



VOLPE WORKING GROUP

PLANNING & DESIGN PRINCIPLES

**CITY OF CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
JUNE 8, 2017**

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VISION

A PLACE THAT MAKES CONNECTIONS

THE VOLPE SITE WILL BE...

- A unique place that is memorable, delightful, comfortable, inviting, and sociable
- A center of gravity, the heart of Kendall Square, an “exclamation point” for Cambridge, and a home for community events and gatherings
- Organized and given identity by the form and activity of its civic spaces—its streets, squares, and parks

THE VOLPE SITE WILL CONNECT...

- The site and the rest of Kendall Square
- Kendall Square and surrounding neighborhoods
- Kendall Square and the city’s other squares and neighborhoods
- Residents, office workers, researchers, retailers, customers, academics, and visitors
- The local economy and the regional, national, and international economy
- Diverse activities, ideas, and functions
- Both the built environment and the natural environment
- Work, life, and play from morning to afternoon to evening, weekdays, and weekends
- Cambridge’s past, present, and its future

A CENTER OF GRAVITY FOR KENDALL SQUARE



1 - 2. The site will be a part of a lively, functionally diverse, inviting, and coherent urban district.

A CROSSROADS



3 - 4. The site will bring diverse people, ideas, and functions together.

A SENSE OF BEING SOMEWHERE



5 - 6. The site will be a unique and memorable place that evokes a feeling of belonging, protection, of being at home.

CIVIC LIFE

Create beautiful, legible, varied, and welcoming public places that support and symbolize community, bring together a diverse range of demographic groups, as well as attract community members and visitors to share in the unique experience of Kendall Square.

CREATE A CIVIC CENTER THAT IS RECOGNIZABLE AS “THE HEART OF KENDALL SQUARE”

Create a new civic space—park or public square—located at the confluence of pedestrian travel routes and activated by retail and civic uses. This space shall be room-like, framed by architecture and reinforced and enriched by the design of its landscape to create a sense of place, where you know that you’re *somewhere*.

SUPPORT UNIQUE AND COMPLEMENTARY USES THAT WILL DRAW A BROAD RANGE OF COMMUNITY MEMBERS

Spaces and uses on the site should bring together different types of uses that appeal to varied interests, in order to provide the “critical mass” of civic activity needed to make the place feel welcoming to the community at large, and attract people who may not have previously had a reason to visit Kendall Square.

REFLECT KENDALL SQUARE’S ROLE AS A CENTER OF INNOVATION IN THE LIFE OF THE COMMUNITY

Employees, academics, and others involved in the innovation ecosystem should be a key presence in the civic life of Kendall Square alongside residents and the community at large. Businesses should be encouraged to contribute to civic life by displaying their work, opening to the street, engaging with other citizens, and providing space for the community.

PROVIDE VENUES FOR CIVIC DIALOGUE AND COMMUNITY PARTICIPATION

As Kendall Square is a center of thought and innovation, it should be a place where people come together for community-wide discourse in the form of lectures, arts and cultural programs, meetings, demonstrations, and other events. Community participation should include people who live and work in Kendall Square along with visitors from elsewhere in the city and around the world.

PUBLIC SPACE IS THE VESSEL FOR THE COMMUNITY



1. Friends meet up and linger on a restaurant patio in Harvard Square.
2. Children play in a water fountain in Chicago, IL.
3. Flexible seating invites passers-by to sit in Times Square, New York, NY, a civic-scaled public room.

GROUND LEVEL LIFE IS THE GLUE FOR COMMUNITY



4. Revelers participate in a parade along Massachusetts Avenue. 5. Elderly citizens participate in outdoor recreation. 6. Business owners engage with the public during the Cambridge Science Festival. 7. Art can be a focal point for gathering, such as Cloud Gate in Millennium Park, Chicago, IL. 8. Demonstrators gather to march through downtown Boston.

PERMEABILITY

Make the Volpe site an integral part of the urban fabric of Cambridge and an interconnected piece of the existing network of public spaces, buildings, and neighborhoods.

CREATE A LATTICE OF CIRCULATION ROUTES INTO AND THROUGH THE SITE TO MAXIMIZE PERMEABILITY TO SURROUNDING NEIGHBORHOODS

The site, and Kendall Square in general, has a “barrier” feel due to the impassability of its interior and wide, busy streets such as Binney Street and Broadway at the perimeter. The site plan should establish an integrated network of high-quality streets and open spaces that will welcome the community in, making deliberate connections to the surrounding neighborhoods of East Cambridge, Wellington-Harrington, and The Port.

PRIORITIZE THE PEDESTRIAN USE AND EXPERIENCE OF THE SITE

The site should provide a strong street edge on major public streets, and incorporate continuous ground floor spaces that are accessible and welcoming to the public, such as retailers. Ground floors should be visually transparent and welcoming throughout, with public entrances and activities physically and visually oriented to major pedestrian routes.

SEAMLESSLY CONNECT THE NEW VOLPE CENTER TO ADJOINING PUBLIC SPACES

The design of the new government facility should be as continuous as possible with adjoining public open space, and required security measures should be incorporated as part of the overall site plan concept. The new center should take advantage of opportunities for public outreach in the visual design and programming of the building and site. Parking and service areas should be minimized and handled unobtrusively.

INTEGRATION WITH THE CITY



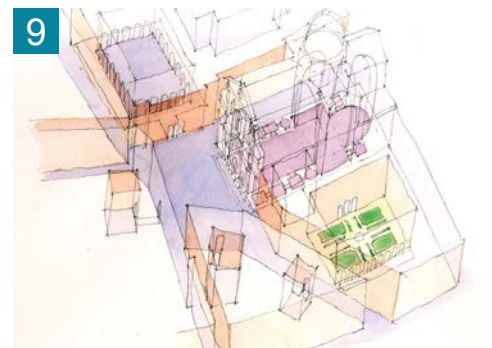
1. The site's system of streets and paths will be designed to make the site permeable to the surrounding neighborhoods. 2. Key urban intersection points and nodes of activity. 3. The streets that border the site should become connectors: zippers linking the site to the adjoining districts.

PEOPLE FIRST



4. Sidewalk widths should be generous enough to accommodate outdoor seating at cafés, bars, and restaurants. 5. Slowing vehicular traffic will allow for more convenient walking access to a wide range of services and amenities. 6. Increasing accessibility routes will lower obstacles currently blocking the site from its surroundings.

INTERCONNECTED CIVIC STRUCTURE



7. Boston's Moakley Federal Courthouse features subtle security barriers. 8. Continuity with adjoining public open spaces is encouraged, as shown in Bordeaux, France. 9. The site's civic structure is comprised of interconnected public spaces.

ACTIVATION

Provide a mix of commercial, residential, retail, recreational and other uses that are engaging and flexible, supporting an active public realm throughout the day, week, and year.

CREATE PUBLIC SPACES THAT SUPPORT A RANGE OF ACTIVITIES

Public spaces should support activities that will draw the critical mass of people needed to make it a great civic place. Vital activities include quiet contemplation of nature, impromptu recreation, gathering with friends, outdoor dining and picnicking, farmer’s markets, food trucks and carts, play areas for toddlers and children, skating, and other unique recreational offerings. Large and small businesses should be encouraged to take responsibility for some of the programming in public spaces.

PRIORITIZE SMALL-SCALE SPACES WITH A RANGE OF USES AT THE GROUND-FLOOR EDGES OF BUILDINGS, PARTICULARLY ALONG MAJOR PUBLIC ROUTES AND OPEN SPACES

Small shops, cafés, restaurants, and other small spaces that add variety to the streetscape are the priority for the ground floors of buildings along primary streets and open spaces. Commercial buildings should allow interior activities, like dining, to spill out. Larger-scale “anchor” uses should be located interior to buildings and the site, and/or below grade or on upper floors.

PROVIDE ACTIVATION AND INTEREST YEAR-ROUND

Public spaces should provide opportunities to enjoy the outdoors when the weather is pleasant as well as indoor and outdoor activities that will attract people even during less favorable weather conditions. To maintain interest, the types of activities provided should be able to evolve throughout the year based on the season and the circumstances.

WIDE RANGE OF PROGRAMS



1. Program can revolve around food: farmer's markets, food trucks, and other dining options. 2. Outdoor recreation encourages people to be active. 3. Outdoor dining and picnicking can happen both in the daytime and at night.

ENRICH THE STREETSCAPE



4. Small shops, cafés, restaurants, and similar uses are the priority for the ground floors of buildings addressing primary streets and space.

5. Entrances at building corners are facing intersections when possible.

6. Transparency, recessed entrances, window displays, and awnings address the pedestrian scale.

REASONS FOR THE SEASONS



7 - 8. Public spaces will allow for a variety of activities throughout the day, week, and year.

INCLUSIVENESS

Optimize the built environment to make the site attractive and welcoming to people of all ages and backgrounds, and particularly inclusive to families with children.

CREATE OPEN SPACES THAT ARE FRIENDLY TO PEOPLE OF ALL AGES AND ALL LEVELS OF ABILITY

Public spaces should provide opportunities for play and recreation serving all age levels, including toddlers, school-age children, teenagers, adults, and seniors. Spaces should not cater only to young adults.

PROVIDE DIVERSE HOUSING OPTIONS FOR DIFFERENT HOUSEHOLD TYPES

The range of housing types should address the need for family housing in the area and the city, with a considerable portion of multi-bedroom units, and amenities integrated to support family life. Residential amenities might include private open spaces such as balconies or decks, playrooms, storage areas, and child care services.

INCLUDE ECONOMIC OPPORTUNITIES FOR SMALL, “OWNER-OPERATED” ENTERPRISES

Among the commercial uses in the area, where larger businesses will predominate, there should also be opportunities for a wider range of commercial types, such as entrepreneurs and small businesses, including small retail proprietors. Small business owners will help contribute to the civic life of the area over the long term.

WELCOME PEOPLE FROM ALL BACKGROUNDS AND CULTURES

Kendall Square should be a place that reflects the socioeconomic diversity of the Cambridge community and embraces the worldwide community as well. Along with diverse housing options, consumer services, and recreational amenities, the Volpe site should create opportunities for multicultural programming and engagement among different demographic groups.

A CITY FOR ALL AGES



1 - 2. The site's public open spaces will offer a variety of uses and kinds of experiences for multiple generations: from children to seniors.

PROVIDE DIVERSE HOUSING OPTIONS



3 - 5. Housing options will cater to a wide demographic range, including families with children.

SUPPORT BUSINESS OWNERS



6 - 7. The development will promote economic opportunities for individuals and small, owner-operated enterprises.

COMFORT

Make spaces that feel friendly and inviting at the pedestrian scale so that residents, employees, and visitors will feel welcome.

CREATE PUBLIC SPACES THAT FEEL SAFE AND HUMAN-SCALED

Public pathways, recreational spaces, and gathering areas should have a scale that feels neither too confined nor too overwhelming to pedestrians, and have appropriate lighting and a sense of “eyes on the space” in order to provide safety for users at all times of day and night.

PROVIDE OPEN SPACES THAT PROMOTE ENVIRONMENTAL BENEFITS AND MINIMIZE ADVERSE ENVIRONMENTAL IMPACTS

Outdoor spaces should provide comfortable elements such as seating, vegetation, shade, water features and wind protection. Buildings and open spaces should be designed and oriented to minimize excessive shadow, wind, noise, and heat.

ARRANGE TRAVEL ROUTES TO MINIMIZE CONFLICTS AMONG PEDESTRIANS, BICYCLISTS, AND VEHICLES

Vehicular access/egress points, including parking entrances and loading docks, should be located to avoid conflicts with major pedestrian and bicycle routes. Bicycle routes should be clearly defined in order to avoid conflicts with pedestrians who might be sitting, standing, or entering and existing buildings.

PROVIDE A SAFE AND COMFORTABLE ENVIRONMENT



1 - 5. The site's open spaces will place a priority on physical and psychological comfort. Public spaces will range in scale from grand to intimate, offering niches for individuals, small groups, and large gatherings. In addition to outdoor open spaces, covered interior spaces will contribute to the quality and liveliness of the public realm, and will connect to adjoining open spaces.

SUSTAINABILITY

Develop the site to be an example of how the city will evolve and sustain itself into the future, particularly by mitigating and adapting to climate change.

ADAPT TO A FUTURE IN WHICH CARBON EMISSIONS ARE FULLY ELIMINATED OR OFFSET

The site design should pursue opportunities to provide efficient energy delivery at a district level (e.g., shared solar, microgrids, cogeneration, utilizing the existing steam network). Building designs should employ energy-efficient building envelopes, optimize solar orientation, and pursue other passive design features. Building systems should be adaptable to shift from carbon-based to renewable sources of energy over time. Tenant fit-outs should also be highly sustainable.

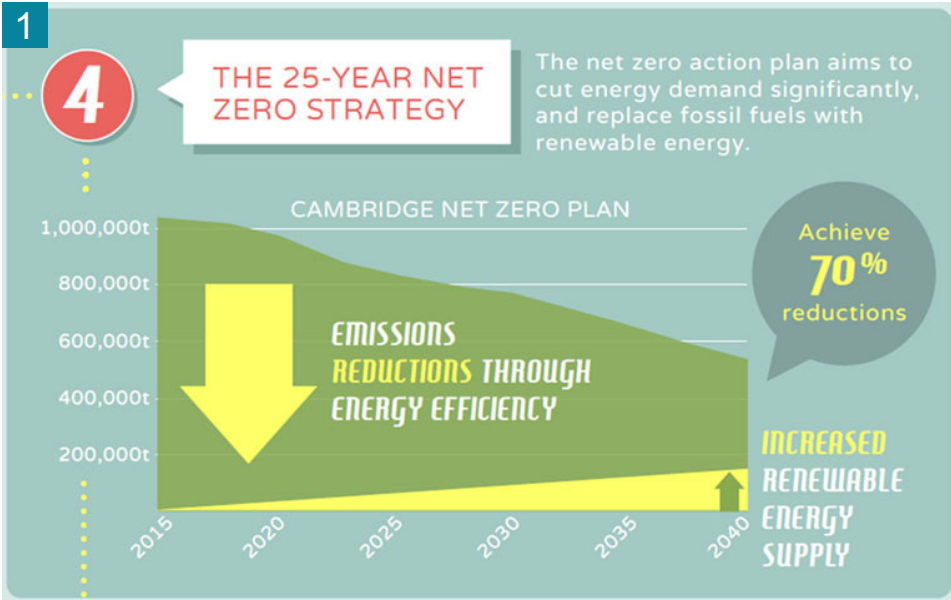
INCORPORATE RESILIENCY INTO SITE AND BUILDING DESIGN

Public space should incorporate natural systems for stormwater management and heat island mitigation, as well as by providing shared resources to support the community during severe weather events. Buildings should be designed to withstand and recover from the increasing incidence of flooding and heat events over time.

MINIMIZE RELIANCE ON AUTOMOBILE TRAVEL AND PROMOTE OTHER MEANS OF TRAVEL TO AND FROM THE SITE

Parking should be limited and hidden incentives to drive and park should be removed where possible, with incentives and other forms of support given to non-driving travel modes such as walking, bicycling, and transit systems, so that new development can be supported without additional auto traffic.

TRIPLE BOTTOM LINE: PEOPLE, PLANET, PROFIT



1 - 3. Resilient strategies are a means to address our environmental and social challenges by promoting social connection; creating public amenity; using land, energy, and natural resources more efficiently; and minimizing our carbon footprint.
 4. The Bullitt Center in Seattle, WA is an example of urban sustainability.

PUBLIC SPACE

URBAN CHARACTER

Organize the site's civic structure into an interconnected pattern of memorable, legible, civic-scaled, room-like public open spaces framed by buildings that enrich the urban environment.

USE LANDSCAPE & ARCHITECTURAL DESIGN IN TANDEM TO CREATE BEAUTIFUL PUBLIC OPEN SPACES OF A VARIETY OF TYPES

The public realm should be designed to be unique, varied, legible, ranging from the grand to the intimate, and from lively to quiet. Provide a wide range of types and scales of public open spaces: streets, squares courtyards, gardens, parks, and primary public interior spaces.

Parks are both large and small green spaces. Landscape features can include: water features, shady groves, and open lawns with flexibility for a broad range of uses. Added elements include: pavilions or pergolas; tables and benches; flexible seating; paved areas suitable for food carts and temporary retail booths or tents. The combination of these provide opportunities for quiet contemplation of nature, as well as recreation and outdoor events.

Squares are civic rooms with clear spatial definition, accommodating retail, shops, dining, and bars.

Streets house shops, restaurants, bars, cafés, galleries, work spaces, community functions and institutions.

Courtyards are open spaces that are more private than parks, but can be enjoyed by the public.

DEFINE AND ENRICH THE PUBLIC REALM



1 - 2. Landscape and architectural design work together to form public space, enrich its character, and support a multitude of uses.
3 - 4. Passages and gallerias are protected public or semi-public connections through buildings, suitable for retail, markets, events.
5 - 6. Streets and squares enrich the pedestrian environment, creating a multitude of opportunities for use and interaction.

PROVIDE A VARIETY OF TYPES OF PUBLIC OPEN SPACES



7 - 9. The site will provide a wide range of types and scales of public open spaces. Their character and amenities will encourage a wide range of activities and uses.

BUILT FORM

URBAN CHARACTER

SENSITIVELY MANAGE THE HEIGHT AND VISUAL BULK OF BUILDINGS TO MINIMIZE IMPACTS ON SURROUNDING USES AND PUBLIC SPACES

Tall buildings should be sited and designed to preserve open space, while minimizing potential drawbacks such as shading of open spaces and existing buildings, wind impacts and loss of sky views. Where appropriate given a building's location and role relative to the context, modulate the mass and/or envelope design of large buildings to reduce their monolithic appearance. Buildings located adjacent to existing relatively low buildings should be designed with setbacks, stepbacks, and other mitigating measures to create a compatibility of scale.

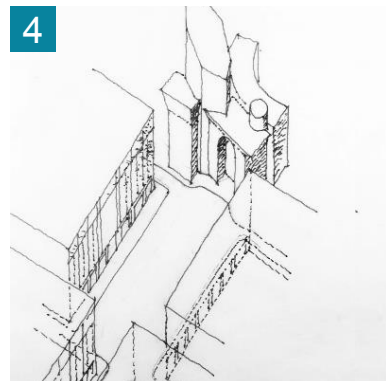
PROVIDE A COMBINATION OF BUILDINGS AND SPACES WITH A BALANCE OF UNIQUE, ICONIC AND MEMORABLE CHARACTERISTICS, AND CONTRASTING BACKGROUND FEATURES

Background and landmark buildings and their facades should be designed in accord with their roles in the site's civic structure to create an environment that is simultaneously coherent and visually rich.

Background buildings should provide continuity of the street wall, strengthen the site's connection to surrounding neighborhoods, establish a sense of scale, and enliven the visual experience.

Landmark buildings should provide points of emphasis, and articulate opportunities created by the arrangement of the site's streets and spaces. Such buildings should be located and designed in response to views, axes, intersections, and nodes, and their presence should add visual interest at the scale of the street, square, park or district.

SPATIAL DEFINITION AND VISUAL ENGAGEMENT



1. Capitalize potential of tall buildings to contribute to the Cambridge skyline, particularly as seen from across the Charles River and from the Longfellow Bridge. 2. A taller building is set back behind a lower volume to reduce shadow impacts. 3 - 4. The import of exceptional/iconic buildings derives from their contrast with regular/background buildings

BUILT FORM

URBAN CHARACTER

CREATE HUMAN-SCALED, PEDESTRIAN-FRIENDLY AND WELL-DEFINED STREETS AND PUBLIC SPACES THAT CONTRIBUTE TO THE DISTRICT'S OVERALL SENSE OF PLACE

Buildings should be conceived in four horizontal zones, each with its own responsibilities and characteristics that help define and articulate public space, and humanize the built environment.

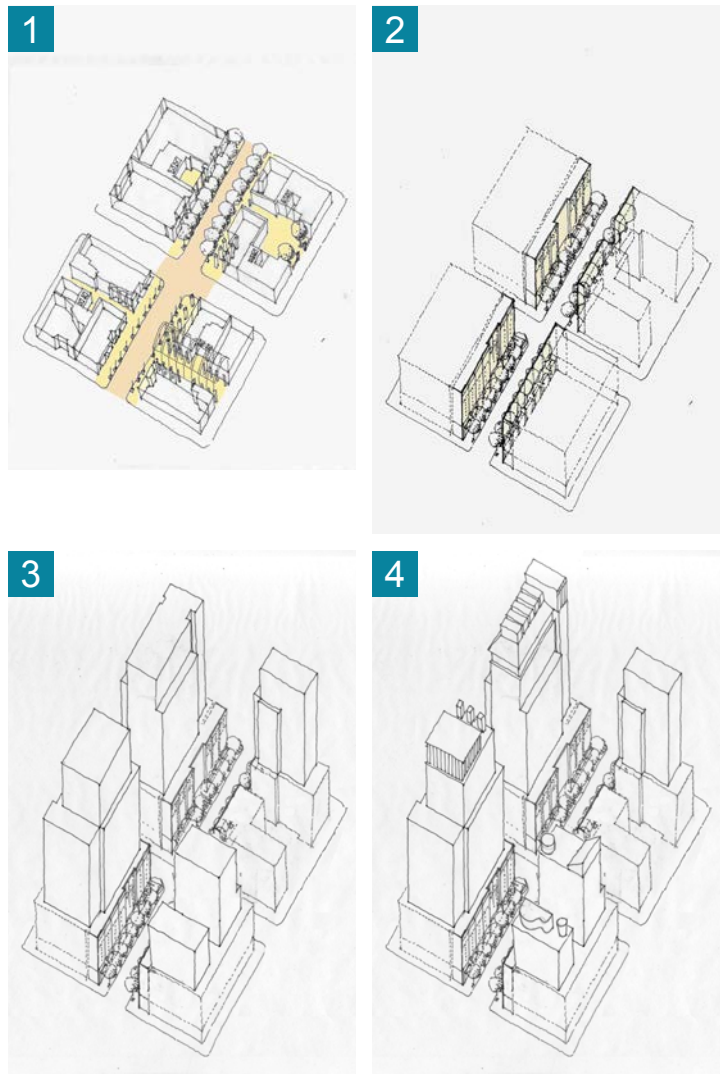
The **pedestrian zone** should create an active, transparent and permeable ground level.

Street walls should frame the spaces of the street, or square, enliven the pedestrian experience, and mediate between the pedestrian scale and the entire building. Street walls should be located along build-to lines established for the district.

Towers should define space at a larger scale and should be slender, with a vertical emphasis and expressive design to punctuate the skyline.

The **tops** of buildings accommodate mechanical systems and should be designed in recognition of their potential to symbolize the building or district.

HUMANIZE THE BUILT ENVIRONMENT



1. Pedestrian Zone 2. Street Walls 3. Towers 4. Tops

THE PEDESTRIAN ZONE



1. The building’s ground floor is a deep zone—curb, trees, sidewalk, outdoor seating, canopies, recessed building entrances, window displays, loggias. 2. Shops, restaurants, community spaces, and lobbies connect with the street and sidewalk, adding fine-grained porosity. 3. Transparency and connection in permeable buildings enrich the pedestrian environment.

STREET WALLS



4 - 6. The Street Wall frames the space of the street, square, and park. It addresses the pedestrian’s cone of vision and contributes both beauty and visual continuity to the pedestrian experience.

TOWERS AND TOPS



7 - 9. Towers will be landmarks within the district. Building tops have the potential to be expressive elements and potentially symbols of the entire city that engage in dialogue with the buildings on the Boston Skyline.



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