

# Sullivan Square - Mass Ave at Mt. Auburn Street

## Introduction

The Y intersection at Massachusetts Avenue and Mt. Auburn Street (see Figure One: Mass Ave at Mt. Auburn Street) has served to accommodate the flow of people, goods, and information through Cambridge, Massachusetts for 400 years. The Massachusetts Avenue corridor threads through Boston, Cambridge, Arlington and Lexington. Designated Sullivan Square in 1949 in honor of a long-time Cambridge City Councilman, the intersection is a bustling mini-node between Harvard and Central Squares and is among the oldest places in the country, predating the United States, the State of Massachusetts and even Cambridge itself. Observation of the intersection provides an engaging and illuminating cross section of urban Cambridge. This paper examines the past, present and future of the Y at Mass Ave. and Mt. Auburn Street. The central thesis of this paper is that the physical development patterns of Massachusetts Avenue have been historically influenced by transportation and institutional forces, and that this trend will continue in the future.



Figure One: Sullivan Square (Massachusetts Avenue at Mt. Auburn Street)

## Part I: History

### Founding

The Harvard Square district (including the study area) began its contemporary existence as the village of Newtowne, founded in 1630 by the Proprietors of Massachusetts Bay as the capital of their new colony. The grid of streets and house lots were laid out in March, 1631, making

Newtowne the first planned, ordered community in English North America<sup>1</sup>. The street grid of 1631 is still in use today, and the original parcelization of the house lots remains a factor in today's land use and development patterns. The original land use plan set up the beginnings of an agricultural community with three kinds of land ownership: house plots and farm plots were laid out for individual ownership by new settlers, and extensive community grazing land was set aside for use by all Newtownians under common ownership<sup>2</sup>.

The Charles River was the principal gateway to Newtowne, and the orientation of the town's street system was derived in response to the water landing as well as the natural topographic features of the land; Water Street emanates from the ferry landing, and the irregular grid superimposed on the hill centers on Water Street and is oriented South, likely to ensure maximum sun exposure for the house lots<sup>3</sup>. The study area of this paper took its form from the intersection of two highways (see Figure Two: Cambridge 1600's): the Highway to the Oyster Banks (Mass Ave) led to the riverbanks that would become East Cambridge, and the Highway to the Littleneck (Putnam Ave) led to the colonial settlement of The Neck<sup>4</sup>. Newtowne, physically isolated from Boston by barriers of high hills and extensive marshland (illustrated in Figure Three: Cambridge and Boston 1776), was from its conception an independent and self-reliant community culturally and politically isolated from its big brother colony. The road alignments were directly derived by maximizing ease of from navigation through these physical barriers.

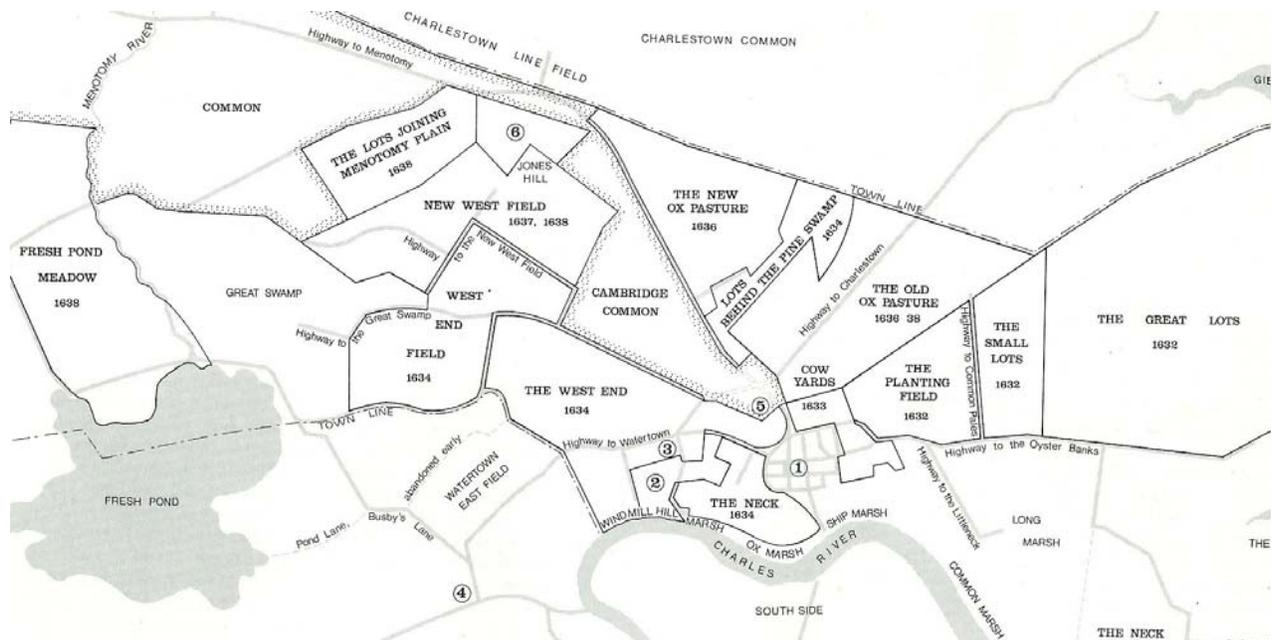


Figure Two: Cambridge 1639



Figure Three Cambridge and Boston, 1776

Newtowne first began to deviate from the original agricultural community pattern with the founding of Harvard College in 1636 and the accompanying name change to Cambridge. The name change from Newtowne to Cambridge was indicative of the role that the town was expected to play in the colonies; that of provider of education to the greater population<sup>5</sup>. The college thus began to attract people from outside Cambridge for reasons other than agricultural trade. Land ownership patterns began to change during this same time, with the individual land holdings becoming consolidated under the ownership of a few large landowners, and the reallocation (and diminishment) of Newtowne's common lands as they were parceled off for other uses. With fewer people controlling the land, townsmen began to work as craftsmen or tradesmen to support either the college or the larger agricultural estates, laying the foundation for

Cambridge's service economy. Estates included the Dana Hill area on a large hill just north of the study area, the Brattle Estate east of the study area, and the Inman Estate. The large estates remained the principal property form in this area of Cambridge until the 1830's, and the county seat mansions of the agricultural elite, surrounded by landscaped gardens, introduced a civilized, cultured presence to the heretofore dominant wilderness (see Figure Four: Mid Cambridge Land Holdings Prior To the Revolution).

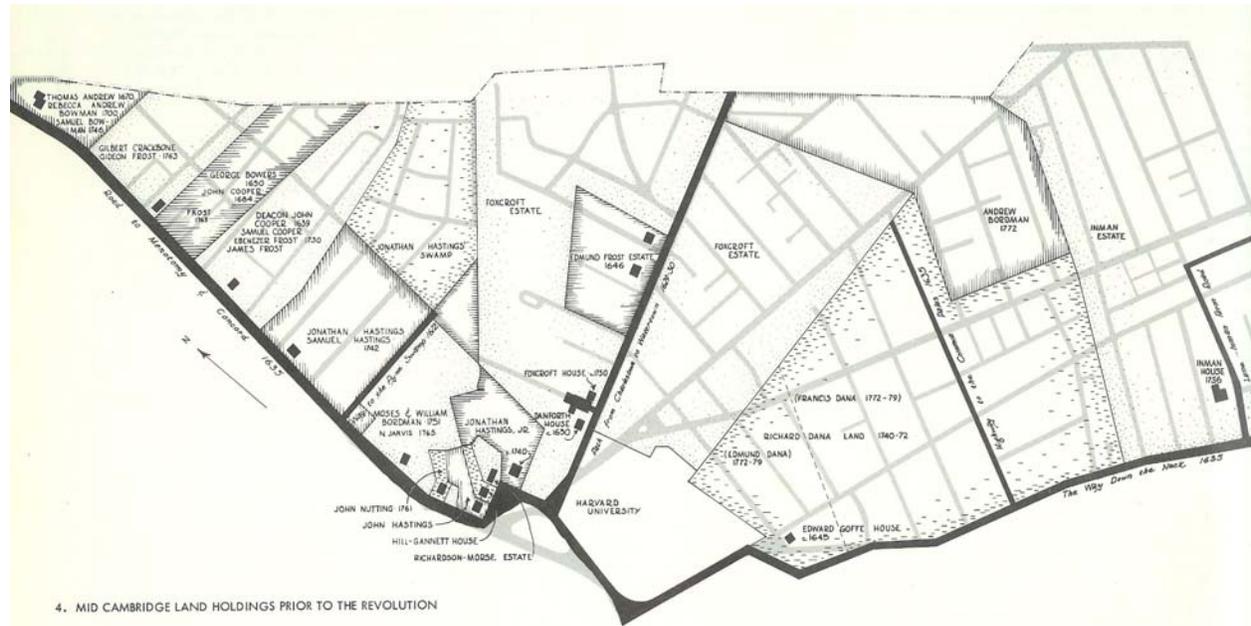


Figure Four: Cambridge Land Holdings Prior to the Revolution

### Transportation Connections

Transportation connections between Boston and Cambridge drove much of the subsequent physical layout and development of Cambridge. Originally connected by ferries operated by Harvard College, the Canal Bridge (1809) and the West Boston Bridge (1793), much later to become the Longfellow Bridge, were the first two physical connections between the areas. The West Boston Bridge connected Cambridge to Boston via Main Street (formerly the Highway to the Oyster Banks) and more importantly connected Boston to Watertown and Lexington with a straight link that didn't require a detour through Charlestown or Roxbury by the farmers heading to the Boston markets. This historic alignment remains a critical link today as the present route of the Red line subway system.

The first Western Avenue bridge was built as a toll bridge in 1830 by the owners of the West Boston Bridge, and connected Watertown Road (now Western Avenue) with Main Street<sup>6</sup>. This added a second major regional route that accessed Cambridge and Harvard Square through the study area at Mass Ave and Mt. Auburn.

Public improvements to the roads, including Main Street, in the first half of the 1800's combined with the introduction of horse-drawn transportation systems, served to establish Main Street as a bustling regional and local transportation corridor. Mt. Auburn Street was cut through the Brattle Estate in 1810 and formalized the connection between Old Cambridge and the Highway to the Littleneck. The study area, formed initially as an intersection of two highways that connected Newtowne (to become Old Cambridge) with other small settlements in Cambridge, became a node along a regional throughway. Figure Five's Plan of Cambridge 1830 shows the new regional connection with the study area as a prominent intersection along the way.

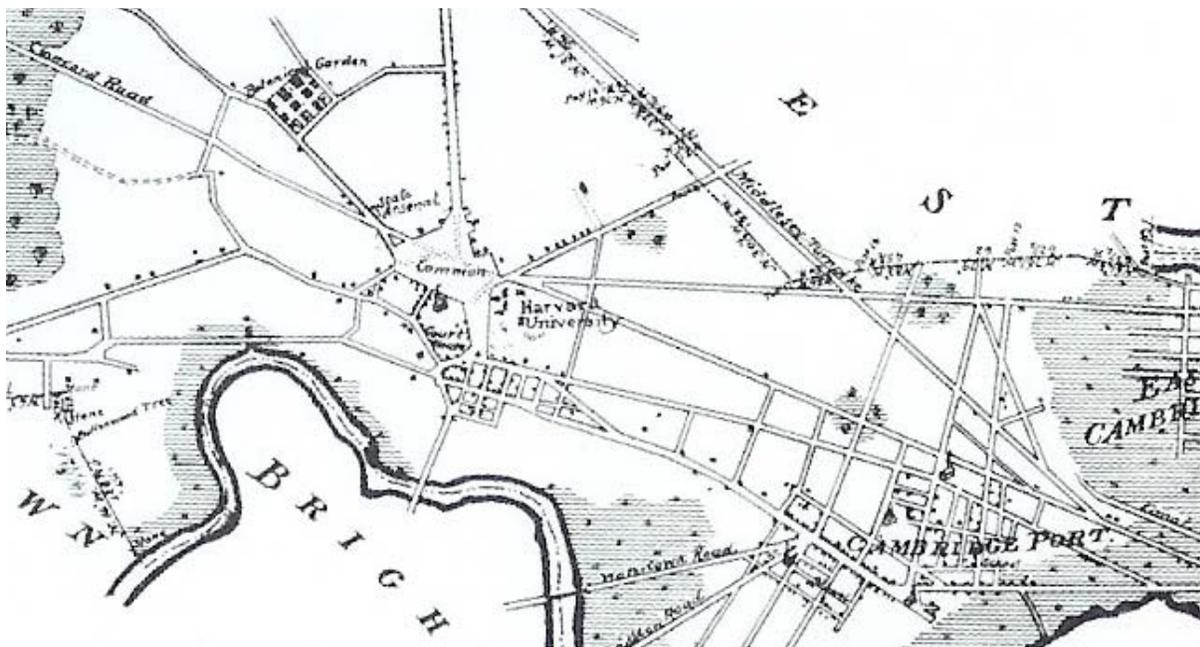


Figure Five Plan of Cambridge, 1830 (detail)

Transportation technology rapidly advanced in the 19<sup>th</sup> century, and the prominence of Main Street and Mt. Auburn Street increased with each additive or replacement transportation element.

Private, individual conveyances (foot, horse, cart) were supplemented with a public stagecoach that began operation in 1795 as a daily service that was increased to hourly frequency by 1826. This innovative, high-frequency public transportation service predates the earliest omnibus systems in Paris and London<sup>7</sup>. Subsequent replacement of the stagecoach lines with omnibuses (1850's), horse-cars (1870's), and eventually trolley (1890's) and subway (1912) further increased capacity, economy and ease of transport and set the stage for Cambridge's population growth by allowing access between the residential community of Cambridge and the job center of Boston. Figures Six and Seven delineate the routes of the transportation systems and highlight the centrality of the study area intersection in each phase of corridor development.

9. OMNIBUS AND HORSECAR ROUTES FROM HARVARD SQUARE

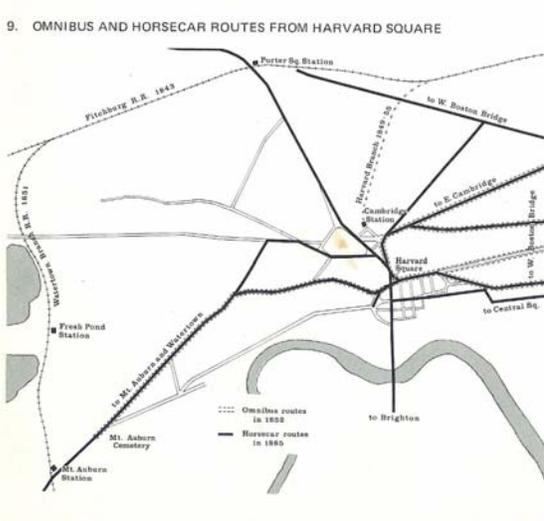


Figure Six: Omnibus and Horsecar Routes

10. TROLLEY AND SUBWAY ROUTES FROM HARVARD SQUARE

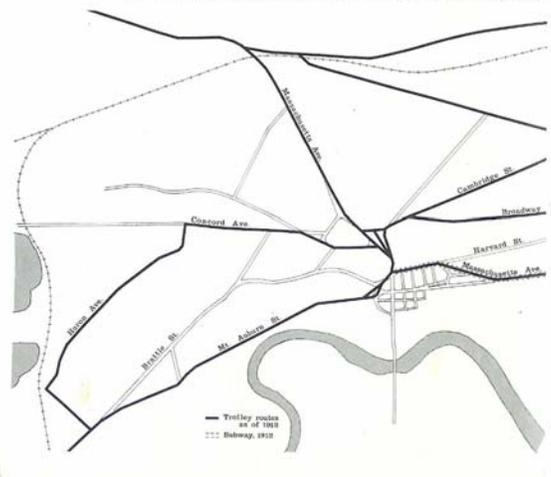


Figure Seven: Trolley and Subway Routes

Houses began to spring up along the Main Street/Mass Ave corridor and at the cross streets, including the study area. The large estates of Colonial and Revolutionary Boston were subdivided as a result of increasing land values and the agricultural estate character of the area began to change to a middle-class suburban residential environ that catered to Boston professionals and merchants (see Figure Eight: Mid Cambridge Land Holdings 1854).

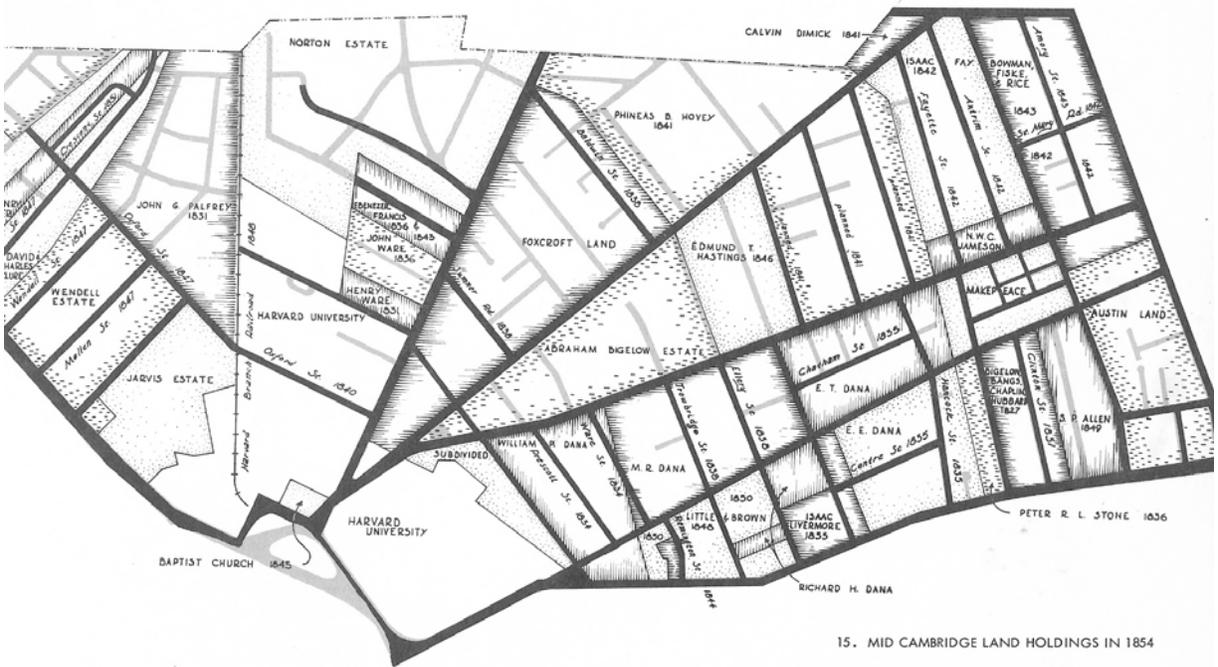


Figure Eight: Mid Cambridge Land Holdings 1854

### The Gold Coast

The expansion of Harvard at the end of the 19<sup>th</sup> century further changed the character of the land by increasing the pressure for development of the area from both Harvard itself and the ancillary markets activities that serviced the school. Harvard set out on an enrollment expansion that resulted in an increase from 754 students in 1870 to 3,364 students in 1909<sup>8</sup>. This enrollment was characterized by a desire to accommodate students in off campus facilities, and private developers were encouraged to construct dormitories in the area of Mass Ave and Mt Auburn Streets between Harvard Square and the intersection of Mass Ave and Mt. Auburn. The dormitories that emerged in the area that came to be known as the Gold Coast and set ever higher standards of luxury as they competed with each other to attract the most affluent Harvard students; amenities including swimming pools, squash courts, doormen and valet service and new technology-driven features including electric bells and Cambridge's first elevators. Contrary to the Harvard president's stated desire at the time to provide "cheap board and cheap rooms" defined as \$50 per year, the seventeen private dormitories that arose during this period ranged in price from \$250 to \$700 per year, and the cheaper accommodations could only be

found a mile from Harvard Yard<sup>9</sup>. Myriad other apartment buildings mimicking various architectural and programmatic features of the Gold Coast apartments began to appear at the larger intersections and along streets emanating from Harvard Yard. The economy of the commercial areas along Mass Avenue changed almost immediately to begin servicing the well-to-do students living in the Gold Coast apartments<sup>10</sup>, a pattern still existing today.

A second wave of expansion and another change of housing philosophy further changed the character of the area surrounding the study intersection. In 1909, a new Harvard president with a different view on housing further expanded the enrollment of the University and accommodated the growth via on campus housing. This expansion had two effects: the balance of students moved back to University-controlled housing and the Gold Coast dormitories were converted to apartments (by adding kitchens) and a non-student rental housing base was created, and Harvard began a series of large-scale developments that expanded the school's presence beyond Harvard Yard and into the surrounding community. The first phase of the River Houses (1909) between Mt. Auburn Street and the Charles River were Harvard's first major project in the 20<sup>th</sup> Century and created a stir in the community over the removal of land from the tax rolls. Dunster House (1929) and Eliot House (1930) furthered the precedent of Harvard purchasing industrial and residential land and converting it to higher-density student housing. By the end of the second phase of River House development (Peabody Terrace, 1968) the riverfront area was dominated by Harvard developments, and over 200 of the original Old Cambridge houses in the Riverside neighborhood had been razed<sup>11</sup>.

### **More Transportation**

Population growth, expansion of the University, increased development growth (construction of new square footage), and improved mobility options, particularly the advent of the electrified streetcar, led to severe crowding and congestion along the Main Street/Mass Ave corridor at the turn of the 19<sup>th</sup> Century. Cambridge was linked to Boston by the Harvard Bridge in 1890, and Front, Main and Harvard Streets were designated as Massachusetts Avenue to further strengthen the connection. Five and six-story apartment buildings began to line Massachusetts Avenue along the streetcar lines, increasing the density and changing the nature of the residential character of the study area from single family houses to large-footprint rental apartment

buildings<sup>12</sup>. A planned elevated streetcar line along Mt. Auburn Street, running alongside and through the study area, would have addressed the congestion but evoked a strong negative response from the community and the plan was abandoned. A subway system was instead constructed and opened in 1912 to great fanfare and positive response<sup>13</sup>. The subway allowed removal of the above-ground streetcar lines along Mass Ave and effectively alleviated congestion for twenty years until the rise of the automobile after World War I.

Construction of the proposed five-sided inner belt highway network in the 1960's would have cut a highway through Central Square that would have massively altered the built character of the area. An alternate plan was developed after widespread community galvanization and organization of opposition against the plan. The subsequent adoption and creation of a three-sided alternative (see Figure Nine) avoided clearing the Central Square area albeit at the cost of other Boston neighborhoods.

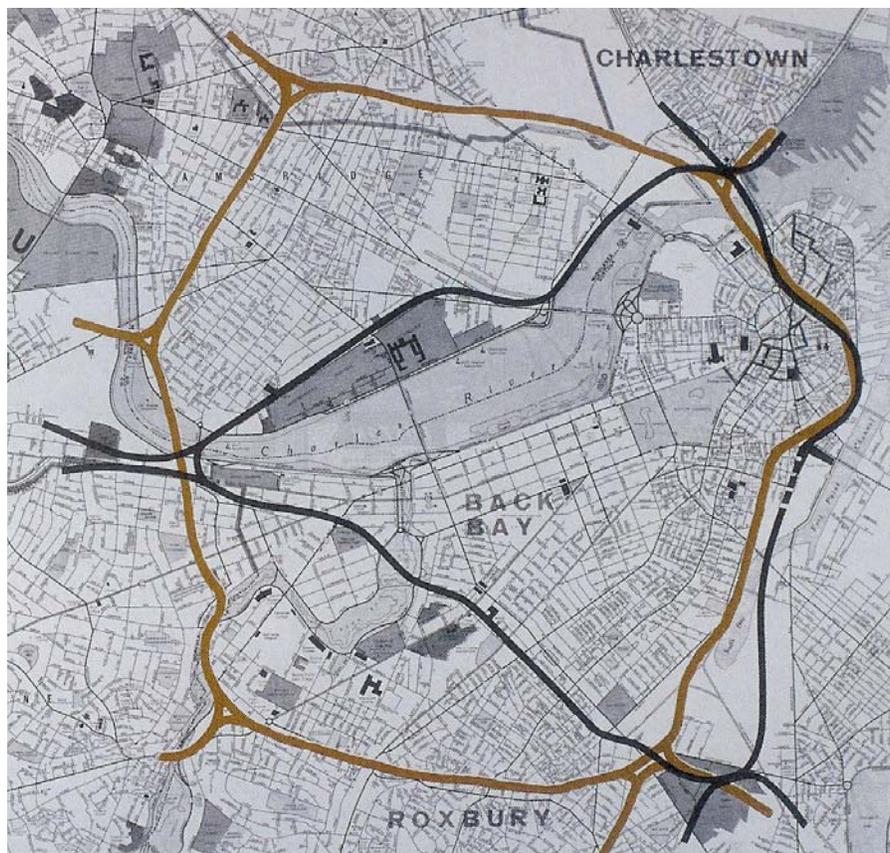


Figure Nine: the Inner Belt Alternatives, 1964

### **Commercial Character**

The commercial elements of Harvard Square served two principal groups of users at the turn of the century: students and wealthier Old Cambridge residents comprised the locals who patronized the local establishments, and commuters transferring between street car systems on the way to and from Boston constituted the second major group. The introduction of the subway removed the commuters from the equation (underground transportation didn't require a transfer above ground at Harvard Square), and the commercial viability of the Square began to suffer. A study committee convened in 1912 determined that Harvard Square was best suited to cater to the high-class residence district encompassing Harvard and to leave Central Square as the business district for the larger Cambridge area. The committee further advocated the adoption of an architectural style that suited the existing Harvard Colonial and Georgian buildings and preserved the character of the best of the buildings along Massachusetts Avenue in order to create an area with character and attractiveness suitable to the high-class patrons<sup>14</sup>. Thus an early sentiment towards architectural preservation and commercial programming was established in the area. This sentiment has carried through the years, leading to the creation of the Harvard Square Overlay District in 1979 and the designation of the Harvard Square Historic District on the National Register in 1988. The study area, named Sullivan Square in 1949 in honor of a long-time Cambridge City Councilman, is on the western edge of both the Harvard Square Overlay and Historic Districts.

### **Residential Character**

The sequence of residential construction in Cambridge along Massachusetts Avenue in Harvard Square has been a transition from farmhouse to large-lot estate mansions to small lot single-family houses to 5-6 story apartment buildings. Few if any single family houses were constructed after World War I, and the rate of change has increased exponentially from growth in the 18<sup>th</sup> and 19<sup>th</sup> centuries. Highly ornamented buildings like the Gold Coast apartments gave way to more contemporary designs that considered ornament superfluous, and an increased scale of buildings and density of residents coupled with modern construction methods began to dictate highly repetitive shapes and forms with minimal decoration. Density very much emanates from

Massachusetts Avenue, with the concentration of scale and size diminishing from apartment building to triple deckers and single family houses on the side streets removed from the Avenue.

## Part II: Current Circumstances

An analysis of the current situation in and around the study area complements the examination of past trends and determines what, if any, vision of the future exists, as well as the means by which future development might be steered in that direction.

### **Neighborhoods**

Visually perceived as a node along the Massachusetts Avenue corridor, Sullivan Square is technically located in the Riverside neighborhood and abuts the Mid-Cambridge neighborhood. The demographic information used to describe the larger area surrounding Sullivan Square is culled from data for the Riverside neighborhood. The Riverside Neighborhood Planning Study Report was issued in May, 2003 and describes a neighborhood vision of maintaining existing housing stock and limiting additional encroachment of commercial or Harvard activities into the residential fabric<sup>15</sup>.

### **Zoning**

Zoning in the study area is shown in Figure Ten. Sullivan Square is zoned BB-1 and BB-2, defined as mixed-use districts allowing multifamily, business and retail uses. Allowed Floor Area Ratios (FAR) vary between 3.00 and 4.00, with height restrictions between 90 and 125 feet<sup>16</sup>. The areas north and south of the study area are zoned C-1 and C-3, residential zones that allow a wide range of housing types as well as institutional and limited office uses. C1 maintains a 0.75 FAR and a 35 foot height restriction, while C3 provides an FAR allowance of 3.00 and a 90 foot height restriction. The areas west and east of the study area along Massachusetts Avenue are zoned O1 and allow office and multifamily housing with a 3.00 FAR and 90-125 foot height restrictions.

Sullivan Square is subject to three overlay zones: the Harvard Square Historic District, the Harvard Square Overlay District, and the Massachusetts Avenue Overlay District. All three overlay designations seek to identify and preserve significant structures, maintain existing scale, and allow additional opportunities for citizen and neighborhood influence in the outcome of future developments.

Despite the provision of seemingly favorable zoning circumstances, there remain few if any developable parcels in the study area. New development would require removal of existing development, much of which is protected or preserved as a result of the zoning overlays.

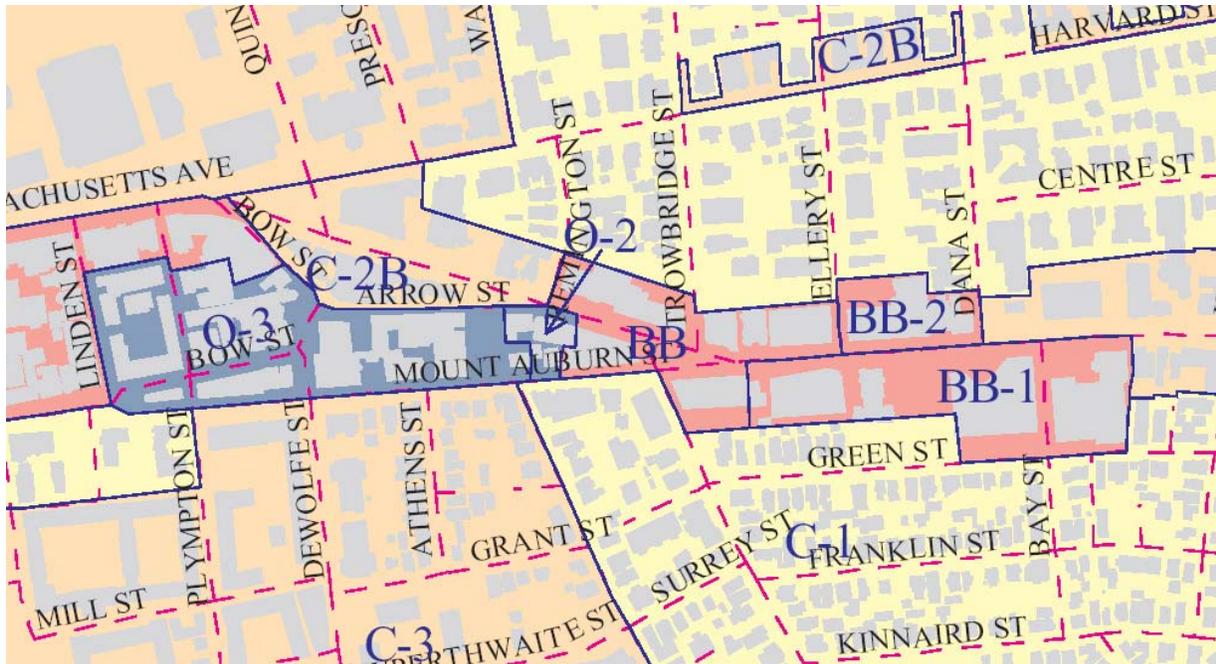


Figure Ten Detail of City of Cambridge Zoning Map (2001)

Figure Eleven illustrates the land use patterns from 1956, and it is apparent that while the mix of land uses is largely the same, the densification of the core area along Massachusetts Avenue and the increased multi-family presence of housing outside the corridor has been fairly pronounced.



Figure Eleven City of Cambridge Land Uses 1956

## **Demographics**

The increasing dominance of students in the resident population is evidenced in the census data. The Riverside neighborhood is populated by non-family households to family households by a ratio of approximately 3:1, and that difference increased 15% between 1980 and 2000<sup>17</sup>. Median household income is 77% of the Cambridge median. 41% of the residents are between 18 and 24 years of age, and 67% are between 18 and 34. 33% of residents live in group quarters, defined as dormitories and group residences (common in the study area) as well as hospitals, nursing homes and jails (less common). The minority population (37% non-white) grew 53% between 1980 and 2000, which likely reflects the increasing international pool from which Harvard and MIT draw students. The amount of housing stock has increased, and population density has increased from 50 residents per acre to 56 residents per acre between 1980 and 2000.

## **Buildings**

Sullivan Square is surrounded by an astonishing variety of buildings. Ranging from single story storefronts to 14-story apartment towers, and from 100 year old houses to impressive examples of early modern architecture, the built environment of the Square provides a snapshot of the development of the Massachusetts Avenue corridor (see Table One). Assessed valuation of the buildings reflects a land premium in almost all instances. It would appear on first glance that many of the structures are ripe for replacement/redevelopment given their lower building values, densities, heights, or tenant mix. The overlay district provisions protecting historic cultural and architectural resources in this area ensure that redevelopment will be difficult if not impossible, likely helping explain the presence of a single-story storefront retail building adjacent to a 12-story apartment tower. The presence of buildings like the apartment towers and the retail/office buildings likely contributed to the adoption of preservation guidelines for remaining historic and quasi-historic structures.

Table 1: Buildings Surrounding Sullivan Square, Cambridge, Massachusetts

Address	Description	Tenants	Preservation Argument?	Height - stories	Size Sq. Ft.	Building Value (Land Value)
1023 Mass Ave	Retail/office	Furniture stores, Harvard offices	No	7	22,500	\$14.9M (5.0M)
1028 Mass Ave.	Retail/office	Furniture store, offices	No	5	22,975	\$16.7M (5.0M)
1038 Mass Ave	Two family house	Greek Institute-converted house	Yes – historic	2	3,160	\$350,000 (\$250,000)
1039 Mass Ave	The University. Apartment bldg	MIT Students	Yes – Gold Coast	6	11,133	\$2.5M (\$1.3M)
1045-1051 Mass Ave	Stand alone retail store	Crate and Barrel	Yes – modern architecture	3	10,501	\$5.9M (\$2.3M)
1050 Mass Ave	Retail/office	Furniture stores, architects, office	No	7	20,383	\$13.0M (\$3.5M)
1063-1075 Mass Ave	Retail/service store	Home furnishings	Yes – historic?	1	8,946	\$2.7M (\$1.9M)
1090-1100 Mass Ave	Retail/office	Coffee, retail, office	Yes – modern architecture	5	11,583	\$12.0 (\$3.0)
2 Mt. Auburn	Apartment building	Rental tenants	No	12	N/A	\$8.3M (N/A)
4-6 Mt. Auburn	Rooming House	Harvard students	Yes - historic	3	4,493	\$1.6M (\$353,000)

Source: City of Cambridge Property Database, 2003

The historic trend of converting single family houses to multifamily residences as a means of accommodating the population growth continues today. Between 1970 and 2001 eleven new condominium buildings (247 units) were constructed in the Riverside neighborhood and seventy nine existing buildings were condominiumized (creating 259 units)<sup>18</sup>.

## **Users**

Tenants, owners, shoppers, residents, workers, commuters, students, and tourists flow through and use the Sullivan Square area. Tenants include retail stores (primarily furniture, home furnishings) and food service stores. Building owners include institutions (Harvard and MIT) as well as private landowners and investment trusts. Commuters, students and tourists all pass through the Square on their way to Harvard, MIT, Harvard Square, and/or Central Square. Sullivan Square, halfway between two primary mass transit nodes, serves as a conduit for many residents and tenants on their way to and from work and home. Shoppers include local residents, tourists, workers, commuters and community residents.

## **Transportation**

The study area at Sullivan Square facilitates movement along Massachusetts Avenue as well as through the Square itself. The roadway remains a regional thoroughfare and is used by cars, trucks, buses, taxis and bicycles. There is a particularly concentrated peak hour period in the morning and evening around the academic and professional commute period. Underneath Mass Ave, the subway runs in two directions between the Harvard Square and Central Square stops. Principal corridor traffic is routed in two directions: Mass Ave leads towards Harvard Square and Mt. Auburn Street facilitates movement away from the Square. Dedicated bicycle lanes on Massachusetts Avenue and Mt. Auburn Street help to accommodate alternative transportation, and the traffic signal phasing gives priority to pedestrians and bicyclists in an attempt to further emphasize alternative movement.

Despite the attempts to allocate space for different transportation modes, the intersection is often overwhelmed by a combination of the wide array of uses and by the sheer volume of users. The system is tenuous enough that a wide truck making a delivery, an elderly person slowly crossing the street, or a bike riding in the middle of the road can overwhelm the entire system and lead to traffic blockages for several blocks in either direction.

## **Streetscape**

Sidewalks average eight feet wide but expand along the storefronts of the commercially-oriented buildings. Apartment and office buildings tend to build out to the sidewalk, or contain a fenced-

off yard. A service row with telephone poles, mailboxes, bike racks, newspaper racks, and utility boxes also contains trees spaced approximately 50' on both sides of Mass Ave and Mt. Auburn Streets. The trees provide strength to the linear aspect of the route as well as providing shade in the summer and color in the fall.

Sullivan Square itself is a landscaped traffic island with sidewalk connections from the crosswalks at each intersection point. Trees and shrubs are planted on about half of the 500 square foot island, and concrete paths with three metal benches occupy the other half. Sullivan Square is the only open space in the vicinity of the study area.

A row of metered parking along either side of Massachusetts Avenue is interspersed with loading zones and driveways. Street parking is oriented to short-term users including shoppers and visitors. Approximately ½ of the buildings have either surface or underground parking associated with the development. Parking entrances are typically gained via side streets instead of Massachusetts Avenue.

### **Forces**

Forces affecting the current layout and future development of the study area include owners, residents, government and institutions. Owners determine the tenant mix in the retail stores, and different owners with different viewpoints come into play every time a building transaction occurs in the private market. Residents, via condo or house ownership or as rental tenants, change frequently but maintain a collective front in opposition to further encroachment by non-residential uses. Institutions, as the major property owners as well as economic and social drivers, may look to reshape the area to suit their needs over time. Government forces include local and state oversight, with land use and local issues falling under the purview of the City of Cambridge and Massachusetts Avenue being controlled by the Massachusetts Department of Transportation given the road's state/regional highway status.

## Part III: Predictions for 2053

### **Larger Area Forces**

Making a prediction fifty years into the future for the Sullivan Square area requires the institution of some very broad assumptions in order to create a set of circumstances from which to base a forecast. Larger area forces at work in this prediction include the national economy, the environment and the Boston megapolis.

By 2053, the United States has moved further into operating as a national service economy serving the global market. Education, consulting, technology research, financial services, product development and marketing are the country's primary exports to the rest of the world. MIT and Harvard, as a dominant global brand-name, provide one of the country's most valuable exports.

Global environmental conditions have worsened as industrial growth in the third world has continued unabated and unmitigated. Harsher, the weather ranges in both the colder and hotter extremes and is characterized by increasingly violent and severe storms coming off the coast. Global air quality has also suffered, even though extensive restrictions on driving in cities have largely equalized the pollution levels discrepancies between central cities and suburban areas.

Growth in the tri-city megapolis region (Boston, D.C., New York) has completely subsumed and suburbanized the rural areas between the cities. Population in Massachusetts has increased by 25% since 2003 and the cities accommodate as much of the new growth as the suburbs, resulting in increased relative significance and land values in the communities immediately surrounding the business centers of the three points of the Boston-NY-DC triangle.

### **Cambridge**

Cambridge's population has doubled since 2003. The housing base has increased, primarily from replacement of two-family houses with mid-rise apartment buildings located along the primary transportation corridors, but also with the creation of multiple full-block PUD's that create density by assembling and developing entire city blocks. Convenience retail, service

establishments and restaurants occupy more square footage than do hardgoods retailers with most residents purchasing goods through delivery services. Residents are primarily transient students, wealthy families and middle-class people living in public housing in the 20% of all units developed since 2010 that have been designated for Cantabrigians earning wages at or below the Massachusetts median.

### **MIT/Harvard**

A large share of the population growth over the last fifty years has been attributable to the increased scope and size of the institutional activities, primarily MIT and Harvard. Landholdings by both institutions now account for over 2/3 of the land between the school's traditional campus center, and the 1.5 mile long corridor has a predominantly academic feel, and the route is interspersed with academic buildings that complete a physical connection between the two schools. Undergraduate enrollment at Harvard is 40,000 students, with an additional 65,000 graduate students. MIT enrolls 20,000 undergraduates and 40,000 graduates. Students enrolled in academic programs physically attend the school for one semester each year, with the remainder of the study conducted remotely. The majority of the students at both schools come from abroad and leave the United States upon completion of studies. Education is sufficiently expensive that few individuals can afford the cost of tuition, and the majority of students are sponsored by private companies and employers, foundations, or state (country) education programs. Land values, too, are sufficiently high that few people can afford to live in Cambridge without some form of housing assistance.

### **Forces**

The historic tension between the City of Cambridge and its educational institutions remains a very strong dynamic at play in the City. Now a major landowner and visible presence in Allston, Boston and Watertown, Harvard in particular exerts ever more influence in land use and politics through its landholdings, its strategic partnerships with international research centers technology startups based in Boston and Cambridge, and as an economic and employment generator for the entire region. With the ongoing reliance of Massachusetts and the United States on the income generated by attracting research grants and students to Cambridge, Harvard and MIT have continued to purchase and develop land for educational and research facilities with little political

resistance, despite the loss of tax base and erosion of residential population. Independent neighborhoods have been largely subsumed as a political unit, and condominium associations and resident coalitions wield the most effective voice in local affairs, in part because of the continuing decrease in single and two-family house units.

### **Land Uses**

Sullivan Square retains much of the façade vernacular of turn of the century (20<sup>th</sup>, that is) Cambridge. Architectural preservation guidelines for Harvard Square and Massachusetts Avenue during the first half of the 21<sup>st</sup> century prioritized retention of façade and building heights along the streetwall. Housing policy at the time was primarily concerned with the retention of housing units and not as concerned with preservation of any specific housing type, so large condominium and apartment buildings proliferated at the expense of single and two-family houses. Most of these apartment buildings obtained FAR by encompassing entire city blocks and building back from behind a series of suspended facades. A pastiche of building facades from different periods in the 19<sup>th</sup> and 20<sup>th</sup> centuries front Massachusetts Avenue, varying in height from 3-8 stories and attempting to mask the scale imposed by 500,000 square foot building masses. Height variances allowing for 15-20 story buildings are commonplace in these full-block buildings.

Retail, oriented to the resident and student population much as today, is scaled to accommodate larger crowds, and is dominated by national and international chain stores and restaurants. Harvard Square and Central Square are known worldwide for their near-complete collection of chain-food franchises from 19 different countries.

### **Buildings**

Sullivan Square is ringed by four full-block developments. Each block has retained the historic building fronts while massively expanding density by concentrating FAR in large towers that emanate from the center of the block. One or two apartment towers punctuate each full-block building expanse. The 3-6 story feel of the street wall has been retained, but much less sunlight filters through to the street because of the high towers that cast shadows for long parts of the day. The full-block buildings contain retail storefronts on the Mass Ave frontage, and truck service

functions like parking garages, deliveries, and circulation is accessed via the complex's the back side on the side streets.

MIT and Harvard have both developed very large portfolios of housing to accommodate their students, faculty and staff. Both schools have been the leading developers of the full-block mixed use developments. Public or institution-owned housing comprises over 50% of the housing stock in Cambridge. A second revival of the Gold Coast is developing along the secondary side streets that run alongside Massachusetts Avenue. Full-block developments that are 100% residential, the Second Gold Coast seeks to attract the wealthiest and best-financed of the incoming students from abroad, and thematically tend to identify with elements of the wealthiest of the cultures that attend school at MIT and Harvard – Chinese, Brazilian and Portuguese-themed complexes have arisen most recently concurrent with those countries' further ascension into wealth in the global economy.

### **Transportation**

Transportation demands and trip requirements have grown along with the population increase. While automobile use is still the predominate means of travel for most Americans, Cambridge has continued to remain an arbiter of future trends and 20 years ago (in 2032) instituted a car-free zone that covers much of Old Cambridge and all of the Massachusetts Avenue corridor in the study area.

The Massachusetts Avenue roadway corridor remains in the same alignment, but the street layout has been reconfigured to accommodate the shift in users and the de-emphasis of the automobile.

- Private vehicles are allowed on Mass Ave only during select nighttime hours and on weekends.
- Very little parking is provided for cars in Cambridge, and the 20,000 car garage at Alewife is used by the few people that can afford to store a car in close proximity.
- Street parking has been removed from Massachusetts Avenue, and the sidewalks widened.

Public transportation capacity has increased significantly by taking advantage of emerging technologies, many developed at MIT.

- The Red Line subway has been converted to accommodate a high-speed, high-capacity magnetic-levitation train, doubling the effective capacity of the subway system.
- Fixed-route bus lines have been replaced with a street-level light-rail system that runs the entire length of Massachusetts Avenue, from Boston through Cambridge and to Arlington.
- Buspools are heavily used by students and commuters. Organized around a unit of people traveling on a regular schedule to and from a core nodal destination, the 20-30 person buspools are controlled and scheduled by private groups using resources provided by the City. A single bus and driver may serve three to four different buspools over the course of a day.

Pedestrian traffic dominates Massachusetts Avenue. Sidewalks, widened as a result of removing on-street parking, accommodate pedestrians and bicyclists as well as an increasing number of personal mobility devices. The Segway 3000, sold at shoe stores worldwide, and available in athletic as well as business dress styles, has proven to be the most popular shoe on campus in recent years.

The most striking change in the Sullivan Square area is the addition of a glass canopy above Massachusetts Avenue in the stretch between MIT and Harvard. Added in 2030 by the Universities as part of a major campus expansion, the canopy serves to create an arcade that allows year-round pedestrian movement between the schools. Affixed to the tops of the buildings at the street edge, the glass canopy is suspended 50 feet above the road and provides shelter from the increasingly harsh sun and the storms that frequent Boston. Ultimately envisioned as an enclosed space, the canopy in its current iteration functions as a glass ceiling, which was controversial at the time of installation given its potential metaphorical implications.

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- <sup>1</sup> Sullivan, Charles M. “Harvard Square History and Development” *Final Report of the Harvard Square Historic District Study Committee* , (Cambridge Historical Commission, 1999): 1-2
- <sup>2</sup> Bunting, Bainbridge; Nylander, Robert; “Report Four: Old Cambridge” Survey of Architectural History in Cambridge (Cambridge Historical Commission, 1973), pg 16
- <sup>3</sup> Sullivan, “Harvard Square History and Development” pg 3
- <sup>4</sup> Bunting, Nylander “Report Four: Old Cambridge”, pg. 16
- <sup>5</sup> Bunting, Nylander “Report Four: Old Cambridge”, pg. 19
- <sup>6</sup> Haglund, Karl, *Inventing the Charles River* (MIT Press, 2003)
- <sup>7</sup> Bunting, Nylander “Report Four: Old Cambridge”, pg. 21
- <sup>8</sup> Sullivan, “Harvard Square History and Development” pg 9
- <sup>9</sup> Sullivan, “Harvard Square History and Development” pg 10
- <sup>10</sup> Sullivan, “Harvard Square History and Development” pg 10
- <sup>11</sup> Sullivan, “Harvard Square History and Development”, pg. 11
- <sup>12</sup> Bunting, Nylander “Report Four: Old Cambridge”, pg. 26
- <sup>13</sup> Sullivan, “Harvard Square History and Development”, pg. 12
- <sup>14</sup> Sullivan, “Harvard Square History and Development”, pg. 13
- <sup>15</sup> Riverside Study Committee; *Riverside Neighborhood Study* (City of Cambridge Community Development Department, April 2003)
- <sup>16</sup> City of Cambridge Zoning Guide, description of zoning districts
- <sup>17</sup> all statistics from City of Cambridge Neighborhood Census Data, using US Census 2000 data
- <sup>18</sup> City of Cambridge Neighborhood Census Data, 2000