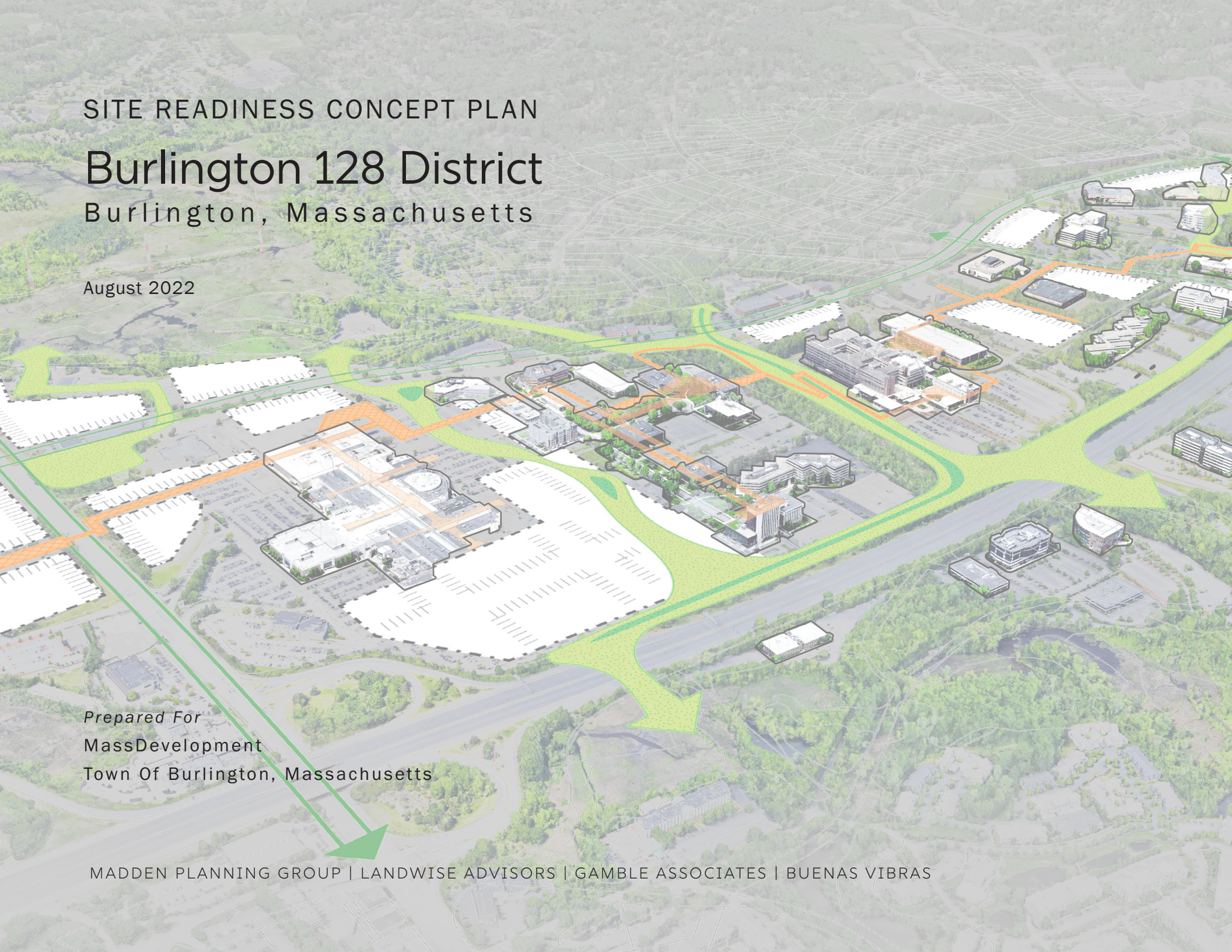
SITE READINESS CONCEPT PLAN

Burlington 128 District

Burlington, Massachusetts

August 2022



Prepared For

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Figure 1.1. The Burlington 128 District encompasses almost 600 acres at the interesection of Route 18/Interstate-95 and Route 3.

1. INTRODUCTION

Market trends, new technology, social expectations, and a shifting climate apply constant pressure for change, while wildly unpredictable events like a global pandemic buffet all places. The towns that recognize change and can seize these forces to shape their futures will be the standouts - the ones that become exceptional. The Town of Burlington, Massachusetts, is in this dialogue today, grappling with deep changes in how we shop, how we work, the meaning of home, and the mobility systems that connect all of these facets of our lives. The focus of attention are the expansive commercial districts that straddle Route 128/Interstate 95. These districts have always been the economic backbone of the town, generating the lion's share of property taxes and guaranteeing many benefits for the 26,000 residents of Burlington.

In the sixty years since its construction, Route 128 has transformed a rural landscape first into a gravel pit feeding the highway construction, then into a regional shopping mecca that was later surrounded by office parks and medical and educational anchor institutions. The Route 128 technology corridor was an early demonstration of an economic cluster that thrived based on an educated workforce, proximity to research at MIT and Harvard, willingness to innovate, and abundant and affordable room for office and research and development space. Today, many of the office parks and shopping facilities on either side of Route 128 are ready for the next chapter, an updated version that reflects emerging trends in the workforce, concepts of home, and lifestyle preferences.

This report takes stock of the current conditions given the seismic shifts coming out of the pandemic and considers scenarios for a more resilient future for the 570 acres that make up the Burlington 128 District north and south of the highway **(**Figure 1.1). The project has been led by the Town of Burlington with the support of MassDevelopment through its Site Readiness Program. With this funding, the Town of Burlington has been able to engage the consultant team: Madden Planning Group (economic development and planning), Landwise Advisors (real estate and market analysis), Gamble Associates (urban design), and Buena Vibras (entrepreneurship trends). The goals, vision, and strategies in this report reflect a close collaboration with the Town and many residents and stakeholders, through one-on-one meetings, focus group discussions, and multiple open community forums.

Through these discussions, participating residents and stakeholders weighed the current conditions and expressed support for change in the Burlington 128 area. There was broad recognition that the current development patterns will need to evolve in the face of emerging trends and that infill and more compact development could work as long as it is well-designed and brings benefits of connectivity, greater resilience, and more relevant uses. Ideas surfaced for greater proximity between work and home, shorter commutes, more attractive destinationmos, more attention to the experience of dining and shopping, safer walking and biking routes, less surface parking, and more connectivity over all – concepts that are encapsulated in the notion of a "**15-minute neighborhood".**

This study identifies the potential for infill development, a vision of a 15-minute neighborhood that includes housing, strategies for public realm investment, and the framework for form-based zoning.

To chart a way forward, the consultant team also met with property owners and developers, analyzed the real estate market and economic trends, and explored the future of work and shopping. Through this process, **the team identified approximately 100 acres that could be suitable for infill and/or redevelopment.** In these areas, property owners could replace obsolete surface parking and older structures with a more relevant mix of uses, updated design and density, more housing, and better integration of the public realm.

To achieve this vision, Burlington needs to create a new zoning district. Rather than reacting to the pressure of each individual projects, a new zoning district will coordinate and guide development toward a more harmonious and well-designed sense of place. **This study recommends form-based zoning for the entire Burlington 128 District**, allowing more flexibility for a mix of uses and sufficient densities to foster new investment (FAR of at least 1.0).

To complement and enhance private development, the importance of the public realm needs to be invigorated in the Burlington 128 district. **Three primary features of an enhanced public realm are landscaped "complete streets", inter-connected paths, and fingers of natural environment** that build greater resilience in the face of climate change. District Improvement Financing (DIF) and other financing tools can be employed to ensure that the major public rights-of-way – Burlington Mall Road and Middlesex Turnpike among others – become the markers of Burlington's future, welcoming people on bikes, on foot, in cars, and on public transit into landscaped corridors.

Guiding Principles

Through community discussions, a set of guiding principles capture the overall vision and inform future public and private actions in the Burlington 128 District:

1. *Natural Systems:* Strengthen the network of natural systems and open spaces
2. *Complete Streets:* Reconfigure street corridors to accommodate pedestrians, bikes, cars, and public transit
3. *District Interconnectivity:* Foster the unique character of each subdistrict while strengthening their interconnections
4. *Mixed Use*: Create walkable districts that integrate work and home, close to shops and services
5. *Social Gathering*: Incorporate destinations for social gathering, food, and cultural events
6. *Smart Parking*: Promote shared and structured parking and alternative modes of transportation to reduce traffic and parking demand

Action Steps

This planning process is biased toward action - toward envisioning a future that can be realized by a series of steps that launch the work. These are summarized as follows and each is discussed in more detail in the report:

Zoning Framework: Develop a new mixed use zoning district, using form based zoning techniques to allow additional density, multi-family residential uses, and structured parking, among other uses, and to incorporate requirements and/or incentives for all six design and development principles

Complete Streets: Initiate a traffic study and complete streets design and engineering for Middlesex Turnpike and Burlington Mall Road to enhance walkability, bikeability, and transit use, using MassWorks, District Improvement Financing (DIF), and/or other funding sources; test tactical and immediate actions, using MA Shared Streets and other funding

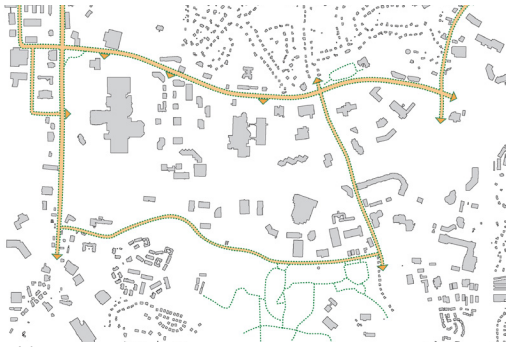
Connections: Develop a green/corridor pedestrian plan, including Vine Brook restoration and trails, to inform the zoning regulatory framework and to partner with the private sector

District Identity: Create a brand design and marketing strategy for the district and its distinctive sub-areas.

2. BASIS FOR AN ACTION PLAN

Natural Connections

Civic Realm Connectivity



Corridors

Development Opportunities

Figure 2.1. The vision is to create an interconnected district with space for strategic new investment.

Vision

With investment in placemaking and a more intentional regulatory framework, the 128 District can become a more resilient environment both economically and environmentally (Figure 2.1). Building on its existing assets, the area will become a regional center, known for its research and innovation in information systems, life sciences, advanced manufacturing, and health care, among other emerging industries and economic clusters. Employers and employees will be drawn by the opportunity to live close to work and to work in a setting that offers a rich array of restaurants, childcare, convenient services, outdoor gathering spaces, and recreation, all within an easy walk or bike ride. Landscaped streets and interconnected walkways will thread together the pocket parks, plazas, and natural features found throughout the area. Improved transit systems will link across the district and connect to other parts of Burlington and nearby MBTA stations at Woburn/Anderson, Winchester Center, and Cambridge Alewife as well as downtown Boston. Anchored by the preeminent

Lahey Hospital & Medical Center and Northeastern University Innovation Campus, career ladders will span from entry level positions to seasoned professionals.

While the post-pandemic world is still evolving, some forms of hybrid work are likely to stay embedded in society. This trend will drive worker demands for shorter commutes, greater proximity between work and home, and a balance between working remotely and in person, depending on the industry and the position. New development will gradually replace expansive surface parking lots, making it possible to have new mixed use development that integrates office and lab space with residential, retail, and restaurants. Some of these new developments may eventually replace the large department stores at the Burlington Mall, creating new anchors for 21st century and bringing increased foot traffic to support the intervening small shops and new forms of experiential and pop-up retail. In other places, a combination of shared parking, parking structures, and alternative forms of mobility will consolidate automobiles into a smaller footprint, freeing up valuable space for infill development and open space.

The natural waterways that underly this area will be revealed and integrated into a resilient green framework that mitigates flooding and heat island affects. Vine Brook and its tributaries flowing to the Shawsheen River to the northwest and Little Brook flowing south to the Mystic River will play ever more valuable roles, draining runoff and storing floodwaters in expansive habitat areas like the Vine Brook marshlands north of Mall Road and in small wetland retention areas like those found in Burlington Woods. Development that integrates linear fingers of natural and landscaped green areas will reduce impervious surfaces, slow infiltration, and increase shade and flood storage, whether along the existing waterways or in new open space areas. As an interconnected system, these valuable green areas will create better habitats and hydrologic systems, while offering opportunities for adjacent trails and recreation.

Why Now?

The planning for the 128 District was instigated by the Town of Burlington in recognition of a dramatically changing set of circumstances in 2021 and the need for post-pandemic recovery and future resilience. The 128 District and other commercial properties have long been the economic engine for the Town generating 50% of the total Town revenues[1]. At $1.7 billion of assessed value, the 128 District alone represents 20% of the total assessed value in Town.

With relatively steady growth from the 1960s through the 2000s, the developments around the Burlington Mall reflect an auto-dominated ethos, with the greatest addition of built floor area in the 1980s (Figure 2.2). In more recent years, alternative approaches to create walkable pedestrian environments and mixed uses have become dominant nationally and are evident in Burlington at Northwest Park, Third Avenue, and *"The District"* (formerly known as New England

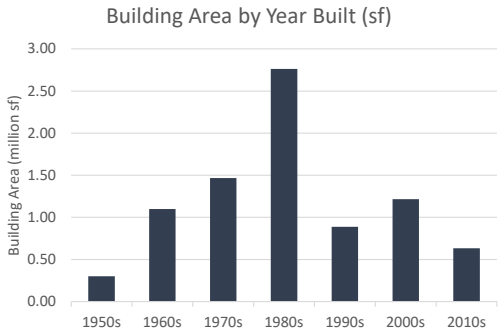


Figure 2.2. Most of the building stock in the 128 District was built in the 1980s.

Executive Park). As the pandemic continues, these mixed use walkable environments continue to drive the market, perhaps more important than ever as the notion of a single purpose workplace fades.

As the pandemic has waxed and waned, most of the Burlington 128 District's employees are still working remotely, many people continue to shop online, and vast empty surface parking lots dominate the Burlington 128 district landscape. Attitudes about work are in flux with greater demand for shorter commutes and more amenities in the workplace. A number of large properties in the 128 district are currently for lease, and some corporate mergers have had the effect of creating even more office vacancies. Over the last few years, the demand for workers has increased, and the demand for suburban housing also gained strength as a healthy

lifestyle option to work from home. In particular, the pandemic fueled a dramatic need for health care workers, and institutions like Lahey Hospital & Medical Center have found it challenging to recruit worker given rising housing costs and limited transportation options to major population centers in Boston and Lowell.

Inspired by the power of vaccines, the demand for lab space and the competition to attract life science companies has become increasingly strong in the metro-Boston markets, including Burlington. After decades of planning, new mixed use environments in Watertown and Somerville are now demonstrating the power of placemaking and mixed use to attract both start-up and mature life science and other innovative industries (Figure 2.3). The pandemic may have changed some attitudes about downtown, but even in urban centers, the attraction of cultural events, dining, walkability, and a mix of workers, residents, and visitors around transportation hubs is likely to remain desirable over the long term. The attraction of a suburban environment benefits Burlington, but other Route 128 towns also enjoy these benefits and continue to invest in placemaking and transit to support their commercial districts. Burlington has its own strengths as we will demonstrate below, but there is no room for complacency in a world that is rapidly transforming based on changing social, economic, and healthy lifestyles.

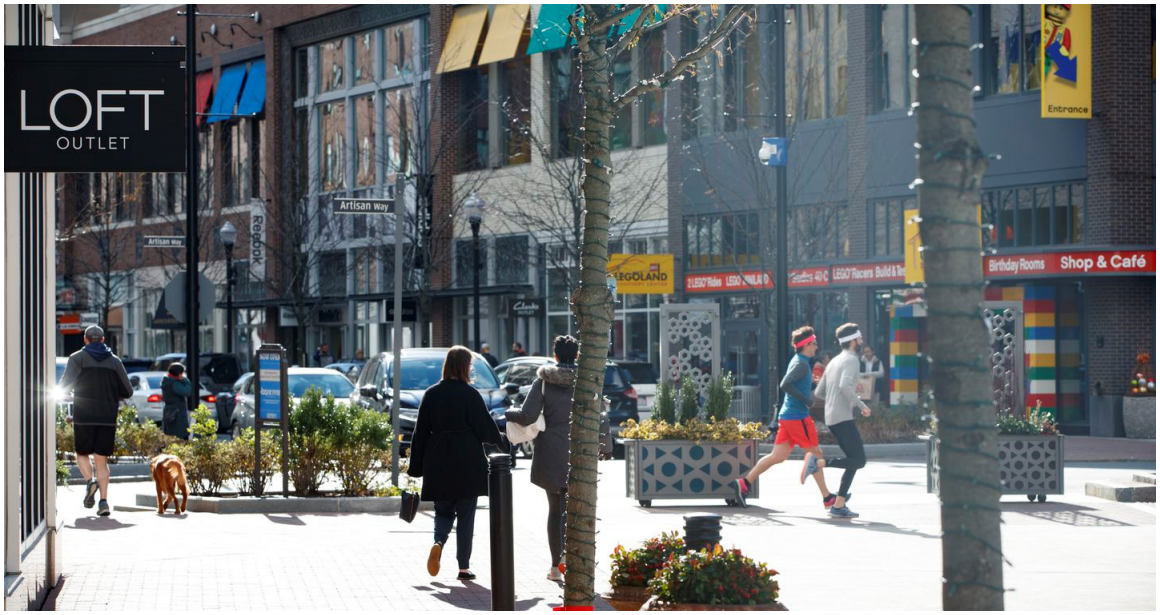


Figure 2.3. Newer developments in the region feature pedestrian-friendly, walkable environments (Assembly Square, Somerville; source: Boston Globe)

Project Goals

Given the current and recent status of the 128 District as well as its vast potential, the following project goals have guided this work.

- *Economic Vitality*: Reposition the 128 District as a regional research and innovation center, particularly for life sciences.
- *Reinvestment:* Unleash latent development potential in post-COVID offices and the immense repository of surface parking areas
- *Mobility:* Create networks of pedestrian and bike-friendly environments, supplemented by public transit
- *Placemaking*: Create mixed-use neighborhoods that reduce commuting and invite workers back to the workplace
- *Zoning Predictability*: Create a regulatory environment that clarifies desirable outcomes, signals civic goals, and acknowledges a market framework.

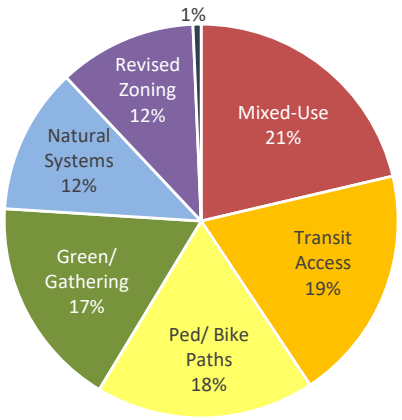


Figure 2.4. Community priorities were evenly split among many topics (November 2021 Forum)

Summary of Process

The ideas in this report have been shaped by the many discussions large and small, which conveyed concerns, ideas, priorities, implementation strategies, and new ways of thinking about the 128 District (Figure 2.4). Given the size and fiscal implications, this part of Burlington is a priority for Town leaders and has implications for all the Town's residents. Real estate developers, large employers, retail owners, and startup companies also have a significant stake in the 128 District, given their investments in land and buildings, and the effects on employees, shoppers, and corporate image. As institutions, Lahey Hospital & Medical Center and Northeastern University have long-term vested interests in the future of the area as it affects their ability to recruit, retain, and serve employees, visitors, patients, and students.

The pandemic curtailed in-person meetings for the duration of the project from August 2021 through June 2022, so all meetings were held on a virtual platform (Zoom). In many ways, the ease of access made it possible to reach more individual stakeholders in relatively brief interviews and allowed for much greater participation in community forums than might be expected otherwise. Frequent check-ins between the core client team (Director of Economic Development and Director of Planning for the Town of Burlington, plus MassDevelopment representatives) and the consultant team were also made possible through the convenience of a virtual meeting space. Field visits to the site occurred at various points through the process.

Open community forums were held on November 2, 2021 (Discovery Phase); January 11, 2022 (Scenarios); and March 29, 2022 (Implementation). Outreach included postings on various social media platforms, email blasts, and word of mouth. Each community forum had attendance of between 50 and 100 participants, and input and dialogue were possible through poll questions, chat messages, and small group discussions.

During the early months of the project, members of the consultant team also held small group and individual meetings with over 40 stakeholders that included Town leaders, real estate developers and brokers, large and small employers, retail managers, property owners, and institutions. At key points during the process, the consultant team met with the Economic Development Liaison Group, which acted as a steering committee with representatives from the Planning Board, Select Board, Burlington Area Chamber of Commerce, the private sector, and Town Planning Department, and Economic Development Office. Several discussions were held with an ad hoc land use and planning group, which included members of the Planning Board, Conservation Commission, and Zoning By-law Committee.

Foundational Studies

This plan builds on previous and ongoing plans, bringing greater resolution to earlier goals. Burlington's Comprehensive Plan was an opportunity to look at the entire municipality and establish important guiding principles based on extensive community input. Many principles directly inform this plan, including the following: distinguish Burlington as a destination, develop and apply regulations to match town goals, expand transportation choices, provide choices in the type and cost of housing, celebrate the distinctive diversity of residents, provide diverse recreational opportunities, support environmental stewardship, and preserve open space.[2]

The FY22 Budget Book outlines current goals including investment in the Town water and sewer system and in particular the connection into the Massachusetts Water Resources Authority (MWRA) water system to replace the Vine Brook Water Treatment Plant. Diversifying the office base to

attract and build a stronger life science cluster is another stated goal for the Town, which aligns with the need for greater water capacity. The budget also includes efforts to provide ride-share services to replace the B-Line local bus service.[3]

The Town Conservation Commission has been working with BSC Group on the Municipal Vulnerability Preparedness (MVP) program, including ongoing work to recommend nature-based solutions to top issues and priorities identified by the community.[4] The Burlington Mall area is identified as a significant source of Urban Heat Island Effect because of the expansive surface parking areas and is particularly vulnerable to the threat of future flooding Figure 2.5). The Conservation Commission and their consultant are working on a set of priorities around sustainable and climate resilient development, public open space, restoration of developed areas, community education to support climate resilience, reduction of and avoidance of adverse public health impacts, and protection of residential properties from flooding.[5] The MVP effort has involved substantial community engagement, and this work informs and aligns with the Burlington 128 District Plan.

The North Suburban Mobility Study (NSMS) highlighted Burlington as a major employment center served by a variety of bus routes and recommended a new mobility hub within the Burlington 128 District as well as a dedicated shuttle to the Anderson/Woburn commuter rail station[6]. The NSMS study also recommends better integration of land use and transportation and complete streets that allow for improved transit services, pedestrian scale lighting, bicycle routes, better crosswalks, and wider sidewalks. The 2022 MBTA "Better Bus Project" project,[7] however, proposes significant changes to bus route alignment and service to Burlington, which would affect these earlier recommendations.

Figure 2.5. The hydrology of Vine Brook underlies much of the Route 128 district, and its restoration has implications for climate change resiliency and recreation.

The following section considers that assets and the challenges of the Route 128 District in particular, including uses, character, connections, and hydrology. These attributes become the foundation for future scenarios.

Figure 3.1. The subdistricts within the Route 128 District each have slightly different characteristics that could be clarified as distinct destinations while strengthing connections between them.

3. DISTRICT ATTRIBUTES

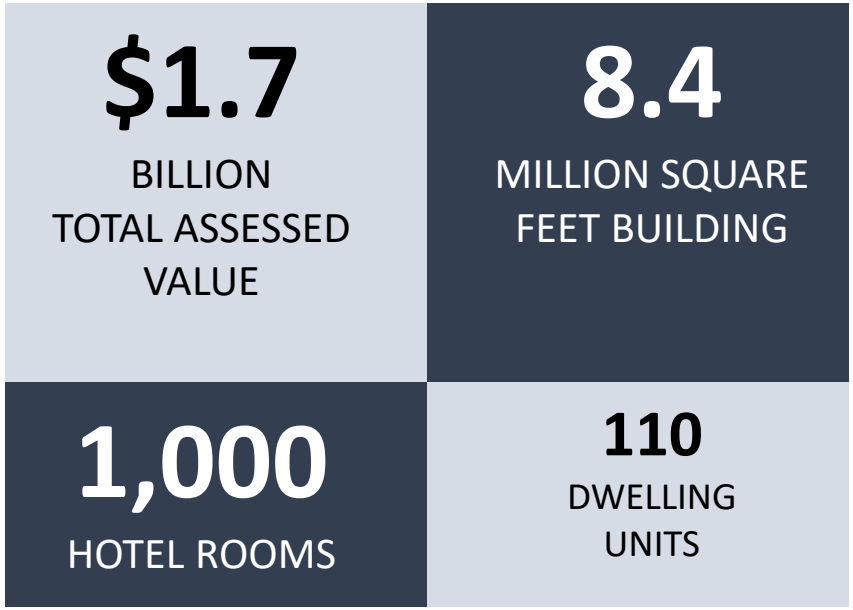


Figure 3.2. The scale of the Route 128 District is larger than many city downtowns, with tremendous economic benefits for the Town of Burlington. Housing makes up less than one percent of the total floor area in the district and is limited to assisted living units.

The 570-acre 128 District stands out for its prominence and visibility on both sides of Route 128/Interstate-95 and for the scale of commercial office and retail development that has been built over the last 70 years (Figure 3.1). For decades, Burlington Mall Road has been the dividing line between the residential neighborhoods and town center to the north and the commercial uses to the south. These patterns of single use, segregated development reflect an auto-oriented model that is undergoing transformation in many places as people come to expect more pedestrian-friendly, mixed use environments. Nevertheless, the amount of existing floor area and the expanse of impervious surfaces that could be put to better use are significant. These factors are coupled with assets derived from the site's underlying hydrology, highway visibility, and the desirable location within a New England town.

Type and Distribution of Uses

Over 8.4 million square feet of development has been built in the 128 District over the last seventy years with a total assessed value of $1.7 billion (Figure 3.2).[8] This considerable amount of space is distributed into a very few use categories, with the majority dedicated to a single use: 5.1 million sf of office (Table 3.1; Figure 3.3). At 1.3 million square feet (sf), the Burlington Mall represents more than two thirds of the total retail space. The remaining retail is distributed in free standing stores and shopping centers around the edges of the district, with 289,000 sf north of Burlington Mall Road; 211,000 sf at Wayside, and 136,000 on the west side of the Middlesex Turnpike, including the cinema. Between 2018 and 2020, the Burlington Mall lost two of its anchors when Lord & Taylor went out of business and Sears

Table 3.1. Distribution of Current Uses

Use	Building Area (sf)	Building Area (%)
Office	5,111,000	61%
Retail/Restaurant	1,932,000	23%
Hotel	561,000	7%
Industrial/Flex/Whse	360,000	4%
Medical Center	316,000	4%
Residential	83,000	1%
TOTAL	**8,363,000**	**100%**

Source: Town of Burlington Assessors Data, 2021

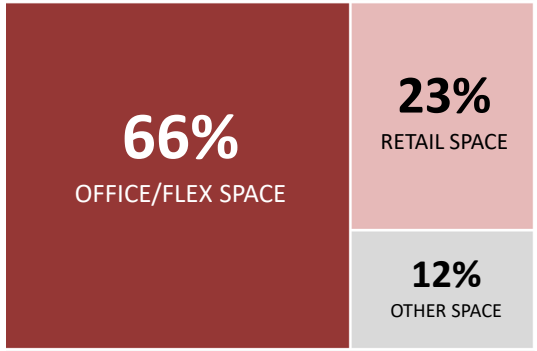


Figure 3.3. The district is known for the shopping mall, but the predominant use is office.

Figure 3.4. The Mosiac district in has been developed on the site of the former Merrifield shopping center in Fairfax County, Virginia (source: CNU.org)

closed. Nordstrom and Macy's remain as traditional department store anchors. Other retail vacancies in the 128 District are found in the strip shopping centers north of Mall Road.

Last year, in response to changing lifestyle preferences, the Simon Property Group renovated the north end of the mall to feature several new restaurants and smaller shops that face outward and increase street visibility. More recently, the owner of the Lord & Taylor building (Hudson Bay Company) announced plans to convert the 125,000 sf space into lab use, taking advantage of the high ceilings, expansive floor plates, and proximity to dining, shopping, and hotels as amenities.

Nationally, many shopping malls are being redeveloped into a mix of residential, office, lab, and other uses (Figure 3.4).

With four different hotels in the district, there are over 1,000 hotel rooms, an important infrastructure that complements office, lab, and research activities. Only 1% of the existing building floor area is devoted to housing; these are the 110 dwelling units for independent, assisted living, and memory care at Atria Longmeadow Place.

Surprisingly, there are no publicly owned parks or open space in the 128 District, although a few parks are found along its edges. The 216-acre

Mary Cummings Park, which abuts the 128 District on the south side, is managed by the Trustees of the Reservation and surrounds the Northeastern University Innovation Campus, south of Blanchard Road. Town recreational fields abut the district on South Bedford Street (Marvin Field) and Burlington Mall Road (TRW Field).

Building Typologies

The building stock and the character of the 128 District reflect different eras of construction and development. A little over a third of the existing inventory was built in the 1950s through 1970s, reflecting the popular suburban development patterns at that time, including the shopping mall, low-rise buildings set back from the street and one-story research and development (R&D) flex spaces (Table 3.2; Figure 3.5). When it was built in 1972, the 11-story building in the New England Executive Park (now *"The District"*) became a highly visible landmark from the highway. Drawn by easy access on Burlington Mall Road, the Lahey Clinic set its sights on Burlington for a new medical center in 1970, a vision that was realized when the center opened in 1980.[9]

The most growth occurred in the single decade of the 1980s, almost all of it office uses, which bolstered Burlington's identity as a regional center that could be more than just retail. Office parks came into their own as single purpose workplaces set within a campus-like environment featuring winding roads and landscaped open space, ideally with highway visibility. In response to development economics and zoning regulations, buildings were limited in height, isolated from the street, and typically surrounded by surface parking. During this time, Lahey continued to grow its presence in medical office buildings surrounding the main clinic.

The 1990s saw a diversification of uses that complemented and drew on the success of the office uses, including hotels, small retail, shopping centers, cinema, and assisted living. The major office development in this period was 1 and 5 Wayside Road (current Microsoft/Nuance Wayside site), and in 2000, 4 and 10 Van de Graaff (current Oracle headquarter buildings).

After the early 2000s, there have been less sites available for development. Nevertheless, a million square feet was built between 2006 and 2021, notably the Wayside Commons lifestyle center (2006), expansion of the mall (2007), the 10-story Keurig headquarters with structured parking (2013), a few small office buildings, and more recently new hotels and small pedestrian friendly restaurants, including the northern end of the Mall and in *"The District"* (Figure 3.6).

Today, there are no "vacant" sites in the 570-acre study area. There are acres and acres of surface parking, however, which are underutilized, especially during the pandemic, and are inefficient and environmentally detrimental even in the best of economic times.

Figure 3.5. Building character evolved from the 1960s to 1970s to 1980s (top to bottom).

Figure 3.6. Since the 1990s, the density has increased and amenities have been added.

Site Character and Connectivity

The 128 District reads as a single geography, characterized by suburban office and retail uses and multi-lane arterial roadways. Importantly, fifteen property owners control 80% of the land, in portfolios ranging from 10 to 65 acres (Figure 3.7). The three largest landowners are Simon Property Group, Lahey Hospital & Medical Center, and National Development, each owning over 50 acres.

Almost two miles in length and straddling both sides of Route 128, it can be difficult to traverse the 570-acre district. Each development was built as a separate pod, with little connection to its neighbors (Figure 3.8). Topography and busy streets create barriers for pedestrians, while property boundaries have historically blocked street connections (Figure 3.9). Within the larger area, six subdistricts can be identified based on arterial roadway edges, topography, building history, land use, ownership, and the scale of a five-minute (quarter mile) walking radius (reference Figure 3.1).

The **Cinema/Keurig** subdistrict sits high on a hill, 25 feet above the Middlesex Turnpike and 50 feet above the Burlington Mall to the east, and separate from the Second Avenue and Third Avenue developments to the north. The area has prominent visibility from both Route 128 and Route 3, and the 10-story Keurig Headquarters has become a landmark.

Table 3.2. Building Stock by Decade Built

Year Built	Building Area (sf)	Building Area (%)
1950s	302,000	4%
1960s	1,100,000	13%
1970s	1,464,000	18%
1980s	2,762,000	33%
1990s	887,000	11%
2000s	1,215,000	15%
2010s	633,000	8%
TOTAL	**8,363,000**	**100%**

Source: Town of Burlington Assessors Data, 2021

The **Burlington Mall and "The District"** are juxtaposed on a level field within easy walking distance, but without interconnecting streets. One side is dominated by the massive shopping mall, which is still primarily internally oriented. The other side features scattered low-rise office buildings punctuated by the 11-story landmark tower. Developments north of Burlington Mall Road are physically close, but almost impossible to reach since they are cut off by the arterial roadway, wetlands, and buildings that turn their back to the street.

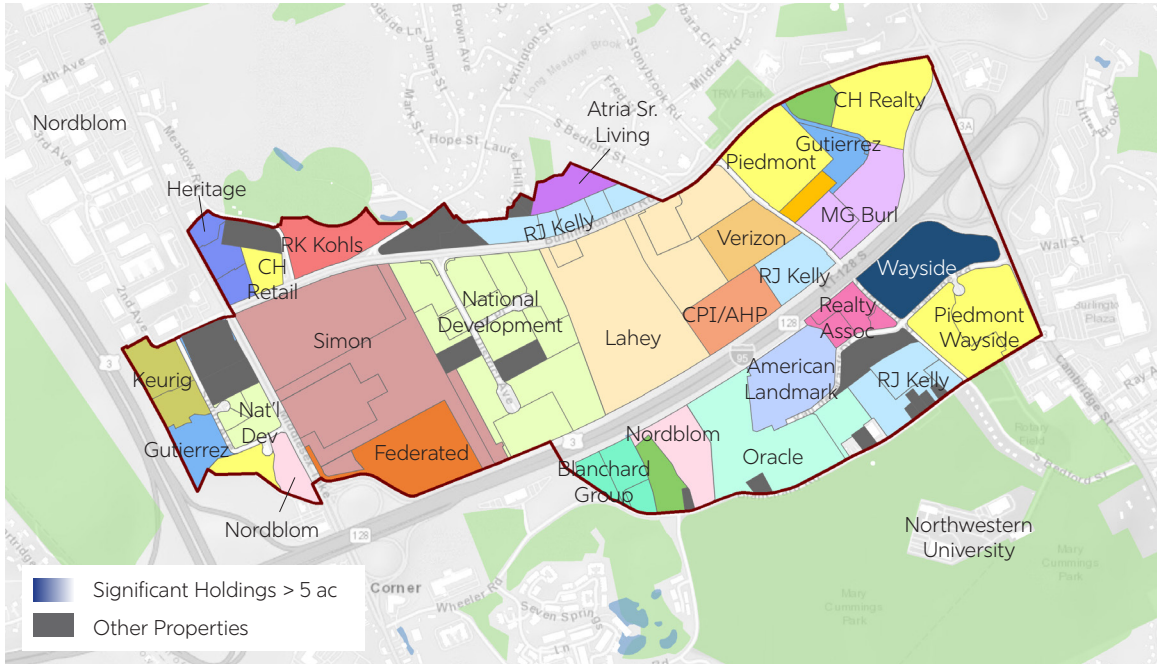


Figure 3.7. Fifteeen property owners control over 80 percent of the land in the 128 District.

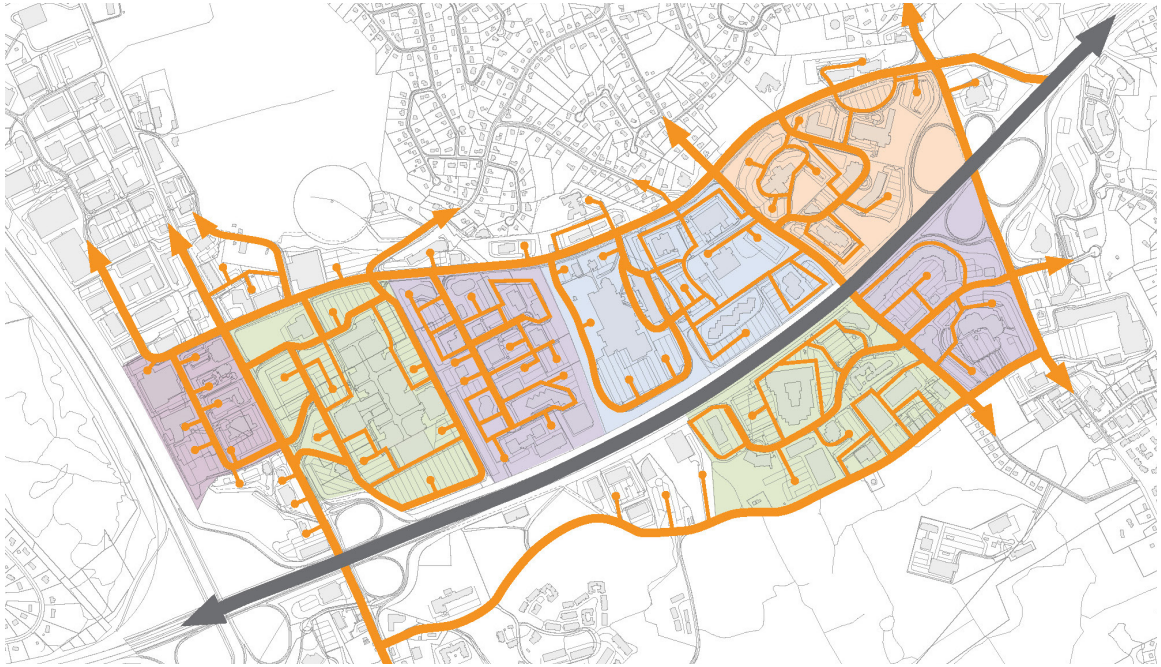


Figure 3.8. Each development is built as a pod without a network of connecting internal streets, which exacerbates congestion on the few arterial roadways.

Figure 3.9. Pedestrian connections are blocked by property boundaries, topography, and busy streets.

The **Medical District** seems to be a world unto itself. The Lahey Hospital & Medical Center commands a high hill surrounded by medical office buildings, structured parking, and expansive surface lots. This sub-district is set apart by the steep wooded slope above Vine Brook, Burlington Mall Road, South Bedford Street, and Route 128/ Interstate 95.

Burlington Woods is a classic office park, characterized by individual buildings surrounded by surface parking, joined by winding roads, manicured landscapes, woodlands, and naturalized wetlands.

Wayside includes the lifestyle shopping center that was built in 2006 and the island of 1990s era office buildings higher on the hill, now home to Microsoft and Nuance. While close together, the shopping center and the office area are each internally-focused with little connection to each other across the busy Wayside Road.

The **Van de Graaff** subdistrict commands yet another high hill. Portions of 3 Van de Graaff represent the oldest building in the area. Built in 1956, it sat next to the Nike Ajax missile launch site (c.1956-1963), which occupied the area now home to the Northeastern University campus.[10] The Van de Graaff area retained the character of one-story R&D buildings through the 1970s. In the office building boom of the 1980s, developers sought greater density on this highly visible land, building three to six story office buildings, including the Oracle headquarters that followed in 2000.

Mobility

The Burlington 128 District lacks a network of streets, a development pattern that leads to congestion on the few arterial roadways that dominate the circulation pattern. Commuters converge as they exit each separate development to reach highway ramps at Exit 50 (Middlesex Turnpike) and Exit 51 (Cambridge Street), and communities to the south via South Bedford Street, or neighborhoods to the north via Middlesex Turnpike, Lexington Street, and Cambridge Street. As a six-lane arterial, Burlington Mall Road is often the funnel to reach all of these destinations.

There are no bicycle lanes in the 128 District. For pedestrians, the sidewalks that do exist are perilously close to fast-moving traffic on arterial roadways, and crosswalks are limited (Figure 3.10). A number of streets in Burlington Woods, along Blanchard Road, and in the medical district have no sidewalks at all. Segments of South Bedford, South Avenue, and Meadow Road have sidewalks only on one side. Despite these harsh conditions, pedestrians inevitably try to walk, whether employees on break, commuters trying to get to a bus stop, or simply for exercise. The Northeastern Innovation Campus is less than a quarter mile from Blanchard Road and the Van de Graaff developments, but there are no trails that make this connection across Mary Cummings Park. Only within *"The District"* are there pedestrian-friendly streets and a short walking trail, which provides access to part of Vine Brook and the waterfall on Long Meadow Brook.

The 128 District in Burlington has some express and local MBTA bus service, but the lack of direct transit connections to subway, commuter rail, and/or denser population centers exacerbates workforce shortages and recruitment (see also *Appendix A*). Without a history of rail service to the area, dedicated rail corridors for future transit extensions simply do not exist. The closest commuter rail stations are the Anderson/Woburn Station, six to seven miles away via Interstate 95,

Today, we recognize the valuable work of hydrologic systems in providing flood storage, and plant and animal habitats.

and the Winchester Center Station, six miles away on city streets. The rail station and the Burlington 128 District are not connected by any bus. The Cambridge Alewife Red Line Station is 10 to 14 miles away, currently accessible via MBTA Bus #350.

In May 2022, the MBTA announced a complete realignment of bus routes across the entire Boston metropolitan area in an effort to streamline service with fewer routes and more consistent seven-day a week service.[11] In this new proposal, Bus #350 would still connect to the Alewife/Red Line, but would no longer service the heart of the Burlington 128 District. A new bus route #94 would serve the Burlington Mall Road corridor, connecting to the commuter rail in Winchester Center and continuing on to Davis Square/Red Line. Both of these buses would run every 60 minutes, 6 am to 7 pm, 7 days a week. The existing express Bus #354 to Haymarket would no longer operate.

Whether connecting to the Anderson/Woburn commuter rail, as proposed in the NSMS study,[12] or to the Winchester commuter rail, as proposed by the MBTA, the cost of commuter rail and limited frequency makes this service impractical for many of the health care and service workers in the Burlington area.

The Burlington area also serves as a local nexus for the LRTA #14 to Lowell and Lexpress to Depot Square in Lexington. The local Burlington B-Line, Bedford Transit, and *"The District"* employee shuttle have ceased operations in recent years.[13]

These regional public transit challenges are all the more reason to integrate housing throughout the Burlington 128 District and to focus on improving the quality of local mobility. More compact and intensive development with a mix of residential and commercial uses will also increase the feasibility of express shuttles to Alewife or to Anderson/Woburn, whether operated publicly or privately.

Hydrology

When the Burlington Mall was developed, the underlying hydrology of the region was disturbed, displaced, and replaced with acres of non-permeable asphalt paving for surface parking lots and buildings. Vine Brook still flows north between high ground, marked now by the cinema on the west (elevation 200 ft) and the Lahey Hospital & Medical Center on the east (elevation 240 ft). The brook's original path was just east of the Middlesex Turnpike, a roadway that was laid out as early as 1820 (Figure 3.11).[14] At one time both Long Meadow Brook and Sandy Brook converged into Vine Brook in the broad meadow lands north of Burlington Mall Road. Beyond South Bedford Street, the water flows in the opposite direction - east and south to Little Brook and the Mystic River.

Glacially stratified deposits of sand and gravel lay all along the banks of Vine Brook.[15] This became ideal source material for the construction of Route 128 in the 1960s. A culvert was built under the

Figure 3.10. Sidewalks either don't exist or are too close to the edge of the road to feel safe..

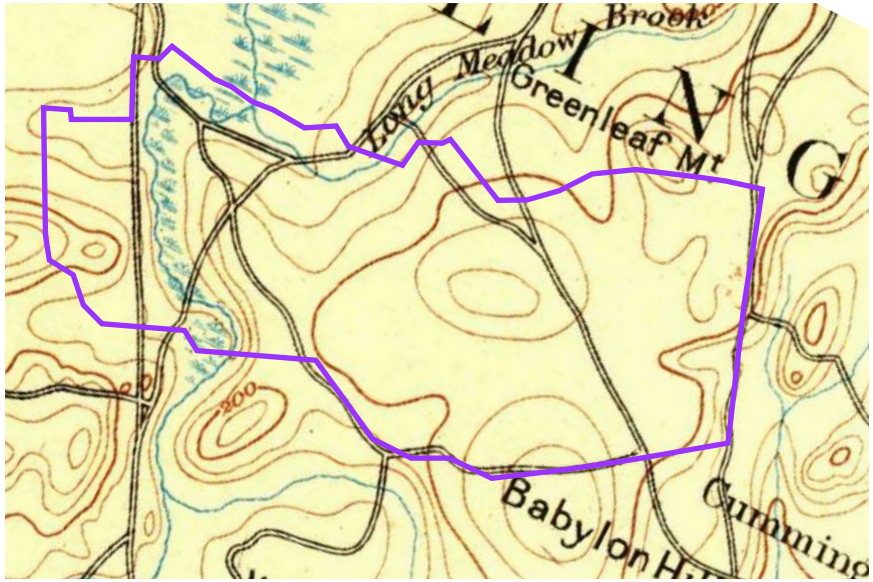


Figure 3.11. Vine Brook used to flow adjacent to the historic Middlesex Turnpike, in the area that is today occupied by the mall and its parking lots (USGS, 1893).

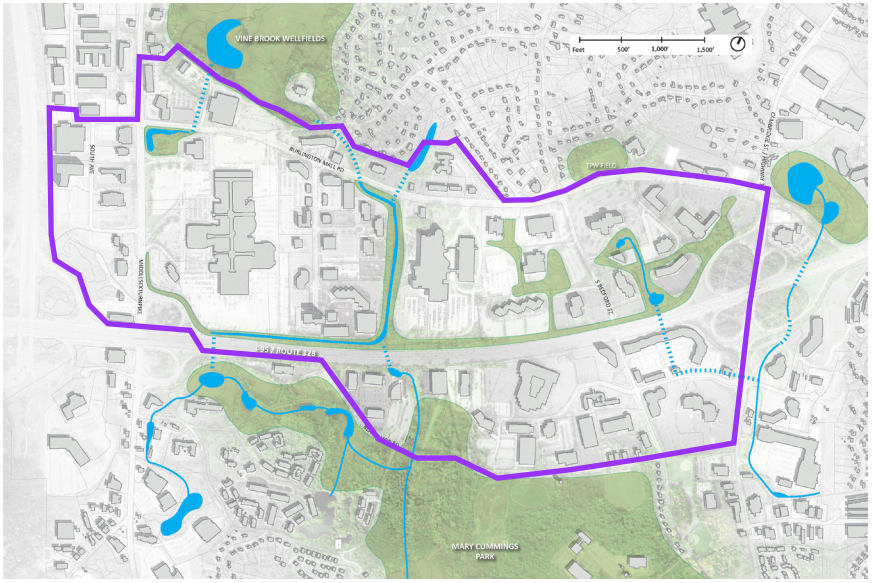


Figure 3.12. Vine Brook was moved far to the east when the Burlington Mall was built and today passes under Route 128 in a culvert.

new Route 128 to channel Vine Brook. As the site was leveled for the Burlington Mall development, Vine Brook was relocated about a half mile to the east, just below the Lahey Clinic hillside (Figure 3.12). The leveling process filled the wetlands along Vine Brook, reducing the natural flood storage capacity of the waterway. Long Meadow Brook was truncated to meet the new alignment, creating what is now known as "the waterfall".

Some areas in the 128 District are in the 100-year floodplain (1% annual chance of flooding), notably along the Vine Brook channel, which is also a floodway. The adjacent parking lots on the Mall and *"The District"* properties are in the 500 year flood zone (0.2% annual chance of flooding). More significant flooding occurs south of Route 128, which is upstream of the Route 128 culvert. Another 100-year flood zone encompasses parts of the parking lot and retail development at 91 Middlesex Turnpike, north of Burlington Mall Road.[16]

Vine Brook and its broad meadows to the north still serve a key hydrologic function. With more creative design, the entire corridor could add flood storage, while becoming more visible as a natural linear path and habitat area through the site. Other wetland pockets could be interpreted and made more visible as an amenity, rather than left as residual spaces. The wetland areas that were designed into Burlington Woods provide a model for this performative and aesthetic landscape (Figure 3.13).

Figure 3.13 Wetland areas in the Burlington Woods district provide habitat, flood storage, and aesthetic amenities.

4. ECONOMIC DEVELOPMENT FRAMEWORK

The crossroads of Route 128 and Route 3 have become one of the strongest sub-markets in the region, known as a regional retail center since the 1960s, a medical center since the 1970s, and an office powerhouse since the 1980s. More recently, Burlington has been able to attract major headquarters, national and international companies, and innovative start-up companies. Throughout this time, the Town also has earned a reputation as a compelling place to live, with good schools and a range of housing types in quiet neighborhoods.

The preeminence of the Lahey Hospital & Medical Center, and the growing reputation of the Northeastern University Innovation Campus have contributed to the strong position that Burlington holds in the metro Boston real estate market. Recent decisions by the Broad Institute and Microsoft to locate part of their enterprises in Burlington speak to the many advantages of the location.

The economic development framework establishes the area's competitive advantages and sets the stage for developing scenarios for the future, especially in the face of uncertainty presented by the current pandemic. The goal is to establish a practical foundation that leverages Burlington's assets and positions the Town as a center for innovation in a post-pandemic world. The framework addresses the regional context, industry clusters and economic strengths, the future of work and retail, and the current zoning and its effect on development (see also *Appendix B*).

Market Context

The Burlington 128 District is well-situated between Boston, Cambridge, Lowell, and southern New Hampshire at one of the most important "corners" in the region: the intersection of Interstate-95/ Route 128 and Route 3. The proximity to MIT and to Harvard is baked into the history of the area and led to the early development of Northwest Park, MITRE Corporation's siting on Route 3, and the location of many early electronics firms in the late 1950s and early 1960s. This proximity to research universities is still relevant today, reflected in a talented workforce and many early stage and mature innovation companies. Today, this part of Burlington has one of the strongest concentrations of high wage information and professional service jobs of any community along Route 128 (Figure 4.1).

The Burlington/Woburn office submarket competes with and draws strength from the surrounding areas in metro-west and metro-north Boston. In the 4th quarter of 2020, the Burlington/Woburn office market had a vacancy of 2.4% in a total inventory of 15.1 million square feet (Figure 4.2; Table 4.1). Rents in the Burlington/Woburn market in 2020 were approximately $30/sf compared to $38 in Lexington and Waltham, but had grown much faster in the last five years (Table 4.2).

Despite the rise of online shopping, the Burlington Mall has maintained its position as one of the most successful malls in New England, putting this area on the map as a regional draw for retail, accommodations, and services. While these

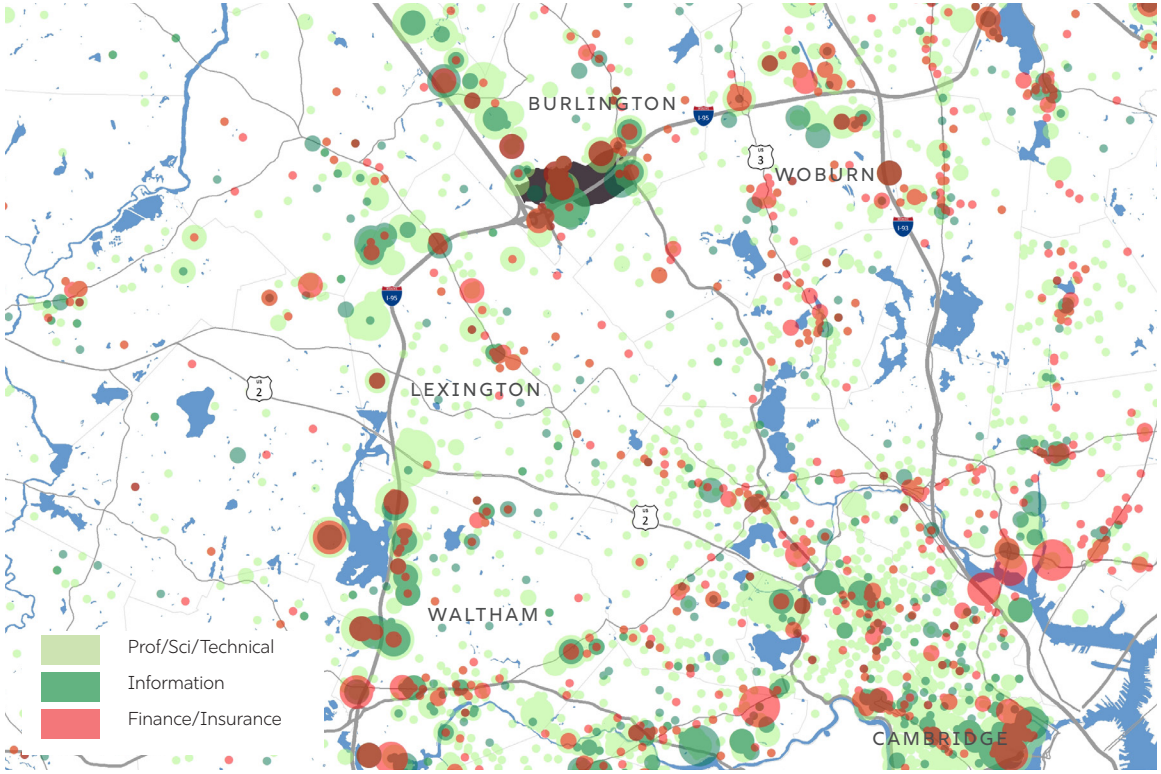


Figure 4.1. The Route 128 District has one of the highest concentrations of high wage information and professional service jobs in the Metro-West and Metro-North areas (Source: LEHD On The Map 2018)

sectors have been hard hit by the COVID-19 pandemic, they have been gaining strength over the course of 2021-2022. Some employers noted restaurant amenities as a factor in their company location decisions, and retailers have traditionally benefited from what was once a large daytime population. Additionally, Simon Properties continues to invest in the mall including the new, externally facing shops and restaurants that have opened in the last year.

In 2018, Burlington boasted 48,700 jobs, drawing workers from throughout metro-Boston, with particularly high concentrations commuting in from towns to the north of Burlington (Figure 4.3). Over half of Burlington workers were commuting more than 45 minutes, with many commuting for over an hour in pre-Covid times, and 86% of commuters drive alone.[17] In stakeholder interviews, employers noted the advantage of a location like Burlington during the pandemic, because their employees could live in more remote settings like Southern New Hampshire or in more urban settings like Cambridge with a range of lifestyle choices in between.

For new companies locating in Burlington, housing cost and lack of housing inventory were cited as a

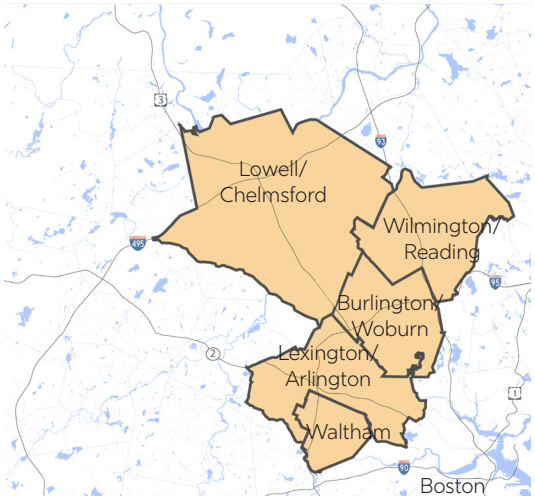


Figure 4.2. Burlington/Woburn competes with other submarkets in the region

Table 4.1. Office Submarket Rents and Inventory

Q4 2020		INVENTORY		VACANCY	
Submarket Name	Rent/sf	Bldgs	SF	SF	%
Boston Overall	$59.40	1,461	108.6M	10.4M	9.6
Waltham	$38.94	233	14.8M	2.0M	13.8
Lexington/Arlington	$38.09	238	5.3M	0.3M	5.4
Burlington/Woburn	**$29.89**	**317**	**15.1M**	**1.4M**	**9.6**
Lowell/Chelmsford	$21.92	493	19.6M	2.5M	12.8
Wilmington/Reading	$23.00	122	2.8M	0.2M	8.6

Table 4.2. Office Submarket Changes (2015-2020)

		INVENTORY	VACANCY
Submarket Name	Rent/sf	SF	SF
Boston Overall	$11.15	0.45M	2.2M
Waltham	$6.43	1.80M	0.72M
Lexington/Arlington	$2.92	0.25M	(0.18)M
Burlington/Woburn	**$8.04**	**1.20M**	**0.29M**
Lowell/Chelmsford	$3.91	0.42M	(0.18)M
Wilmington/Reading	$4.71	0.37M	0.45M

Source: CoStar, CRBE, Cushman Wakefield, JLL, Lincoln Property Company, Newmark Knight Frank

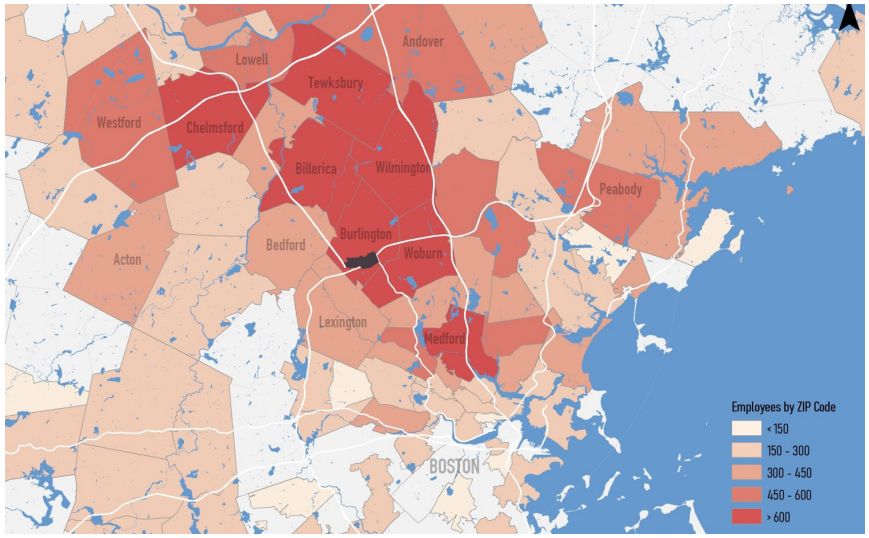


Figure 4.3. Most workers in the 128 District commute to homes north of the study area (Source: LEHD On The Map 2018).

Figure 4.4. Apartments close to work are in demand especially as companies grow and workstyles change.

limiting factor, even though this part of Burlington has been one of the faster growing census tracks along Route 128 over the past decade.[18] Rental units close to work are in high demand especially as companies grow and workstyles change (Figure 4.4). Many towns along Route 128 have become exclusive, but Burlington, Waltham, and Woburn still have a majority of residents with incomes below $150,000.[19] Approximately 75% of the available housing in Burlington is valued between $400,000 and $750,000.[20] While many of these units may not be considered affordable, they represent a much larger band of middle-priced housing than the county or region overall. Most housing in Burlington is single family (70%), and 75% is owner occupied.[21]

Burlington has a relatively large cluster of multifamily housing in complexes with 10 or more units. These developments, which were mostly built in the early 1970s and late 1980s, are largely concentrated on the far eastern edge of town. In recent years, most new housing production in town has been multi-family housing, with about 900 units built in 2003-2005 and another 776 units built between 2015 and 2017.[22] Out of a total of 9,627 housing units, approximately 13.5% of Burlington's units are considered affordable housing stock.[23]

Burlington's diversity is strong and on the rise. Between 2010 and 2020, the non-white population increased from 18% to 24%, with growth among Asian, African American, and those identifying as two or more races.[24] Burlington's talent pool is ever present and evolving. On the whole, town residents are highly educated with 35% that have a bachelor's degree, and 24% that have a graduate or professional degree, much higher than for the State as a whole (24% and 20% respectively).[25]

Industry Clusters and Economic Strengths

Burlington is already a center for innovation and emerging industries, with the potential to strengthen this position in the future. Long-time core industries are information, particularly software publishing, health care, and advanced manufacturing and technology. In the midst of rapid advances in technology and innovation, Burlington is leading the way in emerging industries that build on these core industry clusters (Figure 4.5). The area draws on the advantage of three anchor institutions in the area – Lahey Hospital & Medical Center, Northeastern University, and nearby MITRE corporation – as well as MIT, Harvard, and other research entities in the region. These institutions recruit and train a skilled workforce, attract other businesses that benefit from partnership and proximity, drive innovation, and spin-off new start-up companies in the region (Figure 4.6).

Software Publishing: The Boston/Cambridge metropolitan area, which includes Burlington, has one of the largest software publishing clusters in the United States. An estimated 25% of all Burlington jobs are in this sector and represent the forefront of innovation. Avid Technologies has their global headquarters and 800 employees in Burlington, leading the way in technologies for media content creation. Nuance Communications was the early innovator in speech recognition using artificial intelligence software, leading to popular use today as Siri, Alexa, and others. The company has 525

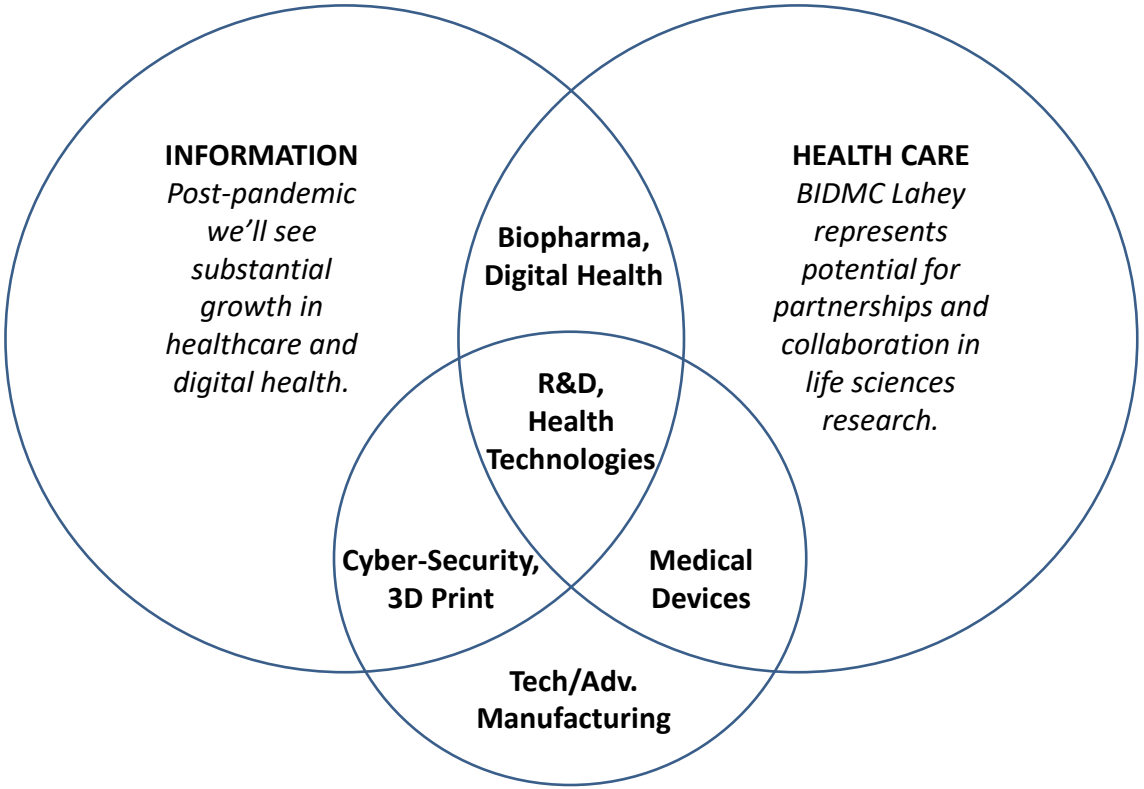


Figure 4.5. Innovation is occuring at the intersection of the core industry clusters in Burlington.

employees in Burlington[26] and were acquired by Microsoft in 2021. In 2016, Microsoft relocated 300 employees from Kendall Square to their current Burlington Wayside location, another link between Burlington and the center of research in Cambridge. Companies that begin as start-ups often choose Burlington as their headquarters as the mature, as Everbridge did in 2015, to continue their innovative work in digital emergency notification software.

Health Care: Approximately 15% of Burlington's employment is in health care and social assistance.[27] With the advent of the pandemic, the health care sector appears to be growing and is also creating opportunities for emerging businesses. The Leahy Hospital & Medical Center is one of the largest employers in Town with over 5,000 employees[28] and serves as the primary anchor for this sector. In 2021, the demand for licensed technologies and nurses increased 30 to 50%, and the industry has been dealing with severe labor shortages.[29] In 2022, Lahey was awarded a $4 million grant from the Mass Life Science Center to build out their Image Guided Therapy innovation center.[30]

Advanced and Additive Manufacturing: High tech and electronics have long been the backbone of the Route 128 economy, anchored in part by the nearby MITRE Corporation, and evident

. With almost 100 acres of potential infill development sites, the Burlington 128 District can retain its position as the economic engine for the town for many years to come.

in some of Burlington's largest employers such as Oracle/Sun (computer network systems) with 3,000 employees and Siemens-Nexdorph (information technology and electronics) with 1,000 employees.[31] The legacy of the computer hardware industry translates today into the skills and reputation that draws today's emerging industries in advanced manufacturing and more recently 3D printing, or additive manufacturing. Founded in 2016, Desktop Metal, was an early innovator in 3D printers that produce advanced metal parts and products, using technology from MIT and headquartered in Burlington. Nationally, they have over 1,000 employees. VulcanForms brings together software, materials, automation and operations in breakthrough additive manufacturing technology, growing out of MIT and establishing their headquarters in Burlington in 2019. Keurig Green Mountain established their headquarters in Burlington in 2013, and is now a leading North American beverage conglomerate, Keurig Dr Pepper. In addition to offices, their campus includes a research and development facility, a recognition of the company roots in manufacturing the innovative single-cup brewing technology. Advanced and additive manufacturing industries involve hands-on workshops that bring employees directly into the district on a daily basis.

Life Sciences: The 128 District is well positioned for life sciences, and in particular, its cutting edge technologies where biopharma and digital health benefit from proximity to the information and health care sectors. As an example, MilliporeSigma is an international leader in life sciences and technology, developing tools and digital platforms to tackle pharmaceutical challenges. Now a division of Merck KgaA, MilliporeSigma employs more than 1,000 employees at their Life Sciences Center in Burlington. Innovative medical devices and nano-imaging draw on skills found in advanced manufacturing and health care industries, as evidenced by the handheld ultrasound being developed by the recent start-up Butterfly Network. New development of lab space at nearby Network Drive and lab conversions at Burlington Bio Center in Burlington Woods are attracting prominent tenants who chose Burlington over other options in the region. As examples, Vericel is relocating from Cambridge to establish a new headquarters, with lab and manufacturing space, in Burlington, and the Broad Institute plans to transition their primary location from Cambridge to Burlington over the next several years.

Cyber Security: Building on its software foundations, Burlington is becoming a center for specialized cyber-security firm including Veracode, CA Technologies, Sophos, and Corporate Technologies. Northeastern University's Innovation Campus deepens this sector with their research in cyber-security as well as several other emerging fields such as nano-medicine, biopharma, and drone research.

Retail and Food: The retail industry provides another type of anchor in the community, with the Burlington Mall (750 employees) and Wegmans (630 employees) as top employers.[32]

Figure 4.6. Lahey Medical Center, Northwestern University, and MITRE are key anchor institutions.

Figure 4.7. The future of work is likely to be hybrid, with smaller office footprints, shorter commutes, and more amenities (Assembly Sq)

Future of Work and Retail

The Burlington 128 District was built around traditional office and retail, two sectors that are fundamentally changing in response to the pandemic and are likely to see significant transformation in the long term. While these futures can't be predicted exactly, we can consider their possible implications. In a job market where unemployment is historically low, the need to recruit and retain talented workers fuels the shift to greater flexibility and a better live/work balance.

The outbreak of COVID-19 in early 2020 forced employers to adapt overnight to work from home and reliance on virtual platforms such as Zoom, Microsoft Teams, and Google Meet as a means to maintain workplace culture and to keep their teams and deliverables on track. The debate on whether or not working from home reduces productivity is counterbalanced by the question of the value of the office environment.[33] Clinical, lab-based, and workshop activities have seen a quicker return to work in person because of person-to-person and/or hands-on characteristics, emphasizing the value of a diverse economy that includes health care, life sciences, and advanced/additive manufacturing.

Looking forward, a wide variety of hybrid work models are likely, varying across industries, companies, departments, and even within the life cycle or weekly cycle of an individual worker (Figure 4.7; see also *Appendix B*). Firms may downsize their office footprints, and on this basis, the market is already responding with lab conversions, lab redevelopment, and shifts from office to residential uses. Other responses in the market are developer and business decisions to create highly amenitized workplaces to attract and retain talent. Suburban office locations, such as Burlington, are seeing greater demand. Employees are also making decisions about where and how to live in order to commute less and have greater proximity and convenience between work, home, shopping, and services. This has implications for transit ridership and multi-modal local traffic.

Online shopping (e-commerce) has been changing the business of retail for over a decade, a trend that was accelerated by the pandemic (Figure 4.8). As a response, retailers are focusing on delivering unique in-person experiences. "Omni-channel" retailing blends e-commerce, social media, and brick-and-mortar locations, with investments in

Figure 4.8. The future of retail is likely to be "omni-channel" and more experientia (Knoxville, TN).

curbside pick-up and other conveniences. The Town of Burlington recently updated its zoning code to acknowledge these trends and now allowing retail stores to use advanced technology, virtual reality, audio/visual media, exclusive in-store services or events to create memorable in-store experiences. Business owners can also transform physical retail stores into places for music, dance, art, or trade-specific instruction. In light of the shift in consumer preferences, many malls nationally are struggling; some have been abandoned and others are redeveloping into mixed use centers. Nevertheless, the Burlington Mall remains a Class A property, ranked second in the region in a 2019 review.[34] With the loss of some major department stores, mall retailers are actively looking for new types of anchors that will attract and retain visitors and drive foot traffic to support the smaller shops. These new anchors include mixed-use residential and office uses, lab uses, restaurants, health and education facilities, outdoor gathering spaces, cultural events, and recreational facilities.

Zoning Environment

Although the 128 District reads generally as a single landscape of suburban commercial development, the regulatory framework that permitted it over the years is a complex mosaic (Figure 4.9; see also *Appendix C*). Much of the area, including the Medical District, Burlington Woods, and the Van de Graaff area, is still zoned as General Industrial (IG), although these are largely office parks today. Recently, the High Rise Industrial district (IH) was renamed the Innovation district (I). Burlington Mall, which is a massive regional destination, is zoned General Business (GB), the same as Burlington Town Center. The big box and lifestyle centers in the area are also designated General Business.

A patchwork of Planned Development Districts (PDD) interlace the area, representing individually negotiated zoning for properties over 10 acres. Within the study area are the New England Executive Park PDD (*"The District"*), the South Avenue I PDD, South Avenue II PDD, and 90 Middlesex Turnpike PDD. Surrounding the study area are the PDDs for Northwest Park, Network Drive, Corporate Center, and Wall Street.

Each of the seven districts within the study area (three base districts and four PDDs) have very different provisions for use and dimensions, bestowing different rights on different landowners. None of the zoning districts currently allow residential uses. All of them allow as-of-right office and childcare. Permissions vary from as-of-right to special permit to prohibited for the other uses that do exist in the area including retail, restaurants, fitness centers, hotels, hospitals, clinics, conference centers, laboratories, light manufacturing, research and development, and parking garages. Within the General Industrial and General Business districts, the maximum height is 30 feet (which would allow two stories), while the Innovation district has provisions to allow up to 80 feet height. The PDDs each are different with maximum heights ranging from 40 to 55 feet to 60 to 155 feet, among many other specific dimensional criteria and conditions.

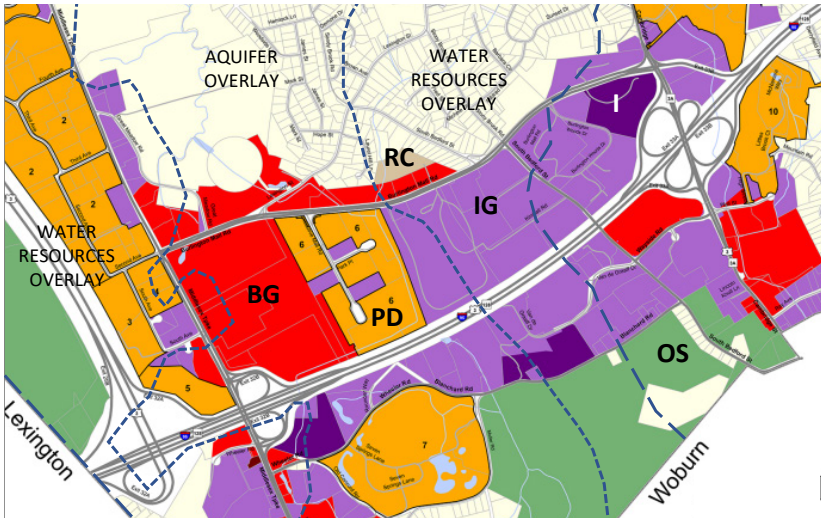


Figure 4.9. Although the 128 District reads as one place, it's made up of a patchwork of zoning districts.

In a time of deep uncertainty and a competitive real estate market, a central focus of this study is how best to position Burlington for the future.

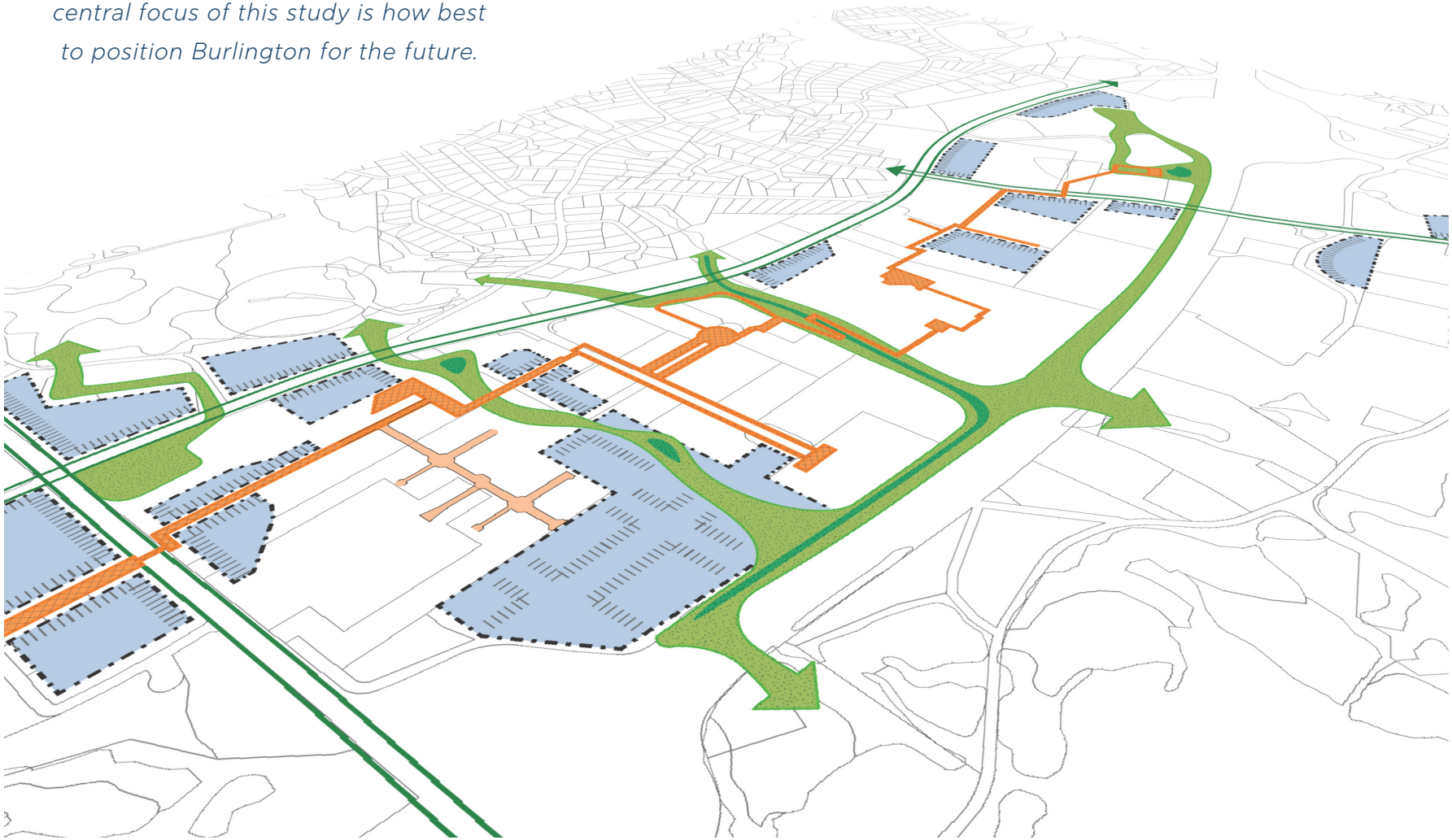


Figure 5.1. Approximately 100 acres of land in the 128 District could be redeveloped, transforming surface parking lots and older developments into a more walkable mixed use environment with housing, office, lab, restaurants, and retail.

5. DEVELOPMENT OPPORTUNITIES

In these unsettled times many different futures are possible, but the concepts of "placemaking" and "fifteen-minute neighborhoods" are resilient strategies regardless of which scenario plays out. These complementary ideas rest on the notion of a more walkable and bikeable environment with a mix of uses and less reliance on automobiles, topics that dominated much of the community conversations.

Scenarios

In a time of deep uncertainty and a competitive real estate market, a central focus of this study is how best to position Burlington for the future. Many outside forces are pulling in different directions, but chief among them are evolving industry trends, the demand for greater worker flexibility and healthy living, and recognition of the value of creative workplaces. Among a wide variety of possible scenarios, these trends suggest that greater economic resilience calls for investment in placemaking, multiple modes of mobility, and mixed use including housing (Figure 5.1; see also *Appendix B*).

Even before the pandemic, companies and their employees have been demanding more pedestrian friendly environments where it was possible to work in close proximity to residential areas and to easily meet at restaurants or other places for informal gathering (Figure 5.2). The move to remote work took some of the luster off downtown hubs with expensive and time consuming commutes and has favored the easy accessibility of suburban locations. Some companies envision the reality of remote office work continuing in the future, with less demand for office space overall. Some imagine creating small suburban satellites that are just used for occasional in-person meetings. Some real estate developers are shifting to lab space, which requires more in-person workspace at considerably higher rents, although there is likely a limit to future absorption across a competitive metro Boston market.[35]

To attract talent, life sciences and many other companies are moving away from sprawling isolated workplaces and moving towards development patterns that offer a sense of place, environments with enough density and clustering to spark innovation and justify amenities. Employees want more lifestyle perks at their workplaces without a long commute (Figure 5.3). In a post-pandemic world, medical centers in particular may be at the forefront of an integrated health and wellness ecosystem.

Investments in ***place*** involve publicly-accessible gathering spaces, civic plazas, green open space, waterfront trails, natural areas, landscaped streets, and connected pathways and trails. Placemaking may be accomplished by the public or the private sector or a joint effort. The resulting pedestrian friendly environment provides amenities for town residents, office/lab/retail and other workers, and visitors, who may be at the Lahey Medical Center, a hotel, a restaurant, or the Burlington Mall.

A ***fifteen minute neighborhood*** is a place "in which citizens can access their daily necessities by foot or bike within 15-minutes" and was first developed by Carlos Moreno in 2016.[36] This paradigm imagines a world where people live within walking distance of

Faced with an uncertain future, economic resiliency will require ongoing investment in placemaking, mobility, and a mix of uses.

their work, all the more relevant in a post-pandemic world where people want more flexibility during the day and week, greater quality of live, and less reliance on long commutes.

As we rethink the future of work and the future of retail, the Burlington 128 District has the available land to transform into a more compact a vibrant fifteen-minute neighborhood with an integrated public realm and infill of housing, restaurants, and other lab and studio workspaces that complement existing development. Approximately 100 aces, or 20 percent of the overall land area, is locked up in surface parking or other parcels that could be considered for redevelopment. None of this will be possible, however, without updates to the Town's regulatory framework.

Infill and redevelopment are unlikely to move forward in this market at an FAR of less than 1.0, which closely matches the density of comparable areas of development. At this density, the potential for new development could be as much as 4.4 million square feet if all 100 acres could be developed (Table 5.1). The program represented in Table 5.1 shows a scenario of 50% of new development as residential and 50% as a mix of office, retail, medical, and other commercial uses. Even with 1,800 new housing units, the mix of new and existing development would lead to a distribution of 82% commercial and 18% residential. In fact, it's more likely that over the next 5 to 8 years, perhaps 35 to 50 acres would be redeveloped with a total of 1.6 to 2.3 million square feet of development.

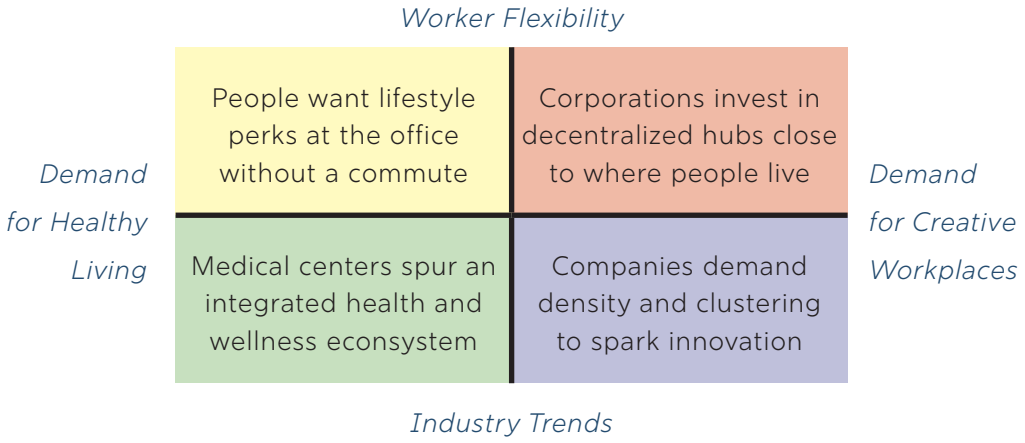


Figure 5.2. With industry and market trends and workforce demands, a number of different scenarios or combinations of scenarios may play out.

Table 5.1. Future Development Program Scenario for Mixed Use

	RESIDENTIAL (units)	RESIDENTIAL (sf)	COMMERCIAL (sf)	**Total (sf)**
Potential New Development (estimated)	1,815 du	2.2M	2.2M	**4.4M**
Existing Development (office, retail, medical mix)	110 du	0.1M	8.3M	**8.4M**
Total Future Development (long term)	1,925 du	2.3M	10.5M	**12.7M**
Distribution		**18%**	**82%**	**100%**

Future development assumes approximately 100 acres at FAR 1.0, with 50% housing and 50% commercial office, retail, medical mix; 1200 sf/unit average

Figure 5.3. Employees want more lifestyle perks at their workplaces without a long commute (Metroburb, Bell Works, NJ)

Design and Development Principles

When asked about top priorities, the participants in the first community forum identified a balance of interests that have guided the development of the Burlington 128 District plan. This input led to the following six design and development principles: natural systems, complete streets, districts and interconnectivity, mixed use, social gathering, and shared parking. As the building blocks of a 15-minute neighborhood and placemaking, these principles should inform zoning updates, developer dialogue and negotiations, and public works projects and priorities.

Each is discussed below, integrating inspirations from other places and specific applications to the Burlington 128 District. Additional design studies are found in *Appendix D*. Specific action steps are highlighted and discussed in more detail in Section 6, *Strategic Actions*.

Design & Development Principles

1. **Natural Systems:** Strengthen the network of natural systems and open spaces
2. **Complete Streets:** Reconfigure street corridors to accommodate pedestrians, bikes, cars, and public transit
3. **District Interconnectivity:** Foster the unique character of each subdistrict while strengthening their interconnections
4. **Mixed Use:** Create walkable districts that integrate work and home, close to shops and services
5. **Social Gathering:** Incorporate destinations for social gathering, food, and cultural events
6. **Smart Parking:** Promote shared and structured parking and alternative modes of transportation to reduce traffic and parking demand

1. Natural Systems: Strengthen the network of natural systems and open spaces

In previous eras, wetlands held little economic or social value and were often filled. Natural waterways were engineered into culverts and ditches to make way for development, as they were in Burlington. Today, we recognize the valuable work of the hydrologic systems in providing flood storage, plant and animal habitats, and as aesthetic and recreational environments, as witnessed along the Muddy River in Boston's Fenway neighborhood and along the Mill River in Stamford, Connecticut (Figure 5.4). Investment in open space also adds value to the private property it defines.

The concept plan for the 128 District envisions a series of "green fingers" that thread through the developed areas, building on existing assets and creating new publicly-accessible and resilient landscapes. In alignment with the MVP plan, Vine Brook and adjacent trails could be redesigned to become a central north-south feature in the district, with broader landscaped banks and a return to a more natural alignment to accommodate and slow flood waters. In other areas, linear green parks could intersect surface parking and development to provide rain gardens that slow and store runoff locally, while offering relief from heat island effects. Wooded areas that exist along Route 128 and between properties could be better connected and linked with internal trails to provide much sought after recreation for workers and other visitors to the area.

Action Steps

- *Develop a green/corridor pedestrian plan, including Vine Brook restoration and trails*
- *Build site design requirements and/or bonus incentives into the regulatory framework*

Figure 5.4. Wetlands, streams, and water's edge trails create recreational opportunities while helping to mitigate urban heat island effect and flooding issues (Stamford Mill River, CT).

2. Complete Streets: Reconfigure street corridors to accommodate pedestrians, bikes, cars, and transit

Streets have been dedicated to automobiles for too long but can be transformed into a community's most superlative public open space. The concept of "complete streets" acknowledges multiple forms of mobility that need to share the right-of-way, including transit, bicycles, and pedestrians in addition to motorists. "Shared streets" means blurring the boundaries between different types of mobility, which can occur on smaller side streets and shopping streets with very slow moving traffic. In Massachusetts, the Shared Streets initiative is a term used to encourage short term improvements to achieve many of the complete street goals, prioritizing safe spaces for pedestrians and bicyclists, through traffic calming, dedicated bus and bicycle lands, and new sidewalks and crosswalks, among other. These public realm investments draw people to outdoor dining, strolling, gathering, and safe walking and bicycling for all ages, and are being implemented in Third Avenue in Burlington, Watertown Yards, Assembly Square and many other communities (Figure 5.5).

In the Burlington 128 District, high priorities for complete streets are Burlington Mall Road, Middlesex Turnpike, South Bedford Street, Blanchard Road, and Cambridge Street north to Burlington Town Center. Each have different right-of-way widths, but important priorities are to calm the traffic with narrower lanes, and accommodate dedicated bicycle lanes, continuous street trees, pedestrian lighting, and wider sidewalks set away from the curb. Street trees will mitigate heat island effects while buffering pedestrians from automobiles. Greater use of transit reduces automobile congestion, but this option has more traction with dedicated bus lanes, better design of bus pull out areas, and/or expedited traffic signals.

Smaller internal streets in each of the subdistricts should be designed to follow complete streets principles with a high priority on landscaping and safe spaces for pedestrians and bicycles. On street parking serves to slow traffic and buffer pedestrians, and can replace some surface parking. A network of side streets would distribute traffic and reduce the funnel effect onto arterials, especially for people who need to run errands (eating, shopping, business meetings) within the 128 District. Key connections would be between the Burlington Mall and *"The District"* and between Blanchard Road and Van DeGraff. A better system of sidewalks and internal connecting streets would improve circulation between and within the Medical District, Burlington Woods, and Wayside.

Action Steps

- *Initiate complete streets design for Middlesex Turnpike and Burlington Mall Road*
- *Test tactical and immediate actions using Shared Streets funding*
- *Build site design requirements and/or bonus incentives into the regulatory framework*
- *Consider a DIF designation for the area to fund public realm infrastructure*

Figure 5.5. Complete streets are designed to accommodate bicycles, pedestrians, public transit, and automobiles (Charlotte, Virginia, WalkBikeGo)

3. District Interconnectivity: Foster the unique character of each subdistrict while strengthening their interconnections

The distinct character areas within the 128 District could provide legibility and wayfinding for visitors and future development. Each reside within a five-minute radius walk zone, suggesting a familiar pedestrian-friendly scale. While the regulatory framework should be consistent for all, marketing strategies may want to highlight the competitive advantages of each, such as visibility, internal architectural or landscape coherence, or anchor institutions (e.g., Lahey Hospital & Medical Center, Northeastern University), among other.

As the uses across subdistricts become more interdependent, the Burlington 128 District could become known for its robust and intentional system of connected walking paths (Figures 5.6-5.8). These paths would link together distinctive places and trails that exist across the area. Each developer would need to fill in the gaps that would close distances between destinations, even if this system is built out over time.

With new infill development on the Cinema hill and the Burlington Mall, a new pedestrian level bridge might span the Middlesex Turnpike, creating a distinctive gateway into Burlington, and an opportunity for quality signage that "brands" the 128 District (Figures 5.9-5.10). At the mall, the internal circulation system needs to connect outward toward any new infill development, a

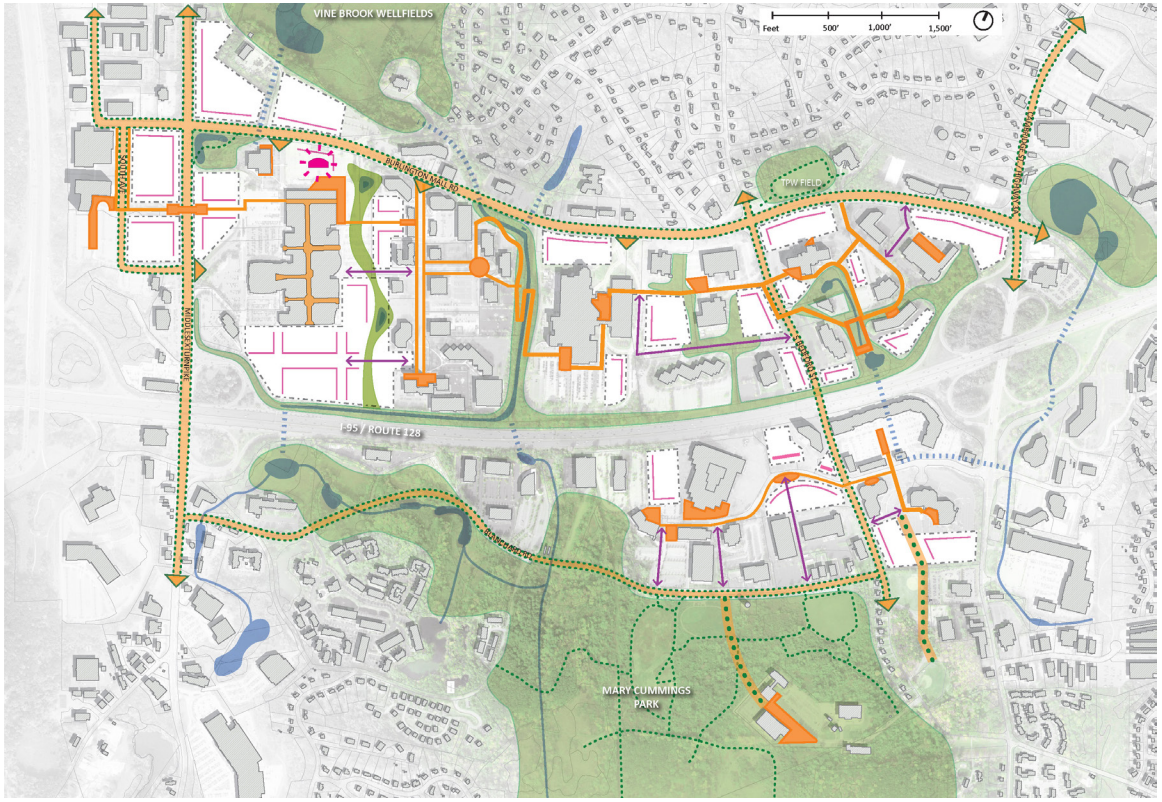


Figure 5.6. Burlington could become known for its system of pedestrian pathways across the district, each with a variety of distinct design characters.

Figure 5.7. Informal walking paths (Dallas, Texas)

Figure 5.8. Landscaped park paths (Chicago)

strategy that would facilitate phased redevelopment over time. More robust pedestrian connections should link the Mall with *"The District"* given the amenities and destinations offered in each.

A bridge over Vine Brook and a system of woodland trails on the slopes above it would provide a major new connection between the Lahey Medical Center and *"The District"* and the Mall beyond, while creating larger recreational loops for employees, visitors, and future residents in the area. The Medical Center, Burlington Woods, Wayside and the Van de Graaff areas needs to be connected with the intentional design of sidewalks and pedestrian crossings. New trails in Mary Cummings Park could link the Northeastern Innovation Campus with the offices and laboratories that generate internships and jobs for graduates and that build on commercial and academic innovation and partnerships.

Action Steps

- *Develop a green/corridor pedestrian plan, including Vine Brook restoration and trails*
- *Build site design requirements and/or bonus incentives into the regulatory framework*
- *Create a brand design and marketing strategy for the Burlington 128 District and its distinctive sub-areas*

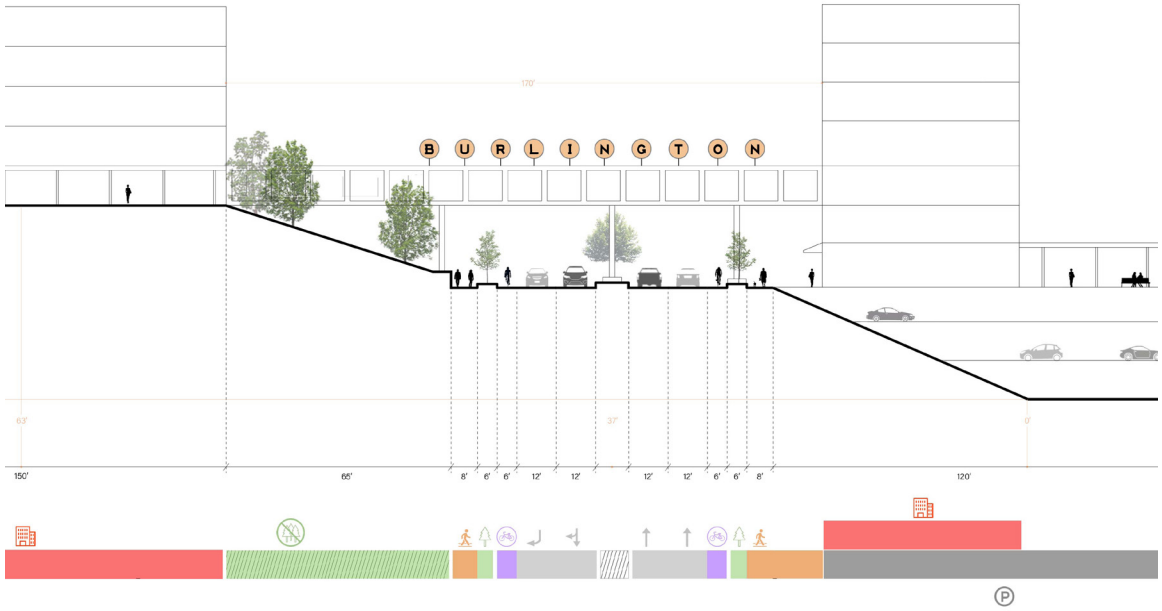


Figure 5.9. A pedestrian connection over the Middlesex Turnpike would connect new development on either side of the corridor

Figure 5.10 A pedestrian bridge could become a distinctive architectural landmark (Denver)

A zoning district that allows more flexibility for multifamily housing could help the Town align with the Massachusetts Housing Choice policy.

4. Mixed Use: Create walkable districts that integrate work and home, close to shops and services

The concepts of the 15-minute neighborhood and an integrated public realm will advance Burlington's reputation as a hub for innovation, one in which it's possible to both live and work. The future of work will place a premium on collaborative indoor and outdoor space, recognizing that productivity can be achieved anywhere and blurring the boundaries of day to day activities. By allowing more housing options, the Burlington 128 District can recruit top talent and address chronic worker shortages in the medical center and other industries, meeting the demand for alternatives to single family housing, for both younger and older residents. Redevelopment in and around the mall - whether lab space or residential or experiential uses – will redefine the notion of an anchor use. With almost 100 acres of potential infill development sites, the Burlington 128 District can retain its position as the economic engine for the town for many years to come.

As an example, the south end of the mall is a highly visible site, anchored by the Macy's department store, surrounded by surface parking lots, and adjacent to the now vacant Lord & Taylor store. This 25-acre site could be transformed by extending the mall's internal circulation into a small district of landscaped, pedestrian friendly streets, green plazas, and a mix of office, housing, and active ground floors (Figure 5.11). Strategically located

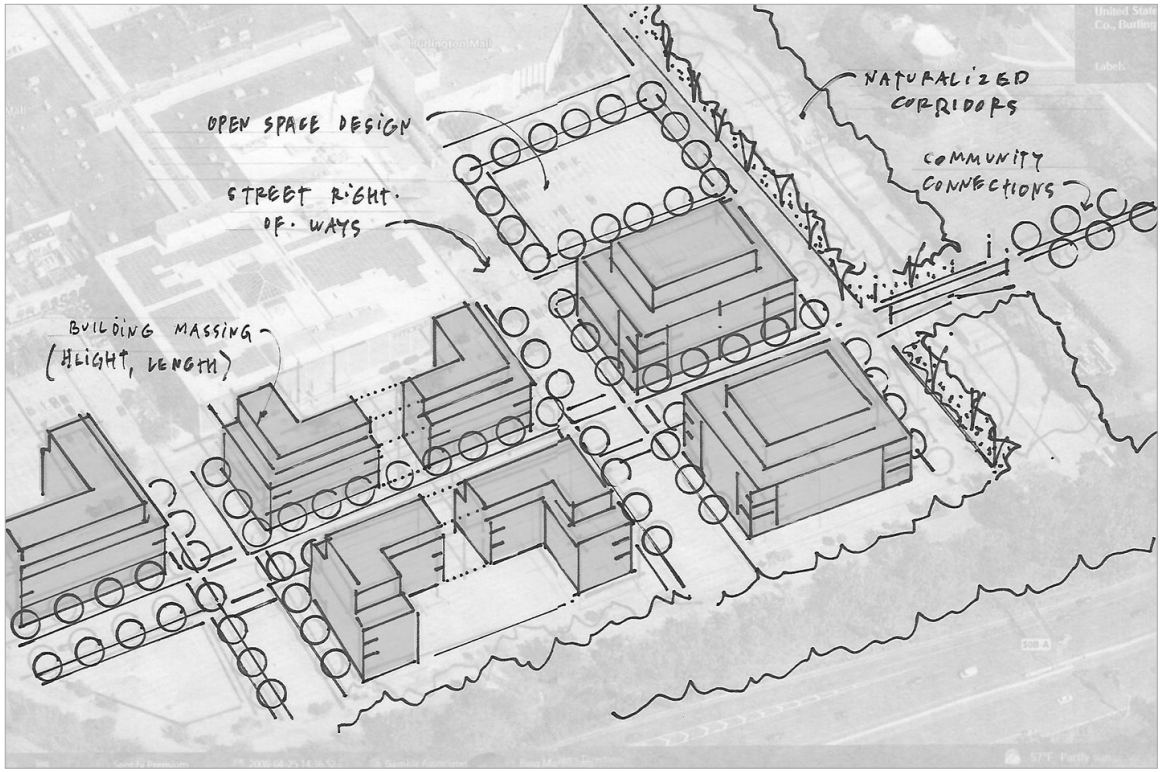


Figure 5.11. Redevelopment at the south end of the mall could reinvigorate the interior mall with new anchor uses of residential, lab, and office, supported by structured parking.

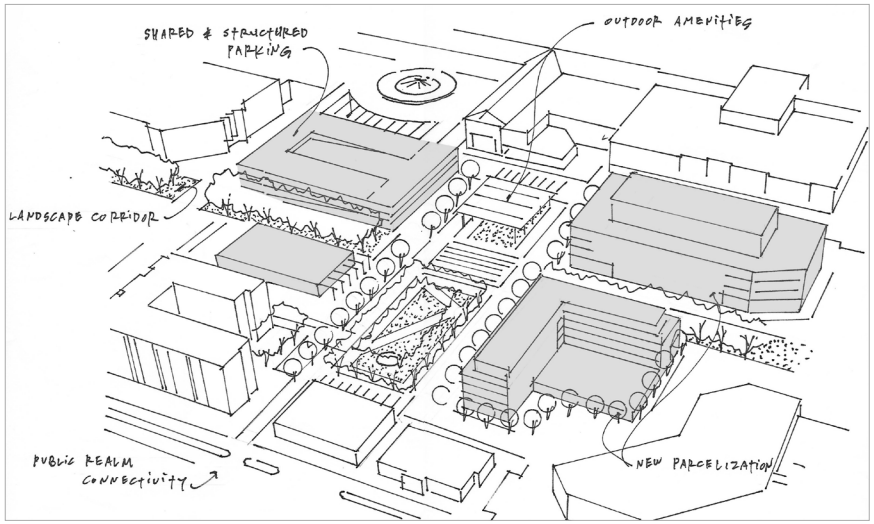
parking structures would aggregate existing surface lots and complement this development with more convenient sheltered parking.

A well-designed shared street could become the centerpiece for new ground level restaurants and experiential retail, office, housing, and structured parking in a four-acre area between the Burlington Mall and *"The District"* (Figure 5.12). This increased access would benefit day-time shopping, access to dining experiences, and greater amenities for hotel, office, and future residents in both developments.

A third example of infill development is on a six-acre area of surface parking lots on South Bedford Street, adjacent to the Nuance and Microsoft buildings (Figure 5.13). By consolidating parking in structures, land would be freed up for infill housing that would create a campus affect for the Wayside and Van de Graaff subdistricts. Residents here might easily walk to work or to shopping at Wayside Commons or to recreation at Marvin Field or nearby Mary Cummings Park. Low rise buildings fronting on South Bedford would define the street corridor, while higher development could occur on the interior of the site (Figure 5.14).

Action Step

- *Develop a new mixed use zoning district, using Form based zoning techniques and incorporating requirements and/or incentives for all six design and development principles*



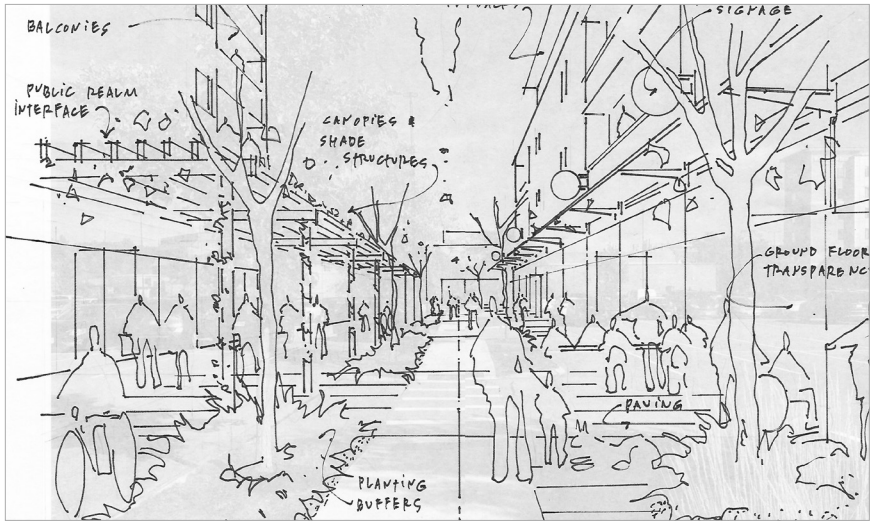


Figure 5.12. Between "The District" and the Mall, new infill development could be centered on a vibrant, landscaped shared street.

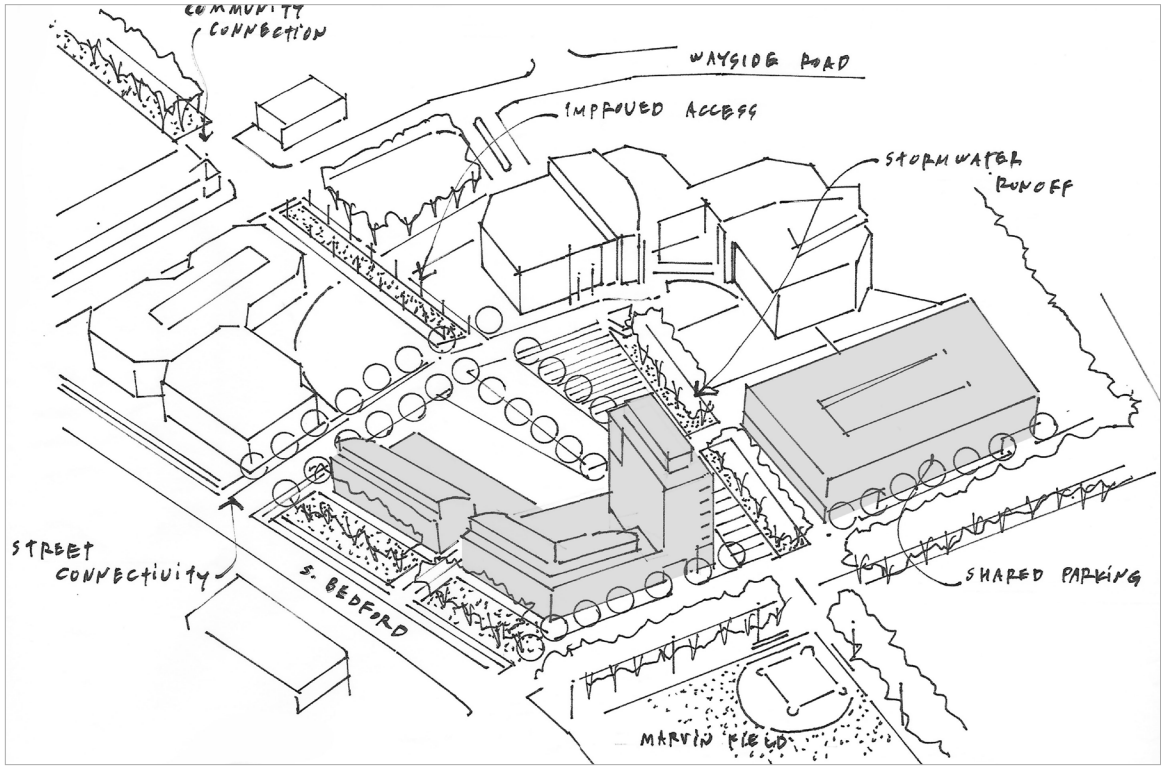


Figure 5.13. At 1 and 15 Wayside Drive, parking could be reorganized into structures to free up land for new mixed use development, with stronger connections to the Wayside Shopping Center and the Van de Graaff area.

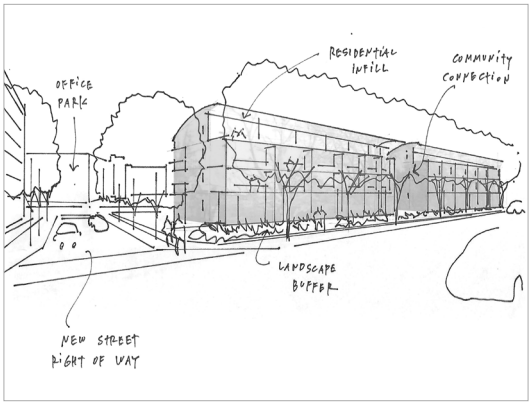


Figure 5.14. Low rise residential structures would help define South Bedford Street and would complement nearby neighborhoods.

The Burlington 128 District could become a destination for social gathering, with each corner uniquely defined and connected by the linked network of paths.

5. Social Gathering: Incorporate destinations for social gathering, food, and cultural events

The Burlington 128 District could become a destination for social gathering, with each corner uniquely defined and connected by the linked network of paths. Even with Zoom and virtual meetings, the value of the chance encounter and the ability to exchange ideas is still a driving force for office, lab, and research space, where businesses are driven by innovation. Community members and other stakeholders in Burlington expressed a desire for more gathering places for friends and neighbors, places for recreation and pop-up events, arts and culture, family time, and authentic experiences.

"The District" has a series of landscaped spaces, including community gardens, public art, the waterfall, and plaza areas, which are already an asset and could be strengthened. Distinct concepts might involve places of quiet respite and recreation to bolster the emotional well-being of visitors and employees at the medical center. Entertainment and cultural programs might be more appropriate around the mall, serving to draw people into the space, similar to Suburban Square in Ardmore, Pennsylvania, Country Club Plaza, in Kansas City, and Legacy Place in Dedham (Figure 5.15). Other developments could design gathering spaces and activities that best serve their tenants, whether workers, students, hotel visitors, or residents.

Figure 5.15. Since the pandemic began, people are drawn to places with outddor social gathering spaces, which can be programmed for music and cultural events, recreational activities, or casual informal use (Cambridge).

Action Step

- *Build site design requirements and/or bonus incentives into the regulatory framework*

The key to better utilizing land in the 128 District is to reconceive the role of parking.

6. Smart Parking: Promote shared and off-street parking and alternative modes of transportation to reduce traffic and parking demand

The key to better utilizing land in the 128 District is to reconceive the role of parking. Smart parking reduces demand on the one hand, while also addressing parking supply through shared and structured off-street parking.

Reducing parking demand tames the automobile in favor of other modes. The redesign of streets and walkways increases the ability to conduct nearby business and errands (shopping, lunch, day care, gym, etc.) within the district on foot or on bike. The introduction of residential uses allow some employees to live closer to work, reducing demand, and tends to generate traffic in off-peak hours, reducing congestion. Longer term strategies are needed to improve transit as a viable alternative, but expediting operations with dedicated bus lanes and attractive bus stops are one component. Improving service requires advocacy with the MBTA and/or expansion of private transportation systems such as the 128 Business Council.

Shared parking takes advantage of mixed uses to calculate complementary parking demand at different times of the day and the days of the week. Traditionally offices are peak parking users during the day, restaurants and entertainment during the evening, and residential during the night. Shopping may extend throughout the day, but with a heavier use on the weekends when offices are quiet. All of these overlap, but this recalculation reduces the overall demand of dedicated parking spaces.

Structured parking, which is not currently allowed as of right, represents a more efficient way to use land, freeing up space for other priorities such as an exciting mix of new uses, natural open space, and social gathering spaces. Additional density is necessary to make these facilities financially feasible. Parking – whether on the surface or in structures – should be screened by other development, so that active ground floor uses, front doors, distinctive architecture, and/or landscaping define the visible street corridor experience (Figure 5.16). In many places within the Burlington 128 District, parking structures can take advantage of topography, further minimizing their visual impact.

Action Steps

- *Initiate complete streets design for Middlesex Turnpike and Burlington Mall Road*
- *Develop a new mixed use zoning district, using Form based zoning techniques*

Figure 5.16. Structured parking should be placed on the interior of the block, prioritizing active uses that face onto the pedestrian realm.

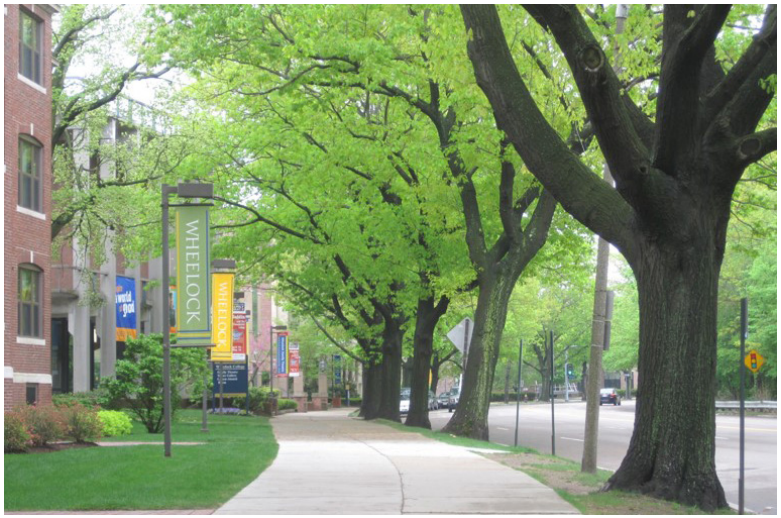


Figure 5.17. Investment in the public realm goes hand in hand with a regulatory framework that allows for a mix of uses in a pedestrian friendly environment. Complete streets add value to adjacent real estate while providing open space and promoting alternative modes of transportation that can alleviate congestion (Boston, Cambridge).

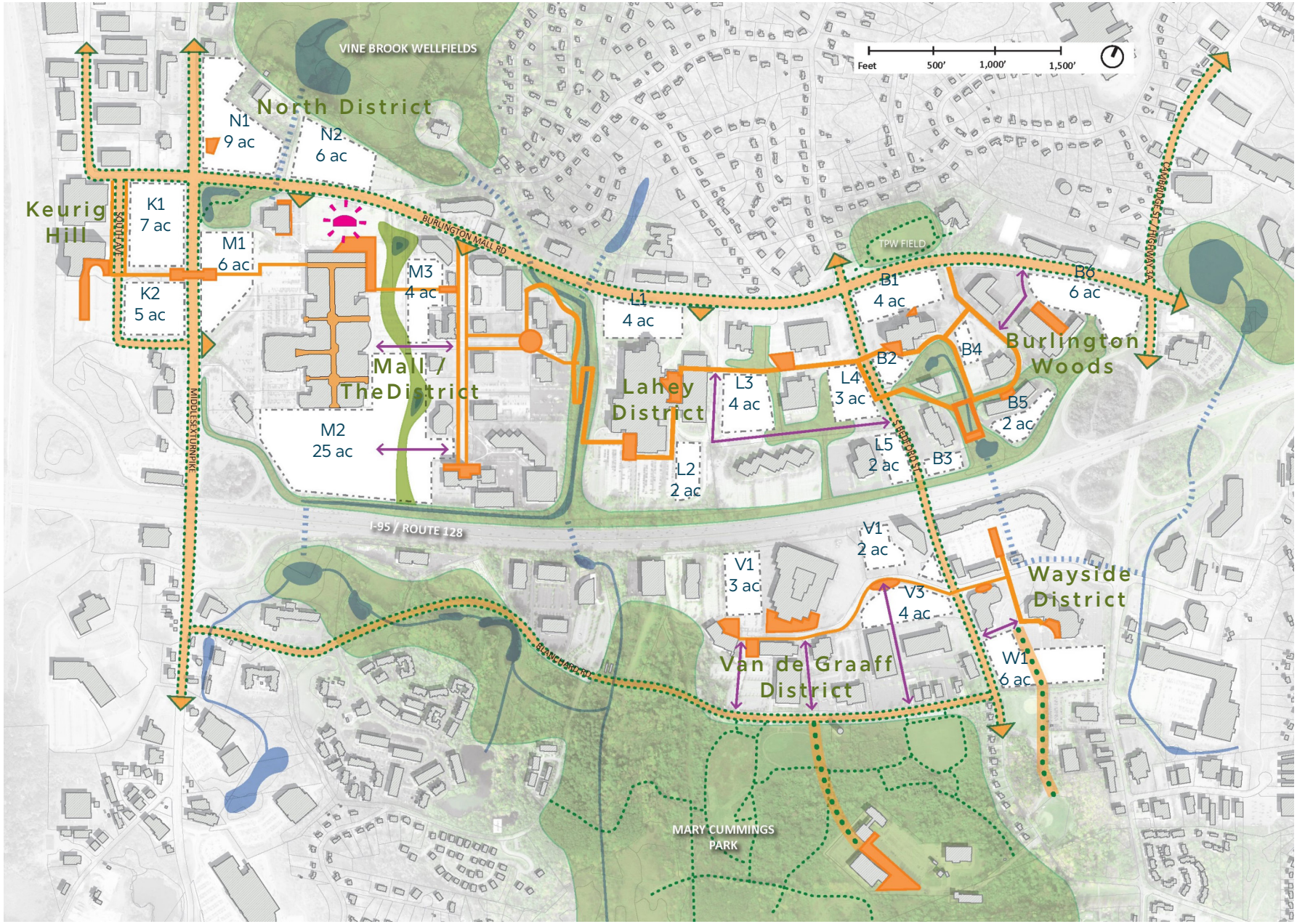


Figure 6.1. More compact development could replace many surface parking lots to create walkable pedestrian environments with more active uses, but a new zoning framework will be needed to offer more consistent standards, including greater density, structured parking, and mixed uses.

6. STRATEGIC ACTIONS

The Town can move forward directly with many of the recommendations in this plan and begin to realize aspects of the vision for the Burlington 128 District. Implementation begins with a series of steps, which are organized around four categories of action:

- *Zoning Framework:* Develop a new mixed use zoning district, using form based zoning techniques to allow additional density, multi-family residential uses, and structured parking, among other uses, and to incorporate requirements and/or incentives for all six design and development principles (Figure 6.1).
- *Complete Streets*: Initiate a traffic study and complete streets design and engineering for Middlesex Turnpike and Burlington Mall Road to enhance walkability, bikeability, and transit use, using MassWorks, District Improvement Financing (DIF), and/or other funding sources; test tactical and immediate actions, using MA Shared Streets and other funding.
- *Connections:* Develop a green/corridor pedestrian plan, including Vine Brook restoration and trails, to inform the zoning regulatory framework and to partner with the private sector.
- *District Identity*: Create a brand design and marketing strategy for the district and its distinctive sub-areas.

The discussion below provides more detail around each action, including specific steps and the roles and responsibilities of those who might lead these actions as highlighted in a series of sidebars. Ultimately, most decisions will need to be reviewed by the Town Administrator and positioned for approval by the Select Board and Town Meeting. Various boards and commissions will play important roles, especially the Planning Board, Conservation Commission, Board of Assessors, and Economic Development Liaison Group, as well as the Town Meeting Committees, such as Zoning By-law, Capital Budget, and Land Use. The Planning Department and the Economic Development Office have led this effort and will continue to play important roles, but to move this agenda forward will require participation from the Department of Public Works and other departments. All of the steps below need to involve ongoing and extensive community engagement to ensure that the recommendations and the implementation are tailored to the Burlington experience.

This project has demonstrated the interest and commitment of many others regarding the future of the Burlington 128 District, and these stakeholders will be invaluable partners moving forward. The Chamber of Commerce has been a vocal champion for complete streets and more pedestrian friendly walkable environments and represents large and small employers, professional services, national and local retailers, real estate developers, and landowners. Middlesex 3 and the Metropolitan Area Planning Commission (MAPC) are important regional allies, especially around transit and economic development as well as other topics. The anchor institutions - Lahey Hospital & Medical Center and Northeastern University Innovation

Approximately 100 aces, or 20 percent of the overall land area, is locked up in surface parking or other parcels that could be considered for redevelopment.

Campus - have an important stake in the future of the Town and will contribute to the long-term success of the 128 District. Given the ownership patterns in the area, much of this work cannot be accomplished without the buy-in and interests of the private sector: real estate developers, property owners, large employers, and emerging entrepreneurs.

The policy and funding implications of each of the four implementation strategies are presented below along with the highlighted action steps and responsibilities (see also *Appendix E*).

Zoning Framework

Zoning codes reflect different attitudes about development and town goals, both of which change over time. Zoning affects private property rights and embodies aspirations for town character, making it challenging to amend the basic rules. The more that a zoning code falls out of sync with social and economic trends, the more often that exceptions become the rule, or in the case of Planned Development Districts, each property owner has to negotiate their own terms with the Town. This makes for an unpredictable and uneven situation for both the development community and the Town and adds time to the development approval process.

Burlington has been continuously updating parts of its zoning ordinance, but it may be time to think more comprehensively about defining and communicating a clear set of rules that will achieve more desirable outcomes for everyone involved.

Over the last few decades, zoning nationally has been shifting away from the traditional mode of defining and separating uses, often known as Euclidian Zoning. This traditional zoning relies on text heavy, legal language, which aims to regulate each private property separately, with little regard for the connecting public realm of streets and parks. Much has changed since the Euclid case in 1926, especially the demand for more pedestrian friendly, mixed used environments. In many towns and cities, the most interesting, mixed-use environments that we cherish simply aren't allowed today.

In response, the use of Form-Based Zoning principles has been taken up in many communities. Chief among these is a focus on the *form* of development rather than the specific *uses*. Design principles to regulate both the public realm and private property are integrated into the zoning code through the use of graphics and clear language.[37] An important element is to engage the community up front to develop and agree on the standards, so that each project that follows the consistent standards in the code can have an expedited review process. Many municipalities begin with a hybrid approach, whereby existing language in the by-laws can be adopted to integrate form-based ideas and these may at first apply to only designated districts rather than town-wide policies.

For Burlington, reimaging the zoning framework suggests a new mixed use district for the entire 128 District using form-based principles. The existing Planned Development Districts have their own standards, but the new zoning is likely to bring the rest of the district into more harmony with these earlier agreements. The Town could consider whether to grant density bonuses for development that goes over and above in achieving specified civic goals. A zoning district that allows more flexibility for multifamily housing as part of a mix of uses could help the Town achieve the housing production goals established in the Massachusetts Housing Choice policy. A top priority is to clarify the expectations for proposed development (which expedites permitting) while maintaining oversight to achieve Town goals. See *Appendix C* for additional zoning analysis and detail.

Form-based Design Principles

A carefully designed code balances the amount of regulation to encourage good design with the amount of flexibility that enables creativity in design. The ability to administer the code and make decision decisions at the local level should be a consideration in the development of the regulations. A few key design principles of form based zoning are highlighted below.

- *Build-to-Line:* A consistent street wall combined with wider, landscaped sidewalks creates an outdoor room with three-dimensional qualities that is publicly accessible. Instead of asking for minimum setbacks, a form based code indicates a build-to-line in relation to the street corridor and adjacent buildings, to which new development must conform with a minimum and a *maximum*

setback. Parking, which interrupts the flow of active uses and interferes with pedestrian movement, should not be allowed in the frontage area.

- *Building Height:* The experience within the pedestrian realm is defined primarily by the height of the street wall, while height that is internal to a block or otherwise off the street has less visual impact. The height of the street wall on both sides of a corridor should be consistent to define the three-dimensional space of the street. In general, no buildings should be less than two stories, which reflects the value of the land but also the role of buildings in shaping space. Well-defined street edges, especially with active doors and landscaping, help slow traffic and makes streets safer for pedestrians and bicycles. Height can also be a distinguishing feature when well-designed buildings are placed at the terminus of view corridors, on important corners, or along parts of the highway frontage. Measuring height is discussed in the section on *Density*, below.

- *Step Backs:* Step backs are the part of a building that are higher than the street wall and set back from the build-to-line. In this way, building heights can be managed to be less visible from the street, often creating more articulated and interesting architectural massing and enabling more natural light to the public realm.

- *Façade Articulation:* The mass of a building can also be broken down by setting rules that regulate the front wall, or façade, of the building. The minimum and maximum build-to lines allow for variation within a narrow zone, but the code can also establish the maximum length of an unbroken wall. Good design will incorporate this articulation with setbacks for small plazas and entry ways or projections for window oriels and balconies, or other forms of variation and depth along the public face of the building.

- *Street and Open Space Design:* Form-based zoning centers around how buildings and private development relate to the "public" realm of streets and open spaces. Given the size of many of the properties in the Burlington 128 District, internal streets, plazas, and parks are likely to be part of site design approvals. Standards for internal streets should follow the Complete Streets policies already on the books, with more specific design guidelines as needed, and shared streets may even be encouraged in key pedestrian zones.

In some cases, the subdistricts may call for some nuanced considerations, but in general, the rules for development should be more consistent across the area. The design principles in Burlington should take account of the different character of the major arterial corridors. For instance, South Bedford Street and Blanchard Road have a very narrow right of ways (~ 40-45 feet in segments), so the height of the street wall immediately adjacent might be relatively low (three to four stories), with step backs used to obtain greater height. Broad arterials such as such as the Middlesex Turnpike and parts of Mall Road, with 100-foot rights of way, could support taller street walls (as much as six to eight stories). Some parts of Mall Road are adjacent to single family residential neighborhoods, so heights along these segments might also be low rise, with greater heights set back from the street on the south side.

Density

The metrics for density vary and may include height, measured in stories or in feet; the amount of floor area in relation to the site area (floor area ratio or FAR); residential units per acres; and/or total allowable development on a given property as in many of the Burlington PDDs. In order to incentivize new investment in the area, densities will likely need to be an FAR of at least 1.0.

- *FAR:* The real estate market uses FAR because it translates directly into rentable floor area and establishes the value of the land. For those familiar with FAR, it also translates into the expected character of development, such as low rise, suburban office parks, compact pedestrian friendly districts, or more urban downtowns, including whether parking is surface or structured. FAR regulates the *intensity* of use, but does not dictate the form or massing of the building, so should be coupled with other design principles. FAR should measure just rentable floor area and

In order to incentivize new investment in the area, densities will likely need to be an FAR of at least 1.0, creating pedestrian-friendly environments.

exclude balconies and structureed parking. To create incentives, civic amenities may also be excluded from FAR.

- *Height:* The metrics for height can have some unintended consequences, especially since different uses have different standards and often the quality of the architecture and the internal space is defined by higher floor to floor heights within the building. Measuring height in stories allows for this architectural flexibility, especially with mixed use districts or where buildings might be repurposed over time, recognizing that the absolute heights across a skyline may vary. Measuring height in feet is more definitive but should account for the floor to floor heights of high bay retail floors (14-15 feet) and lab spaces (often 15 feet or more), and the different demands of office users (12 to 14 feet) compared to residential uses (10 to 11 feet). Height influences the form of development, and only indirectly regulates the *intensity* of development.
- *Units per Acre:* The number of residential dwelling units, like FAR, speaks to the intensity of use and the market value of land. Different benchmarks tend to define character types, such as low rise town houses, lofts or apartment buildings, and high rise residential, including the implications for below ground or structured parking. This metric however doesn't regulate total floor area, since unit sizes may range from small studios to more luxurious expansive residential units.
- *Total Allowable Development:* Many of the Burlington PDDs regulate development by setting the total allowable development within a certain property area. This metric is the same as FAR, since it is a ratio of total floor area to site area, regulating overall intensity but not form of development.

Often a combination of these density metrics are used to regulate both the intensity of use and the form of development.

Use

Form-based zoning focuses on the massing and character of development, and in so doing has some implications for building use. In particular, a mix of uses is typically encouraged as a way to generate lively environments that are well-used at different times of day and days of the week, encouraging foot traffic, activating the public realm, and reducing parking demand. The existing conditions and models of many of the Burlington PDDs suggest a mix of uses that allows for the integration and combination of office, retail, restaurants, hotels, multi-family housing, fitness centers, day care, conference centers, hospital, clinic, and institutional uses. Given the wide range of possible industrial uses, it may be desirable to require a special permit for industrial uses that might encompass life sciences, engineering, and other laboratories; light manufacturing and prototyping; research and development; green tech and energy manufacturing; and food processing, among other. Parking garages would be an allowed accessory use.

Given its prominent location in the region and the town, the 128 District is prime real estate. If the goal is to foster innovative, entrepreneurial companies and pedestrian friendly, highly amenitized environments, then the following uses should not be allowed: single use, one story big box retail (over a certain floor area); automotive sales and service; self-storage; adult; and wholesale and warehouse uses. Careful consideration is required to attract some desirable uses like grocery stores and pharmacies, which support office and residential uses alike, by encouraging their integration on the ground floor of mixed use development.

Mass Housing Choice

The Burlington 128 District offers an ideal area of town to meet the requirements of the recently passed *Massachusetts Housing Choice Initiative* (MGL Ch. 358, s.18). This initiative promotes as-of-right zoning for multifamily housing in MBTA Communities such as Burlington, requiring that these zoning ordinances "provide at least 1 district of reasonable size in which multi-family housing is permitted as of right" without age restrictions and suitable for families with children". These districts

must have a minimum gross density be 15 units per acres and be within 0.5 miles from a "commuter rail or bus station, if applicable". Failure to comply restricts eligibility for state funding programs including MassWorks, Housing Choice Initiative, and Local Capital Projects (M.G.L. Ch. 40A, s.3A). The State received public comments early in 2022 to inform the pending regulations, which will further define "reasonable size" and "bus station" and other implications of the legislation. Draft regulations suggested 50 contiguous areas as a benchmark for reasonable size, an area that fits well within the 570-acre Burlington 128 District, which is served by MBTA and other buses.

Fiscal Policy and Multifamily Housing

The State Department of Revenue (DOR) guidelines for commercial properties includes apartments over four units as well as mixed use and hotels among other commercial uses.[38] Recognizing that the fiscal impact in terms of services may be different, these guidelines suggest that revenue generated from multifamily housing and mixed use development should be more in line with other commercial uses, taking into consideration the quality, condition, density, and location of the property.

Reimagining the Zoning Framework: Actions, Roles, and Responsibilities

- Identify local funding and/or a state planning grant, such as MA Complete Neighborhoods, to develop Form-based Zoning for the 128 District, including community engagement to discuss and fine tune specific principles *(Planning Department and Economic Development Office)*.
- Convene the Zoning By-Law Committee to review recommendations and next steps *(Planning Department, Economic Development Office)*.
- Meet with local real estate developers and property owners to review recommendations in this study and to test zoning ideas *(Economic Development Office, Planning Department)*.
- Follow the specified timeline for implementing the Housing Choice Initiative, with consideration for designating as-of-right multi-family housing in the 128 District *(Planning Department, Zoning By-Law Committee, Planning Board)*.
- Apply for Complete Neighborhoods Funding for technical assistance in meeting multifamily housing requirements *(Economic Development Office)*.
- Confirm and update policies around assessing multifamily units as commercial properties, consulting State Department of Revenue as necessary *(Town Assessor and Board of Assessors)*.

The concept of "complete streets" acknowledges multiple forms of mobility that need to share the right-of-way, including transit, bicycles, and pedestrians in addition to motorists.

Complete Streets

Public investment in infrastructure is a key action step recommended by this study. In order to move this forward, the Town can apply for grants for technical assistance for planning and design for the major street corridors. For internal streets, design standards in the zoning should encourage complete streets and shared streets, especially linking between district, to create a network of pedestrian and bicycle friendly streets.

All public rights-of-way in the study area are municipally-owned, except State Route 3A/ Cambridge Street, U.S. Interstate 95, and U.S. Route 3, which are under the jurisdiction of the Massachusetts Department of Transportation.[39] On the Middlesex Turnpike, MassDOT also has jurisdiction of the short segment that passes below Interstate 95 and provides access to the ramps (0.36 miles).

Complete Streets Policy

Burlington already has a Complete Streets Policy, in which "the Town commits to making the street network better and safer for drivers, transit users, pedestrians, and bicyclists."[40] This policy aligns with MassDOT guidelines and seeks to integrate the Complete Street principles into policies, planning, and design of transportation projects and programs, as well as everyday operations. Specific performance measures include new/reconstructed sidewalks, on-street bicycle facilities, new and repainted crosswalks, transit vehicle efficiency, and crosswalk and intersection improvements.

All planned Capital Improvement Projects in the Town should follow the Complete Streets policy. By implementing recommendations in this study, the Town can achieve some of its performance measure benchmarks, both in private development and public works. The redesign of major corridors, such as Middlesex Turnpike, Burlington Mall Road, and South Bedford Street, will also complement future development along these corridors.

Complete Streets Projects

The State administers a Complete Streets Program, which funds a sequence of steps to move from planning to implementation.[41] As a first step, Burlington used this program to participate in training and create its local Complete Streets Policy.

The second step in the State's process is to create a Prioritization Plan, which establishes Complete Streets needs and develops a list of potential projects. Municipalities submit their list in an online program website for approval by MassDOT. The State offers technical assistance funding up to $38,000 for assistance inf developing this plan, which can be used to hire a consultant or MAPC. Eligible projects should be within a five year horizon and include street reconfigurations and traffic calming, intersection redesigns, pedestrian and bike network connections, pedestrian crossing modifications, streetscape investments, and transit investments.

The current study provides a "master plan" for the area that supports the prioritization plan. Further technical assistance would be helpful in providing more detailed studies, such as road safety audits, demand analysis, network gap analysis, and others. A complete list of prioritization criteria is found in the *Program Guidance*, but the overall goals are aligned with this study, seeking to improve pedestrian and bicycle mobility. To be competitive for funding, projects ideally improve more than one mode, close a network gap, and improve access for students, seniors, and users with disabilities, especially if within one mile of a school or within a quarter mile of a senior destination. Community engagement is encouraged at every step of the process. The third step in the process is to apply for construction funding, which the state offers for projects costing up to $400,000.

Major Street Design Projects

For larger projects, the Municipality can apply for design and construction of streets, parking, transit, and pedestrian and bicycle ways through *MassWorks* as part of the Community One Stop for Growth application. In particular, MassWorks promotes projects that support economic development by accelerating housing production, private development, and jobs. A key priority is for infrastructure projects that support walkable mixed-use districts. There is no maximum or minimum size project, although grants are typically in the $1 million range. Burlington recently received a MassWorks grant for the water system connections to the MWRA network.

Shared Streets and Spaces

Municipalities can also apply for shorter term projects that accomplish many of the same goals as the Complete Streets. The Shared Streets and Spaces program funds speed management (traffic calming measures), bicycle and pedestrian infrastructure such as widened sidewalks, improved pedestrian crossings, bike lanes, and pedestrian and bike wayfinding; and transit supportive infrastructure, such as dedicated bus lanes, traffic signal prioritization, and shelters, signage, and lighting, among other projects. These projects need to be accomplished in a relatively short time frame, with awards up to $200,000 for traffic management and up to $500,000 for transit support.[42] Burlington recently obtained a Shared Streets Grant to provide a sidewalk on Terrace Hall Avenue between Baron Park Lane and Middlesex Turnpike

Complete Streets: Actions, Roles, and Responsibilities

- Finalize a Complete Street Prioritization Plan, using this study as a basis; seek funding for technical assistance from MA Complete Streets Program as necessary for road safety audits, demand analysis, network gap analysis, and other traffic studies *(Planning Department with Public Works Department)*
- Initiate a complete streets design and engineering plan for Middlesex Turnpike and Burlington Mall Road, using funding from MassWorks, Complete Streets, and/or Chapter 90 *(Public Works Department with Planning Department).*
- Review project eligibility and apply for MA Shared Streets grants to test out traffic calming measures, and pedestrian and bicycle path improvements, and/or dedicated bus lanes prior to large redesign projects *(Planning Department, Public Works Department).*
- Consider District Improvement Financing (DIF) as a strategy for funding public realm improvements *(Economic Development Office, Town Administrator, Treasurer, Capital Budget Committee)*
- Incorporate design standards for privately developed internal streets and open spaces into new form-based zoning, and create incentives for streets that connect between districts as part of new zoning *(Planning Board, Zoning By-Law Committee, Planning Department)*
- All planned Capital Improvement Projects in the Town should follow the Complete Streets policy *(Department of Public Works)*

As the uses across subdistricts become more interdependent, the Burlington 128 District could become known for its robust and intentional system of connected walking paths

Connections

The 128 District plan relies heavily on a system of interconnected pathways and green open space fingers within the privately developed areas. The plan for this system, by definition, needs to have a vision of the whole, incorporating an understanding of existing assets, desirable destinations, topography, hydrology, and property ownership. This plan would build on the MVP plan and its recommendations but advance these ideas through more detailed landscape architecture and civil engineering. This plan is best initiated by the public sector, but will require a partnership with the private sector to work out the feasibility of the plan, and through zoning regulations and/or incentives, to implement it. Like many waterfront trails, it may need to be put in place segment by segment, until ultimately connecting up from one property to the next.

The federal and State governments are in the process of creating programs to disperse the American Rescue Plan Act (ARPA) funds. It may be possible to apply some of this funding to stormwater and sewer infrastructure, rain gardens, and Vine Brook flooding and stormwater improvement projects.

Connections: Actions, Roles, and Responsibilities

- Build support for the Community Preservation Act (CPA), which is on the ballot in November 2022, with the potential to help fund open space initiatives, among others *(yesCPAburlington and other allies and supporters).*
- Apply for MassTrails funding for design, construction, maintenance of recreational trails, shared use paths, and amenities *(Economic Development Office).*
- Determine eligibility of ARPA funds for open space and climate change related improvements (*Planning Department, Economic Development Office).*
- Develop a green/corridor pedestrian plan for the 128 District, including Vine Brook restoration and trails, to inform the zoning regulatory framework and to partner with the private sector *(Conservation Commission, Planning Department, Economic Development Office).*
- Convene and/or reconvene interest groups that have been involved in the MVP plan, climate change initiatives, and open space to advise and promote green and pedestrian connections *(Conservation Commission, Economic Development Office).*
- Once housing production is underway, apply for MA Housing Choice Grants that provide for pedestrian and bicycle infrastructure near transit to connect residential and commercial areas *(Economic Development Office)* .

District Identity

The Bring Me to Burlington webpage, with its ongoing updates, has been instrumental in building the Burlington "brand", especially for businesses and other investors. The Burlington 128 District would benefit from a more cohesive identity that underscores the many diverse uses in the district besides the well-known shopping mall. The assets of the area need to be better communicated, including the medical center, university campus, office and lab uses, and a record of innovation in a variety of industry clusters demonstrating both the legacy of the place and the hub of emerging ideas.

A marketing strategy would address the design of the identity (logo, colors, fonts, message) and how to deploy it in physical space with a system of signage and wayfinding, on digital platforms and social media, and in print. A comprehensive strategy would brand the district as well as the various subdistricts, making it easier to navigate and strengthening business addresses. This effort should be coordinated closely with private property owners and businesses in the district. Markings for recreational trails could boast a similar design theme as the district signage

District Identity: Actions, Roles, and Responsibilities

- Convene a working group of public, private, and institutional stakeholders to advance the idea of district wide signage and branding *(Economic Development Office, Economic Development Liaison Group)*.
- Identify possible funding to hire a graphic designer to develop concepts for the Burlington 128 District and its subdistricts *(Economic Development Office)*.

BRING ME TO BURLINGTON
Boston's Best Neighbor

Given the seismic shifts coming out of the pandemic, the analysis, design scenarios, and strategies in this report can contribute to a more resilient future for the 570 acres that make up the Burlington 128 District. Many thanks to the many civic leaders, residents, and other interested participants who contributed to and inspired the ideas in this report.

The Burlington 128 District has long been valuable real estate at a regional crossroads. The design and development principles and strategic actions in this report can lead to long-term economic and environmental resiliency, while creating an attractive and interconnected place that attracts people and companies to this important center.

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