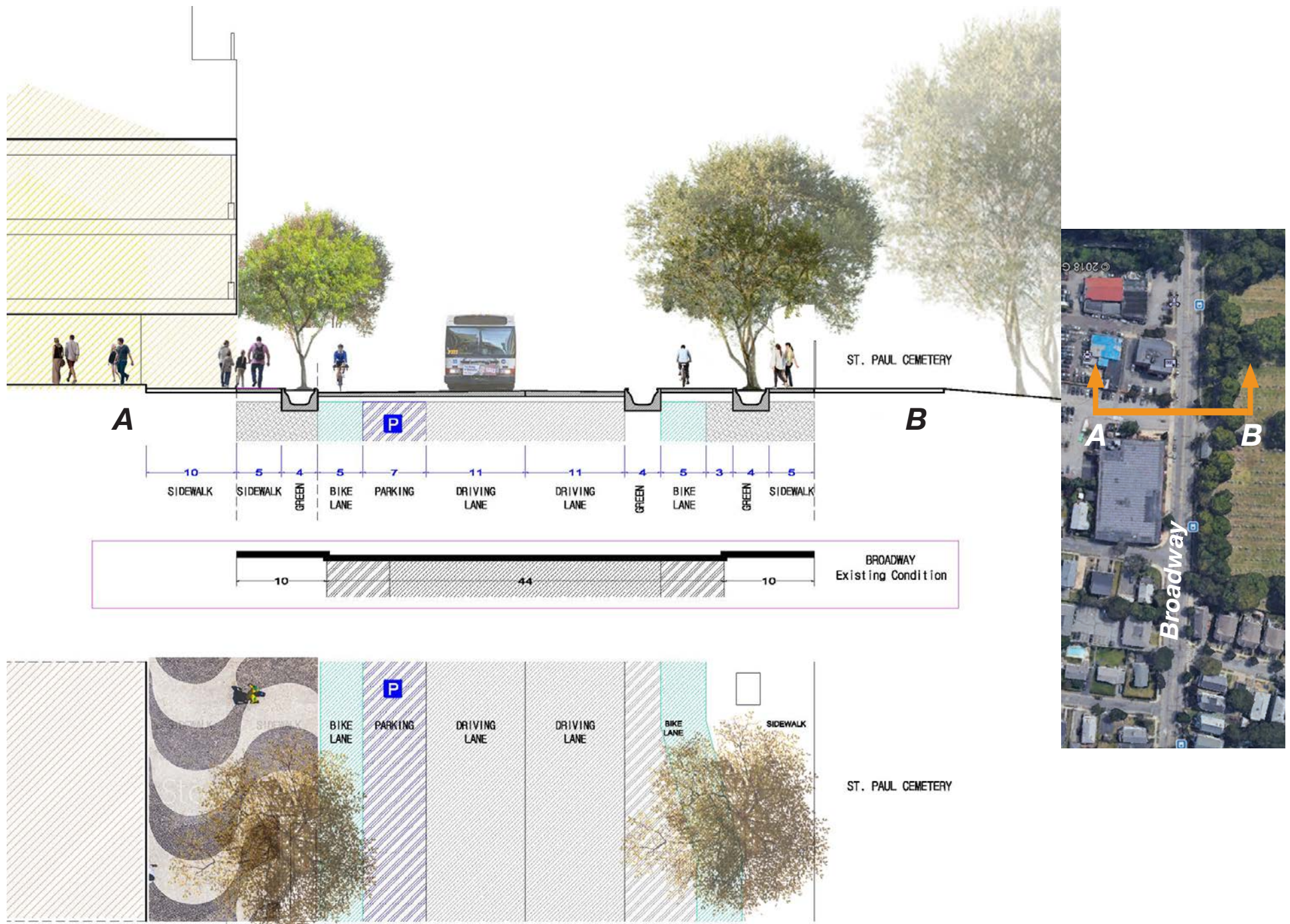


Figure 27. Streetscape example with bicycle lanes along both sides of the street and parking only on the north side of Broadway, adjacent to the Lahey Building site.

Mobility Recommendations

The following items represent a summary of our thinking and recommendations for improving mobility along the Broadway corridor:

- Redesign the Broadway/Warren St. intersection to improve safety for all transportation modes. Shorten crosswalks with curb extensions and consider realigning traffic.
- Complete a study on weekday congestion and the difficulty of turning motions at the Sunnyside Ave./Broadway Intersection and at the Route 16/Broadway Intersection. Examine potential solutions in signal retiming and alternatives to improve safety.
- Pilot a 10-11' painted bus queue-jump lane on Broadway approaching Alewife Brook Parkway from the west.
- Eliminate the Broadway and Silk St. stop, given that it has the lowest daily on-boardings for the corridor and other stops are close by.

- Extend Sunday service of the 87 bus to Broadway Plaza.
- Implement high-visibility, yellow crosswalks and retroreflective school zone or crosswalk signs at intersections on paths to schools within the corridor. Safe Routes to School grant funding should be utilized.
- Implement curb extensions and 'daylighting' (removing 1-2 parking spaces in the opposite direction of vehicle traffic in the adjacent lane) for signalized crosswalks on Broadway, mentioned above in the case of the Broadway/Warren St./River St. intersection.
- Implement bike lanes with safety buffers in both directions, with alternating on-street parking as the road width and land uses allow.
- Remove curb parking adjacent to the cemetery on Broadway, particularly in the section closest to the Alewife Brook Parkway, where the Bus Priority Lane will be implemented.
- Improve bus transit furniture and infrastructure by installing bus shelters, benches, water fountains and improved signage.
- Enhance environmental services along the roadway by planting additional trees where gaps exist, enlarging planter spaces, and installing rain gardens or filtration ditches.

III. HOUSING



GROWING TOGETHER, EQUITABLY

The Town of Arlington has experienced noticeable growth over the past few years. From 2010 to 2018, the town experienced a 6.6% increase in population, the major racial groups being White, Asian, and Black / African American. Such growth has emerged partly from increasing costs of living in the greater Boston metropolitan area as a whole. This has caused Arlington to search for a balance between taking advantage of regional economic growth, and a strong desire to maintain its distinct identity as a small New England town. For the town, it remains important that its diverse and lively neighborhoods remain places where residents can rely on each other and provide a sense of belonging.¹ This aspiration is directly affected by the ability of residents to acquire affordable housing and remain in the neighborhoods in which they may have long-standing connections.

In this section, we outline the current state of housing within our study area. We then offer proposals informed by the input of residents, seeking to build upon existing community strengths and assets. While past developments have clustered along the Massachusetts Avenue corridor, Broadway has the potential to enhance the neighborhood by providing safe and walkable streets with community-oriented commercial uses and much needed housing. We hope our suggestions can aid in prompting more equitable growth as the town continues to expand.

¹ Arlington Redevelopment Board, "Arlington Master Plan."



Figure 28. Existing multi-family apartment housing on Broadway.

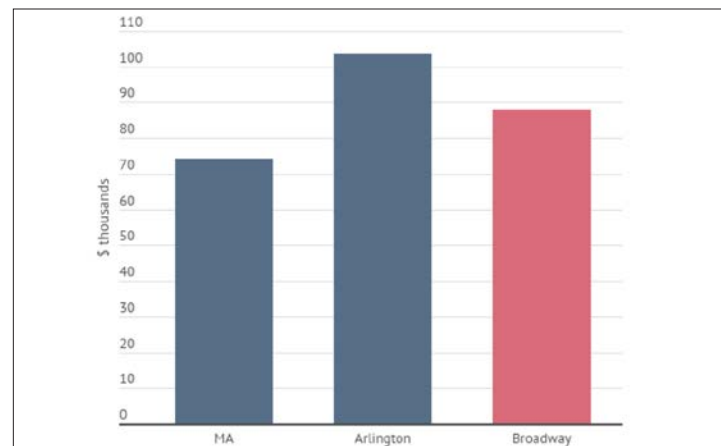


Figure 29. Comparison of median household incomes in MA, Arlington, and the study area. We believe the sense of belonging is directly related to the ability of residents to acquire affordable housing and remain in the neighborhood.

CURRENT CONDITIONS

Improving Access to Housing

The Broadway corridor is home to a broad representation of people. Among residents, 26% speak a primary language other than English, encompassing more than 12 languages. The share of foreign-born residents (predominantly of Asian origin) comprised about one quarter of Arlington's recent growth. This demographic diversity can enable promising avenues for equitable development, and pave the way for a new chapter in Arlington's history.

The fact remains, nonetheless, that the town's population growth is at odds with the supply of housing available at an affordable rate. In community outreach with the Thompson Elementary Parent-Teacher Organization (PTO), parents voiced concerns about their perceived ability to remain in the Town. Such an issue is reflective of the larger state of housing in our study area, where 37% of households are cost-burdened and spend over 30% of their monthly income on housing costs and 11% spending more than 50% of their monthly income. Our planning study seeks to make recommendations in light of this. As of 2018, Arlington's subsidized housing inventory (SHI) is 5.6% of the town's total housing stock – a ratio that has only increased by 0.1% from 2001 to 2018.¹

¹ Metropolitan Area Planning Council and JM Goldson, "Arlington Housing Production Plan."



Figure 30. The Broadway corridor is home to a broad representation of people. Among residents, 26% speak a primary language other than English, encompassing more than 12 languages.

Cost and Access

As Arlington continues to grow, the current supply of housing needs more examination. A 2016 housing report by the Metropolitan Area Planning Council found that Arlington at large would need to add 834 additional housing units to meet the Massachusetts 40B 10% target for affordable housing stock.¹ The corridor can accommodate a share of this need.

The median age of the housing stock along the corridor is above 60 years, with one block in the study area extending up to 80 years. Aging housing stock can present safety concerns and cost more to maintain before becoming uninhabitable. For renters, the median monthly cost of housing along the corridor is \$2,504, which is 19% higher than the state-wide median monthly cost. Additionally, the median home value within the study area ranges from \$480,000 to \$590,000, a distribution 60% lower than the town-wide median. Further, residents along the corridor are proximate to only two restaurants and one corner store. Housing costs and lack of amenities can be addressed by allowing, for example, more mixed-use development to occur.

Later in this report, we detail some changes in zoning that can help new development to proceed.

¹ Metropolitan Area Planning Council and JM Goldson, "Arlington Housing Production Plan."

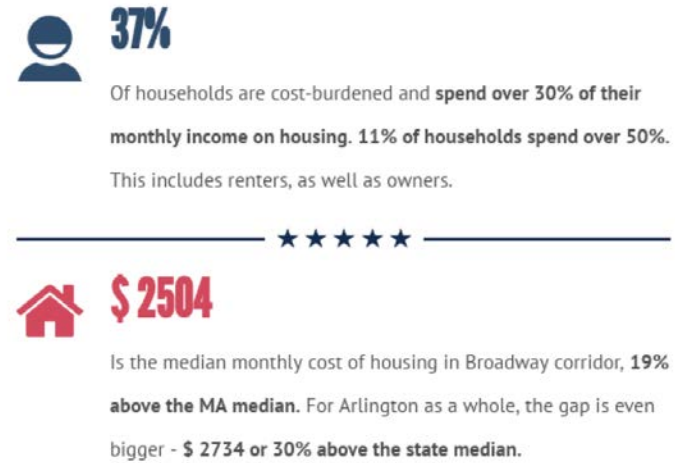


Figure 31. 37% of households in the Broadway corridor spend over 30% of their monthly income on housing.

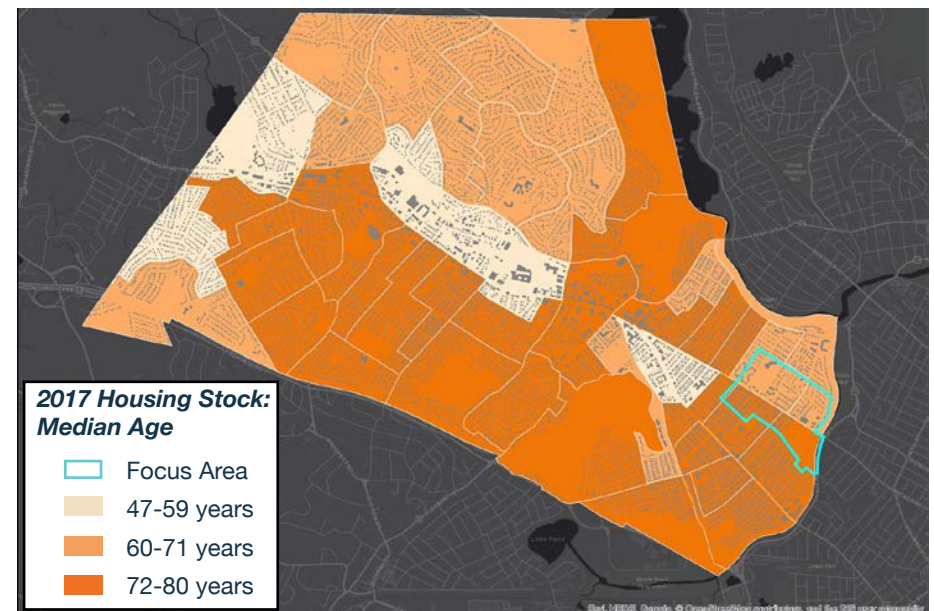


Figure 32. The median age for much of the housing stock in Arlington and the study area is above 60 years

CURRENT CONDITIONS

Density and Stock

In relation to Arlington at large, the study area is relatively population dense. Moreover, population density here corresponds with housing density, such that the areas proximate to Massachusetts Avenue and Broadway have more elevated housing densities compared to the rest of Arlington.

Currently, housing consumption is split fairly evenly among renters and owners, with 49.6% being owners and the remaining 50.4% being renters. Household sizes are distributed between 37% young couples with no children, 34% singles, and 29% young families with one or more children. In contrast to Massachusetts Avenue, development along Broadway is sparse, lower in density, and is oriented toward residential uses, with a few commercial and mixed-use parcels interspersed among them. The residential units along the corridor are predominantly two-and-a-half story buildings with a few triple-deckers. Any proposed new development is governed by the Town of Arlington Design Standards, which includes building materials, height, setbacks, and interface with the streetscape.¹

¹ Town of Arlington and Gamble Associates, "Design Standards for Town of Arlington."

Recent redevelopment efforts on Broadway include the 117 Broadway project, which will add 14 affordable housing units with ground-level commercial space for the Arlington Food Pantry and an additional tenant.² Based on feedback from community members, such additions to the affordable housing stock are well warranted. This study makes recommendations to support the addition of similar proposals along the Broadway corridor.

² YourArlington.com, "Affordable Housing at Downing Square, Broadway Gets Funding."



Figure 33. Recent redevelopment efforts on Broadway include the 117 Broadway project, which will add 14 affordable housing units with ground-level commercial space for the Arlington Food Pantry and an additional tenant.

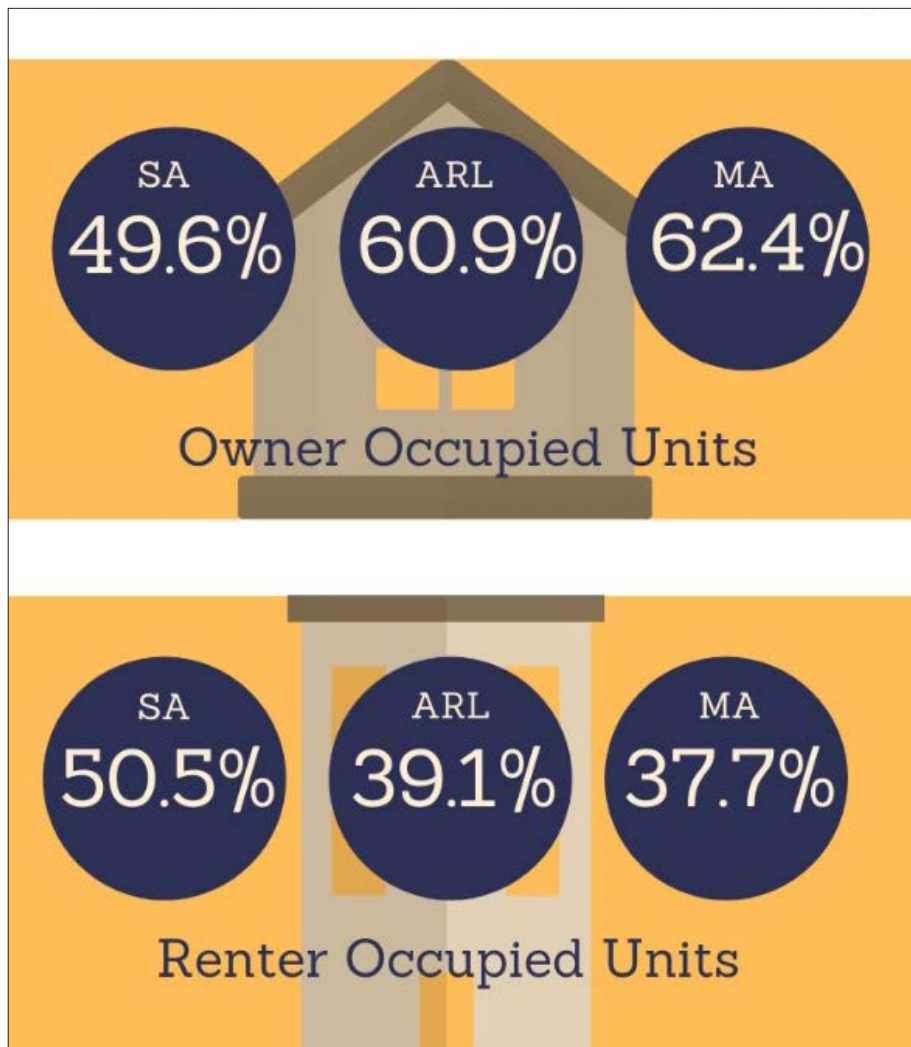


Figure 34. Currently, housing consumption in the study area (SA) is split evenly among renters and owners.

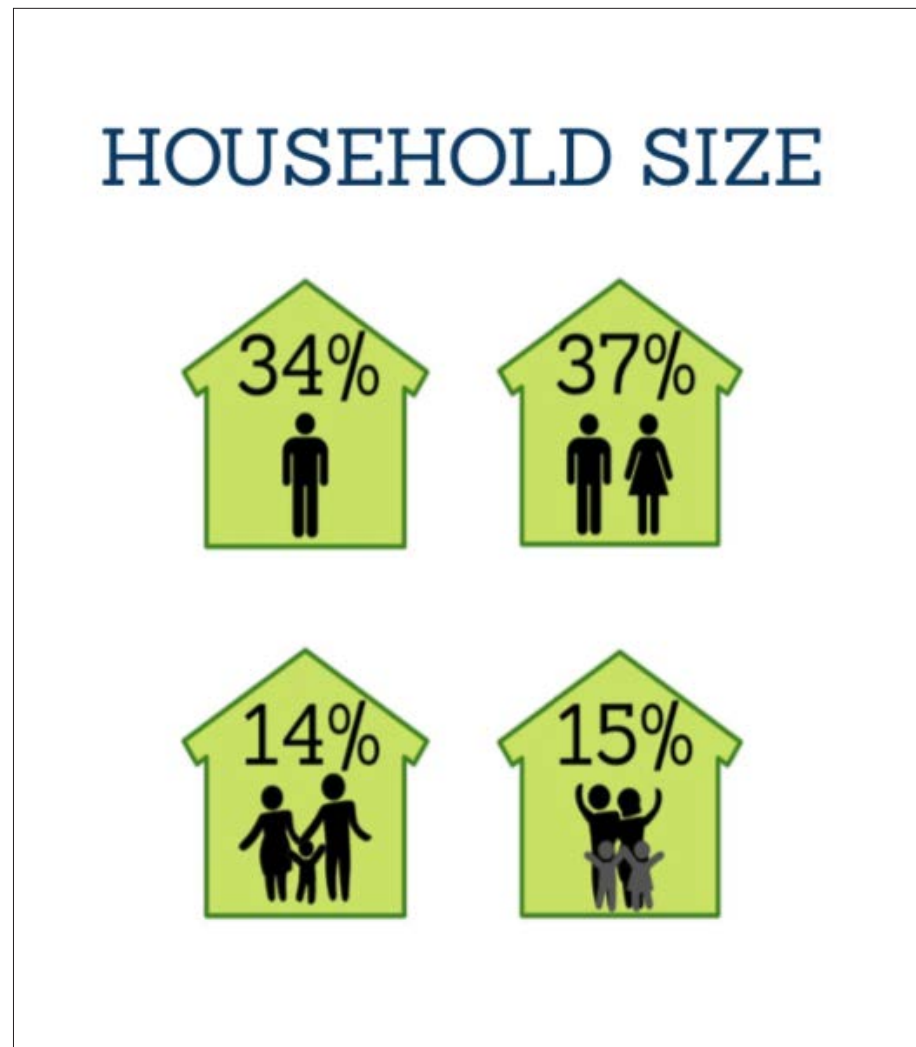


Figure 35. Most households in the study area (71%) are single or two-person families.

WHAT WE HEARD

Interactions with local residents have largely guided this study's understanding of the neighborhood and the following proposals. From September to November 2019, team members met and consulted with local community organizations and stakeholders to get a better sense of town needs and desires regarding the themes explored here. Additionally, an email account was set up to facilitate dialogue with interested parties.

Participation in Arlington Town Day in September confirmed the growing concern over housing affordability by residents and also provided team members an opportunity to informally chat with community members about their perception of the town. Following this, meetings were scheduled with members of entities such as Equitable Arlington, the Housing Corporation of Arlington, and Arlington Residents for Responsible Redevelopment.¹ Moreover, team members conducted a community-wide workshop in October at the Hardy School Elementary School, where residents received updates on our study and participated in a workshop sharing concerns and ideas for three sites presented at the meeting: the Lahey site, Lussiano Field, and the streetscape along the corridor.

Our team identified the ability of the Broadway corridor to harmonize with existing development on Massachusetts Avenue in a way that moderates existing issues of housing affordability and lack of amenities in the study area. Generally, community members in the study area would like to see more amenities made available to them, and see promise in mixed-use development along the corridor. The workshop provided the most direct forum for community members to share their opinions about the study's site selection and proposal for mixed-use development at the Lahey Building near the boundary of Arlington and Somerville, elaborated upon further in the following sections.



Figure 36. Community feedback about housing on Town Day.

¹Other stakeholders included a town environmental planner, the Arlington Recreation Department, and the Thompson School PTO, as noted earlier.

“The housing market is really tight. Broadway could be a great place to help create more supply.”

“There aren’t enough good housing options for people with middle incomes.”

“The main thing is housing. It’s hard for people to just buy a piece of land and build on it. Everything needs a special permit.”



Figure 37. Triple-decker houses on Broadway.



Figure 38. Existing apartment housing on Broadway.

CURRENT ZONING AND BARRIERS TO DEVELOPMENT

In community engagement sessions, residents expressed that any new development should seek to retain the existing character of the town. In the study area, the current zoning scheme (in the following figure) is dominated by two- and three-family housing, as well as low-density apartments (R2, R3, and R5 zoning codes respectively), as shown in the following figure. In addition to these residential parcels, there are a few commercial uses (B2, B2A, and B4 zoning codes) intermixed in the area. As it stands, the maximum allowable height allows for 6-story development.

While development is subject to compliance with Arlington's zoning bylaws, recent codification of design standards has served as the first step in improving and updating the bylaws that present difficulties for new development. As is, the language of the allowed zoning uses presents difficulties for moving forward with mixed-use development, namely the descriptions associated with the residential uses, which "discourage uses which would detract from the desired residential character."¹ In the 2016 Housing Production Plan study carried out by MAPC, zoning was targeted as needing to be amended in order to facilitate more robust affordable housing measures.²

The recently approved 117 Broadway development was the result of amendments to the zoning bylaws, allowing mixed-use development along the commercial corridor with a special permit.³ In the next section, we explore similar actions that can be taken to bypass obstacles from zoning bylaws.

¹ Town of Arlington, Town of Arlington Zoning Bylaw.

² Metropolitan Area Planning Council, JM Goldson, and Town of Arlington, "Arlington Housing Production Plan."

³ Greenhalgh, "Arlington Food Pantry Lands Home in Planned Affordable Housing Building."

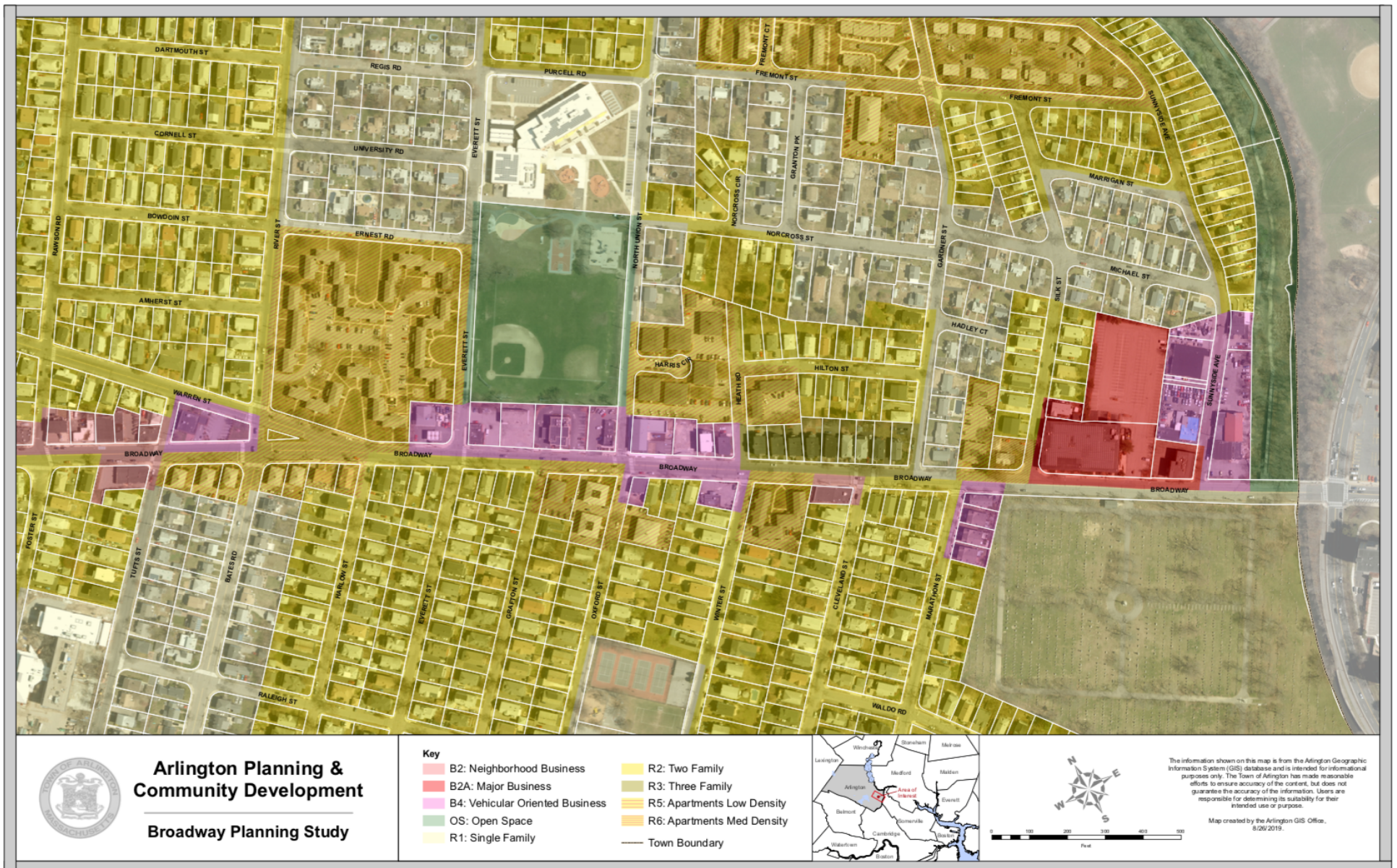


Figure 39. Current zoning of the study area.

EQUITABLE REDEVELOPMENT THROUGH ZONING

The goals and strategies in the MAPC report suggest amending the current zoning bylaws in order to allow for more variety in housing type and for fewer restrictions on mixed-use development. Currently, the zoning bylaws make it difficult to initiate development projects geared toward increasing density. Additionally, in our tabling sessions, residents expressed that current zoning regulations make it difficult to get potential projects off the ground, citing complications to redevelop the vacant Arlington Automatic Transmission Garage near 111 Broadway.

Recent amendments, however, enable mixed-use development along the Massachusetts Avenue and Broadway commercial corridors once developers obtain a special permit from the Arlington Redevelopment Board (ARB). The study team recommends the following changes to the town's current zoning, building off the work done by the ARB, and guided by the goal of increasing the supply of affordable housing and creating a more walkable and amenity-rich environment along Broadway:

- Review dimensional restrictions on height and density requirements to improve viability of affordable and mixed-income housing developments. While density can be achieved by building taller developments with more units, affordable housing can also be created through techniques like enabling accessory dwelling units.
- Host community processes about how public land may be acquired for affordable housing.



Figure 40. Residents expressed that current zoning regulations make it difficult to get potential projects off the ground, citing complications to redevelop the vacant Arlington Automatic Transmission garage near 111 Broadway.

- Examine underutilized parcels for redevelopment (such as the aforementioned garage).
- Prioritize affordable housing development on surplus public land.
- Ensure a high quality of life by activating street life with strategic urban design standards for new development that prioritize pedestrian traffic.

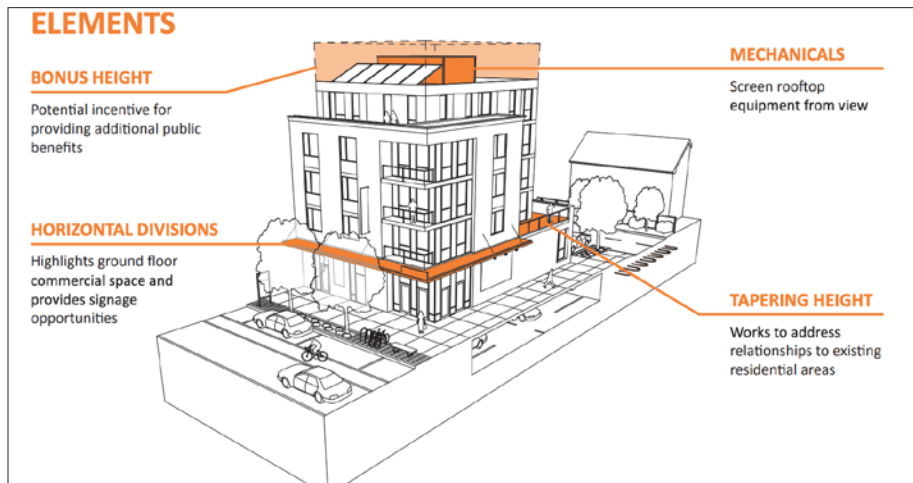


Figure 41. Town design standards for mixed-use development. The study team recommends reviewing dimensional restrictions to improve viability of affordable & mixed-income housing developments. Source: Design standards for the Town of Arlington.

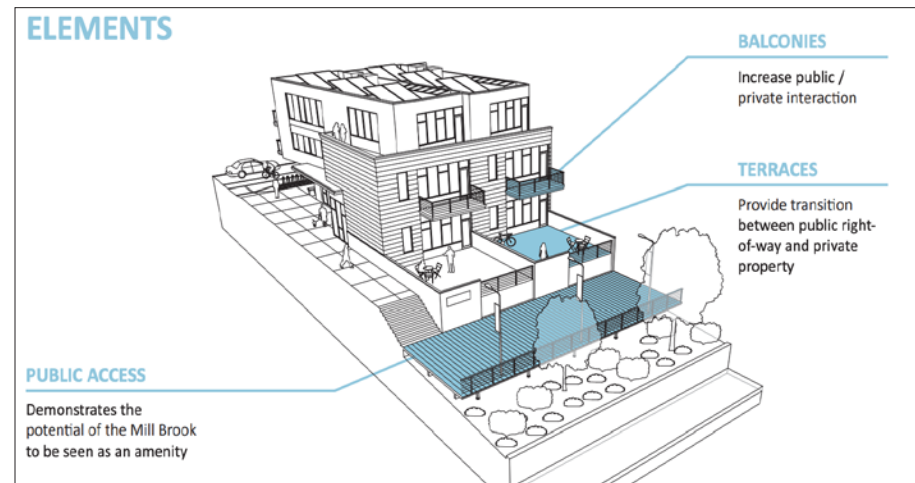


Figure 42. Town design standards for the public realm. This report recommends ensuring a high quality of life by activating street activity with new developments. Source: Design standards for the Town of Arlington.

These recommendations are far from exhaustive and are informed by precedents implemented in other communities to tackle affordable housing issues. Density bonuses have been discussed by the ARB, with proposals to change zoning laws to enable extensive development of R4-R7 areas by reducing requirements on minimum lot area and frontage for those residential areas.¹ Such changes would grant developers more flexibility to build if they agree to make provisions to increase affordable units.

¹ Lefferts, "Arlington Considers Zoning Changes to Boost Affordable Housing."

ENVIRONMENTAL CONCERNS AND RECOMMENDATIONS

New developments along Broadway can be an opportunity to encourage more environmentally-friendly building design. Arlington should consider:

- Limiting impermeable surfaces to absorb storm water and mitigate urban heat islands.
- Expanding the existing tree canopy to mitigate the urban heat islands and greenhouse gas emissions.
- Encouraging green infrastructure like rain gardens on private properties to absorb storm water.
- Incentivizing green building technologies like green or high-albedo roofing materials to further limit the environmental impact of development.

Any new construction should also be adapted to face future environmental hazards induced by climate change. The Town should consider reviewing the zoning bylaws, and using them as a tool to limit development in future risk-prone areas. One specific recommendation the town should consider is adding guidelines for elevating new construction in the floodplain district to the zoning bylaws (section 5.7).

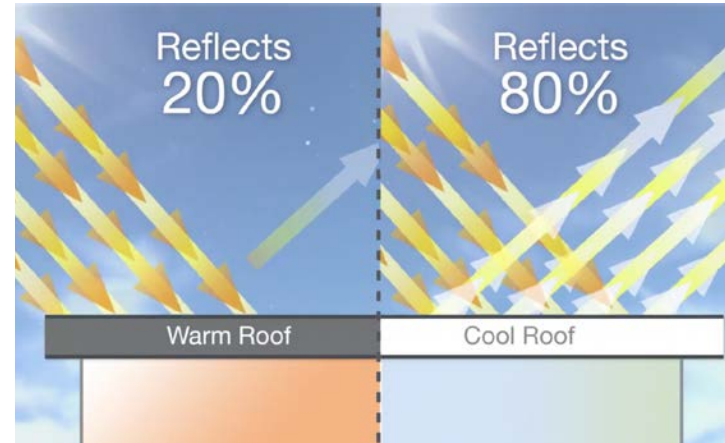


Figure 43. "Cool roof" technology that reflects solar heat might be a good choice for large structures like our proposal for the Lahey site. Source: smmirror.com.

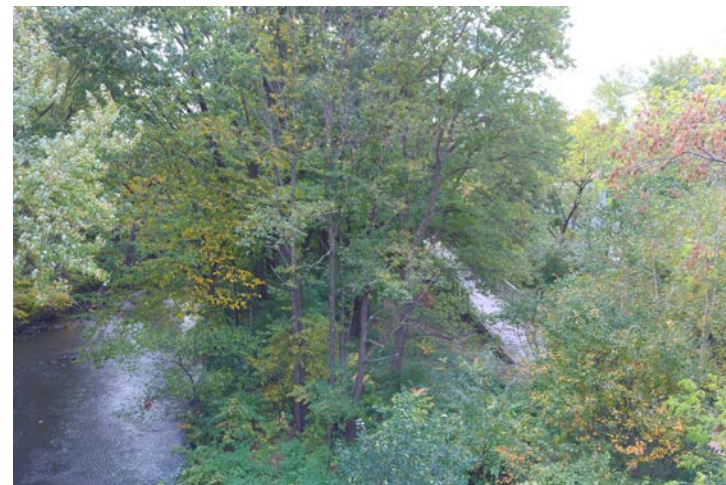


Figure 44. Buildings along Sunnyside Ave and adjacent to the Alewife Greenway (pictured) could face increased flood risk due to climate change.

FOCUS AREA - THE LAHEY SITE

This planning study has highlighted the Lahey site, situated on the eastern part of the corridor, as a site with high potential for redevelopment. Currently, the site and relevant adjacent parcels along Sunnyside Avenue are zoned for B2A (Major Business) and B4 (Vehicular-Oriented Business), respectively.

The current zoning bylaws for B2A parcels already make allowances for mixed-use development, since this district is proximate to residential areas as is. The current language does not make exhaustive restrictions on uses, but does name automotive, office, and wholesale and storage use as strictly prohibited.

The B4 parcels along Sunnyside Avenue are more restrictive in terms of what may be developed in compliance with the existing zoning designation, since they are narrowly catered to the sale and service of automobiles. Nonetheless, the language of the bylaw “encourage[s] conversion of the property to other retail, service, office or residential use, particularly as part of mixed-use development.”¹

¹ Town of Arlington, Town of Arlington Zoning Bylaw.

The language of the bylaws noted above reveals the potential of the Lahey site in facilitating more equitable development for mixed uses to spur affordable housing and commercial uses for the corridor. The language further notes: “These areas generally contain retail and service uses that serve the needs of a large neighborhood area.”² However, correspondences with residents have revealed the perceived lack of a “vibe” in this section of the town. By offering proposals for the Lahey site, we seek to fulfill desires for a more vibrant Broadway catered to neighborhood desires.

² Ibid.



Figure 45. The language of the bylaws noted above reveals the potential of the Lahey site in facilitating more equitable development for mixed uses to spur affordable housing and commercial uses for the corridor.

CHARACTERISTICS OF PARCELS FOR LAHEY SITE

| Parcel | Bldg Gross Area (Sq. Ft.) | Land Size (Sq. Ft.) | Zoning | Use Description | Height Restrictions? |
|-------------------|---------------------------|---------------------|--------|-----------------|----------------------|
| 25 Sunnyside Ave. | 4,651 | 5,648 | B4 | Auto Repair | Yes |
| 1 Broadway | 17,669 | 29,909 | B4 | Health Spa | No |
| 10 Sunnyside Ave. | 8,223 | 16,500 | B4 | Auto Repair | Yes |
| 22 Sunnyside Ave. | 7,232 | 11,556 | B4 | Auto Repair | Yes |
| 0 Sunnyside Ave. | N/A | 5,442 | B4 | Parking Lot | Yes |
| 0 Broadway | N/A | 59,020 | B2A | Parking Lot | Yes |
| 33 Broadway | 50,836 | 41,476 | B2A | Office | Yes |

Figure 46. Zoning regulations and limitations of parcels on the Lahey site. As the Town moves forward with suggestions for this focus site, such limitations on height must be addressed. Note: 0 Sunnyside Ave. and 0 Broadway refer to the parking lots adjacent to Arlmont Fuel and the Lahey building, respectively.

The parcels for the Lahey site are near single- and two-family housing, medium density apartments, and open space (R1, R2, and OS zones, respectively). Section 5.3.19 of the Zoning Bylaws restricts the height of buildings within 150 feet near the OS zone and within 200 feet near the R1 zone.¹ As the study moves forward with suggestions for this focus site, such limitations on height must be addressed.

¹ Town of Arlington, Town of Arlington Zoning Bylaw.

LAHEY AREA IMPROVEMENT IDEAS

In addition to the suggestions offered to amend zoning bylaws to better facilitate mixed-used development, this study offers a conceptual proposal for the Lahey site, drawing on the creative skills of the team, community feedback, and projects implemented in other locations.

The current proposal intends to activate the street edge along Broadway by introducing ground-level retail in a five-story mixed-use development with residential units on the remaining floors. To promote integration with the residential neighborhood surrounding the site, much of the proposed height increases are focused along the Broadway street-edge, while buildings along the other site edges taper down to three-story row houses. By activating the street-edge along Broadway, we hope that pedestrians will not only be attracted by the amenities, but also be prompted to stay for a longer period. As such, we also incorporate more public spaces into the site for visitors. In proposing mixed-use development in addition to row houses, the site concept balances enhanced amenities with increased housing supply.¹ Conversations with residents revealed traffic congestion issues, so the proposal also offers a vision for traffic flow and a new traffic signal to alleviate congestion during peak hours.

The site's topography and proximity to the Mystic River and Alewife Brook pose a flooding risk. Future construction along Sunnyside Ave should be elevated, and prevented from constructing basements, in order to mitigate flood risk. The site's proximity to Alewife requires that any development take care to mitigate storm water contamination, by limiting impervious surface area through the incorporation of green space and green building technologies. Development proposals for this site should also address urban heat islands in the Broadway corridor. For the Lahey site in particular, peak land surface temperatures range from 94°F to 97°F.² As we are seeking to increase building density at this site, the new development's contribution to localized heat islands should be addressed at a minimum with assurances to increase tree canopy cover, reduce asphalt coverage, and incorporate high-albedo roofing technology.

¹ Dain, "The State of Zoning for Multi-Family Housing In Greater Boston."

² Cabrera, "Arlington Tree Inventory Project."

LAHEY AREA IMPROVEMENT IDEAS

Envisioning an Entrance to Broadway

In addition to the Lahey site's potential to shoulder a share of new housing production coupled with new commercial activity, this study envisions the site as fostering community connection for current and future residents. We note the residential units already neighboring the site, and seek to offer a vision that welcomes them to a vibrant node along Broadway. Our suggestions also incorporate ideas of sustainability, noting the current flooding issues at the site.

By activating the street edge to allow for commercial activity and space for new housing, we seek to make the site a more welcoming place for all.

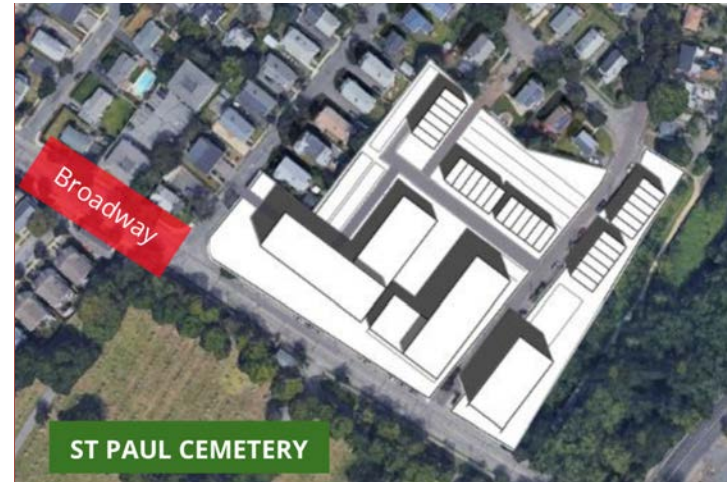


Figure 47. The master plan of our proposal envisions the Lahey site fostering community connection for current and future residents.

| Use Type | Total Area Size (sq ft) | Estimated Total Units | Parcels |
|----------------|-------------------------|-----------------------|--|
| Retail | 31,800 | | Distributed on the ground floor of apartment buildings. |
| Apartments | 133,200 | 144 | 19-23, 33 Broadway; 1 Broadway 0 LOT Broadway; 22 Sunnyside Ave |
| Townhouses | 108,000 | 30 | 0 LOT Broadway; 25 Sunnyside Ave |
| Parking spaces | | 160 | Distributed across the whole site. |

Figure 48. Programming for the Lahey site. By activating the street-edge to allow for commercial activity and space for new housing, we seek to make the site a more welcoming place for all.

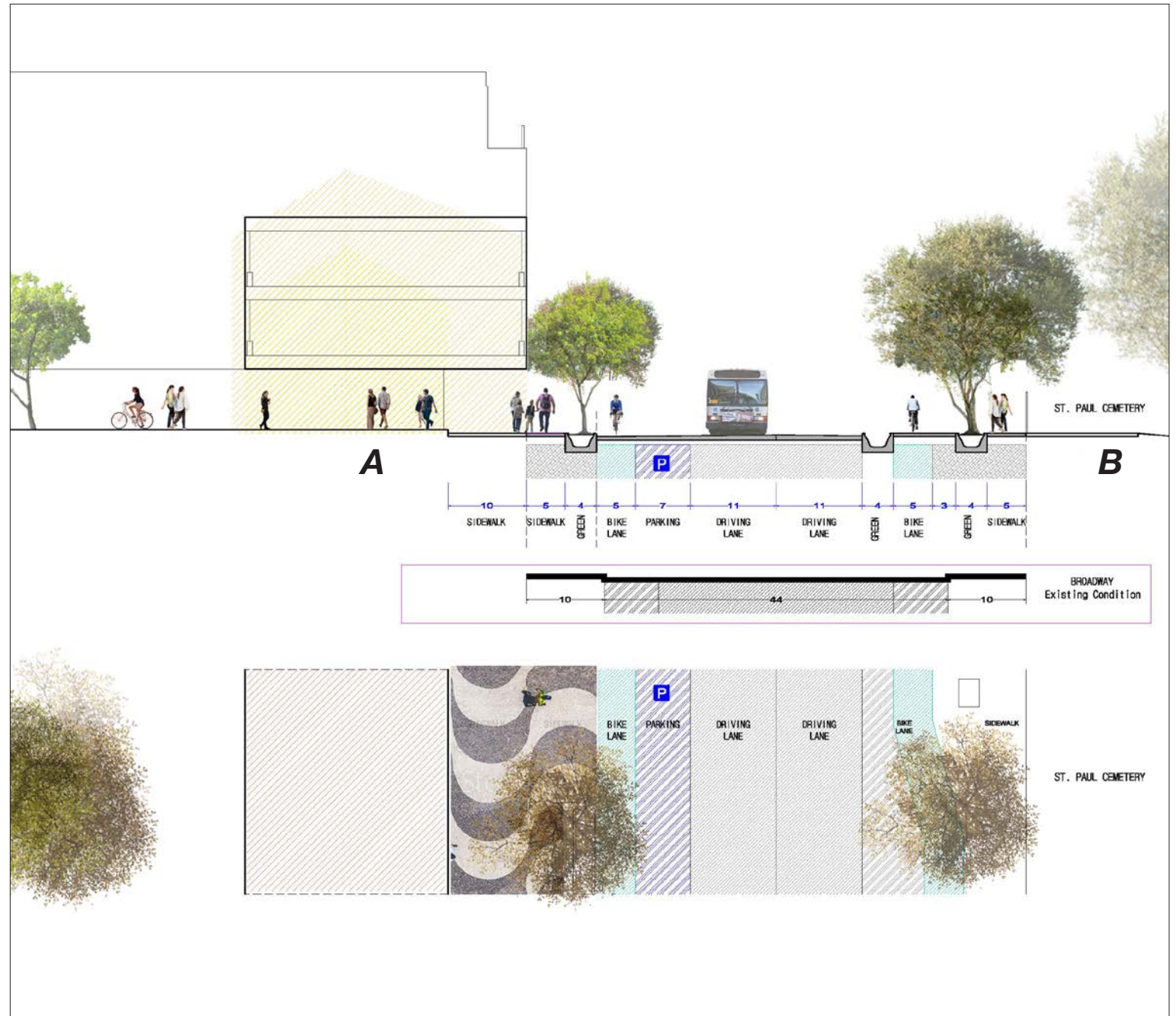


Figure 49. Parking would be provided on the North side of Broadway for Lahey visitors, but would be removed from the South side of the street to make space for a bus queue-jump lane approaching Alewife Brook Parkway.

CONCEPTUAL DIAGRAMS FOR DISCUSSION

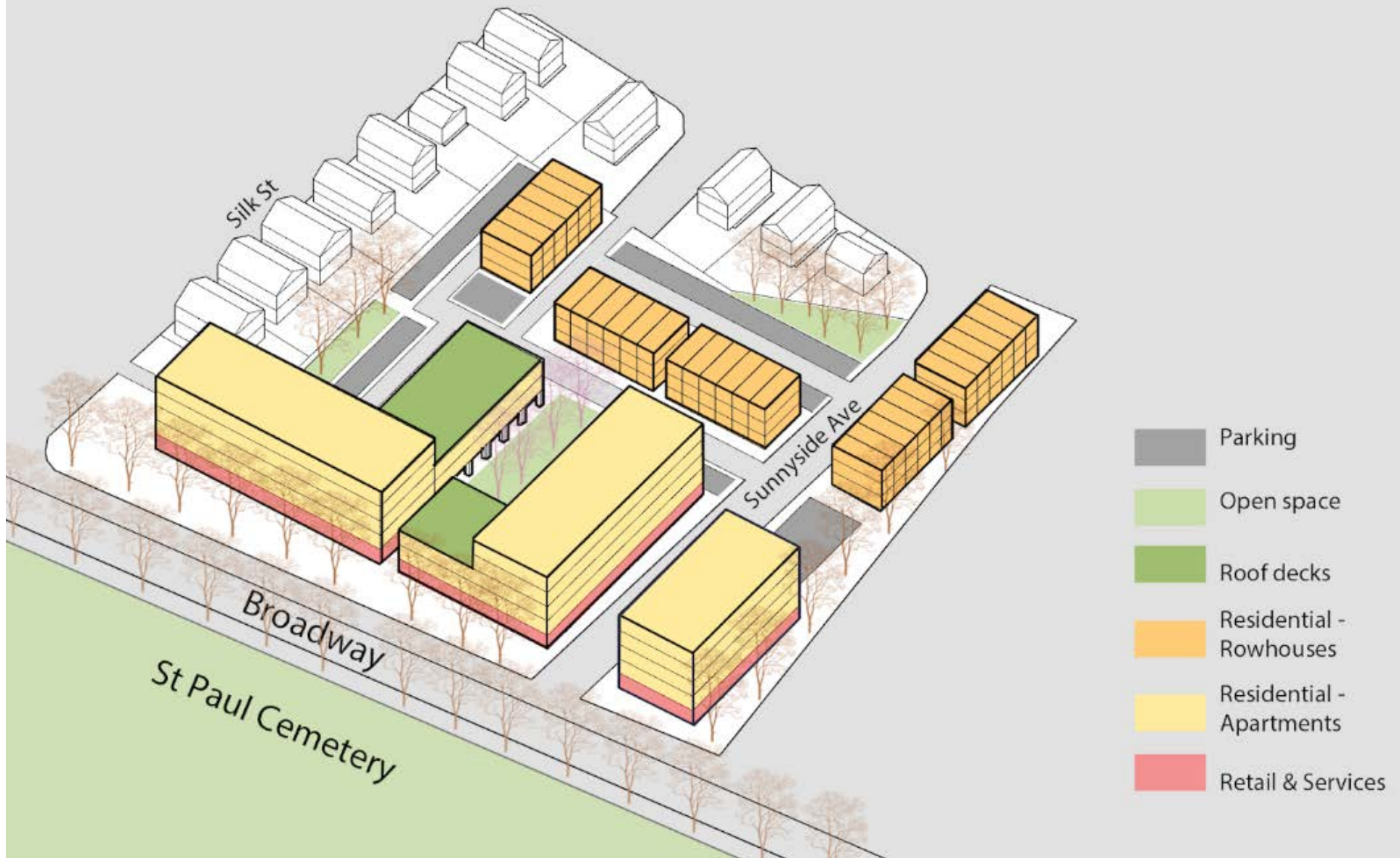


Figure 50. The northern and eastern part of the site should reserve sufficient open space as community assets for the benefit of existing and future residents. Building heights along Broadway and Sunnyside Ave. can be denser than the interior of the site. The massing of buildings should be planned to promote sunlight exposure of the open space and apartment units.

Purple = flow of traffic

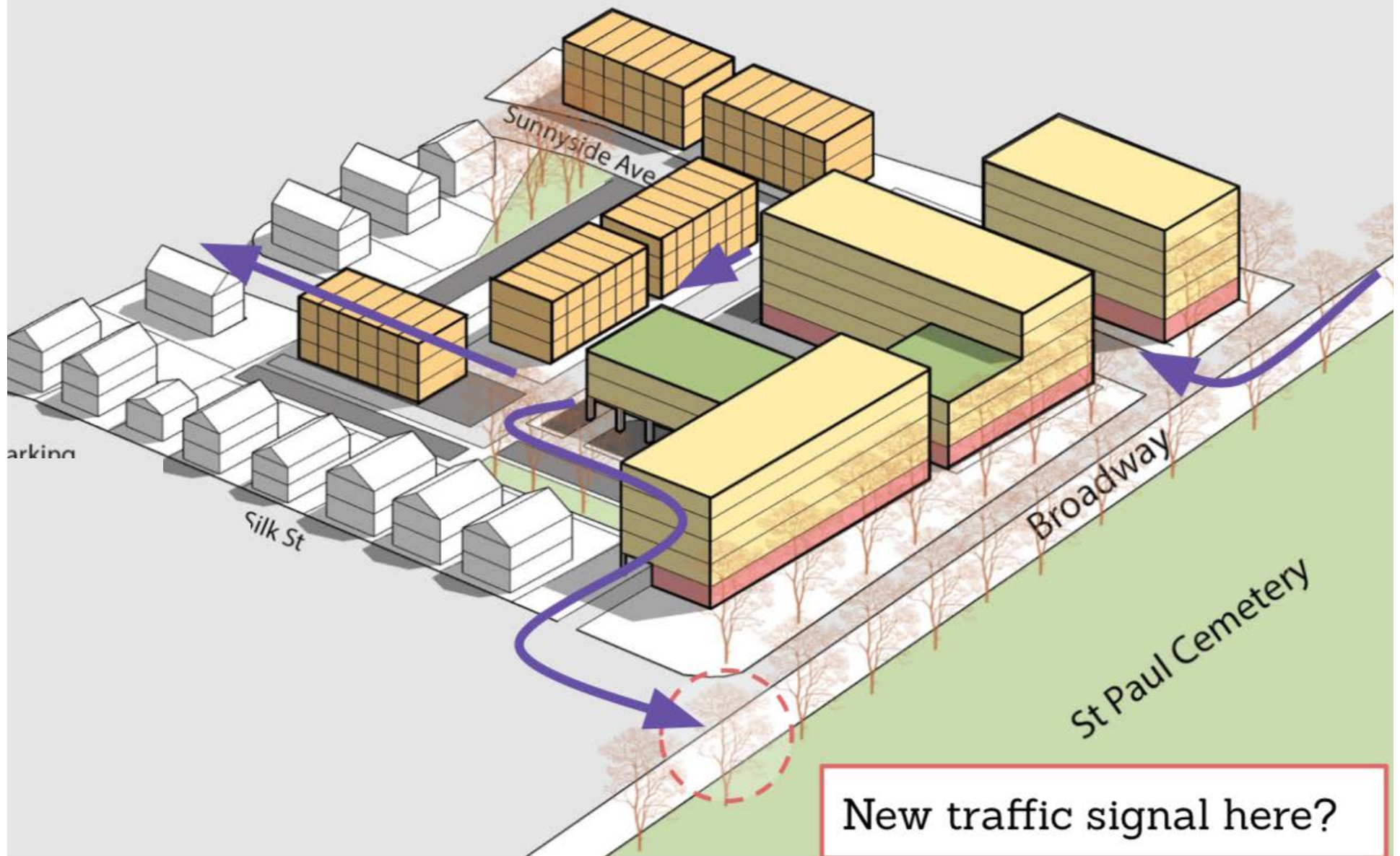


Figure 51. Sufficient buffer areas should be provided for existing houses to the east and north of the site. Circulation plans for future development in this area should avoid exacerbating congestion issues at the intersection of Sunnyside Avenue and Broadway.

SITE RECOMMENDATIONS

Site Planning and Design Principles

As part of zoning changes, we suggest that the site planning and design for the Lahey site shall prioritize the following principles:

- Sufficient buffer areas should be provided for existing houses to the east and north of the site.
- The northern and eastern part of the site should reserve sufficient open space as community assets for the benefits of existing and future residents, while developments along Broadway and Sunnyside Ave. can be denser than the inner site.
- Based on the orientation of the site, the massing of buildings should be planned to promote sunlight exposure of the open space and apartment units.
- The circulation of vehicles within the future developments should follow the paths outlined in our site proposal to avoid exacerbating congestion at the intersection of Sunnyside Avenue and Broadway.
- Future mixed-use developments should activate the ground-floor by orienting building entrances to face Broadway and by limiting building setbacks.
- Parking spaces for apartments should be planned for the rear side of buildings rather than the side facing Broadway to create a better pedestrian experience.



Figure 52. This planning study has highlighted the Lahey site, situated on the eastern extreme of the corridor, as a site with high potential for redevelopment.

Housing Recommendations

The following items represent a summary of our housing recommendations for the Broadway corridor:

- Review dimensional restrictions on height and density requirements to improve viability of affordable and mixed-income housing developments.
- Examine underutilized parcels for redevelopment.
- Ensure a high quality of life by activating street activity with new developments.
- Incorporate environmental hazard mitigation techniques like permeable surface requirements and tree planting into all new construction.
- Add housing density to the neighborhood by redeveloping the Lahey Building and adjacent parcels.

An aerial photograph of a city street intersection. The scene is dominated by lush green trees with some autumn-colored foliage in shades of orange and yellow. A multi-lane road runs horizontally across the middle, with a cross street intersecting it. Several cars are visible on the roads, including a white van and a red car. In the background, there are buildings, including a large one with a red roof. The overall atmosphere is bright and clear.

IV. NEIGHBORHOOD CHARACTER

WHAT WE HEARD

Talking to people is always useful when you are studying a place. People populate it, use it, like it or dislike it, actively engage in it or simply disregard it. Throughout our community outreach process, the emptiness of the street and the lack of amenities and ‘things to do’ was one of the most commented and agreed upon observations.

If you look at the urban typology on both sides of the street, you realize the corridor is the meeting point of two different worlds: a subdivision landscape and a slightly more dense, suburban typology. This mix does not naturally facilitate pedestrian-friendly street life. At present the design of the corridor and the lots around it are not inviting people to get out of their cars, or indeed, go out of their way. One resident pointed out that he deliberately chooses other streets for his daily chores as Broadway does not seem inviting.

“It’d be great to bring more of the vibe of Arlington Center down here.”

This comment was in line with the preferences expressed by many of the people we engaged with.

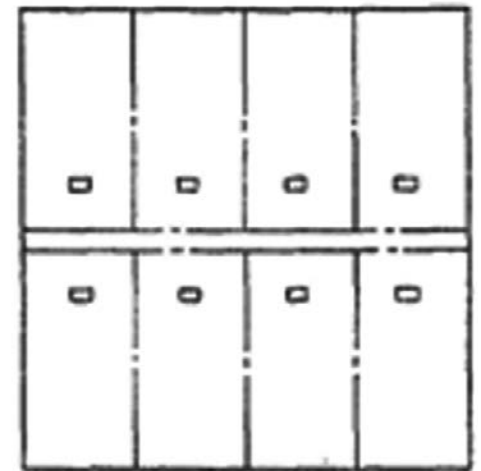
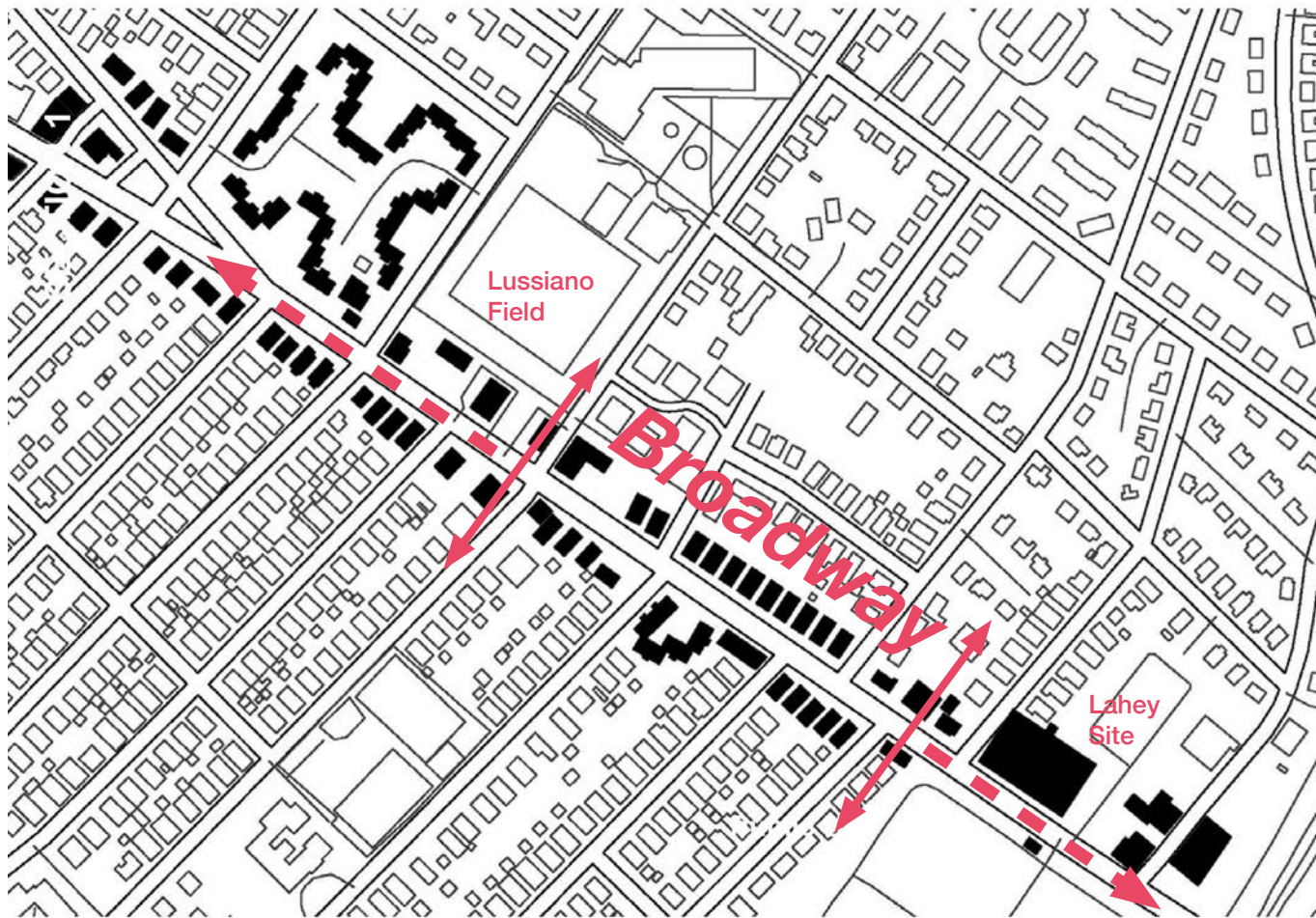
In the following pages we summarize what we see as present conditions and how they can be improved to animate the corridor to make it a more lively and friendly to pedestrians.



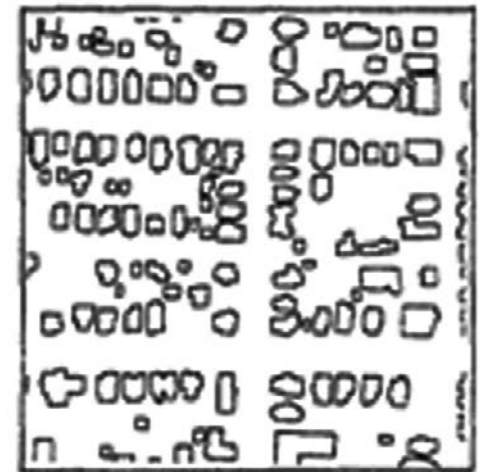
Figure 53. The lack of life on the street is one of the first things that you notice when you walk down the corridor.



Figure 54. The most walkable part of Broadway is where it meets Mass Ave and creates a “hub” for people to gather.



Housing Subdivision



Suburb

Figure 55. The density of the surrounding housing differs on the north and south sides of Broadway. The north side is most similar to a housing subdivision, while the south side looks like an older suburb. Strategic interventions along Broadway could facilitate greater cohesion of these two different neighborhoods, and extend a coherent neighborhood character along the entire corridor.

CURRENT CONDITIONS

The Broadway corridor has many positive features that residents appreciate. In our public outreach, residents mentioned that Lussiano Field is a wonderful open space that will only get better when the new splash pad is constructed. Moreover, the cluster of schools and kid-oriented uses (like the dance studio and daycare center) give the neighborhood a family-friendly feel, particularly right when school gets out.

At the same time, Broadway is lacking many amenities that residents desire. It is under-served compared to most other hubs in Arlington. With only a few food and drink options in the neighborhood, residents need to travel to Arlington Center or Massachusetts Avenue for their daily needs. These areas are well beyond half a mile for parts of the corridor, which motivates car-use rather than pedestrian access.

Broadway's main gathering point — the “Dunkin” on 115 Broadway — is an example an existing amenity of the corridor. It is the most visited spot for residents and passers-by throughout the day but its design and purpose does not encourage people to hangout and stay a while.

“Why don’t we have the kind of coffee shops and restaurants that others have?”

The overall feel of Broadway is “auto-oriented,” with a very wide street lane with parking on both sides, lots designed with drive-thrus, sidewalk curb cuts for firetrucks and a lack of bike parking (see the Mobility section).

The study area’s biggest public asset lies hidden behind “Dunkin” and several neighboring lots — the Lussiano Field. It is a valuable and underused space. Notwithstanding the fact that it is visually and physically disconnected from the corridor, parts of the field are not well-maintained and lack basic facilities.



Figure 56. “Dunkin” is the most-often visited spot in the corridor, but it is designed as a pass-through place.

ENHANCING NEIGHBORHOOD CHARACTER

Broadway offers enough space and opportunities for better use of this corridor. It provides a vital connection between Somerville, Cambridge and the other parts of Arlington.

The street has the possibility to simultaneously be both a “stop-by” but also a “go-to” place. It can provide a welcome break in a busy day, as well as a good social environment.

Many residents expressed concern that the area should not become like Mass Ave, but also desired some changes to make it a more active place.

Some of the steps to address the needs of the community for a safer, more walkable Broadway, with a range of amenities that serve the surrounding neighborhood are as follows:

1. Improving the streetscape

The Mobility chapter introduced some ways to achieve a more accommodating streetscape, in terms of pedestrian and bicycle safety. Protected bike lanes, safer, shorter, more visible crosswalks, hospitable bus stop furniture, and a greener “mobility environment” are intended to attract residents onto the street and keep them safe while there. However, an attractive streetscape can also emerge in the ways typical pedestrian facilities are implemented, through techniques like patterned sidewalk paving and shade tree plantings.



Figure 57. Residents need a more accommodating streetscape for pedestrian and bicycle safety.

2. Providing better amenities

Dunkin' is an illustration of the need for new places to gather. Another, even better example of the use of space is the nearby wine shop. It holds a weekly tasting, which attracts people and is a gathering opportunity. Providing connections to other walkable amenities and facilities nearby would create a positive impact on the community.



Figure 58. More informal gathering places, like the existing local wine shop, are desired by local residents.

3. Using available space

Adding new amenities depends in part on new development. New development may be more likely to happen in the lots in front of Lussiano Field. It is in the B4 zone (vehicular oriented business), which means a large amount of land in proportion to building coverage. The biggest impact to public realm from the existing zoning is heavy vehicular usage in this area contributing to congestion along the corridor and low utilization of valuable land.



Figure 59. More can be done with the available space in the neighborhood.

ENVIRONMENTAL CONCERNS AND RECOMMENDATIONS

Residents of the Broadway corridor have ready access to green space in their immediate neighborhood (Lussiano Field, the St. Paul Cemetery, Crosby Field, Alewife Greenway), and within walking or biking distance (the Minuteman Bikeway, Spy Pond, Magnolia Park). However, the neighborhood is challenged by heat in the summer, which makes it difficult to spend time outdoors. The splash pad at Lussiano Field was spoken of as a major destination for parents with children in the hot summer months, but Arlington should do more to make spending time outdoors more comfortable.

In addition to ideas mentioned in previous chapters, the town should:

- Add more trees to the north side of Lussiano Field.
- Partner with local businesses on a tree planting campaign, where the town could pay for saplings planted by business owners who have the space and ability to maintain trees.



Figure 60. Map of existing green space (highlighted in green) near the Broadway corridor (study area circled in blue).

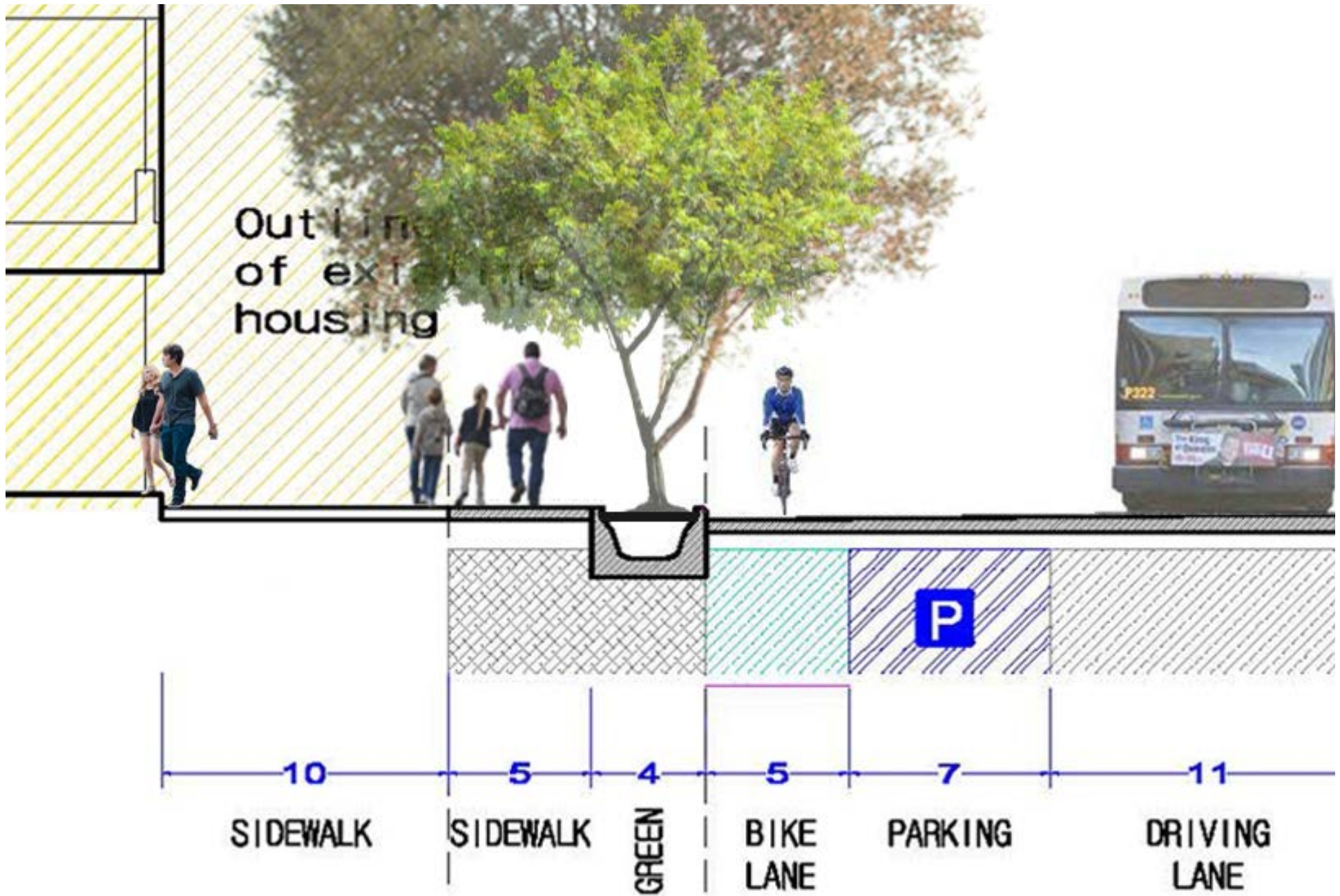


Figure 61. Leaving room along the corridor for street trees will add shade, bringing more people onto the street during the temperate months.

THE FOCUS SITE - LUSSIANO FIELD

Lussiano Field is located between the Thompson Elementary School and Broadway. A small part of it is now redeveloped as a playground but the main facilities there are a basketball court, a soccer field and an old baseball diamond.

Lussiano Field is the property of the Town of Arlington and is maintained for recreational uses. Yet it could use better facilities to make it more inviting. There are no spots for bike parking, which limits accessibility via that mode of transportation. There are not many available spaces to sit down and the existing benches are not well maintained. There is a lack of proper lighting, drinking fountains, appropriate signs and public restrooms.

It is also a prime example of how open spaces can “disappear” in cities.¹ The field itself is lower than the streets surrounding it, so it visually “sinks” beneath the eye level. It is surrounded by a fence and has a sharp “edge” on the southwestern side where it meets the lots on Broadway. The lower topography of the field compared to the surrounding streets makes it difficult to access. While there are staircases on Everett and North Union St., both are steep and in need of maintenance.



Figure 63. Blocked pedestrian access from the Broadway side. As there are no spots for bike parking, cyclists are forced to leave their bikes unsecured against the wall.



Figure 62. Lussiano Field sinks below curb along N Union St.

¹ Whyte, The Social Life of Small Open Spaces.



Figure 65. Physical and visual access to the park is blocked from Broadway.

Figure 64. The amenities at Lussiano Field, particularly on the south side of the park, could be improved.

NEW VISION FOR LUSSIANO FIELD

After assessing the preexisting condition of Lussiano Field, we decided that there is an opportunity for enhancement at that site. As inspiration, we looked at various examples of how public spaces are connected to the built environment in other cities and towns.¹

Our vision for the field is based on the idea that an improved connection with Broadway through a well-planned development can create a positive impact to the quality of life in the neighborhood.

The lots between the park and Broadway can serve as a gateway to the park and invite people in while also providing a good public space for various activities that are presently lacking. If they are developed together, which should be possible with the necessary incentives from the Town, or even developed separately but with an overall emphasis on connectivity, the new site design could enhance the character of the corridor.



Figure 66. A good example of connectivity between a street and a park is this Chilean library "Biblioteca pública parque Bustamante."

¹ Fleming, "Questions to Ask a Space."



Figure 67. One alternative scenario for outdoor open space.

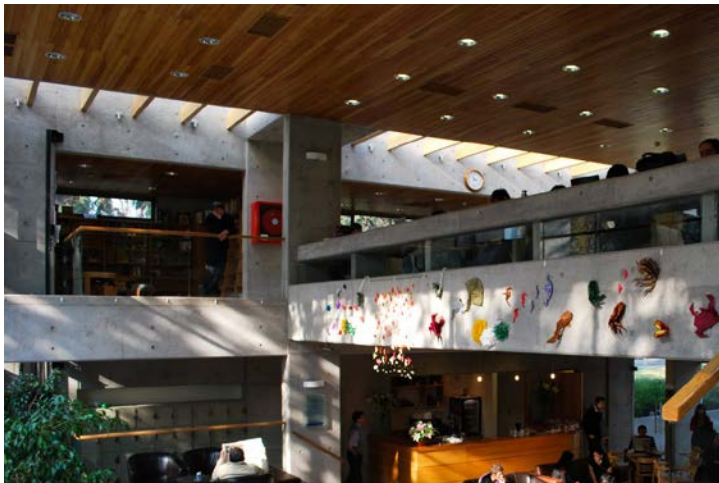


Figure 68. An indoor communal gathering space.

Our Vision

The lots in front of the field and facing Broadway are the biggest opportunity create a communal public space along the corridor. All of them are in the B4 zoning district.² One was recently acquired and will be soon developed by the Housing Corporation of Arlington with a new 4-story building with apartments, commercial space and parking.³

If the other three lots are developed together, they can “unlock” the entrance to the field and turn the “hard” edge between the street and Lussiano into a more welcoming environment. With the same height as the currently approved building on 117 Broadway, this development could include public spaces, amenities like a restaurant, and a community space for residents.

This new development could serve as a meeting spot for locals, as well as an attractive place to walk and bike to. Parents with children could easily use the new location and the retail spaces, which would also bring new income into the town.

There is a bus stop at the intersection of Broadway and North Union St., as well as on Broadway and Harlow St. that connects this site to Arlington Center and also to Somerville, Davis Square and the Red Line. The transit connection makes the Field accessible for local residents as well as people from outside of Arlington.

The following are conceptual examples of designs that can be used to activate the lots in front of the Field. The exact structure and building design will depend on potential zoning changes, town requirements and developer conditions.

² Town of Arlington, Town of Arlington Zoning Bylaw.

³ YourArlington.com, “Affordable Housing at Downing Square, Broadway Gets Funding.”

DESIGN PROPOSAL

This concept proposes two mixed-use buildings combining housing, commercial uses, a place for community gathering and an open public realm. The commercial zone would be on the ground floor, and would include retail spaces and a community center. Forty-five residential units, split across the two main buildings, occupy the upper floors developed to a maximum of five stories. The buildings should be placed to provide an open meeting space between the structures that also functions as a pathway to the park.

Parking should be considered on the basis of one parking space per unit. It could be placed in the back of the parcels, lower than the ground-level, so as to not act as a visual barrier between the park, the development and Broadway. This design will maintain the idea of the development as a gateway to the park. Bike parking should also be included, as well as small, private courtyards for each building.

Lussiano Field is a large park, yet it does not welcome everyone to take part in the use of this space. Changing the design and programming of the Field can offer a range of options for individuals or groups of different sizes — people who want to enjoy it in solitude, as a couple, in intimate groups, or as part of a larger event.



Figure 69. This concept proposes two mixed-use buildings, with public space in the center of the site that provides access to Lussiano Field.

| Level | Use | Square feet (ft²) | Number of units | Total Square feet (ft²) |
|------------------------|-----------------|-------------------|-----------------|-------------------------|
| First floor | Commercial use | 6900 | ---- | 6900 |
| | Community space | 2100 | ---- | 2100 |
| Second and Third floor | Residential | 35400 | 34 | 49000 |
| Fourth floor | | 10300 | 10 | |
| Fifth floor | | 3300 | 3 | |
| TOTAL UNITS | | | 47 | |

Figure 70. Uses of the proposed new development includes a community space where locals can gather for meetings or events.

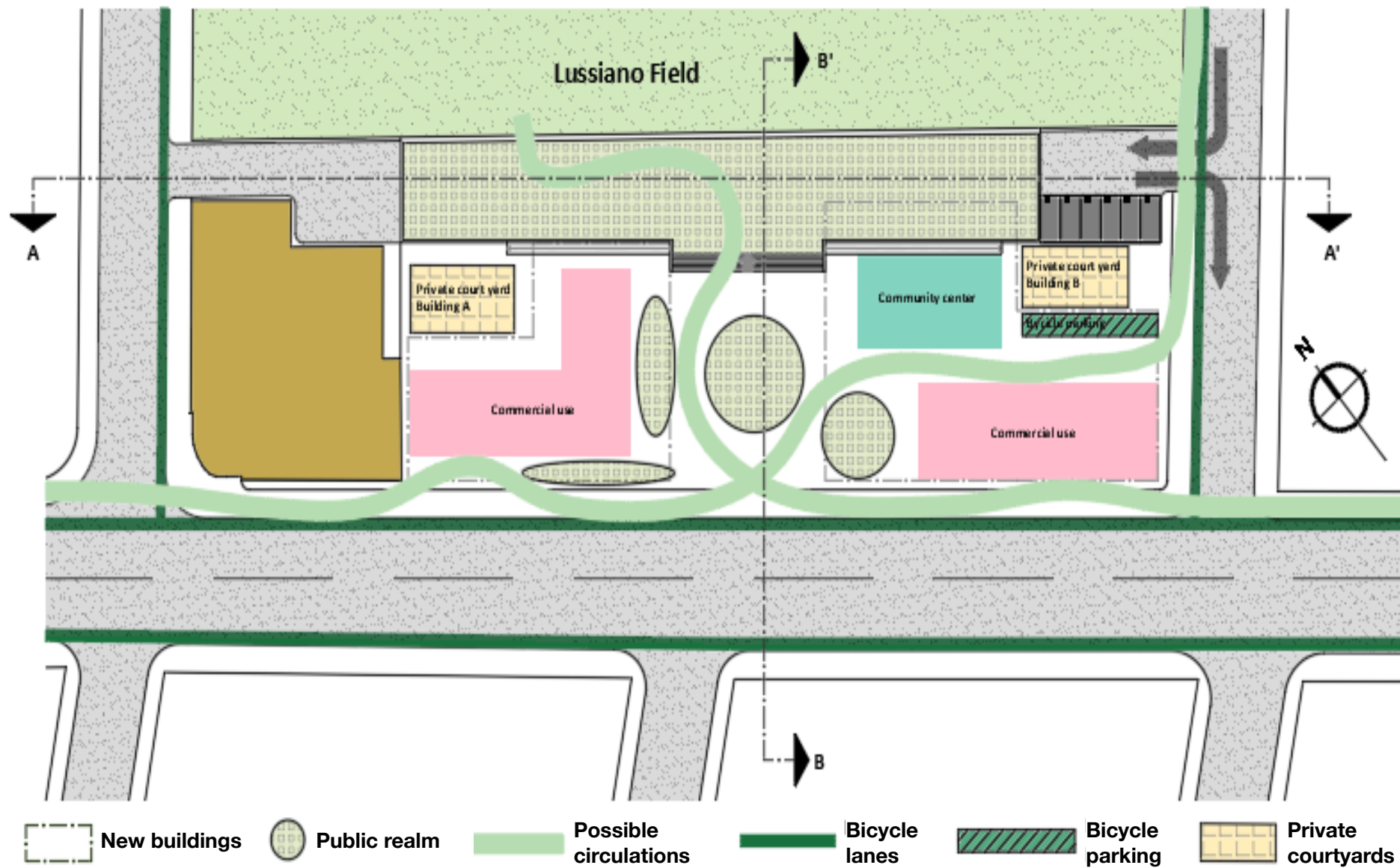
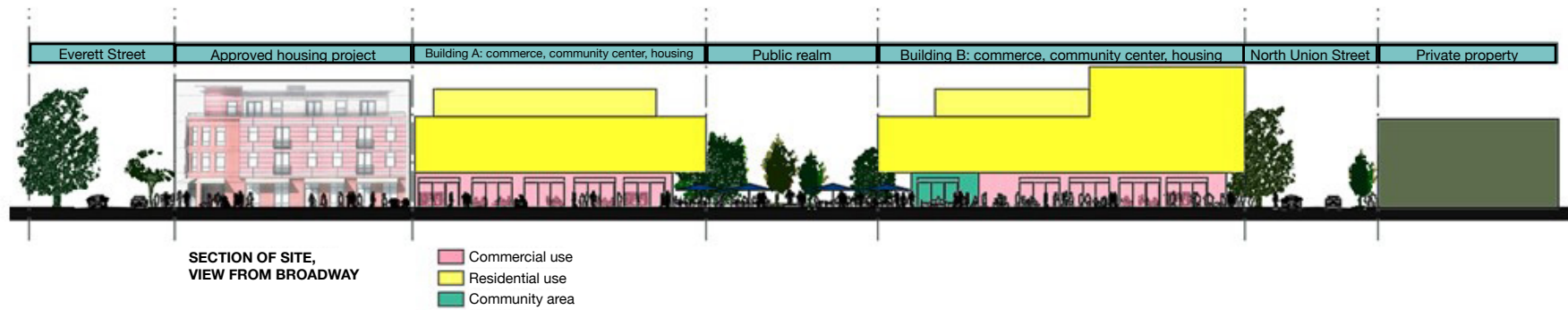


Figure 71. The Lussiano Field future site vision is an idea for how a future development could help open the park to Broadway, and includes mixed-use buildings with housing, retail and restaurant space.



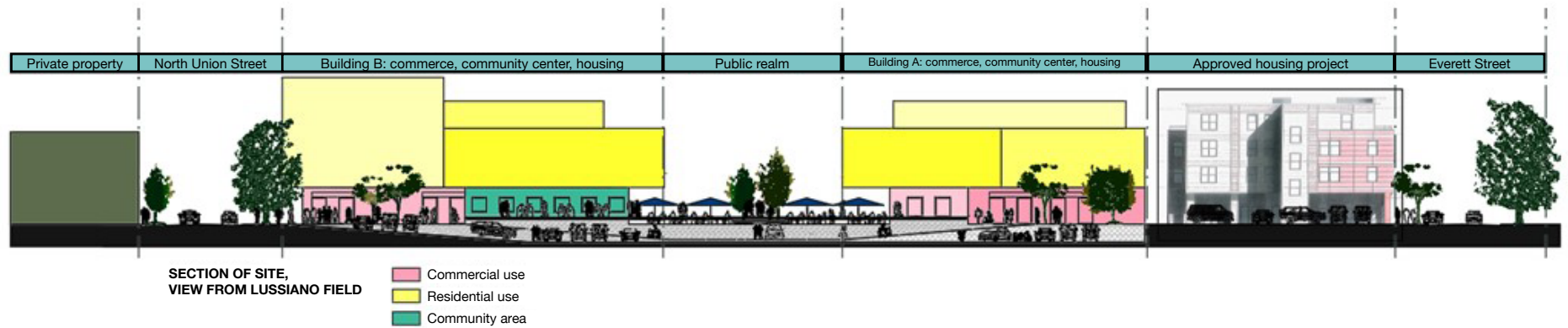
Detailed view of section



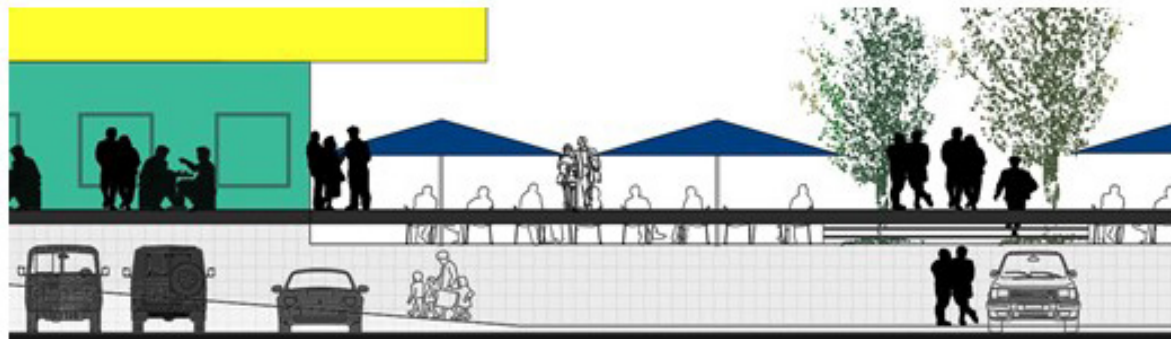
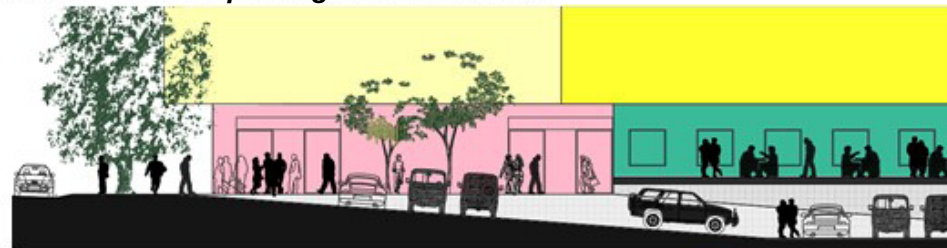
Detailed view of section



Figure 72. Possible design configurations for the Lussiano site. Commercial edges encourage people to gather along the sidewalk, while landscaping and outdoor furniture prompt visitors to spend time outdoors on the site.



Detailed view of parking access



Concept of parking under public terrace

Figure 73. Section A-A' shows the possibility of accommodating parking for residents of the mixed use development project. Parking could be placed along the backside of parcels facing Broadway and Lussiano Field, allowing the public to access the field without passing through a parking lot.

PUBLIC SPACE DESIGN PRINCIPLES

A well-maintained public space is not only inviting for people but serves as a message about the dedication of the local community to a certain quality of life. Town officials should consider the following points regarding Lussiano Field:

- Users should be able to easily navigate any public space. Currently, the park maintains clear visual lines from the side streets but it does not necessarily integrate with the surrounding neighborhood. There are no signs or elements that provide information about the park, and nothing on Broadway indicating that the park exists.
- This public space is directly adjacent to the busy Broadway roadway. The development of Lussiano Field should go hand in hand with streetscape improvements and allow for uninterrupted pedestrian traffic across Broadway while slowing down any car traffic. Given the idea of redeveloping the lots along Broadway and opening the park to the street, it is inevitable that visits to the park will increase. The Town should consider improvements to the bike and pedestrian infrastructure as well as better transit connections, so that most of the new traffic is done without cars.
- Arlington is a cycling community and Broadway itself is a fairly popular route (see Mobility section). Installing bike racks, combined with spaces to sit down, relax, and enjoy the view would be a good fit for the area.
- The field itself needs better lighting. Presently, it lacks both sufficient nighttime lighting and daytime shading, which contributes to its underutilization. After dark, it disappears even more into the neighborhood. We recommend using lighting that avoids contrasts between excessively bright and dark areas, and includes some ambient lighting in addition to floodlights for the sport fields.

Neighborhood Recommendations

- Activate the ground floor along Broadway, through improvements to the built environment and encouraging street-frontage retail spaces in new developments for restaurants and small businesses.
- Encourage temporary and tactical activation of the streetscape, such as parklets and street festivals.
- Activate Lussiano Field
 - Engage future developments to provide visual and physical access to the field from Broadway.
 - Change the zoning code of the lots to allow for greater density in return for more public space and amenities if developed together.
 - Create bike parking and public spaces, and renovate facilities.
 - Preserve and expand the existing tree canopy on the corridor.
 - Ensure that new construction responds to current and future climate hazards.

An aerial photograph of a suburban neighborhood. The scene shows a mix of residential buildings, including single-family houses and larger multi-unit structures. A prominent road runs diagonally through the center, with several intersections. Trees with autumn foliage are scattered throughout the landscape. The text 'V. CONCLUSIONS' is overlaid in large, bold, black letters across the upper portion of the image.

V. CONCLUSIONS

THE FUTURE OF THE BROADWAY CORRIDOR

The Broadway corridor needs a new vision to guide its evolution and help the entire neighborhood thrive. Our analysis and conversations with community members highlighted the need to rethink safety and walkability on the street, maintain a healthy housing supply in the surrounding neighborhoods, as well as improve and preserve the corridor's vibrancy and residents' quality of life. The recommendations we made to attain these goals are summarized below:

Mobility

Broadway as a street hosts many different modes of transportation—including auto, transit, bike, and foot travel—but has minimal infrastructure for bikes or transit. Additionally, many aspects of its existing pedestrian network are unsafe. We envision adding bike lanes on Broadway in both directions, using street space from a removed lane of on-street parking where necessary and appropriate along the corridor. For pedestrians, we recommend adding high-visibility upgrades to crosswalks at key intersections, which are mindful of school walking routes. New trees and sidewalk furniture would benefit pedestrians as well as bus riders waiting at stops. In the long term, communications with the MBTA and the city of Somerville are warranted. We recommend one intersection traffic study and one intersection redesign, to comprehensively address the safety and congestion problems borne by multiple modes of transportation at key nodes.

Housing

As Arlington prepares for growth envisioned in its Master Plan, and housing affordability in particular, zoning will remain a vital tool for the path forward.

Recent attempts to amend zoning bylaws, however contentious they have proven to be, present an opportunity to examine how growth can be fostered with full consideration of the needs of current residents. Moreover, while more recent projects to increase the housing stock have rightfully targeted the concerns of low-income residents, future efforts should also seek to increase available housing for middle-income residents who may also find it difficult to afford existing market prices in Arlington.

We recommend that the Town leadership continues to plan for increased density through zoning changes, but keep an eye on how future climate changes might impact development patterns. The Town already has tremendous assets that can be leveraged to meet the goals outlined in its housing production plan. This planning study has targeted the Lahey Building as a potential site of intervention. However, the town should target broader zoning revisions to increase density along the corridor.

Neighborhood Vibe

The residential feel of the neighborhood surrounding Broadway is beloved by its residents, but locals want to see more amenities along their main thoroughfare. We recommend redesigning the streetscape to get people out of their cars, onto the sidewalks and into local businesses.

We believe that new businesses established along the corridor could function as useful community amenities for locals, informing our recommendations to encourage redevelopment of underutilized space along the street. This report re-envision parcels currently adjacent to Lussiano Field as a core community gathering space contributing housing variety, providing new retail space, and creating an outdoor living area for the entire neighborhood to enjoy.

Our recommendations do not embody a comprehensive neighborhood plan, but rather an ambitious end-state-driven vision for the Broadway community and Town planners upon which to build in the future. Some ideas may be manifested in near-term pilot projects, while others may need more study and political finesse. We were impressed by the level of community engagement and interest in this neighborhood study, and hope that the Town will adopt some of the community's requests as new neighborhood improvement projects.



An aerial photograph of a city area, likely Boston, showing a mix of urban and green spaces. A prominent yellow diagonal line runs from the top left towards the bottom right. Along this line, there are several rectangular areas highlighted in orange and purple. In the top left, there is a large green field. In the bottom right, there is a large building complex. The background is a faded aerial view of the surrounding city.

Lussiano Field

Broadway

Silk St.

Lahey
Building

References

- Arlington Redevelopment Board, and RKG Associates Inc. "Arlington Master Plan." Arlington, Massachusetts, 2015. <https://www.arlingtonma.gov/home/showdocument?id=24289>.
- Cabrera, Lauren. "Arlington Tree Inventory Project." Arlington, Massachusetts: Boston University, n.d.
- Dain, Amy. "The State of Zoning for Multi-Family Housing In Greater Boston." Boston, MA: Massachusetts Smart Growth Alliance, June 2019. https://ma-smartgrowth.org/wp-content/uploads/2019/06/03/FINAL_Multi-Family_Housing_Report.pdf.
- Fleming, Ronald. "Questions to Ask a Space." Places 6, no. 4 (1990). <https://placesjournal.org/assets/legacy/pdfs/questions-to-ask-a-space.pdf>.
- Greenhalgh, Nick. "Arlington Food Pantry Lands Home in Planned Affordable Housing Building." Wickedlocal.Com, June 16, 2016. <https://arlington.wickedlocal.com/news/20160616/arlington-food-pantry-lands-home-in-planned-affordable-housing-building>.
- Lefferts, Jennifer Fenn. "Arlington Considers Zoning Changes to Boost Affordable Housing." The Boston Globe, April 18, 2019. <https://www.bostonglobe.com/metro/globalocal/2019/04/19/arlington-considers-zoning-changes-boost-affordable-housing/jSbR2eLcUQdgez77Vk4knL/story.html>.
- MA Climate Change Clearinghouse. "Rising Temperatures." Accessed September 18, 2019. <http://www.resilientma.org/changes/rising-temperatures>.
- Marshall, Wesley E., and Nicholas N. Ferencak. "Why Cities with High Bicycling Rates Are Safer for All Road Users." Journal of Transport & Health 13 (June 1, 2019): 100539. <https://doi.org/10.1016/j.jth.2019.03.004>.
- MBTA. "Better Bus Project." Accessed December 27, 2019. <https://www.mbta.com/projects/better-bus-project>.
- Metropolitan Area Planning Council. "MetroFuture: Making a Greater Boston Region." Boston, MA, 2018.
- Metropolitan Area Planning Council, JM Goldson, and Town of Arlington. "Arlington Housing Production Plan." Arlington, Massachusetts., 2016. <https://www.arlingtonma.gov/home/showdocument?id=30611>.
- "Questions to Ask a Space [Speaking of Places]. Pdf." Accessed December 30, 2019. <https://placesjournal.org/assets/legacy/pdfs/questions-to-ask-a-space.pdf>.

Town of Arlington. "Notice of Intent for Coverage for Small MS4 General Permit." Accessed September 18, 2019. <https://www3.epa.gov/region1/npdes/stormwater/ma/tms4noi/arlington.pdf>.

— — —. "Town of Arlington Website." Accessed December 27, 2019. <https://www.arlingtonma.gov/>.

— — —. Town of Arlington Zoning Bylaw (2019). <https://www.arlingtonma.gov/home/showdocument?id=43413>.

Town of Arlington, and Gamble Associates. "Design Standards for Town of Arlington." Arlington, Massachusetts, 2015. <https://www.arlingtonma.gov/home/showdocument?id=45347>.

Town of Arlington, and Klienfelder. "Community Resilience Building Workshop: Summary of Findings." Arlington, Massachusetts.: Department of Planning and Community Development., 2018.

US EPA, OAR. "Learn About Heat Islands." Overviews and Factsheets. US EPA, June 17, 2014. <https://www.epa.gov/heat-islands/learn-about-heat-islands>.

Whyte, William H. The Social Life of Small Open Spaces. Conservation Foundation, 1980.

YourArlington.com. "Affordable Housing at Downing Square, Broadway Gets Funding." YourArlington.Com. March 3, 2019. <https://www.yourarlington.com/arlington-archives/town-school/development/15445-affordable-030119.html>.

