Building Booms on Belmont’s Border

Quadrangle Development Brings Traffic, Gridlock

By Meg Muckenhoupt

Since aggressively upzoning the Alewife area a decade ago, Cambridge has permitted hundreds of thousands of square feet of new development in the Quadrangle neighborhood adjacent to Belmont, and bordered by Fresh Pond Parkway, Fitchburg line railroad tracks—and Concord Avenue. Now, even more development could solve some long-standing transportation issues, or it could make getting out of Belmont or traveling around the entire Fresh Pond area even more difficult.

Why build in the Quadrangle now?

Unlike the rest of Cambridge, the Quadrangle has a history of sparse development. Originally one of the lowest-lying areas of the Mystic River watershed, it’s smack in the middle of what colonial-era maps labeled “The Great Swamp.” For much of the 20th century, the area was home to primarily industrial sites and “urban-edge” businesses which provide essential services that would disrupt residential neighborhoods: warehouses, truck-loading areas, supply depots, and parking lots. There were few sidewalks, fewer trees, and hardly any housing.

Part of the reason for little development, apart from marshy beginnings, is the lack of connections between the Quadrangle and the rest of Cambridge. The Quadrangle is bounded on the north by train tracks. All its roads empty onto Concord Avenue. The lack of connections across the tracks and Alewife Brook Parkway turns what should be brief trips to grocery stores, restaurants, and the Alewife T stop into lengthy expeditions, whether you choose to walk, bike, or drive. (Current development of 55 Wheeler Street is supposed to provide pedestrian and bike connections between Fawcett and Wheeler Streets, which will shorten the trip to Alewife Brook Parkway.)

The 2005 Concord Alewife Plan Report divided the Quadrangle into three zones—residential, mixed use, and mixed use/light industrial. The city of Cambridge sought to increase the amount of housing and resident-friendly businesses by splitting the area into four overlay districts: Quadrangle Northwest, Northeast, Southwest, and Southeast.

In 2006, Cambridge rezoned the entire Quadrangle, along with the Triangle (the area between the railroad tracks and Alewife Station)
and the “Shopping Center” (the area along Alewife Brook Parkway) creating a total of six Alewife Overlay Districts (AOD).

The four Quadrangle overlay districts (Northwest, Northeast, Southwest, and Southeast) differ principally in two factors: Floor area ratio (FAR). This is the ratio of built space to the area of the building lot. For the Quadrangle Northwest and Northeast districts, the maximum FAR is 1.5 for all uses. In the Southwest and Southeast districts, the maximum FAR is 1.5 for nonresidential uses, and 2.0 for residential uses—encouraging denser development of housing.

The Northwest and Northeast overlay districts also restrict building heights near the Cambridge Highlands neighborhood, Russell Park, and Blair Pond. Any portion of a building within 100 feet of residential or open space zoning is restricted to 35 feet; within 200 feet of that zoning, the building is limited to 45 feet.

Runaway success, runaway traffic

The 2005 Concord Alewife Plan Report predicted a surge in new development in the Quadrangle area in Appendix C, “Anticipated and Development: Predicted & Proposed Zoning.” Unfortunately, that report didn’t anticipate just how popular the area was going to be.

In the past 10 years, developers have built 588 housing units and more than 683,067 square feet of housing, commercial, and retail space in the Quadrangle area. Buildings currently under construction, permitted, or proposed would bring total housing units to 1,816 and increase total construction to 2,623,250 square feet.

Those numbers matter because Cambridge has been slow to acknowledge just how fast the Quadrangle has been developing, or the traffic impacts of Quadrangle development. The 2019 Alewife District Plan states, “Based on an analysis of building trends in Alewife, roughly 60% of the total projected development in the Quadrangle may be realized by 2030,” but as of 2020, developers have already built 20% more square footage than the total predicted build-out. A May 2018 presentation by the Alewife District Plan Committee predicted an additional 725 housing units at 60% build-out of the Quadrangle by 2030, but 1,267 new housing units already have either been built, are under construction, or been permitted for the area.

That’s a lot of people traveling to work each day. According to the 2019 Alewife District Plan, 53% of Cambridge residents living in and around Alewife commute by car. All the new car trips from the Quadrangle must end up on Concord Avenue.

In 2016, the city’s Envision Cambridge Alewife Working Group published an analysis of the Quadrangle’s intersections at Concord Avenue, to see how many cars could fit through the intersections before traffic came to a standstill. Intersections at Fresh Pond with 1,500 or fewer vehicles per hour can allow motorists to get through intersections in two light cycles or fewer: with more than 1,500 vehicles per hour, traffic begins to “deteriorate exponentially.”

According to that 2016 analysis, the intersection at Fawcett Street and Concord Avenue would exceed those numbers by 2030 under the proposed Envision Cambridge Plan. That exponential traffic deterioration may happen much sooner.

A 2017 traffic analysis of just one Quadrangle development site—55 Wheeler Street, where Abt Associates is building 525 units of housing and 448 parking spaces—was predicted to produce “added delay of more than 20 seconds” at both Fawcett and Wheeler Streets during rush hours, dragging down both intersections to an “F” level of service, with wait times of more than 120 seconds per car at both intersections along Concord Avenue. That’s just for one development, where planners optimistically estimated only an additional 58 to 62 car trips per hour.
Alewife District Plan envisions a pedestrian/bicycle bridge. swooping green space ending at Wheeler Street, where the Envision Cambridge's 2019 Alewife District Plan. Note the Detail of illustration of potential green space connections from driving around Alewife. The 55 Wheeler Street waiting? 480? Gridlock? planned. What will the state's standard be for construction, and an additional 549 are already 2020 design update.) Another 144 units are already under construction, and an additional 549 are already planned. What will the state's standard be for worse-than-"F" intersections? 240 seconds waiting? 480? Gridlock? Certainly, there could be alternatives to driving around Alewife. The 55 Wheeler Street development is supposed to include a pedestrian pathway to connect Wheeler Street to the shops and restaurants along Alewife Brook Parkway. The many visions for greenways wending through the Quadrangle would make biking and walking attractive and convenient. Unfortunately, these greenways don't exist yet. And some of them may never exist if the current owners of 15.9 acres of the Quadrangle have their way. Cabot, Cabot & Forbes (CC&F) purchased 11.9 acres of the Quadrangle along Mooney Street in 2018, and an additional four acres at 67 Smith Place in October 2020. Now, CC&F has asked Cambridge’s Planning Board to rezone 26 acres of the Quadrangle, comprising the Northwest quadrant plus a good chunk of the Southwest, to allow 85-foot-high commercial buildings. In exchange for the rezoning for 85-foot buildings and a .25 ratio increase in the FAR, CC&F says it will build a bridge across the railroad tracks. In most communities, rezoning a parcel primarily owned by a single developer would be “spot zoning,” which is illegal in Massachusetts. It’s outlawed because the zoning existed for a reason. A developer’s short-term interests in maximizing profits often don’t mesh with community interests in good traffic flow, access to transpor-}

### Predicted vs. actual development in the Cambridge Quadrangle

<table>
<thead>
<tr>
<th>Square feet of development</th>
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<tbody>
<tr>
<td>Predicted s.f.</td>
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<tr>
<td>1,175,493</td>
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### Number of housing units

<table>
<thead>
<tr>
<th>Predicted #</th>
<th>Built as of 2020</th>
<th>Permitted/ under construction</th>
<th>Proposed</th>
<th>Total built/permitted/proposed</th>
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<tbody>
<tr>
<td>725</td>
<td>588</td>
<td>679</td>
<td>549</td>
<td>1,816</td>
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during morning and evening rush hours in their 2017 application narrative, due to Wheeler Streets proximity to the T. (The “proximity” in the 2017 design depends heavily on a “potential bike/pedestrian connection” to the as-yet-unplanned bridge; that feature remains on the 2020 design update.)

Another 144 units are already under construction, and an additional 549 are already planned. What will the state’s standard be for worse-than-“F” intersections? 240 seconds waiting? 480? Gridlock?

Certainly, there could be alternatives to driving around Alewife. The 55 Wheeler Street development is supposed to include a pedestrian pathway to connect Wheeler Street to the shops and restaurants along Alewife Brook Parkway. The many visions for greenways wending through the Quadrangle would make biking and walking attractive and convenient. Unfortunately, these greenways don’t exist yet. And some of them may never exist if the current owners of 15.9 acres of the Quadrangle have their way. Cabot, Cabot & Forbes (CC&F) purchased 11.9 acres of the Quadrangle along Mooney Street in 2018, and an additional four acres at 67 Smith Place in October 2020. Now, CC&F has asked Cambridge’s Planning Board to rezone 26 acres of the Quadrangle, comprising the Northwest quadrant plus a good chunk of the Southwest, to allow 85-foot-high commercial buildings. In exchange for the rezoning for 85-foot buildings and a .25 ratio increase in the FAR, CC&F says it will build a bridge across the railroad tracks. In most communities, rezoning a parcel primarily owned by a single developer would be “spot zoning,” which is illegal in Massachusetts. It’s outlawed because the zoning existed for a reason. A developer’s short-term interests in maximizing profits often don’t mesh with community interests in good traffic flow, access to transpor-

## Cambridge’s contract zoning habit

The city of Cambridge justifies spot-zoning to suit developers by calling it “contract zoning.” In contract zoning, developers get to build much more densely in exchange for providing some kind of public amenity. In a letter to Cambridge Day, Cambridge resident and one-time City Council candidate Ilan Levy described how the MIT Investment Management Company (MITIMCo), the investment arm of MIT, bought 10 acres of land at a Kendall Square site for $750 million. In exchange for promising to replace a Department of Transportation building for $500 million, the Cambridge Planning Board extended the maximum building height from 85 feet to 300 to 500 feet for MITIMCo’s five planned towers. $500 million is a small price to pay for increasing the square footage of your development by up to 600%—and local residents and commuters will be paying the price for decades in clogged streets, Red Line delays, long shadows, and winter wind tunnels. Taken together, the dense buildings planned for Kendall Square are predicted to consume 100 megawatts of electricity, doubling Cambridge’s city-wide electrical consumption. They will also require a new electrical substation in a densely populated area.

In the case of CC&F, the public amenity in question is the bridge. Cambridge has been wishing for a bridge at least since the city published its Alewife Revitalization Plan in 1979, but never dedicated money to actually building it. At a December 8, 2020, meeting of the Cambridge Planning Board, CC&F presented its plan for building that bridge—and rezoning the area for 85-foot-high commercial buildings, not 55 feet.

CC&F’s plan is great for CC&F. It will double the amount of office and lab space it can build, adding two more floors above the currently allowed 20-foot “light industrial” first story and two floors of commercial space. And it does call
The council also asked DePasquale to look into exploring the feasibility of conducting a transit shuttle bus bridge from the Quadrangle to Kendall Square, it’s hard to believe that the current plan to put a shuttle bus access to the bridge, anyone who cannot move up to a mile under their own power will end up driving, or taking a Lyft, Uber, or bus on Concord Avenue—where traffic will already be at a standstill. CC&F offered even more troubling changes to their rezoning scheme in a December 4 revision to the rezoning petition, adding language to allow developers to contribute to a fund for the bridge instead of building it or designing their properties to accommodate it, with no mention of timing of these payments and no requirement for shuttle access. The bridge could simply be “delayed” for another 40 years. As of this writing, the Cambridge City Council has not adopted the 2019 Alewife District Plan and its vision of a “cohesive mixed-use district” that will “enhance the public realm,” and encourage sustainable modes of transportation. Unfortunately, that allows developers to come to the planning board with zoning changes that are incompatible with that plan, like the CC&F proposal. CC&F has not even submitted an application for a building permit. Presumably they are waiting until the zoning changes. Given Cambridge’s pro-growth approach to Kendall Square, it’s hard to believe that the city will discourage maximum build-out at the Quadrangle. The consequences may be overwhelming for Belmont. “If you snapped your fingers and the [CC&F upzoning] project were done, finished today, you would not be able to drive on Concord Avenue,” said Doug Brown, an officer of the Fresh Pond Residents’ Alliance.

Meg Muckenhoupt is executive editor of the Belmont Citizens Forum Newsletter.

**Bikeway Building Booms Beyond Belmont**

*By John Dieckmann*

In January, biking might not be on too many people’s minds, but with spring only a couple of months away, this seems like a good time to take stock of the regional rail trail network. The Belmont Community Path is a short but essential link in the long distance Mass Central Rail Trail (MCRT), which connects to several other rail trails in its 104 miles from Northpoint Park in Cambridge, near the Science Museum, westward all the way to Northampton. This update covers the roughly 30 miles of the MCRT and connecting trails inside I-495. Near I-495, in Hudson, the MCRT connects with the Assabet River Rail Trail, and runs eastward 16 miles to the Weston-Waltham town line. Passing through Sudbury, the MCRT crosses the Bruce Freeman Rail Trail (BFRT). The partially complete Bruce Freeman Rail Trail will eventually span the distance from from Sudbury to Lowell and also extend south to Route 9 in Framingham.

At Alewife Station, the MCRT connects to several trails: the Minuteman Bikeway, the Alewife Greenway, and the Watertown-Cambridge Greenway. The last of these will connect to the Paul Dudley White Path along the Charles River when construction is completed in 2021. Closer to Boston, near a future Somerville Green Line Extension Station, the MCRT will eventually connect to the Northern Strand Community Trail. Also known as the Bike to the Sea trail along the former Saugus Branch Railroad, this section runs through Everett, Malden, Revere, Saugus, and Lynn, ending at the Lynnway, near Nahant Neck.

Here are the details on all these trails, starting with the MCRT.
2. Phase 2 covers the western portion, from Belmont Center (Clark Street to be precise) to the Waltham town line, a few hundred yards west of Lexington Street. Phase 1 covers the eastern portion, from Clark Street to the existing Fitchburg cut-off path at Brighton Street, and includes a pedestrian tunnel under the commuter rail tracks behind the high school. The detailed design of Phase 1 is fully funded and the project was awarded to Nitsch Engineering. Last July, Nitsch reached the milestone of completing the draft 25% design. Comments have been received and design adjustments have been made. The next step is to formally submit the 25% design to MassDOT (Department of Transportation) for approval. When MassDOT approves the design, the project will be eligible to be submitted to the Boston Region Metropolitan Planning Organization for federal and state funding for construction. After that the detailed design needs to be completed. Finishing construction and opening the trail don't have a firm timeline, but four or five years from now is probably realistic. Starting the Phase 2 detailed design will likely wait until the Phase 1 detailed design has been completed.

East of Belmont, the MCRT follows the completed Fitchburg cut-off path to Alewife Station, then the Linwood Park path to Davis Square in Somerville and the Somerville Community Path, which is now complete to Lowell Street. The final leg of the Somerville Community Path to Northpoint Park, Cambridge, is being constructed as part of the Green Line Extension. It is expected to be complete next autumn.

Weston-Waltham

West of Belmont, the next four miles of the MCRT pass through Weston. The detailed design of the three-mile portion between Beaver Street and Main Street is ready complete and ready to go out to bid for construction, which Waltham will pay for with Community Preservation Act funds. Construction could start in summer 2021 and be completed in 2022. Two Waltham portions remain unconstructed: a half-mile stretch from Main Street to the Weston town line, and a three-quarter-mile stretch between Beaver Street and the Belmont town line. Higher priority might go to the connection with Weston, because it is easier and construction of the MCRT is complete in Weston.

The next stretch of rail trail in the towns to the west shares a right of way (ROW) with an Eversource electric power transmission line. Fortunately, Eversource has been willing to construct the trail as a means to provide vehicular access for maintenance of its transmission line. Eversource constructed the trail to the level of a gravel roadway, and the Department of Conservation and Recreation (DCR) found the funds to pay for paving. Five miles of the MCRT have been open for more than a year through all of Weston, and into Wayland as far as Russell’s Garden Center on Route 20. Eversource plans to continue the transmission line and the trail through the rest of Wayland, all of Sudbury, and into Hudson as soon as legal challenges to the transmission line are resolved, bringing the MCRT close to I-495.

Bruce Freeman Rail Trail

Advocacy for the first-rate Bruce Freeman Rail Trail (BFRT) dates back to 1986. The trail boasts a high quality paved surface, well-designed road crossings, excellent signage, and amenities like port-a-potties, mile markers, and benches.

The BFRT follows the abandoned ROW of the Framingham-Lowell branch of the Boston and Maine Railroad. Phase 1, open since 2009, runs from the Cross Point parking lot in Lowell south for 6.8 miles to the Acton-Westford line at Route 225, a few yards East of Route 27. Phase 2, which is mostly open, continues through Acton-Concord-Sudbury. Phase 3, which has yet to be built, runs from Station Road in Sudbury, where it crosses the MCRT, for 1.4 miles to the Framingham line and another 5 miles in Framingham to Route 9. Phase 2B, the Route 2 overpass, is currently under construction and is expected to open in the late spring or early summer, at which point BFRT Phases 1, 2A, 2B, and 2C will be complete, running continuously for 15 miles, from Cross Point in Lowell to the Concord-Sudbury town line. Phase 2D and Phase 3 in Sudbury are in process. The 25% design for Phase 2D (Concord town line south to Station Road in Sudbury) was approved by Mass DOT this past August. A design contractor for completion of the detailed design is in the process of being selected, and the design should be complete by fall 2022 to stay on the current TIP schedule for construction funding. In a November 3, 2020, referendum, Sudbury voted overwhelmingly to approve purchasing the 1.4 miles of right of way corridor between Station Road and the Framingham line. The schedule for design and construction has not been established yet.

In Framingham, the 4.8 mile ROW is owned by CSX railroad, which wants to abandon and sell the corridor. Framingham recently adopted the Community Preservation Act, which should provide the funds needed to acquire the ROW. The overall timing is to be determined, but will be later than the completion of the BFRT in Sudbury.

Assabet River Rail Trail

The Assabet River Rail Trail (ARRT) has two completed, paved sections: six miles open since 2005 in Marlboro and Hudson, and four miles since 2018 in Maynard and Acton. Between these two sections are four miles in Stow, of which the 1.9 miles closest to Maynard is a gravel road, called Track Road, that runs along the Assabet River and is passable and open to cyclists and pedestrians. The other two miles of the right of way are in private hands, and it will be some time before this stretch becomes available. While this section can be bypassed on Sudbury Road and Route 62, neither is particularly bike-friendly.

Minuteman Commuter Bikeway (and Western Extensions)

Close to home is the familiar Minuteman Commuter Bikeway, the bike trail that runs...
from Alewife Station to Bedford Depot. It has been open since the early 1993 and one of the most heavily used rail trails in the United States. Less familiarly, extending from the Bedford Depot end are the Narrow Gauge Trail and the Reformatory Branch Trail. The Narrow Gauge Trail reaches Billerica, and may in the future provide a connection via the Concord River Greenway to the Bruce Freeman Rail Trail in Lowell. The Reformatory Branch runs toward Concord and may in the future provide a connection to the BFRT in West Concord.

Watertown-Cambridge Greenway

The Watertown-Cambridge Greenway will connect the Charles River Greenway to the trails radiating from Alewife Station. The section from Nichols Avenue to School Street has been open since 2011, and the segment along the Fresh Pond Parkway side of the Fresh Pond Reservation has also been open for some time. Continuing toward Watertown, from Huron Avenue in Cambridge to Nichols Avenue in Watertown, construction is underway and should be completed in summer 2021. From Concord Avenue to the Fitchburg commuter rail line, the city of Cambridge owns the abandoned right of way immediately behind the Fresh Pond Mall. The city plans to extend the greenway over this corridor. Funding for the design is in hand, and construction is underway and should be completed in summer 2021.

Northern Strand Community Greenway

The Northern Strand Community Greenway has been a work in progress for close to three decades. Bike to the Sea has tirelessly advocated since 1993 for the trail to be developed over the right of way of the Saugus Branch railroad, which ended passenger service in 1958 and ceased operation altogether in 1993. Currently the trail runs roughly northeast for 10 miles between Wellington Street in Everett (a few hundred yards north of Route 16) and the Lynnway. Paving was completed in Everett and Malden by late 2013, with construction (primarily final paving) in Lynn and Saugus still ongoing in several segments. All of this construction is on track to be completed by summer 2021. In Everett and Malden, the trail is very urban, running though industrial, commercial, and dense residential areas. Moving east into Revere, Saugus, and Lynn, the territory is a combination of suburban and open parkland, much of it saltwater marshes. The Lynnway end is close to Nahant Neck and some nice beaches. Figure 6 is a photo taken close to the Everett trail head, looking south toward the Encore casino.

In the future, the trail will be extended from the Everett trail head south to the Mystic River just west of the Encore Casino along a clear right of way. Further into the future, a bike and pedestrian bridge is planned for the Mystic River, and the trail will extend to Assembly Row in Somerville for a close connection with the MCRT near the planned Gilman Square Green Line Station.

Belmont Traffic Committee Chair Tells All

By Sumner Brown

Dana Miller chairs Belmont’s Transportation Advisory Committee. She has been a member of the Traffic Advisory Committee, the predecessor to the Transportation Advisory Committee (TAC), since 2009. I talked with Miller in November 2020. This interview has been edited for length and clarity.

BCF

The name of your committee changed from Traffic Advisory Committee to Transportation Advisory Committee. Why?

Miller

The Select Board changed the committee name in 2019 to make clear that the committee’s responsibilities encompass safety for pedestrians and those on bicycles, as well as those traveling in vehicles.

BCF

Who are the members of TAC? Do they have transportation credentials?

Miller

We are eight Belmont residents. We are volunteers. We are not transportation professionals. We represent Belmont residents in discussions with town staff experts, including Glenn Clancy, our town engineer and the director of community development; Jay Marcotte, director of public works; representatives from the police and fire departments; and any transportation and/or traffic consultants that the town engages for our initiatives. The town staff and consultants bring to our efforts their expertise in engineering, state regulations, and law as these relate to our work.

Some committee members have particular interests. Jessie Bennett, committee vice chair, has worked with the Safe Routes to School program and is very intuitive about the challenges facing pedestrians. Because of his long service in the Belmont Police Department as a crossing guard and in parking enforcement,
Most people want to limit this cut-through traffic without inconveniencing themselves, but there are usually tradeoffs to be made when considering traffic-calming measures. Because we cannot implement traffic restrictions that exempt local residents, when we restrict movement onto a road, for instance, this affects all drivers, including the residents of that road. Residents should weigh the net benefit of the possible traffic-calming changes by considering both the possible inconvenience to neighborhood residents of such traffic restrictions and the possible improvements—in pedestrian and bicyclist safety, the residents’ ability to enter and exit their driveways, and quality of life more generally—that might result from diminished traffic speed and volume.

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People tend to focus on the problems on their own street and don’t always consider the possible effects that changes to their street might have on other streets. That is one reason that we have a town-wide Transportation Advisory Committee which is charged with considering the implications of proposed changes to our streets for all residents, in all neighborhoods.

Residents sometimes request signage to restrict turns onto their streets. Some people have asked that the town post lower speed limits or install stop signs, but such changes cannot be made at the town’s discretion. The use of speed limits and stop signs is governed by state regulation and law.

The town’s approach to finding traffic-calming solutions involves triangulating between the neighbors’ interests, good engineering practice that is consistent with state and federal laws and guidelines, and Belmont’s budgetary constraints.

Data for the graph below came from hand counting done by Sumner Brown with a clipboard, pencil, paper, and watch. These data show that traffic on Rutledge Road has gone down during the COVID-19 epidemic. The traffic measured for this graph is judged to be mostly cut-through because it was turning right at the western end of Rutledge Road to leave Belmont during the evening rush. While we have enjoyed lighter traffic, our traffic mitigation efforts have been halted because we can not measure the effect of cut-through traffic while traffic is abnormally light.

To assess cut-through traffic, Belmont measures traffic with technology in a box. The box is attached to thin tubes that sense tires rolling over them. A box can sit beside a road for days measuring vehicle speeds and counting traffic in two directions. If peak traffic for any one hour exceeds 10% of average daily traffic per hour, the town considers that cut-through traffic bad enough to merit mitigation. The town also measures traffic post-mitigation to see if traffic counts were actually reduced.
The other speed table caused confusion for pedestrians and drivers moving toward the path of cars that had slowed in their approach to the speed table. Pedestrians and other drivers wondered if the cars slowing in approach to the speed table did so to allow the pedestrians and other drivers to cross the cars’ path safely, or if the cars were slowing only to traverse the speed table.

With increasing budgetary constraints, the town focuses on traffic-calming measures that are most cost-effective. Signage and road markings are less costly to install and maintain than are three-dimensional road elements like speed tables which require annual maintenance.

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When traffic increases again, we will take measurements on Rutledge Road to determine the effects of our efforts to mitigate the cut-through traffic on that street. We invite residents to communicate with the committee and the town engineer about their experience of the traffic calming measures that are implemented. If neighbors have concerns, follow-up hearings can be scheduled and additional changes can be considered.

Often, the initial traffic-calming change yields an improvement in the volume and speed of traffic on the street. Sometimes we need to consider additional changes. The committee doesn’t view its work as a once-and-done effort, but as an ongoing dialogue with residents.

Summer Brown is a director of the Belmont Citizens Forum

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Part of map of Lone Tree Hill showing mapped areas and their rating for density of invasive species. Area A1 is in the upper right.

Committee Battles Invasives at Lone Tree Hill

Long Campaign for Restoration Commences
By Jeffrey North

On November 3, field technicians engaged by the Land Management Committee for Lone Tree Hill (LMC) and the Judy Record Conservation Fund began a multi-year campaign to restore select parcels of the Lone Tree Hill conservation land. This initial project focused on invasive plant removal at Area A1, where horticulturists from Parterre Ecological Services began restoration of the shrub layer by hand-cutting the bittersweet vines that were smothering the largest trees and employing a forestry mower to cut down the buckthorn and multiflora rose.

Lone Tree Hill—like public, private, and protected lands elsewhere—is gradually being overrun by invasive non-native plant species. These insidious foes have the assured destructive capability to dramatically reduce the tree canopy, overrun the native shrub layer, change the chemistry of the soil, and reduce biodiversity as the aesthetic value of the property is likewise degraded. (See “Committee Plans Lone Tree Hill Restoration,” Belmont Citizens Forum Newsletter, July/August 2020.)

The plan includes a mapped, prioritized inventory of invasive plants at sites across the property and more than 25 projects for removal and replanting, each with recommendations for initial treatment and ongoing maintenance. The strategy for the restoration of LTH has been documented in the Invasive Plant Management and Native Plant Restoration Plan study by Parterre Ecological Services which was presented to the LMC in May 2020.

With matching support from the Judy Record Conservation Fund, the LMC has embarked on an ambitious plan to restore the conservation land and continue the work of Judy Record and a committed group of Belmont citizens that began even before the town acquired the 113-acre property from McLean Hospital more than 20 years ago. (See “A Tribute to Judith K. Record’s Legacy,” Belmont Citizens Forum Newsletter, January/February 2016.)

Area A1: Overwhelmed

Area A1 is the parcel that is deemed the highest priority for invasive plant species treatment at LTH because it contains the densest populations of invasive plants. Species ranging from impenetrable multiflora rose (Rosa multiflora), tree of heaven (Ailanthus altissima), thick oriental bittersweet vines (Celastrus orbiculatus) to patches of glossy buckthorn (Frangula alnus) have overwhelmed the native plant community, which will continue over the next two to three years. Native tree species in the area include ash, hickory, black cherry, hazelnut, sugar maple, dogwood, bigtooth aspen, sumac, and catalpa. These trees are presently adorned with red ribbons to indicate their preservation.

Next steps

This campaign could eventually move across the land to protect the red maple wetland brook and the diverse mix of summersweet and highbush blueberry bushes, as well as tree species including green ash, hazelnut, bitternut hickory, Norway spruce, silver and sugar maples, Eastern red cedar, bigtooth aspen, black cherry, and white, red, and pitch pines.

After forestry mowing of Area A1, the recommendation is to seed the area with meadow plants and replant it with native shrubs. The vegetation in the surrounding area can indicate what plants will colonize the newly disturbed area. But the war will go on.

We expect to see the aggressive invaders colonizing the new open space. Ideally, these plants should be removed. To prevent their encroachment, we should sow the sunny open spaces with a native annual cover crop. With monitoring, we should be able to assess which areas of the site will be most effectively restored with either natural regeneration (allowing nature to choose what springs up and succeeds unaided), or various degrees of assisted regeneration (actively cultivating and promoting selected plant species by seedling, planting and cultivation of chosen plant species).

Reasons for herbicide use

The work remaining on the current project in Area A1 includes two foliar herbicide applications to be applied in early 2021 by licensed technicians trained in plant identification. These treatments will greatly retard growth of sprouting invasive plants.

The decision to use herbicide was carefully weighed by considering multiple factors, such as the density of invasive plants (high) and strength of the seed bank (high), the likelihood of plants resprouting from roots left in the ground during manual removal (certain), the cost of alternative methods (very high), damage to soil structure and nutrients by manual methods (certain), and the size of the area (large).

Short-lived systemic herbicides carefully and selectively applied will kill the invasive plants above ground and at the roots, preventing the need to dig deep into the soil, which can encourage the invasive seed bank to germinate. After one or two seasons of management, the

In the Invasive Plant Management and Native Plant Restoration Plan, horticulturalists recommend that Area A1 be cut by a forestry mower and later replanted (manually or naturally) with native shrubs and trees. This 100,000 square foot forested area is not being clear-cut. Native trees have been flagged for preservation and possible seed collection for the replanting effort which will continue over the next two to three years. Native tree species in the area include ash, hickory, black cherry, hazelnut, sugar maple, dogwood, bigtooth aspen, sumac, and catalpa. These trees are presently adorned with red ribbons to indicate their preservation.
soil can be seeded with a native cover crop, and restoration with native plants can move forward. We want to have a rapid, decisive impact in moving Lone Tree Hill back to a healthy native plant community. Selective foliar herbicide application with a backpack sprayer in densely invasive areas, and cut stump treatment of individual sprouts with a brush or glove in moderately dense areas are the least costly, most effective means to convert Area A1 to a native plant community.

For more information on invasive plant treatment, see bit.ly/BCFUNHinvasives.

The Land Management Committee for Lone Tree Hill is deeply grateful to the trustees of the Judy Record Conservation Fund for their continuing support of the maintenance and improvement of this valuable and treasured conservation land.

The author wishes to acknowledge the generous assistance, observations, and field notes of Gabriel Siegel, MCH, Crew Leader; and Miles Connors, MALD, MCH; Director, Parterre Ecological Services.

Jeffrey North is the ex-officio Belmont Conservation Commission representative on the Land Management Committee for Lone Tree Hill.

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**Rock Meadow Design Wins International Award**

The Town of Belmont and the Belmont Conservation Commission congratulate Northeastern University Civil and Environmental Engineering graduates Samantha Kinnaly, Kate Engler, Annie Lamonte, and Emma Totsubo on the recent awards for their design of the main entrance and green infrastructure stormwater management at Belmont’s Rock Meadow conservation area. The project was developed during the spring 2020 capstone course under the supervision of Professor Annu Le-Hayden of the Civil and Environmental Engineering department in partnership with the Belmont Conservation Commission. (See “New Rock Meadow Parking Plan Proposed,” Belmont Citizens Forum Newsletter, May/June 2020.)

Their project won first place in the Water Environmental Design division of the New England Water Environment Association Student Design Competition, and went on to place second in the International Water Environment Federation Student Design Competition, where the team competed against entries from 28 universities in five countries.

The team’s design provides a 117% increase in parking capacity, a vegetated filter strip to treat the stormwater runoff from the driveway, and a bioswale and rain garden for filtering the stormwater runoff from the parking lot. Detailed grading plans reduce the driveway slope and direct stormwater runoff to the green infrastructure for treatment and infiltration. The team developed the technical specifications for the green infrastructure features that were first proposed in the Rock Meadow Master Plan, another “gown and town” project completed by ecological design graduate students at The Conway School in 2018.

— Jeffrey North

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**Historic Reischauer House Demolished**

By Gary Wolf, FAIA

Belatedly learning of the demolition of the Edwin O. Reischauer Memorial House in Belmont was disappointing on two counts. First, because the residence/cultural center was under my radar. I had not known about it, even though my architectural practice was based in Belmont for four years, and I have worked on such nearby local landmarks as the Belmont Woman’s Club’s William Flagg Homer House. And second, because not only have I been active in historic preservation, but, even more specifically, I’ve been an advocate for preserving “the recent past”—buildings like the Reischauer House that date from the mid-20th century and that may seem too young to be historic, even though they may already have a place in history.

The Reischauer House appears to have been historically significant as the home of the eminent scholar, ambassador and author Reischauer and Haru (a Japanese reporter and author) apparently designed together, which is said to have featured furnishings and memorabilia dating to their occupancy. A photo shows a two-part split-level house clad with dark-stained vertical siding, featuring an enormous chimney located across from the entrance. Its two-story block is topped with a low-pitched, overhanging gable roof that recalls the Techbuilt modular houses developed by architect Carl Koch following his legendary, early-modern experimental houses on Belmont’s Snake Hill Road.

This recent, unremarked demolition reminds us that it wasn’t many years ago in Belmont that the Belmont Hill School demolished the first modern house that was built in Massachusetts,
Concerns that decades of our history are being erased by demolition. Architecture, and preservationists have a legitimate challenge to preserve notable examples of such significance in the past 50 years. It remains a test of the provisions for buildings that have achieved significance. This is despite the fact that both the National Register of Historic Places and its Massachusetts equivalent make special provisions for buildings that have achieved significance in the past 50 years.

Nevertheless, some local residents appreciated the Reischauer house. A list of five “Points of Interest” for kids in Belmont can be found on the internet includes the Reischauer Memorial House as one of those select attractions (see kids.kiddle.co/Belmont_Massachusetts). And in 2012, the Belmont Citizens Forum and the Japan Society co-sponsored two visits to the house and the nearby Habitat Education Center and Wildlife Sanctuary. In invitations for the walks, the BCF noted that, aside from its connection with Reischauer, “it is the only private residence in the US where the Japanese Empress and Emperor ever spent a night and it is an intriguing attraction for Japanese and those interested in cross-cultural awareness.”

I regret never having visited the Reischauer House to learn its history and to assess its historic furnishings—and perhaps even the architectural drawings—have been preserved. Perhaps the lesson of the loss of these two houses is for residents to be alert to the continuing threats to the town’s 20th-century history, as well as to its earlier structures, and to take measures now to assess the buildings that remain in order to protect those deemed worthy of preservation.

Gary Wolf is the founding principal of Wolf Architects, Inc., in Boston, and the acting president of Docomomo/New England, the local chapter of an international organization that advocates for the preservation of modern architecture.

Belmont Roots
Environmental News, Notes, and Events
By Meg Muckenhoupt

Welcome to another year. We are still limited to mostly solitary entertainments—long walks and webinars—but there are still more places and topics to explore.

Are you sure you’ve actually walked everywhere you can? Several local communities have maps of cross-town walking trails that include parks, greenways, art installations, historical markers, and other sites. You can find town-wide walking maps for:

- West Cambridge: bit.ly/BCFWestCamWalks
- Waltham: walthamlandtrust.org/trail-guides
- Watertown: bit.ly/BCFWatertownWalks

And have you looked at everything? Yes, it’s cold, but most things that live outside around here don’t migrate for the winter. Trees can’t fly, and frogs can’t hop that far.

Mount Auburn Cemetery provides an online guide to its winter trees and shrubs (MountAuburn.org/media-archive/winter-interest-trees-shrubs-at-mountauburn/#more-160220), which are fairly obvious in the landscape. If that presentation inflames your desire for knowledge of winter trees, register for the Native Plant Trust’s winter botany class (Saturday, February 13, 10:30 AM–12:30 PM at Garden in the Woods, Framingham, $30 members, $36 nonmembers). You’ll learn basic pruning principles and the tools to use to slice open your greenery. Register at NativePlantTrust.org.

It isn’t just trees that stay still for the winter. The Native Plant Trust is also offering a class titled “Green in the Winterscape,” featuring both plants and not-plants that are green in the winter, including lichens, mosses and liverworts, ferns, ericaceous shrubs and evergreen trees, and many more. The class will explore the plants’ evolution and strategies for year-round foliage (Saturday, March 20, 10:30 AM–2:30 PM at Garden in the Woods, Framingham, $60 members, $72 nonmembers). Register at NativePlantTrust.org.

Mass Audubon’s Habitat staff are poised to introduce you to the more subtle signs of winter insects. Insects over-winter in various life stages using a wide variety of strategies. Participants will look for signs and discover what the insects are doing on January 6, 8:00–9:30 AM at Habitat, 10 Juniper Road, Belmont. Register to solve these six-legged mysteries at Mass Audubon (www.massaudubon.org/program-catalog/habitat/76178-winter-insects) for a cost of $18 for members, $22 for nonmembers.

But while the Raymond House was familiar to many, the Reischauer House seems to have been little known or appreciated. That may not be a surprise, given that even major buildings of the so-called “recent past” like the Raymond House are less “loved” and far more threatened than older historic structures. This is despite the fact that both the National Register of Historic Places and its Massachusetts equivalent make special provisions for buildings that have achieved significance in the past 50 years.

The demolished Rachel Raymond house.

Even major buildings of the so-called “recent past” like the Raymond House are less “loved” and far more threatened than older historic structures. This is despite the fact that both the National Register of Historic Places and its Massachusetts equivalent make special provisions for buildings that have achieved significance in the past 50 years.

Nevertheless, some local residents appreciated the Reischauer house. A list of five “Points of Interest” for kids in Belmont that can be found on the internet includes the Reischauer Memorial House as one those select attractions (see kids.kiddle.co/Belmont_Massachusetts). And in 2012, the Belmont Citizens Forum and the Japan Society co-sponsored two visits to the house and the nearby Habitat Education Center and Wildlife Sanctuary. In invitations for the walks, the BCF noted that, aside from its connection with Reischauer, “it is the only private residence in the US where the Japanese Empress and Emperor ever spent a night and it is an intriguing attraction for Japanese and those interested in cross-cultural awareness.”

I regret never having visited the Reischauer House to learn its history and to assess its personal design, and hope that the home’s historic furnishings—and perhaps even the architectural drawings—have been preserved. Perhaps the lesson of the loss of these two houses is for residents to be alert to the continuing threats to the town’s 20th-century history, as well as to its earlier structures, and to take measures now to assess the buildings that remain in order to protect those deemed worthy of preservation.

Gary Wolf is the founding principal of Wolf Architects, Inc., in Boston, and the acting president of Docomomo/New England, the local chapter of an international organization that advocates for the preservation of modern architecture.
Thank you, Mary Bradley

The Belmont Citizens Forum is sad to announce the departure of Mary Bradley from her post as managing editor. Mary joined the BCF Newsletter crew in January 2018, and quickly impressed everyone with her good cheer and indefatiguable energy for recruiting writers, photographers, and artists to contribute to the newsletter. Mary’s tenacity, patience, and persistence in pursuing people and stories has strengthened the newsletter, leading the BCF to new ideas and new people.

After nearly two years of keeping track and tracking down, Mary has decided to take a break. We are grateful for her contributions, and wish her well with whatever endeavor she chooses in the future. Thank you, Mary. We’ll miss you.

—Meg Muckenhoupt

If you’re not too fussy about what species you encounter, sign up for some serendipity at Habitat’s “Signs of the Season Mindful Walk” (Wednesday, January 27, 8:00–9:30 AM, Habitat, 10 Juniper Road, Belmont, $18 members/$22 nonmembers). Mass Audubon teacher naturalists lead participants to discover “flora and fauna you might have missed along the way.” Trees? Definitely. Lichens? Winter insect signs? Probably. Owls? It’s a good time of year for owls. Register and find out at www.massaudubon.org/program-catalog/habitat/76181-signs-of-the-season-mindful-walk.

Finally, if Vincent Stanton, Jr.’s article on the 1918 flu epidemic in Belmont (“Belmont’s Last Pandemic: the 1918 Flu,” Belmont Citizens Forum Newsletter, May/June 2020), left you yearning for more, take a few minutes to review the slides from Mary Daly’s Waltham Historical Society program on the 1918 flu epidemic in Waltham, available at Whistsoc.waynemccarthy.com/pdf/PaleHorsePaleRider.pdf. Daly writes, “In Waltham, the virus infected 4,300 people, more than 13% of the population, and killed 278 people. This was five times the number of Waltham soldiers and sailors killed in WWI.” Stay safe, everyone.

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