

This is the vision statement that was used in the K2 Committee process to characterize the desired future for Kendall Square. A dynamic public realm connecting diverse choices for living, working, learning, and playing to inspire continued success of Cambridge's sustainable, globally-significant innovation community.

#### **Goal 1: NURTURE KENDALL'S INNOVATION CULTURE**

Find ways to expand opportunities for Kendall Square's knowledge economy to continue to grow by fostering the existing creative interaction and through creating a livable, sustainable, mixed-use environment.

- Expand opportunities for Kendall Square knowledge economy to continue to grow.
- Foster a strong connection between the MIT campus and the rest of Kendall Square. Enable MIT to develop in a manner consistent with its academic and research mission, so that it continues to be a magnet attracting innovative businesses to the area.
- Support a vibrant environment for creative interaction.
- Three themes (below) working together supporting the central theme of nurturing Kendall's innovation culture.

#### **Goal 2: CREATE GREAT PLACES**

Improve existing public realm of the Square and create new open spaces and recreational facilities in tandem with future developments to create comprehensive public realm.

- Support open space and recreation needs of a growing neighborhood.
- Create lively, walkable streets.
- Expand opportunities for Kendall's diverse community to interact.
- Development and public place improvements must happen in tandem.

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#### **Goal 3: PROMOTE ENVIRONMENTAL SUSTAINABILITY**

Acknowledge and build upon Kendall Square's potential as a compact transit-oriented development in order to create environmentally sustainable neighborhood.

- Expand convenient, affordable transportation and access choices.
- Enhance streets as public places.
- Create a healthier natural environment.
- Reduce resource consumption, waste and emissions.
- Leverage the environmental and economic benefits of compact development.

#### **Goal 4: MIX LIVING, WORKING, LEARNING, AND PLAYING**

Focus density and intensity around transit to continue the positive mix of uses in Kendall Square, while minimizing development pressures on traditional neighborhoods.

- · Leverage community and innovation benefits of mixed-use environment.
- Focus intensity around transit.
- Minimize development pressures on traditional neighborhoods.
- Continue to support city and state economic development.







#### $oldsymbol{\mathsf{A}}$ Recognize that all aspects of the vision for Kendall Square need to work together if the innovation culture is to realize its full potential.

Unlike Silicon Valley with its separate "campuses" for firms where every need is satisfied in rather insular environments, Kendall Square is a real urban place with connections to a whole range of uses that are also available to the broader community. This is key to the success of Kendall Square. In the 1980s and 1990s, Kendall Square was regarded as an office district with not much activity after 5PM. It has only been in the last decade that significant change has been taking place; housing has brought another dimension to the Square, along with new ground floor retail establishments that make this a place that people want to come to, day and night.

For the innovation culture to continue to thrive, it is important that the other aspects of making a livable place be fostered in tandem with supporting businesses. The environment needs to increase chance encounters, enhance the quality of living on many levels, and maintain the kind of diverse liveability that is a welcoming feature of life in Cambridge.



MIT's transformation of the "Badger Building" from a foreboding 1960s office tower with a fortress-like base to a new home for the Cambridge Innovation Center may be seen as a metaphor for how the 21st century has arrived in Kendall Square, breathing new life into what had been a rather stodgy environment. In addition to making the ground floor and the rest of the base more useable with better fenestration, new emphasis has been placed on active retail uses, and a small plaza with outdoor seating is a welcome addition as one enters Kendall Square.



#### Retain and expand incubator spaces for entrepreneurs.

The start-up companies spun off by MIT laid the groundwork for the current "innovation neighborhood" by showing the potential for such entrepreneurship in the broader Kendall Square area. An example of how entrepreneurship is being fostered today in Kendall Square is the Cambridge Innovation Center (CIC). CIC, established in 1999, has become the nationwide success model for co-working space design and management. Besides offering a variety of space options for entrepreneurs, the CIC also hosts weekly networking events that have become popular throughout Kendall Square. Such networking opportunities for start-ups, investors, and bigger companies are now regarded as critical components of nurturing innovation culture. The CIC is currently in the process of expanding its square footage in the Riverfront Office Park at 100 Main St. There are other incubator spaces in Kendall Square, such as Intrepid Labs and DogPatch Labs, that have similar missions.

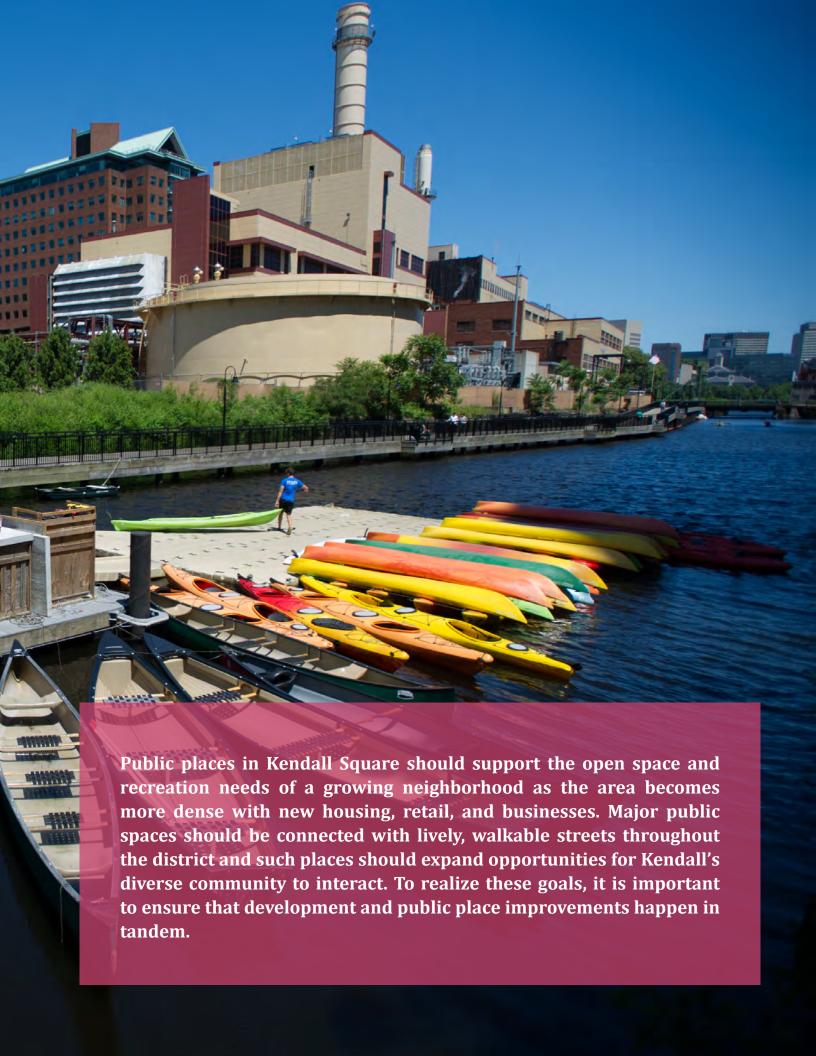
Due to its worldwide recognition, Kendall Square has become increasingly attractive to multi-national corporations. As a result, start-ups and small businesses have to compete for space with larger, established companies. Consequently, the Committee acknowledged the need to devise some form of support in order for the incubator model to survive in the environment of Kendall Square. In response to this strong need, the Plan recommends the requirement of 5% of new office development to be designated as innovation space as part of the rezoning process.



Intrepid Labs (222 Third St) offers shared office space for maturing startups that have grown too big for incubator spaces but are too early in the stage to move into a traditional office space that requires three-year leases.

MIT recognized the importance of this phenomenon several years ago by making space available in the "Badger Building" at 1 Broadway that had been built in the 1960s for traditional office space. This was an experiment that has proved to be very successful. Now, the challenge is to make this special kind of space a more permanent ingredient of the mix of uses, while also recognizing that spontaneity and unpredictability cannot be made to appear on demand. This is an undertaking that needs both some predictability and quite a bit of leeway for creativity.







#### **Engage buildings and streets to create lively public places.**

While it seems obvious today that good urban places rely upon the positive coming together of buildings and the public realm, especially at the ground floor, this was not well understood when the urban renewal plans for Kendall Square were being made in the 1960s. Following the redevelopment model that was being used throughout the United States, older buildings were not given much appreciation and were mostly demolished; streets were made very wide for the automobile, with little emphasis on the pedestrian experience; no on-street parking was provided; and open spaces were either formal and not very active, like the Kendall Square Plaza, or removed from the main pedestrian zone, like the garden on top of the parking garage.

Increasingly, people in Cambridge have come to appreciate a more urbane approach to public space, with increased attention to the connection between the interior spaces and the exterior public realm, with, for example, provisions for outdoor dining. Now, roadways are thought of as "shared streets' and pedestrians and bicyclists are given as much attention as the car when designing streets and sidewalks. As additional structures are inserted into the Kendall Square environment, much emphasis will be placed upon how well the buildings, for whatever use, meet the sidewalk and help continue the activation of Kendall Square that has now taken on new life.

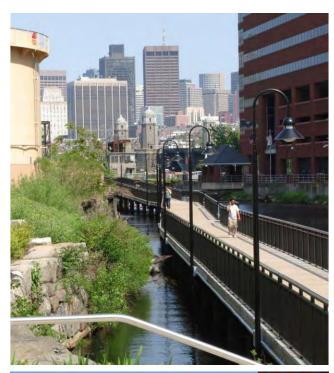


This rendering features interpretative signage to emphasize the passage from the head of the Canal towards Third St. An idea to explore is how to incorporate a story about the history of East Cambridge and Kendall Square, with a series of interpretive historic markers carefully designed and distributed near Broad Canal and throughout the entire Kendall Square open space system.

## Enhance connections to the Charles River, especially at Broad Canal.

The Charles River is an important visual and recreational asset of the city. However, despite the physical proximity to the river, Kendall Square has not explored its full potential to connect people to the river. One of the most important existing connections to the river is the Broad Canal walk, which was required in the PUD permit processes for Riverfront Office Park on the west (1982) and Cambridge Research Park on the east (1999). There is now a kayak rental concession at the end of the canal, which is becoming increasingly popular. Current projects are also bringing more energy and focus to this important amenity. The second phase of the Watermark housing project by Twining Properties will have ground floor retail coming towards the Canal, and a smaller new office building by Biomed Realty right at the head of the Canal will also have ground floor retail, and a plaza extending the recently established one. As the Canal has finally started to become lively, it will be important to keep this positive momentum in the future.

Besides the connection via Broad Canal, the Charles River is also within minutes of Point Park via Wadsworth St through the MIT campus. The value of this proximity has not been capitalized upon. Therefore, MIT's plan to develop the south side of Main Street should recognize and enhance the value of being close to





These two images show the view towards Boston across the Charles River from Broad Canal kayak rental concession.

the river through effective wayfinding design and sidewalk improvements such as along Ames Street and possible future pedestrian extension of Carleton Street. The design of pathways and opens spaces leading from Kendall through the campus to the river offers great potential.

# C

#### Reintegrate Kendall/MIT station entries more effectively into their urban context.

As part of helping both Kendall Square and MIT have a better focal point, the MBTA station could be more effectively integrated into new development on MIT-owned sites, and could be better featured on the Kendall Square Plaza on the other side of Main Street.

The station headhouses now stand alone and do not have a very dynamic presence. During the K2 process and the MIT rezoning process, many studies have been made of options for how the station headhouse

could best be redesigned to meet multiple objectives. Despite the fact that coordination with the MBTA will be needed, most everyone in the community seems to agree that something better could be done for the Kendall/MIT station.

This picture shows the existing condition of the MBTA entry on the MIT campus. The MIT Press building, which is under consideration in MIT's East Campus design initiatives, is on the left.







In addition to maintaining and improving the transit station, another important objective would be to enliven the frontage now occupied by the adjacent MIT Press building. A whole range of options for how to treat the building are on the table, such as creative reuse that would open up the ground floor. The Cambridge Historical Commission and MIT will discuss this very carefully after a preferred option emerges from MIT's ongoing East Campus design initiatives.

The Kendall Square Plaza, which is located on the other side of Main Street, has recently gone through ma-

jor design alterations. The new additions, such as a green center ringed by seating and outdoor dining for the abutting restaurants, have helped to bring more activities and liveliness to the place. Nevertheless, the plaza could become even more vibrant through introducing some additional layers of programing and design improvements, as suggested in the sketch below.





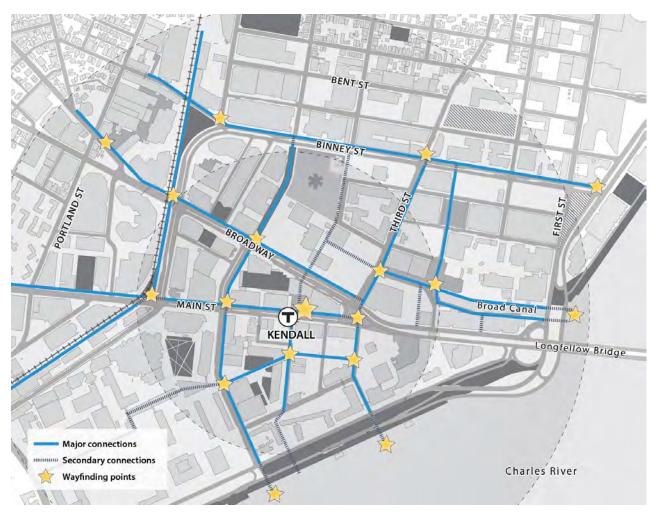
This sketch is intended to give a vision for the kinds of interventions that might be designed and implemented to give the Kendall Square Plaza a few more layers of interest and functionality. It would also be a great addition to the Square to associate some kind of "discovery center" for MIT near the MBTA station to help people know what is happening at MIT and in the area generally.



#### Develop wayfinding strategy to help orient people to the Square and its surroundings.

It is very common for newcomers to Kendall Square to be confused about where Kendall Square itself is, where the MIT campus may be found, how to get to the river, or which way it is to Massachusetts Avenue. Many steps could be taken to sharpen the focus of Kendall Square as a place, and to help people find their way to where they would like to go. The solution to the problem can be partly accomplished through signage design, along with an in-depth look at creating an image for the Square using landscaping, street trees, lighting etc.

Another important aspect of making the area more navigable can be through the design of new projects. Each project should be put forward with an awareness of the need to provide better signals about address and connections to neighboring uses. The graphics approach might reinforce the complex history of Kendall Square, going back to the landfilling of the Charles River basin that defined the parameters of land and water that exist today.



The stars show key intersections that may be emphasized in various ways to help people understand where they are. The big star at the MBTA station is an obvious starting point. The goal should be to help explain key points of orientation, such as the location of MIT, the Charles River, and the residential neighborhoods.



#### Support open space needs of a growing neighborhood.

A very important outcome of the K2 planning process is the recognition that the open space system in Kendall Square and in the broader Eastern Cambridge context needs improvement. While most everyone recognizes the new vitality that has emerged in the area, especially with regard to innovation spaces and the growing new residential and retail uses, there is also a general sense that there needs to be a more diverse, energetic, and connected set of parks, plazas, and pathways creating a "pearl necklace" of well designed, well programmed spaces.

Recognizing the importance of creating a better public realm, the City is beginning a process to develop a vision for how the public spaces of Kendall Square can be improved. The Community Development Department is working with the Eastern Cambridge Kendall Square Open Space Planning Study (ECKOS) community advisory committee to meet the following goals:

- Create an interconnected network of public spaces accommodating a variety of activities spanning a continuum from more interactive to more personal experiences.
- Confirm public open space programming priorities in detail through an open space survey and broad-based open space planning process for the open space network. Address needs and aspirations of the full range of users, including residents, workers, students, people with disabilities, and all age groups.
- Identify priorities and guidelines for future open spaces to be used as a basis for design and programming of new and existing public spaces.
- Use public open space to better integrate the MIT campus with the rest of Kendall Square.

# **Eastern Cambridge Kendall Open Space (ECKOS)**

In this pivotal moment of the evolution of the area, a stronger new vision for a comprehensive open space plan is possible. The City has created a new Eastern Cambridge Kendall Open Space (ECKOS) Committee with a charge to help create that vision for open space improvements going into the future. The committee is exploring ways to integrate the new spaces into the existing open space system in the area, and create a plan for a network of well connected, managed and programmed parks and open spaces that complement each other, and facilitate a sense of place and community for Kendall Square and vicinity, while working closely with city staff, planning consultants, and the community throughout the planning process.

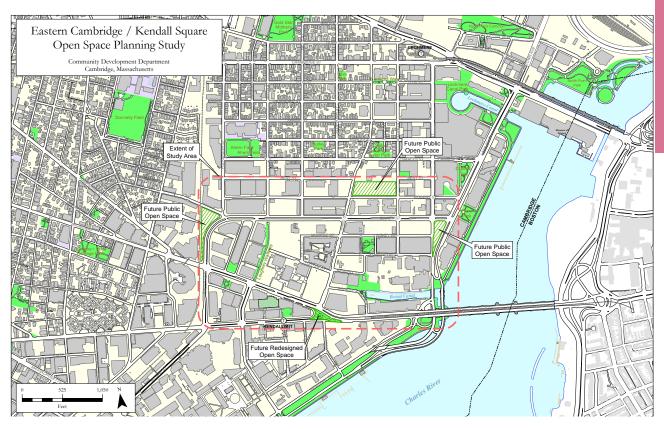
Several types of open space exist now in Kendall under different kinds of ownership—notably, the privately owned public spaces (such as the CRA/Boston Properties spaces and those at Cambridge Research Park); City-owned streets, sidewalks and parkland; and the MIT campus open space system. In addition to these important existing spaces, three new sites that have not yet been designed offer the opportunity for the ECKOS committee to set a new vision: the 2-acre site on Rogers St, the triangle at the intersection of First Street and Edwin Land Boulevard, and the 1-acre site at the corner of Binney Street near Fulkerson. These diverse spaces have never been looked at as a whole to see what the possibilities might be to maximize the benefit of this array of interesting but unconnected resources. A further open space possibility that could have major impact in the future is the open space required by the Zoning Ordinance on the Volpe site.

#### The Mission of ECKOS

The aim of the ECKOS committee is to devise an overall open space vision plan for Kendall Square and East Cambridge. The committee recommendations will in turn be used to guide the future designs of each individual new open space location. Over the next several years, more than 5 acres of new and renovated public open space will be created in the vicinity. The future public open spaces will be a result of planning, collaboration, and agreements involving the community, the City of Cambridge, and some of the major property owners in Kendall Square.

#### The Untapped Resources

This following map shows the locations of the three undesigned new open spaces (at Binney Street, at Rogers Street, and at First Street and Edwin Land Boulevard) in the context of the existing set of spaces. The ECKOS committee will be creating a vision that broadly connects the whole set of places, that considers how wayfinding may be accomplished, and that begins to set programs and parameters for the new spaces and for programming that will serve the area more successfully.





**Rogers St Park** The two-acre Rogers Street park site is now a green rectangle for interim use while the community determines how the site should be programmed and developed for open space use.



**Green space along Binney St** The space at the corner of Binney and Fulkerson Street with Amgen in the background—Fulkerson Street is off to the right of the image. To the left of the image is the most recent Biogen building being built by Boston Properties.





# A

#### Incorporate significant sustainability elements through land use planning approach.

As Cambridge embarked upon the K2 planning process, it was a given that the land use planning approach already being followed in the city would continue to incorporate significant sustainability elements, such as to encourage density near transit; to stimulate mixed-use development with all of its beneficial features that reduce trips, help build community, and make for a vibrant economy; and increase green space while reducing the area given over to impervious surfaces such as parking lots.



This map illustrates that much of the K2 study area, represented in dotted red boundary, is within a five-minute walk from the Kendall station, which is shown as the darker circle in the center.

# B

#### Continue to require green design for buildings and site design.

Over the last decade, Cambridge has been a leader in the national trend towards requiring more environmentally sustainable practices in the design of both private projects as well as City-sponsored projects. A number of actions need to be continued and enhanced as the community addresses serious issues, such as climate change and depletion of resources.

#### Improve building energy performance.

Focus on buildings:

- 80% of Cambridge greenhouse gas emissions result from existing building energy consumption.
- Proposed land use vision increases built square footage potential by up to 3 million square feet.
- Significant portion of future square footage likely to house highly energy intensive uses, such as laboratory buildings.

#### Implementation:

- Buildings subject to the Green Building Requirements of the Zoning Ordinance must meet LEED criteria at the Gold level.
- Buildings must track and report energy use to the City annually for 5 years after the building is occupied, then once every 5 years.
- Cool roofs (green or white) will be required.
- Developments should maximize vegetative cover and use reflective materials to minimize heat island effect.
- Development must evaluate the feasibility of using district energy systems.
- Planning Board may allow dimensional or other zoning relief to allow co-generation and other energy systems that allow developments to utilize waste heat and other shared solutions to minimize energy loss.

The Genzyme building in Cambridge Research Park, which combines innovative design and cutting-edge technology to create a sustainable and healthy office building, is certified at the LEED Platinum level.

#### Prevent urban heat gain.

 Plant more trees; require cool roofs (green/white); encourage green walls.

#### Reduce reliance on automobiles.

- Enhance employer-provided Transportation Demand Management (TDM) programs.
- Require contribution of funds for enhancing transit service.
- Advocate for enhanced transit service between key nodes including Sullivan Square, Lechmere/North Point, Central Square, and the Longwood Medical Area in Boston via MBTA and/or EZ Ride.
- Add Hubway stations in Kendall Square.

#### Reduce stormwater runoff.

- (Re)development must meet the DPW standard for water quality management and the retention/detention of the difference between 2-year pre-construction runoff and 25-year post-construction runoff.
- Low impact development (LID) strategies are particularly encouraged as a means to meeting this standard.
- Require on-site stormwater retention and treatment; encourage LID measures (e.g. graywater, rain gardens).



#### Go beyond existing approaches to more sustainable design.

Beyond the measures that are already in place in Cambridge, there are many steps towards a more sustainable future that need to be developed and incorporated into the way Kendall Square continues to evolve. This will be part of the recently initiated vulnerability assessment and climate change preparedness planning process in Cambridge.

#### Minimize waste generation.

Enhance green purchasing, recycling, and composting programs.

#### Increase use of renewable energy and/or district energy.

- Encourage on-site energy systems and co-generation.
- Assess district steam potential for new buildings.



#### Create K2 EcoDistrict through public-private partnership.

During the K2 Committee process, there was discussion of the idea that an EcoDistrict framework could bring together Kendall Square stakeholders with the purpose of assessing the neighborhood, and taking collective actions that advance sustainability. Responding to the Committee's interest, the City staff and consultants introduced examples of various sustainable communities worldwide, such as Seattle 2030 District, FortZED in Fort Collins, Colorado, Dockside Green in Vancouver, and EcoCity in Hamburg, Germany.

Subsequently, representatives from the Kendall Square Association (KSA), MIT, and the City have partnered to begin working on a Kendall Square EcoDistrict. In May 2013, representatives attended the three-day 2013 EcoDistricts Incubator workshop in Portland, Oregon, where they met with sustainability leaders, were trained on developing an EcoDistrict framework and implementation tools, and drafted a strategic roadmap for piloting an EcoDistrict in Kendall Square.

The overarching goal of an EcoDistrict is to create a thriving and healthy neighborhood that is both resource-efficient and resilient. One of the central aspects of the concept is a neighborhood assessment, which allows stakeholders to evaluate the neighborhood for its standing on a broad set of sustainability indicators. Specific implementation actions are to be determined by the EcoDistrict community stakeholders through the governance structure they establish in the future.

As Kendall Square has grown into a bustling, transit-oriented, mixed-use neighborhood that is internationally known for biotech and other innovation industries, the concept of EcoDistrict naturally fits into its dynamic environment. While Kendall Square stakeholders will determine what actions can be taken to advance sustainability in the neighborhood, three priorities were discussed at the EcoDistricts Incubator.

- 1. Finding actionable solutions to reduce energy consumption and carbon emissions, especially through building energy efficiency and renewable energy.
- 2. Engaging the community to create healthy and equitable working and living spaces through open space planning, place-making, and complete street design.
- 3. Increasing transit capacity to meet a future demand that is expected to exceed supply.

THE **EcoDistricts** APPROACH

# FUNDING ECODISTRICTS FRAMEWORK 1 DISTRICT ORGANIZATION DISTRICT ASSESSMENT DISTRICT ASSESSMENT DISTRICT ASSESSMENT DISTRICT ASSESSMENT DISTRICT MONITORING COMMUNITY ACTION + PROGRAMS

Diagram illustrating the basic framework of EcoDistricts approach. (Source: ECODISTRICTS)

social marketing

resource sharing

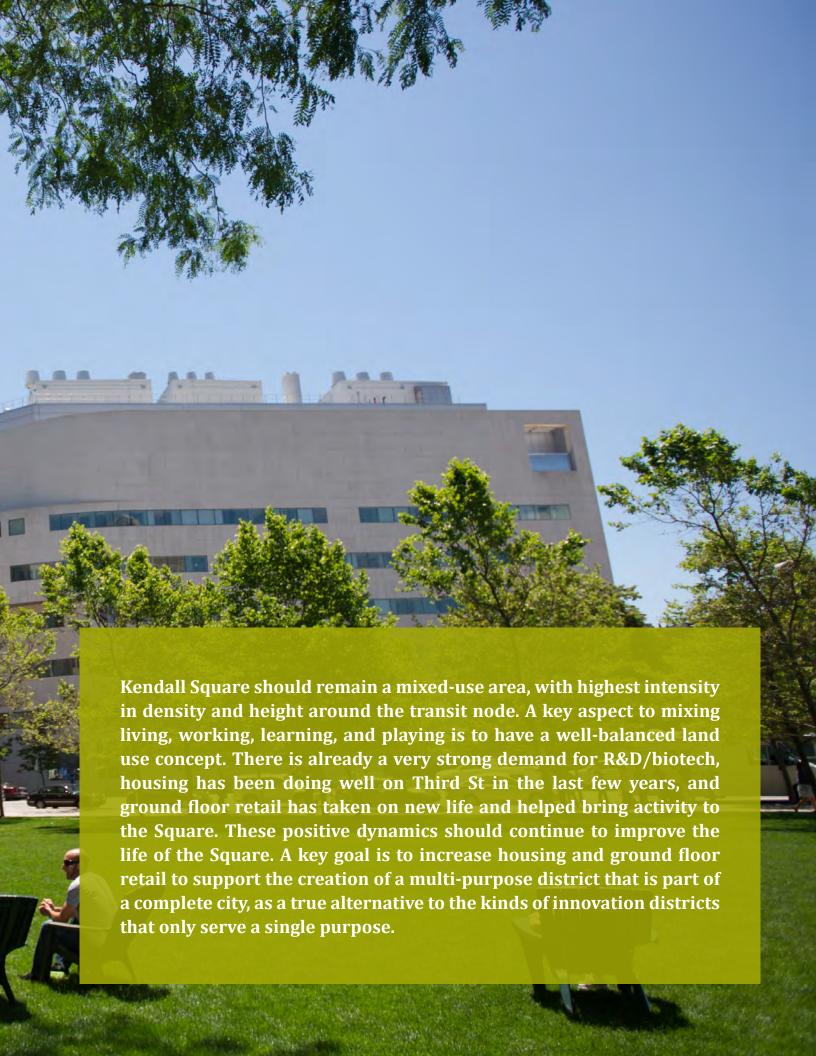
urban agriculture

training \* education

district utilities

green streets







#### **Encourage a significant presence of housing integrated with other uses.**

#### Require a minimum amount of housing development in and around Kendall Square.

Housing is important both within the Kendall Square core and within a reasonable walking distance, bike ride, and transit ride. The Committee's recommendation for achieving this goal is to require a minimum amount of housing development along with new office development within and near the study area, as additional housing in Kendall Square will be essential to making the area more lively. Moreover, additional housing will help to serve the strong unmet need for housing in the area.

#### Create housing that is appealing and accessible to a variety of users.

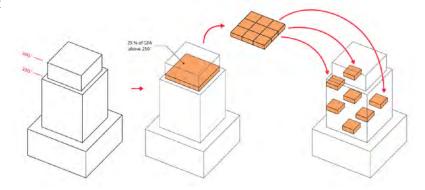
It is challenging to address the rising cost of housing—this is a problem that exists well beyond the limits of Kendall Square. Workers in the new economy may be logically expected to choose housing in or near Kendall Square. Nevertheless, it has long been City policy to try to create neighborhoods that are appealing and accessible to a wide range of households. To achieve this goal, the City has been trying to create a portion of housing for families that require larger units. A newer trend is the provision of housing for younger workers without families in smaller units nestled into denser urban districts, including "microunits." Although very small units have been around for a long time, a new spotlight has been given to the idea of "microunits" as a way of providing housing in urban areas for the young workforce and older empty nesters who favor location and amenities over square footage.

During the K2 process, it also became apparent that there is a strong concern about the adequacy of graduate housing for MIT students, who may not find housing on campus, and on the other hand cannot afford market rate units. As a result of these concerns, an MIT committee is studying this issue and is expected to make recommendations over the next year.

#### **Require Middle Income Housing.**

The approach to creating middle income housing has been initiated in the recent MIT zoning, which followed the strategy suggested in the K2 Committee recommendations. Heights up to 300' would be allowed for residential development, but buildings over 250' must include middle income units. (Middle Income is defined as 80 - 120% of Areawide Median Income). Those units may be of diverse sizes, including 2-bed-

room and 3-bedroom, and must be distributed throughout the building. Ground floor units with access to open space are preferred for family size units. Citywide inclusionary housing and incentive zoning requirements would continue to apply.



# B

#### Create room for research and technology businesses to locate and grow.

To retain a sustainable economic base, it is important to support Kendall Square's future in fostering the knowledge economy. In addition to making a liveable mix of uses, creating room for research and technology businesses to locate and grow is also essential. There are few remaining opportunities that can accommodate the very large floorplates desired for office or lab uses. For example, MIT's rezoning contemplates such uses on a few sites controlled by the Institute. Urban design plans prepared for the rezoning suggest how these uses may be accommodated within Kendall Square, with special attention given to open space design and accommodation of ground floor retail.

The Volpe site is also large enough that it might be appropriate for such uses, along with meeting the community desire for housing and open space in this very important central location. The Alexandria Center project will create a series of office and biotech buildings. At the same time, in creating a new development pattern along Binney Street, open space is integrated as an essential component of the plan. The housing and ground floor retail uses in the Alexandria PUD, particularly in a node at Binney and Third St, also will make this feel like a pattern of uses that belongs in Kendall Square and East Cambridge, rather than existing in isolation.

The large floorplates demanded by current users do raise concerns about how to avoid overly massive buildings with long frontages, and how to keep a focus on positive ground floor relationships to the public way. The **Kendall Square Design Guidelines** address ways to modulate the physical impact of large buildings, and suggest how to make user-friendly sidewalks throughout the area.



The expansion by Biogen onto this site at the curve in Binney across from Fulkerson reads as a single building, which helps keep it in scale for the pedestrian. In fact, there is a connector, carefully located to have minimal impact on the public realm, that links it to other Biogen facilities in the PUD-KS1 (MXD district) and thus helps fulfill the need for larger floorplates without creating overwhelming building masses.



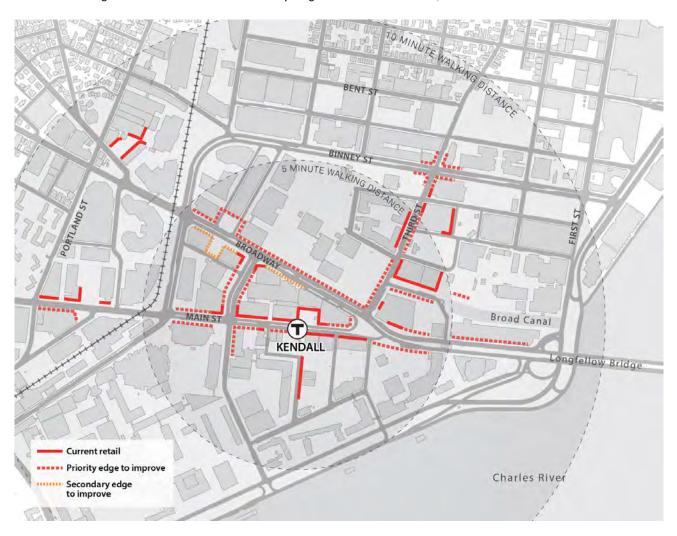
The expansion by Biogen onto a site in the Alexandria project has been successfully integrated into the urban context by saving two historical structures, one at either end of the project. These buildings break down the mass of the new one, and give a strong message about the history of the area.



#### Add retail to create active ground floors and animate the streetscape.

A major goal of the K2 planning process is to continue the success of the last few years in building more ground floor retail. It is clear that there is strong demand for more of the kind of current retail, a desire for a broader set of establishments, and willingness on the part of developers to participate in achieving a broader mix of successful retail. At the same time, retail cannot succeed everywhere, so it is important to focus it where it is most likely to do well.

There is particularly strong agreement among the many points of view expressed in the K2 planning process that there is a desire for interesting, locally-based, smaller establishments, rather than large chains that could be found anywhere. The stronger markets are for restaurants, cafés, entertainment, and neighborhood services. While they might be desirable uses, there are weaker markets in Kendall



Existing retail in K2 is shown in solid red lines. It is rather scattered about at present, so the goal expressed in the K2 planning process is that there be a better system of retail, with more flow from one establishment to another, and ideally two-sided shopping streets, which tend to be more successful than having activity only on one side of the street. The dashed red lines indicate priority areas for more retail, and the smallest orange dashed lines show where it would be desirable, though probably difficult, to bring more shops.

Square for comparison shopping goods such as furniture or clothing stores, although those uses do exist nearby in other parts of the city.

Since the overarching goal is to create vitality, it will be highly desirable to achieve the addition of other active ground floor uses in addition to retail. Active uses will enhance the quality of sidewalks and other public spaces, provide amenity to residents, workers and students, and promote informal gathering that will eventually support innovation culture and community. These uses could include educational or cultural facilities that welcome the public, arts organizations, residential lobbies and even the presence of front doors or stoops to residences where they are practicable.



The impressionistic image shown here illustrates new development mixed in with existing buildings with the intent of weaving all the uses together in a synergistic approach, i.e. in a way so that the whole is greater than the sum of the parts, and there is a mutual benefit to neighboring uses. This image shows how a mix of housing could be extended throughout, sometimes on sites that are not obvious candidates for new development, such as atop parking garages or nestled closer to other uses than has been typical, as happens when an area densifies. Yellow indicates the possible location for housing, blue for office/R&D, and green for open space. The one orange block is the site envisioned by Constellation as a performance center in the Lyme PUD, next to the Genzyme office building.



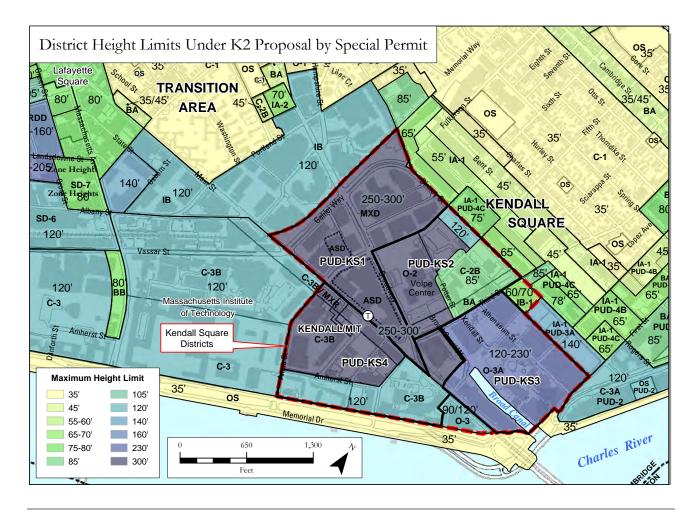
- Retain existing base zoning.
- Establish (or revise) regulations applicable to PUD subdistricts. (see map below)
- Establish area-wide regulations applicable to the entire Kendall Square Area, including design guidelines.

### **AREA-WIDE REGULATIONS**

Establish common regulations for all Kendall Square PUD subdistricts (PUD-KS1, KS2, KS3, KS4), except where more stringent regulations are created within the PUD language.

#### **BUILDING DESIGN STANDARDS**

- · Active ground floors encouraged throughout the Kendall Square Overlay District.
- Ground floor retail required along Main Street, Third Street, Ames Street between Broadway and Main Street, and Broadway. Ground floor space may be exempt from counting towards GFA limit if limited to retail.
- Allow limited heights up to 250' (commercial) and 300' (residential) near Kendall T station (see Height Limit map).
- Building scale and massing (height step-backs and floorplate limits at different height levels refer to design guidelines).



#### **PROJECT REVIEW**

Article 19 project review special permit will apply in addition to PUD requirements.

#### **DESIGN GUIDELINES & CONSISTENCY WITH THE PLAN**

 Planning Board shall review development for consistency with the K2C2 Plan and Kendall Square Design Guidelines.

#### **PARKING**

Establish defined parking maximums for all uses; flexible minimum parking based on analysis and as approved by Planning Board; shared parking required for mixed-use development.

	MIN	MAX
R&D		0.8 sp / 1000 sq ft
Office	Based on analysis	0.9 sp / 1000 sq ft
Retail / Consumer Service		0.5 sp / 1000 sq ft
Residential	0.5 space / Dwelling Unit (DU)	0.75 sp / 1000 sq ft

• For mixed use developments: require shared parking when peak daytime use is matched with peak night-time use, such as Office/R&D with Residential.

	Night	Day
Residential	100%	60%
Office / R&D	10%	100%
Retail / Commercial	Based on required shared parking study	
Restaurant		

#### **SUSTAINABILITY**

- All development within the Kendall Square PUD Districts that is subject to Sec. 22.20 (Green Building Requirements) of the Cambridge Zoning Ordinance must meet LEED criteria at the Gold level.
- Buildings must track energy using Energy Star, Labs21, or LEED-EBOM tools and methodologies and must report energy use to CDD on an annual basis for 5 years after the building is occupied. Thereafter, report may be provided once every 5 years.
- Cool roofs (green or white) will be required.
- (Re)development must meet the DPW standard for water quality management and the retention/detention
  of the difference between the 2-year 24-hour pre-construction runoff hydrograph and the post-construction 25-year 24-hour runoff hydrograph. Low impact development strategies are particularly encouraged
  as a means to meeting this standard.
- Development must evaluate the feasibility of using steam.
- Planning Board may allow dimensional or other zoning relief to allow co-generation and other energy systems that allow developments to utilize waste heat and other shared solutions to minimize energy loss.

#### HOUSING

- Minimum required housing: PUD KS-1, KS-2, and KS-4 include a minimum housing requirement.
- Inclusionary housing and incentive zoning: requirements continue to apply.
- Middle Income Housing: Required in buildings that exceed 250' in height. Middle income (defined as 80 120% of AMI) housing requirement would be calculated as 25% of residential GFA above 250' must be middle income units of diverse sizes, including 2-BR and 3-BR. Middle income units shall be distributed throughout the building, not just on the top floors. (Family units with 2 and 3 bedrooms are particularly encouraged on ground and courtyard levels with easy access to open space.)
- Phasing of minimum required housing: In PUD districts with a minimum housing requirement Certificate
  of occupancy for no more than 60% of the non-residential capacity may be granted until a Certificate of
  Occupancy for 100% of the required housing is obtained.

#### **COMMUNITY INVESTMENTS**

- Establish a Kendall Square Fund for all future development that avails of GFA and height greater than is permitted in the base district with a \$10.00 per square foot payment to be paid at the time of building permit required to support the following uses (\$ to be distributed approx. equally).
  - public open space in Kendall Square and adjoining neighborhoods (primarily management and programming; land, design, and construction in some cases)
  - transit to benefit Kendall Square needs such as improved connection and frequency to LMA and North Station and Orange Line (EZRide or other)
  - workforce readiness training for Cambridge residents (for all ages to supplement existing programs run by the City, school system, and local businesses)
- All non-residential GFA in the project shall be subject to contributions to the Fund. All residential GFA
  would be exempt.
- Contribution to the Fund would not be required from a project that builds exclusively under provisions of the base district.
- The Fund would be managed by a Kendall Sq Fund Committee appointed by the City Manager, including representation from K2 businesses/property owners, neighborhood residents, topic experts, and City staff.
- The Kendall Square Fund contribution would be linked to cost of living and the contribution amount per sq. ft. would be re-evaluated every three years.
- In-kind contributions may be permitted in place of all or part of the financial contribution must be evaluated on a case-by-case basis and approved by the Fund Committee, relevant City staff, and the City Manager.
- Project-specific mitigation of transportation and infrastructure impacts and improvements required to
  make the project possible would continue to be the responsibility of the proponent. Measures required to
  comply with PTDM requirement, project review conditions, mitigation requirements, and the cost of land
  leases may not be deducted from Fund contributions due.
- Middle Income Housing requirement as noted in the Housing section above.
- Ground Floor Retail required along major streets Main St, Third St, Ames St between Broadway and Main, and Broadway.

#### STARTUP INNOVATION SPACE

- Require that 5% of all non-residential GFA in a PUD proposal must be devoted to affordable 'innovation space' specifically to accommodate technology startup companies. Up to 50% of the GFA devoted to startup innovation space may be exempt from the district GFA limit if limited to innovation space up to a maximum of 5% of non-residential GFA.
- General standards for 'startup innovation space':
  - 'Innovation space' must be contiguous in increments of 20,000 sf or more.
  - a minimum of 50% of the space must be devoted to shared common areas and resources
  - space must be available for flexible, short term leases of 1 month duration.
  - no one company may lease more than 10% of the space designated as startup innovation space.
  - average size of privately-rentable suites should be no more than 200 sq. ft.
- Proponents are invited to make a proposal for a format or size that differs from the model outlined above that meets the goals of providing affordable space for technology startups.
- Proponents must provide an annual report showing location and size of startup innovation space; number
  of separately leased spaces, if any; information regarding number of tenants, size of company, and area
  of endeavor. Tenant information may be anonymized.
- Property owners may provide 'innovation space' either in proposed new buildings or existing buildings in the district, or in partnership with other property owners within the Kendall Square Area.
- Consolidation of 'innovation space' within the Kendall Square Area is encouraged and the requirement may be met off-site in adjacent PUD districts within the Kendall Square Area.

#### **CITYWIDE REGULATIONS**

 All PUD projects within the Kendall Square PUD Districts are subject to Kendall Square standards and requirements as well as citywide requirements such as Article 19 Special Permit review, Inclusionary Housing, Incentive Zoning, PTDM, among others.

#### **ALLOWANCES AND FLEXIBILITY**

- Ground Floor Retail: Uses in 4.35 (retail, consumer service, restaurant, fast order food, entertainment) and
  open-air retail (but not including drive-in retail) are allowed throughout the district as-of-right if within
  an existing building and 5,000 SF or less; by Planning Board special permit otherwise.
- Retail Exemption: Ground-level GFA along Main Street, Broadway, Ames Street, Third Street or Broad Canal may be exempted from the district GFA limitations, if limited to retail use.
- Historic Preservation: Allowed GFA may be transferred (with some limitations) to a site elsewhere in the PUD from an existing lot containing a building determined by the Cambridge Historical Commission to be historically or architecturally significant.
- Minimum Lot Area Per Dwelling Unit: Waived for PUD development.
- Loading: Planning Board may waive required number of loading bays to allow consolidation of loading operations.



### A PUD-KS1: MXD/CAMBRIDGE CENTER

Create a new "PUD-KS1" Overlay District. Allow additional development above what is allowed under the MXD base zoning regulations subject to PUD review process and the requirements recommended in the K2 study.

**ZONING MAP:** Create new PUD Overlay District that overlays the existing MXD base zoning district. **ZONING TEXT:** Create a new Section for PUD-KS1, with the following provisions:

- 1. Purpose: To enable additional development subject to Planning Board review (according to PUD procedures).
- 2. Applicability: PUD procedures (Article 12.000) required to authorize development that exceeds the limitations in the MXD base district.
- 3. Parcel Size: Minimum development parcel size required to allow for plan review.
- 4. Uses: All uses permitted in base district are permitted in a PUD; Planning Board may approve other uses consistent with the intent of the section, may waive cap on fast order food establishments.
- 5. Floor Area: Base district allows a total of 3,073,000 SF, plus 200,000 SF to be used only for housing; PUD regulations increase development to 4,000,000 SF total, 3,600,000 SF for non-residential uses.
- 6. Retail Incentive: Ground floor and basement retail with frontage on a public street, park, or plaza is exempt from GFA limits if it is limited to 5,000 SF per establishment.
- 7. Active Ground Floors: Retail or other approved active uses required along 75% of the ground floor fronting major streets (Broadway, Main, Ames, Third).
- 8. Height/Middle Income Housing: 250' remains the limit for non-residential uses; residential uses may be 300' with middle-income units equivalent to 25% of GFA above 250'.
- 9. Unit Density: No minimum lot area per dwelling unit.
- 10. Open Space: Minimum amount of public open space in the district remains 100,000 SF (possibly greater), and Planning Board may waive open space requirements for a specific lot if district-wide requirements are met.
- 11. Parking and Loading: Maximum parking ratios apply for new development, shared parking encouraged, Planning Board establishes minimum parking based on site-specific analysis and may waive other parking or loading requirements.
- 12. Required Housing: Minimum of 200,000 SF of residential must be developed before any non-residential development is allowed to exceed base district limitations.
- 13. Sustainability: LEED Gold design standard for new buildings, energy monitoring and reporting, stormwater management, cool roofs, study feasibility of district steam, Planning Board may approve co-generation or other energy systems.
- 14. Noise: Best practices for rooftop mechanical noise attenuation.
- 15. Innovation Space: Required space equivalent to 5% of new office development.
- 16. Community Fund: Contribution of \$10 per new commercial square foot into a district-wide fund for open space, transit, and workforce development.
- 17. Other Requirements: Section 11.200 applies (Inclusionary and Incentive Zoning), Article 19.000 applies (Project Review).

# B PUD-KS2: US-DOT VOLPE CENTER

Redesignate the existing PUD-KS Overlay District as "PUD-KS2" (no change to district boundaries). Revise existing PUD text to allow additional development subject to the requirement recommended in the K2 study.

**ZONING MAP**: No change to existing PUD boundaries.

**ZONING TEXT**: Modify the existing text in the following ways:

- 1. FAR: Maximum increased from 3.0 to 4.0; retain limit of 60% non-residential use.
- Retail Incentive: Ground floor and basement retail with frontage on a public street, park, or plaza, is exempt from GFA limits if it is limited to 5,000 SF per establishment (modification of current requirement).
- 3. Active Ground Floors: Retail or other approved active uses required along 75% of the ground fronting major streets (Broadway, Main, Ames, Third).
- 4. Height/Middle Income Housing: 250' remains the limit for non-residential uses; residential uses may be 300' with middle-income units equivalent to 25% of GFA above 250'.
- 5. Unit Density: No minimum lot area per dwelling unit.
- 6. Open Space: Retain requirement for 42% open space and 7.5 acres public park (incorporate flexibility regarding location and configuration of park space; may be broken into smaller components; may be located anywhere on the parcel; should respond to adjacent uses on the site).
- 7. Parking and Loading: Maximum parking ratios apply for new development, shared parking encouraged, Planning Board established minimum parking based on site-specific analysis and may waive other parking or loading requirements.
- 8. Sustainability: LEED Gold design standard for new buildings, energy monitoring and reporting, stormwater management, cool roofs, study feasibility of district steam, Planning Board may approve co-generation or other energy systems.
- 9. Noise: Best practices for rooftop mechanical noise attenuation.

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- 10. Innovation Space: Required space equivalent to 5% of new office development.
- 11. Community Fund: Contribution of \$10 per new commercial square foot into a district-wide fund for open space, transit, and workforce development.

# © PUD-KS3: CAMBRIDGE RESEARCH PARK, ONE MAIN STREET

Redesignate the existing PUD-3 Overlay District as "PUD-KS3," and change boundaries to exclude One Broadway site (part of the MIT-Kendall Zoning Petition). Revise existing PUD text to allow additional development under specific circumstances, subject to the requirements recommended in the K2 study.

**ZONING MAP**: Adjust district boundaries to exclude One Broadway (part of MIT petition area). **ZONING TEXT**: Modify the existing text in the following ways:

- Future Residential Development: Allow additional FAR and height for new residential development within 400 ft of Third Street, with K2 recommended requirements for middle-income units, parking, ground-floor retail, sustainability.
- Non-Residential Expansion: Allow modest increases in the GFA of existing non-residential buildings in exchange for K2 recommended improvements including improved connections between Main Street and Broad Canal, ground-floor retail, sustainable design, incentive zoning payments, and investments in community fund for open space, transit, and workforce development.

# PUD-5: MIT-KENDALL AREA

The City Council passed a rezoning petition that promotes the goals of MIT plans for its underutilized properties near the heart of Kendall Square. MIT has been very responsive to the set of ideas generated in the K2 planning process, and has an ambitious plan for new buildings and open spaces that will do much to help meet the goals of this Plan. The provisions of the MIT rezoning include requirements for middle income housing, innovation space, and a community benefit fund, in return for increased density of research and development in Kendall Square. In many ways, these provisions may be said to have set a new standard for other Kendall Square rezoning being considered.

Now that the MIT rezoning has been passed, there is need to work on several fronts with the community to meet the goals of the K2 Plan, such as: design of building and site at Broad Canal; further study of MIT Press/Gateway issues with Faculty Committee, Cambridge Historical Commission, and Planning Board; and MIT Faculty Committee (with City representative) to study need for additional affiliate/graduate student housing.



Current transportation policies are successfully managing mobility needs while allowing for continued, measured growth in Kendall Square. Two key policies from the 1993 master plan document entitled **Toward a Sustainable Cambridge**, updated in 2007, summarize the City's strategy for transportation management. Policy #22 states, "Undertake reasonable measures to improve the functioning of the city's street network, without increasing through capacity, to reduce congestion and noise and facilitate bus and other non-automobile circulation." And Policy #23 adds "Encourage all reasonable forms of nonautomotive travel including, for example, making improvements to the City's infrastructure to support bicycling and walking."

Following this policy guidance over many years, the City has created an effective, coordinated program that includes the Vehicle Trip Reduction Ordinance, the Parking and Transportation Demand Management Program, and the Climate Action Plan, all of which are focus on strategies that promote responsible growth. Examples of this multi-modal approach relevant to Kendall Square include promoting the EZRide shuttle, giving additional support to promoting transit through a newly formed Transit Committee, and a new design for Main Street that enhances pedestrian, bicycle and transit user mobility.

While there has already been a notable success in dealing with the set of transportation issues that confronts the city, the Committee looks to continuing initiatives to making transportation all the more sustainable on a wide range of fronts, including:

- A. Further reducing the rate of people driving alone through enhanced TDM;
- B. Controlling parking;
- C. Better managing vehicular traffic;
- D. Continuing enhancement of bicycle and pedestrian facilities; and
- E. Enhancing transit options.



#### **Enhanced TDM: Priority Recommendations for Reducing Drive-Alone Rates**

As development has continued apace over the last couple of decades, Cambridge has been creating its parking and transportation demand management program (PTDM), which is now recognized nationally as a "best practice" strategy. Cambridge businesses and residents participate in a wide range of TDM measures, with high participation rates in nearly half of all available programs. At the same time, there are lower participation rates in some of the most effective "Enhanced TDM" measures, primarily because these cost more to support. The points described below suggest how the effectiveness of the City's TDM strategy could be further improved, leading to increases in the number of people who use sustainable modes of transportation for commuting and other mobility needs. Examples of key strategies to achieve this, relevant to Kendall Square, are listed below.

#### Employees:

- Appropriate pricing of parking—market rate paid by employees
- Transportation benefit paid to all employees for commute expenses regardless of mode, or 100% transit subsidy
- Free access to EZRide shuttle to Lechmere and North Station
- Excellent bicycle parking and benefits including Hubway membership

#### Residents:

- One free bus/subway pass for each adult member of household upon move-in
- Car-share parking spaces nearby
- Nearby Hubway stations



#### **Parking Strategies**

Optimize off-street parking to match parking needs of new development based on the low drive-alone rates assumed under the Enhanced TDM Scenario.

Off-Street Parking - Proposed Approach:

- Defined parking maximums for all uses
- Flexible minimum parking based on analysis and as approved by Planning Board
- Shared Parking Provision

#### Shared Parking - Proposed Approach:

 For Mixed Use Developments: Require shared parking when peak daytime use is matched with peak nighttime use, such as Office/R&D with Residential



#### **Better Vehicular Traffic Management**

Direct auto traffic to use the most appropriate routes within and around the study area roadway network:

- Minimize additional traffic on neighborhood streets
- Maintain Binney Street median to protect the neighborhood from cut-through commuter trips
- Support First Street extension to O'Brien Highway as part of North Point and Green Line Extension work

Manage vehicular traffic from future development:

- District-wide: Broadway & Third Street: Avoid sending new vehicle trips from new developments through this intersection whenever possible
- Development South of Main Street:
  - Use Amherst Street for primary vehicle access, not Main Street.
  - Coordinate the role of the privately owned streets (Hayward, Carleton, Dock, Deacon) with public streets so they work together to support the needs of the area
  - Discourage cut-through traffic between Wadsworth and Ames Street
- Development on the Volpe site:
  - Provide vehicular access off both Binney Street and Broadway
  - Binney Street access should be right in and right out with no break in the median to protect neighborhood streets from traffic
  - Broadway site access has to be coordinated with the midblock pedestrian crossing
  - Vehicular access off Third Street should be designed to minimize impact on the neighborhood and on the intersection of Broadway and Third Street, given the high traffic volumes at that intersection

# D

#### **Enhance Pedestrian and Bicycle Pathway Network**

- Create safe pedestrian crossings throughout the study area:
  - Between Third Street and Longfellow Bridge, explore ways to reduce speeding by vehicles coming off Longfellow Bridge and the possibility of creating a safe, mid-block pedestrian crossing.
- Complete the Grand Junction multi-use path starting with the segment from Main Street to Broadway.
- Install bike share stations at key areas including Lechmere, Galleria, Third Street, MIT, etc.
- Provide a bike station to serve bicycle commuters.
- Develop a wayfinding and signage strategy for the Kendall Square area including assigning regular street addresses for all buildings.



#### **Enhancing Transit Options**

Develop transit service to levels comparable to similar employment areas:

- Financial District
- Back Bay
- Longwood Medical Area

Kendall should be a significant Transit Hub for Cambridge

- Large Job Center
- Direct Red Line Connection
- Improved Street Network
- Growing Residential Population

Extensive Red Line capacity analysis was done as part of the K2 planning processes. The analysis shows that there is sufficient peak hour capacity on the Red Line to accommodate the K2C2 development projections for 2030 while acknowledging that there are high congestion levels during the 'peak of the peak,' meaning that individual train cars may be full for short intervals. Anticipated growth in the region outside Cambridge will contribute more significantly to Red Line congestion than will growth within Cambridge. As the number of employees using transit to access jobs in Kendall Square and the regional overall grows, train cars will be full for longer intervals unless the capacity of the Red Line is increased or alternative transit options are put in place. To address long-term transit capacity concerns, the K2 Study includes a number of recommendations to both improve existing service and advocate for transit expansion, including the following:

- Ensuring reliability of Red Line service and support the expansion of the transit system including the Green Line Extension and future service in the Urban Ring Corridor;
- Extending some bus routes to Kendall that currently terminate in Central Square to reduce congestion on the Red Line between Central and Kendall;
- Working with MBTA and property owners to have 'next bus' information displayed at the bus stops and/or in nearby stores;
- Improving EZRide (and/or other shuttle, open to the public) routes and frequency; and
- Encouraging walking and biking, including Hubway system expansion, for short trips.

The City advocates consistently for transit improvements that help both Cambridge and the broader region. In addition, the K2 Study recognized that in addition to work being done by City staff, "business associations, residents and all stakeholders must advocate for continued MBTA systemwide infrastructure improvements, with special emphasis on enhancing Red Line capacity."

Towards that end, the City Manager has recently appointed a citywide Transit Committee comprising residents, large and small businesses, and representatives of institutions to guide the City's positions and policies regarding long term sustainable funding for transit by the Commonwealth, commuter rail and transit expansion, subway service and reliability, service planning for modification or expansion of bus routes, and service reliability and improvements including ways to better design our street network to prioritize bus transit.

# RECOMMENDATIONS

# FOR

# INFRASTRUCTURE

proposed plan solution of redline tunnel (below) of redline tunnel (below) of redline tunnel (below)

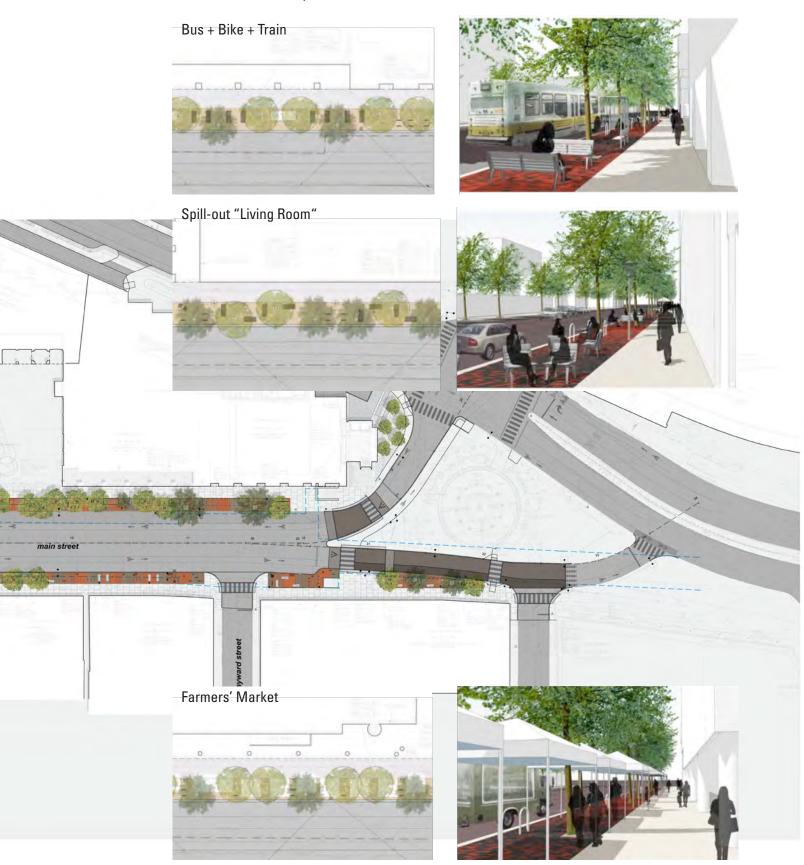
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# Main Street

- Construction scheduled 2014.
- Enhance the area for pedestrians, cyclists and transit.
- Enhance mid-block crossing between subway entrances by providing a raised intersection and curb extensions, and removing ineffective traffic signal.
- Provide new vehicular connection from Third Street to Main Street.
- Remove median and provide more space for transit and cyclists.
- New pedestrian amenities street lighting, seating, tree plantings, bus shelters.
- Artist designed bike racks.

#### Main St "Zones"

The sidewalk is conceptualized to accommodate diverse functions as shown below.



#### **Broadway**

- Construction completed, fall 2013.
- Improved deteriorating roadway and sidewalk infrastructure.
- Provided improved facilities for bicyclists and pedestrians.
- Improved the safety of pedestrians using the mid-block crosswalk between the Marriott and the Volpe Center.
- Enhanced the area visually for all users pedestrians, cyclists and motorists.
- Maintain appropriate vehicular capacity of the roadway.





#### **Ames Street**

- Reduce scale of the streets to be more people-oriented.
- Reduce pedestrian crossing distance by over 20' (from 73' wide to 52' wide).
- Add more bicycle facilities.
- Build on streetscape improvements to Broadway and Main Street.
- Maintain appropriate vehicular capacity.



