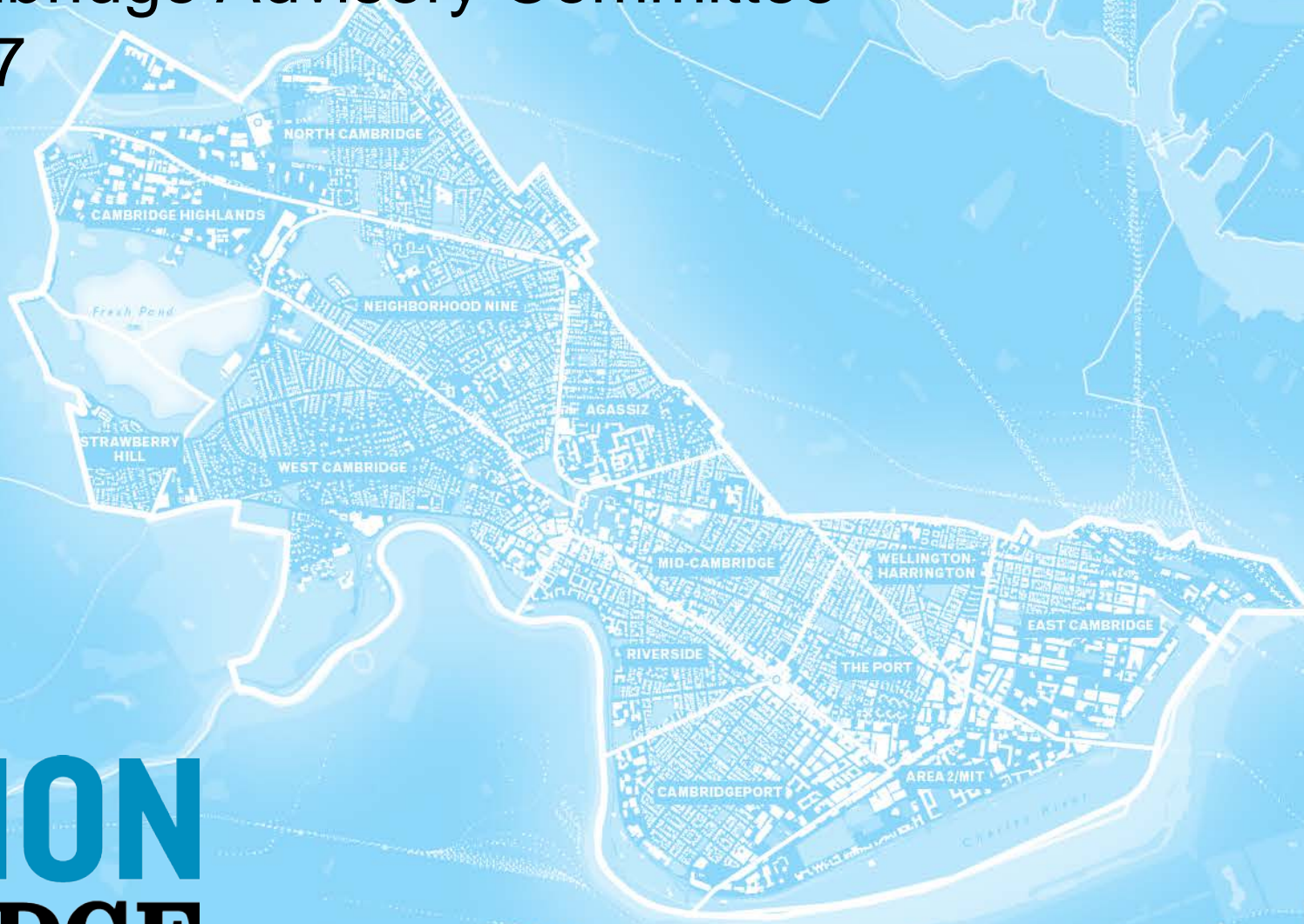


Envision Cambridge Advisory Committee

April 5th, 2017



ENVISION CAMBRIDGE



Agenda

Introduction (5 min)

Considering Urban Form (existing conditions) (30 min)

Existing City Policies (15 minutes)

Other Potential Design Guidelines Approaches (15 minutes)

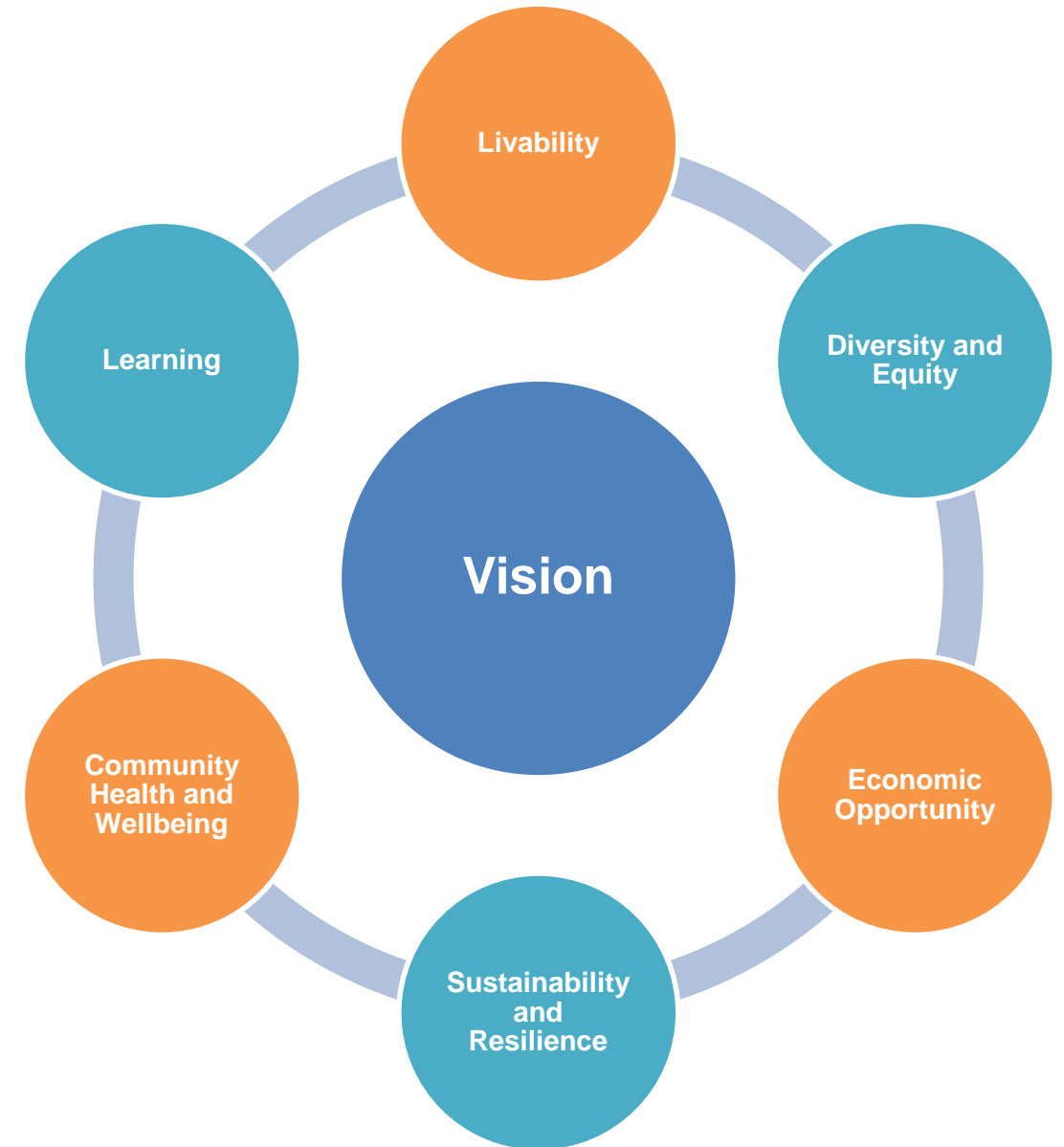
Draft Goals (40 mins)

Next steps and wrap up (15 mins)

Vision

What we want to be

“Cambridge is a forward-thinking, welcoming, and diverse city. We enjoy a high quality of life and thrive in a sustainable, inclusive, and connected community.”

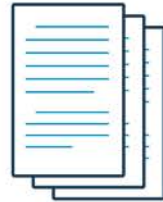


Project Framework

Vision & Core Values

Conditions Analysis

- Study existing conditions by focus area
- Identify opportunities and challenges
- Review existing city priorities and initiatives



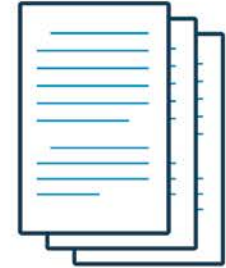
Draft Goals

Scenario Analysis

- Determine impacts of potential strategies
- Study interactions and tradeoffs between those strategies

Setting Priorities

- Set targets
- Recommend strategies to meet those targets
- Determine indicators needed to track progress



Recommendations

Citywide Focus Areas

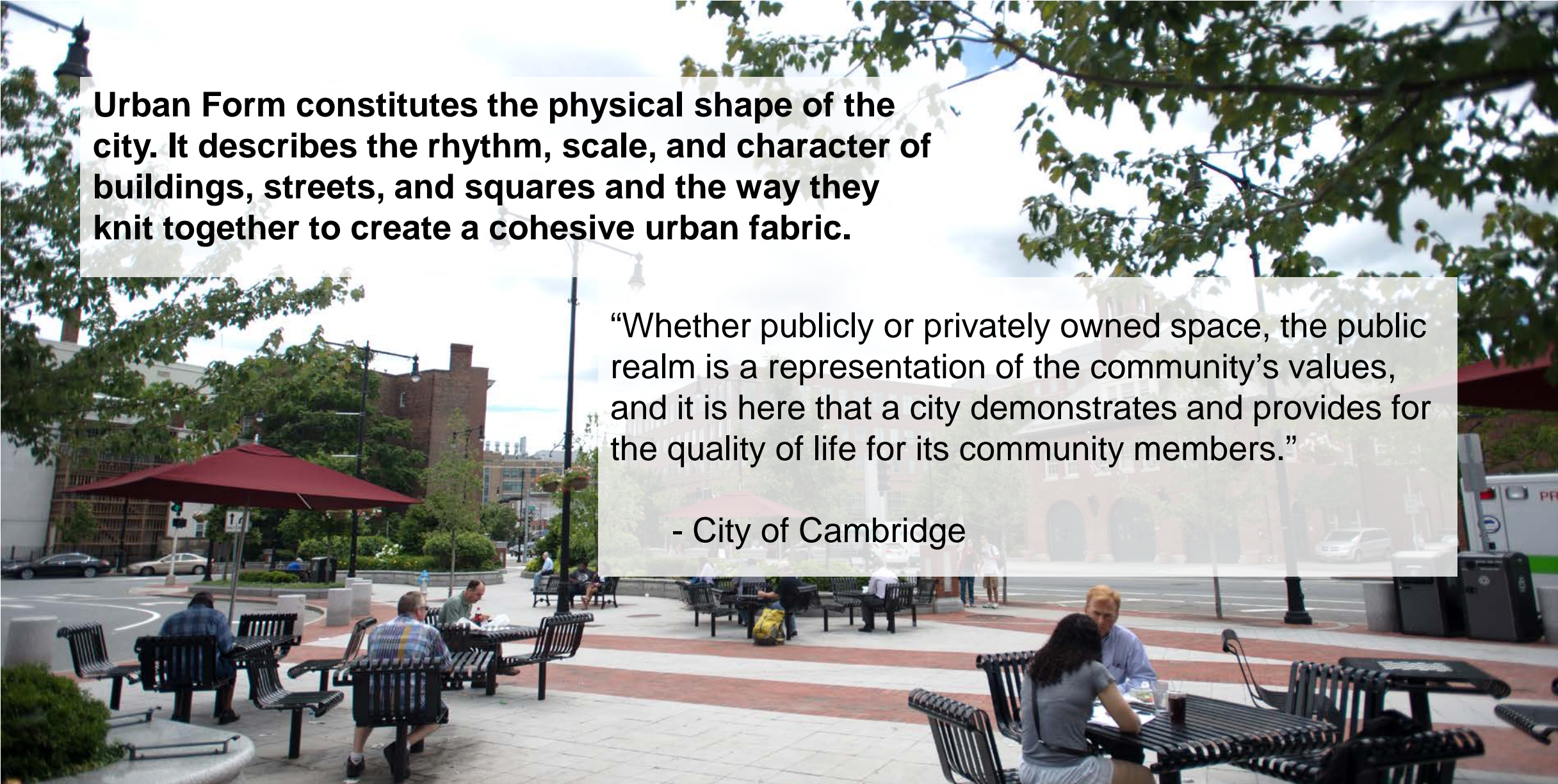


Citywide Focus Areas

Six working groups will provide input to the Envision Cambridge Advisory Committee for plan development:

- Engagement
- Alewife
- Housing
- Economy
- Mobility
- Climate and Environment

We would like the ECAC to play a similar role in developing urban design goals for the overall plan.



Urban Form constitutes the physical shape of the city. It describes the rhythm, scale, and character of buildings, streets, and squares and the way they knit together to create a cohesive urban fabric.

“Whether publicly or privately owned space, the public realm is a representation of the community’s values, and it is here that a city demonstrates and provides for the quality of life for its community members.”

- City of Cambridge

Considering Urban Form

Urban form influences lifestyle

The right kind of urban form can encourage people to walk, bike, and take transit

Urban form has an influence on the environment

Tree canopy, ample open spaces, and green streets can make a city better adapt to increased rainfall

Urban form is the result of land use policy and the real estate market

At any given time, developers have preferences for building types, the dimensions of floor plans, construction approaches, etc.)

Introduction

What is Urban Form? Why is it Important?

Urban form is the physical shape and structure of the city. The form of a city is shaped by natural features (such as rivers and hills) and by the myriad economic, transportation, housing, environmental, social and aesthetic choices made by a city's residents — past and present.

Urban form is important because it influences your everyday life. Whether you live in an urban area like the Pearl District, a lush and hilly neighborhood like Ash Creek, a neighborhood with ranch houses and tall Douglas Firs like Mill Park, or in a neighborhood with closely-knit houses and active commercial streets like SE Belmont Street, **urban form influences whether you walk or drive to the store, whether you take transit or whether you bike or drive to work.** It also influences how far local farmers must travel to reach neighborhood markets and how long it takes to leave the city to explore wilderness areas.

A city's form not only impacts residents' daily lives and individual economic choices; it affects citywide policy and financial decisions as well. A city's urban form is important because it influences how quickly a community can adapt to changing environmental, economic and social conditions. For example, **a city with a very large and diffuse structure and without concentrations of development might find it more difficult to adapt to a prolonged rise in fuel costs and the need to increase transportation options. A city with a limited tree canopy and little open space would find adapting to increased rainfall and stormwater runoff more challenging and more costly than a city with ample tree canopy and green spaces.**

Urban form is important to think about because Portlanders can make choices about how to guide and shape the city's future form. The shape, structure and organization of a city — its urban form — reflect a society's values, needs, opportunities and constraints. Portland's urban form is the cumulative physical result of numerous related and unrelated human decisions over time. Portland's existing urban form is an imprint on the natural landscape that tells us about our past and present values and needs. Decisions made through the upcoming Comprehensive Plan process will affect Portland for generations.

Source: *Portland Plan: Urban Form*, Portland Plan Background Report, Fall 2009

Considering Urban Form

Places

Charles River embankment, the Squares (Harvard, Central, Inman, Porter, etc.), and the corridors (Mass. Ave. and Cambridge Street)

Patterns

Physical characteristics of residential neighborhoods and mixed-use commercial centers (Kendall Square, East Cambridge, etc.)

Public Realm

Streets/sidewalks, parks, and other open space.

Private Realm

The way that buildings interface with the public realm (massing, ground floor transparency, etc.)

Approach and Structure

There are myriad lenses through which to view and understand a city's urban form. To begin to systematize the discussion of Portland's existing urban form, this report breaks the analysis of the city's shape and structure into the following topics and corresponding chapters: places, patterns, public realm and private realm. A brief description of each topic is provided below:

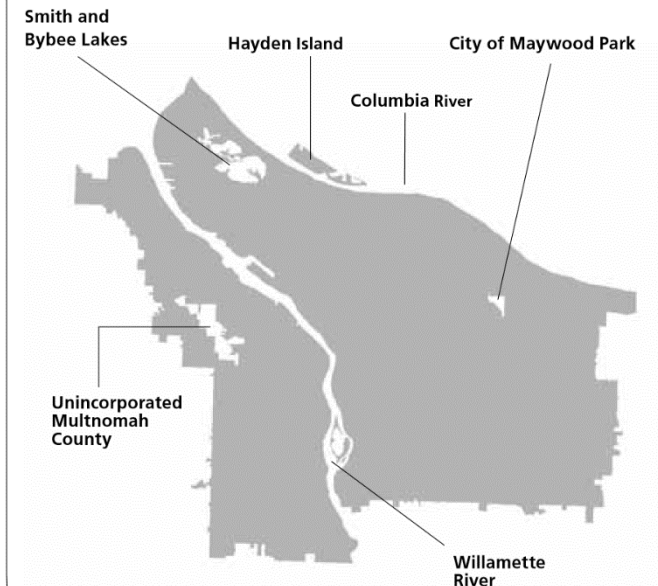
- **Places.** The places chapter focuses on identifying places and landmarks of citywide prominence that provide orientation, community identity or are hubs of community activity. They include natural and built landmarks, such as topographical features, bridges or major streets that help community members navigate and identify their place in the city. They also include commercial districts and other places of concentrated activity where Portlanders and visitors come together and that help define Portland's sense of place, as well as significant natural areas and key connections. Mapping of these prominent places and features will be used to support community identification of what places are especially valued, what should be enhanced and what new or emerging places should be fostered.
- **Patterns.** The patterns chapter focuses on identifying the basic physical characteristics of Portland's residential areas, mixed-use centers and industrial districts. This information is intended to support community discussion on what community characteristics are valued and should be continued into the future.
- **Public realm.** The public realm chapter focuses on the city's shared spaces — streets and sidewalks, trails, paths and parks. It is intended to support community discussion on the future of Portland's streets, which occupy over 16,000 acres of land, and to consider how this vast resource might function as part of the broader system of public spaces (the "public realm") that includes both streets and parks.
- **Private realm.** The private realm chapter begins to explore the range of development outcomes that take place mostly on private property but that interfaces with and shapes the public realm and are part of the continuing evolution of neighborhood patterns and characteristics.

Together, these topics look at the city from a sequence of scales. These scales range from the citywide, where only the most prominent features and places are apparent; to the urban fabric of the blocks, streets and building patterns of neighborhoods; to the street-level environment experienced by people on a daily basis.

While the focus of the Urban Form Report is on describing what currently exists, it concludes with a chapter on Ideas for Future Consideration. To support further community discussion on the report's topics, this concluding chapter identifies some possible new approaches to guiding Portland's future urban form, with ideas drawn from broader themes overlapping the topic areas.

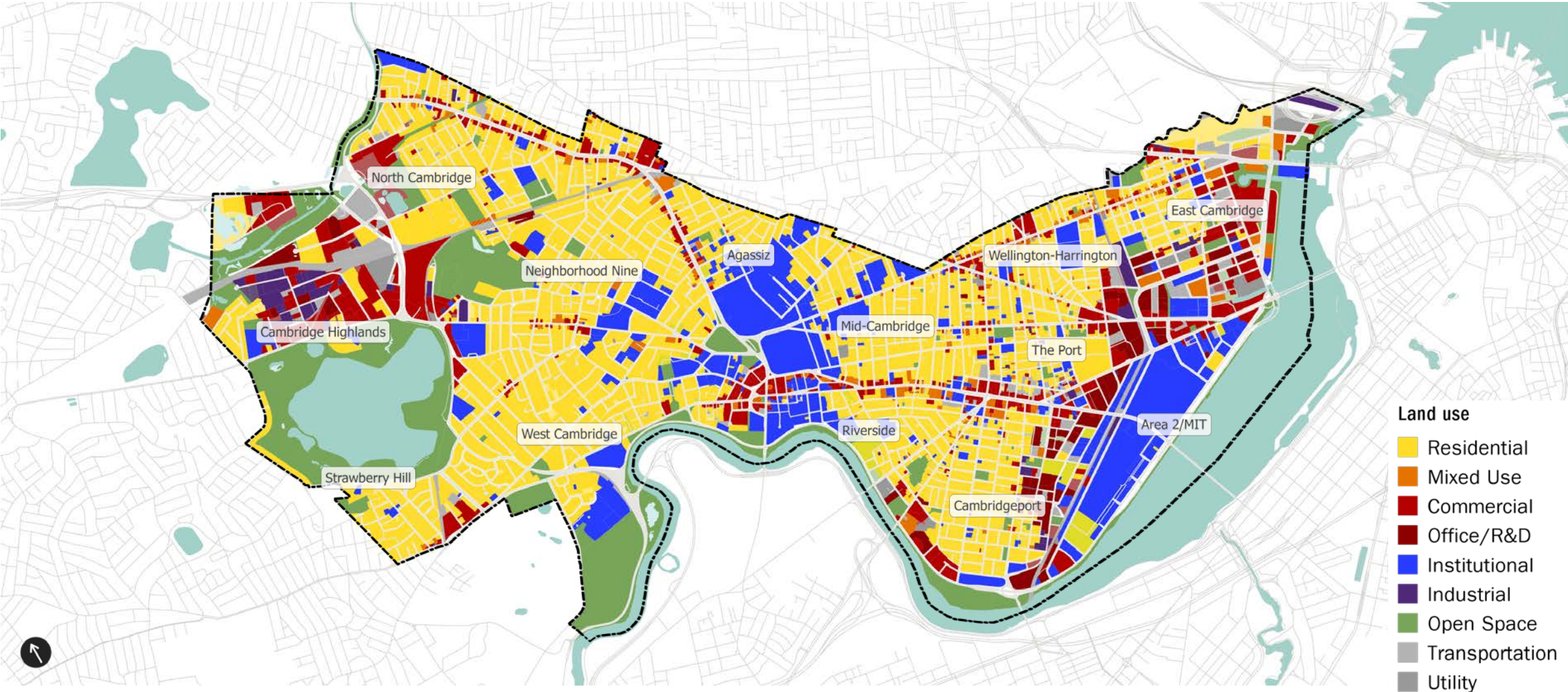
Notes on Mapping Conventions

This report relies heavily on simplified maps to convey key ideas. Underlying each of these maps is the Portland city boundary, which merits some preliminary explanation here. Several features universally appear as white against the grey background: water bodies, Maywood Park and a chunk of unincorporated Multnomah County near Forest Park. On select maps in some portions of the document, additional features such as topography and freeways also appear in white.



Source: *Portland Plan: Urban Form*, Portland Plan Background Report, Fall 2009

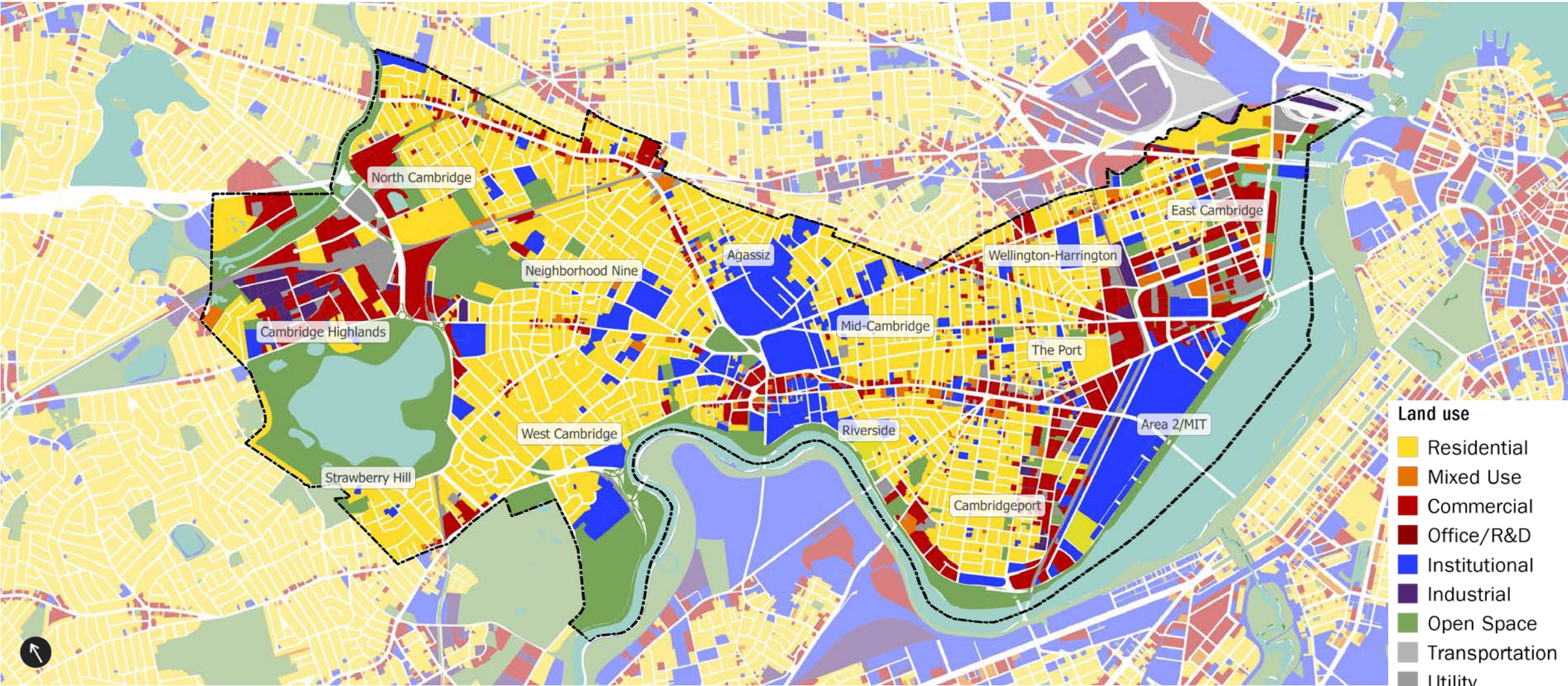
Places: Cambridge is defined by the relationship of its residential neighborhoods to university campuses and mixed-use commercial centers and corridors.



Source: Cambridge CDD



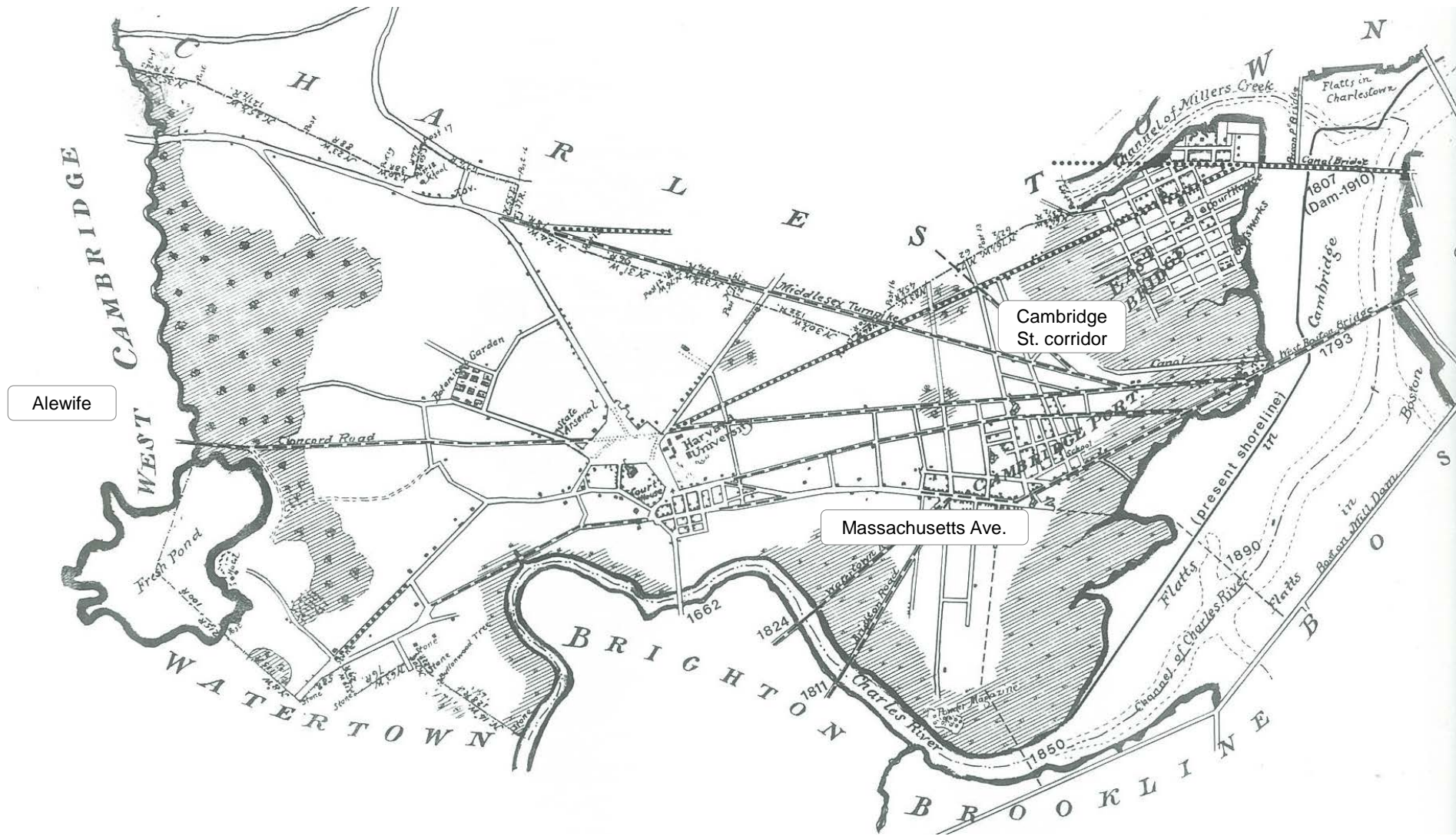
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Source: Cambridge CDD

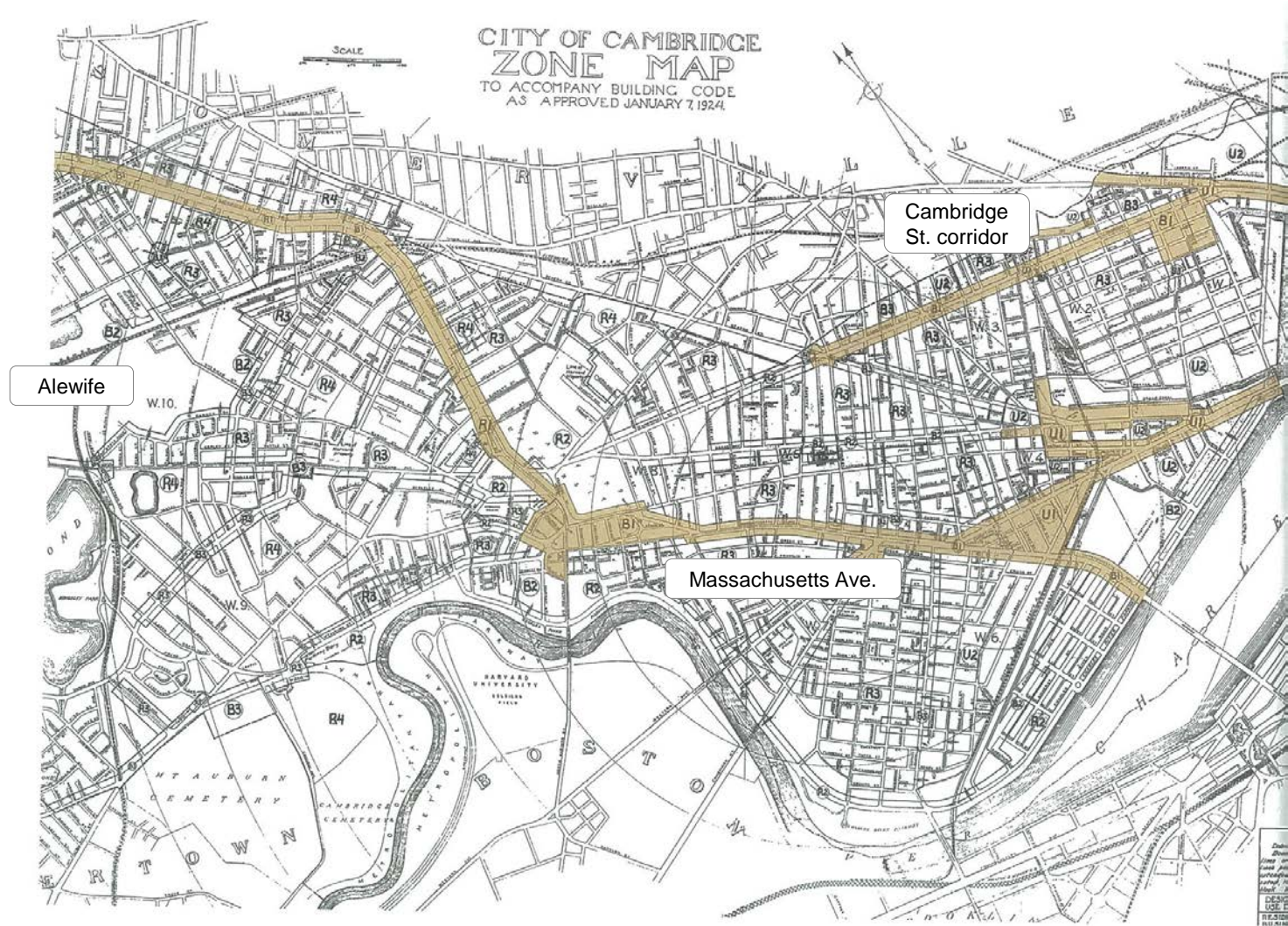


Many of the defining aspects of Cambridge's urban form, including its human-scale streets and its stable residential neighborhoods, can be traced to the city's historical development patterns.



c. 1830

In the last century, the City has pushed development toward the corridors through urban planning and zoning tools.

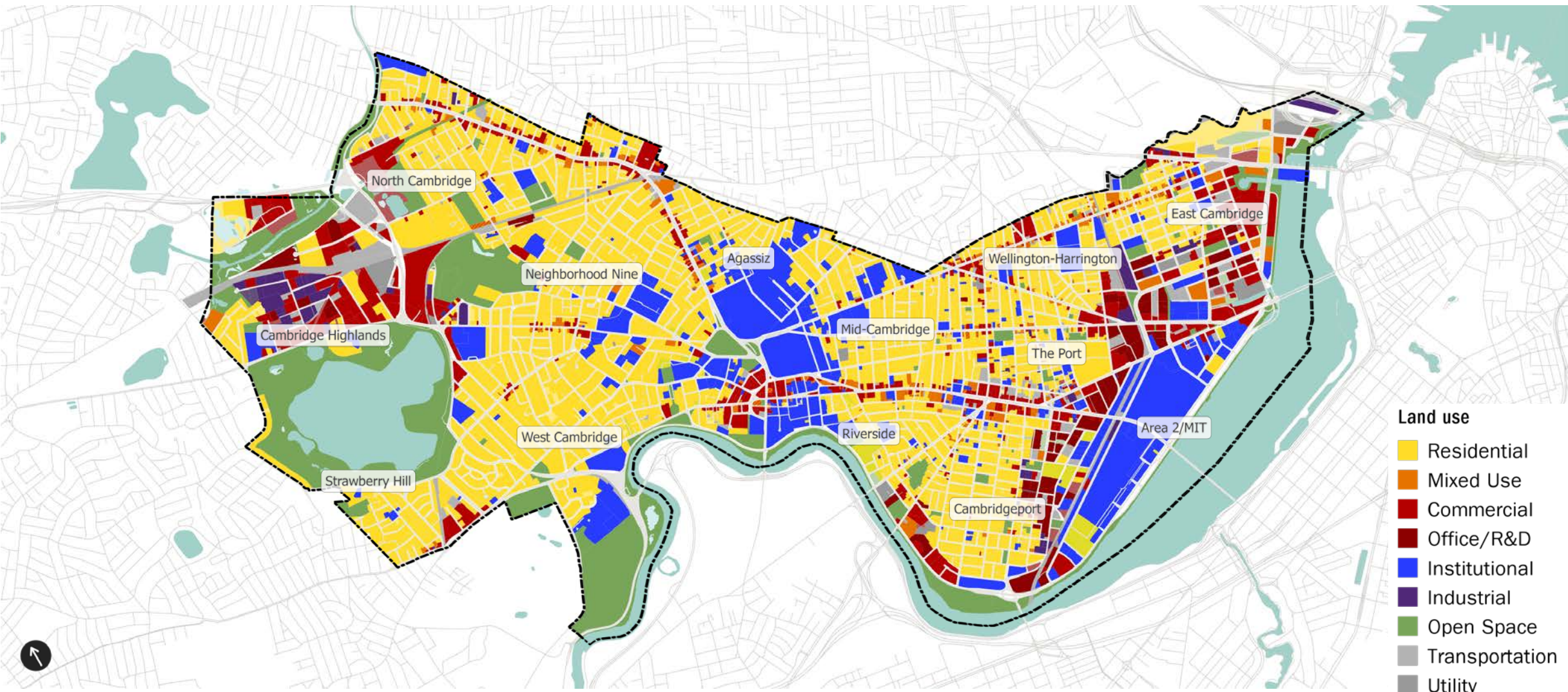


1924: Cambridge’s first zoning plan. Shaded areas represent a height limit of 100 ft.

The Mass. Ave. corridor has a different scale than the neighborhoods that abut it.

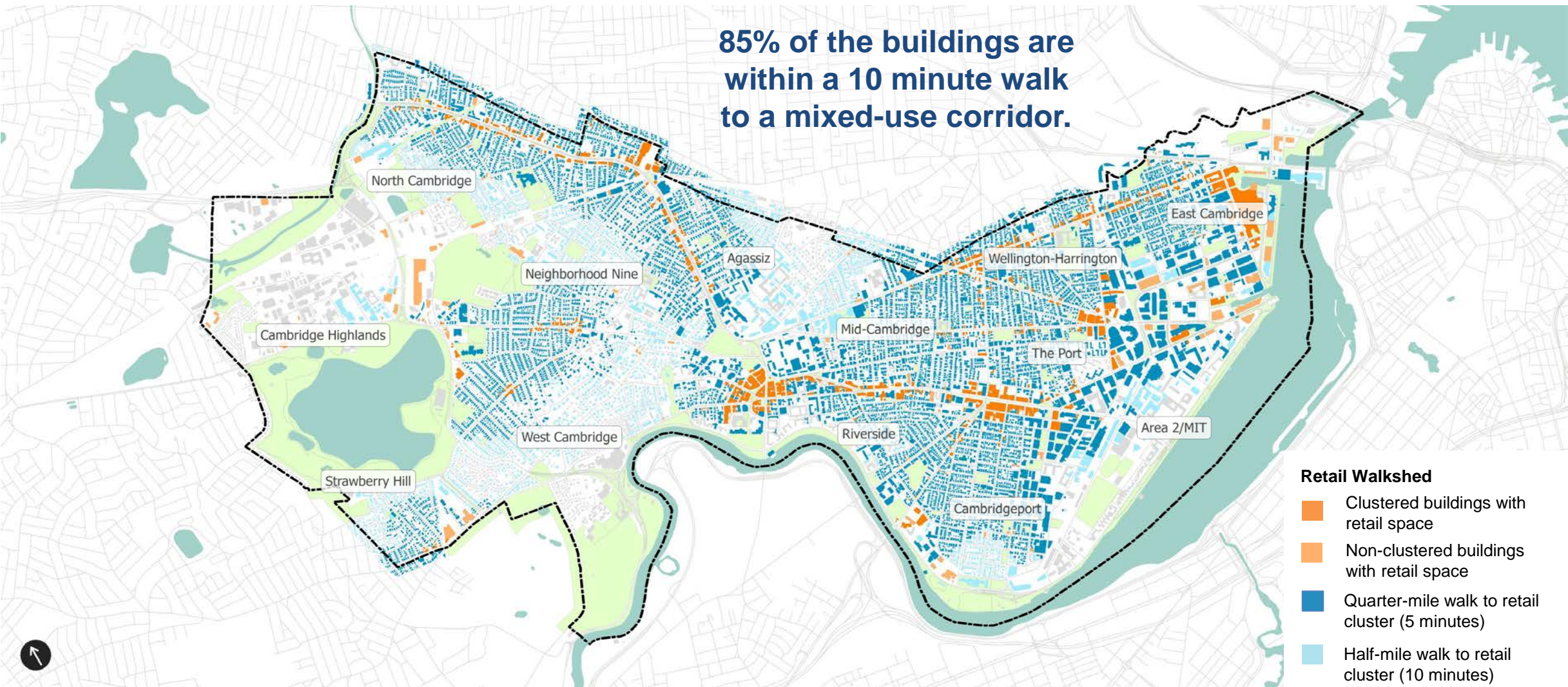


Patterns: Cambridge is defined by the relationship of its residential neighborhoods to university campuses and mixed-use commercial centers and corridors.



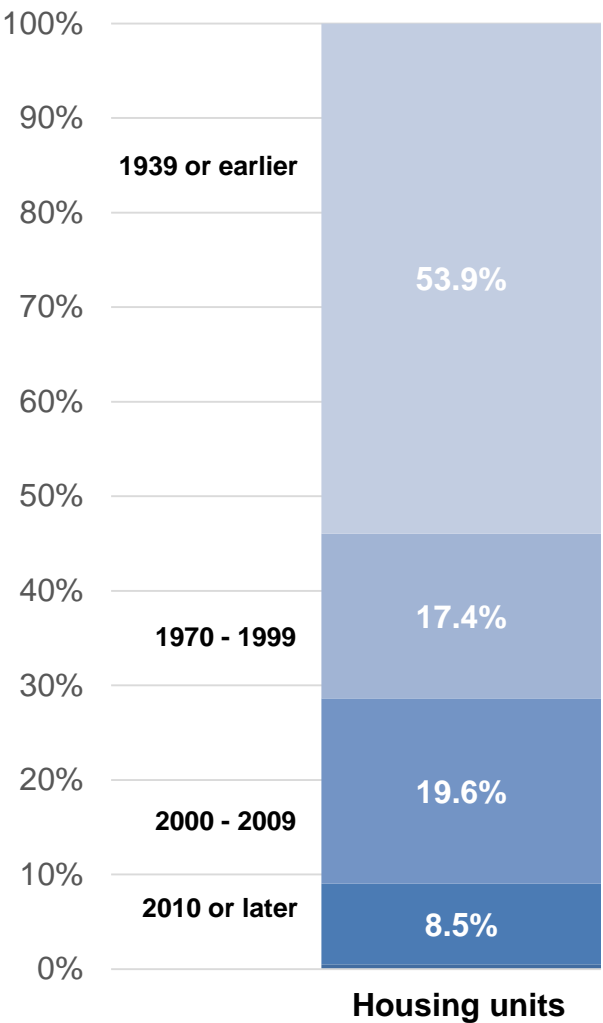
Source: Cambridge CDD

This pattern resonates among present-day land uses and enables residents to be well served by neighborhood retail.



Source: City of Cambridge CDD, Envision Cambridge Analysis. Retail clusters are any group of five or more buildings with retail space without a distance of 400 ft. or greater between those buildings. List of land use codes used to determine retail space available upon request.

Much of the Cambridge's housing stock is no larger than a triple decker and was built before the Second World War.



Source: 2010-2014 American Community Survey, 5-Year Estimates

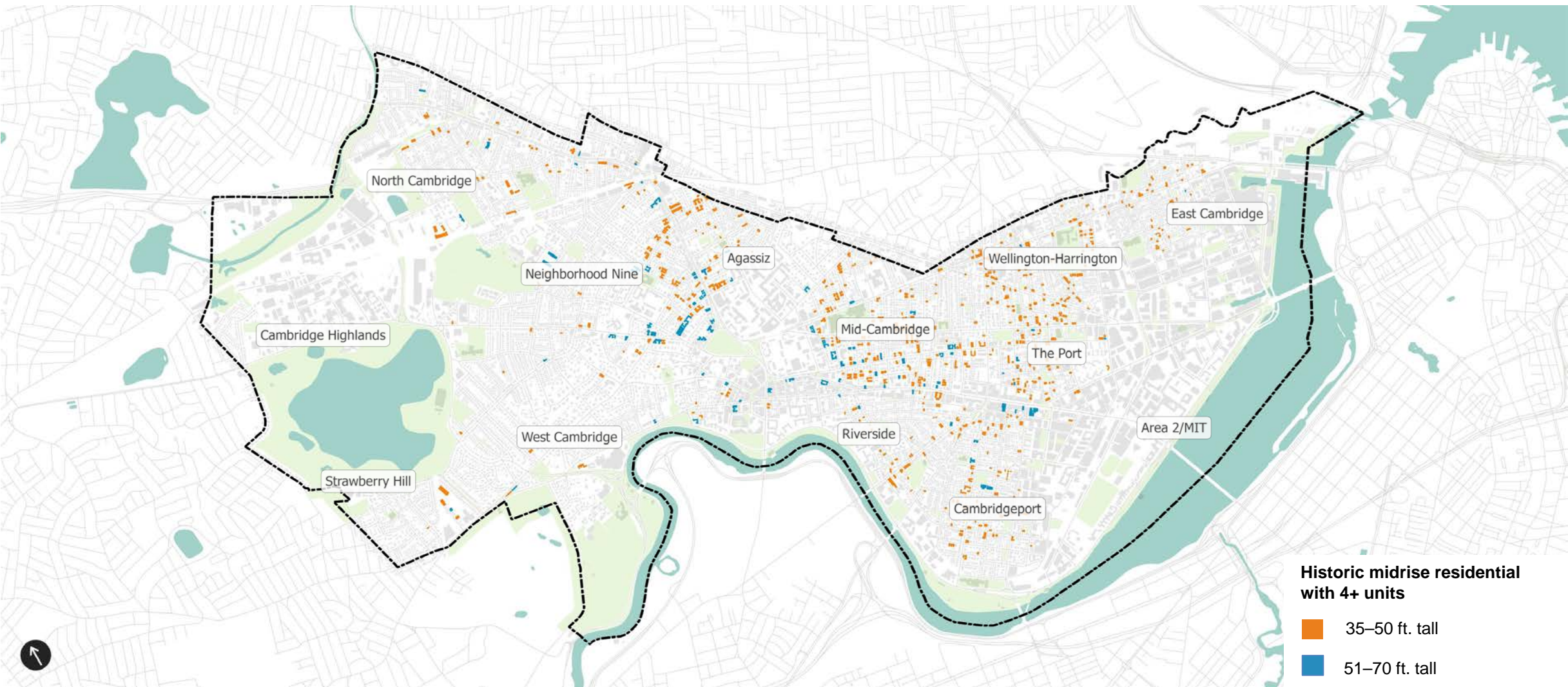
Cambridge has a relatively diverse range of small building types from all historical periods



Pre-war apartment buildings are common along Cambridge's secondary corridors, including Harvard Street, Broadway, and Garden Street.



Pre-war apartment buildings are common along Cambridge's secondary corridors, including Harvard Street, Broadway, and Garden Street.



Source: City of Cambridge CDD, Envision Cambridge Analysis. Highlighted buildings are between 35 and 70 feet tall and include at least four housing units, though not every building matching those parameters is highlighted. This map excludes certain anomalous examples of university housing, public housing, and historic warehouses converted to residential use.

Public Realm: At the edges of the city the scale of streets, sidewalks, open spaces, and buildings tends to change and is very different from most of Cambridge, such as in Alewife.



Retail clusters like Inman Square create an inviting public realm along Cambridge’s corridors.



Cambridge's corridors have varying qualities of urban form. We mapped “street wall” which measures the enclosure along a street.

- When buildings are arranged along the sides of the street, they form a continuous frontage or a “wall” that creates a distinct outdoor space.
- We try to quantify street wall by measuring the amount of frontage provided by buildings on the street-facing side of each block.
- A metric indicating “more street wall” means that a greater portion of the building comes out to the sidewalk. It is not a measure of the quality or program of that frontage.



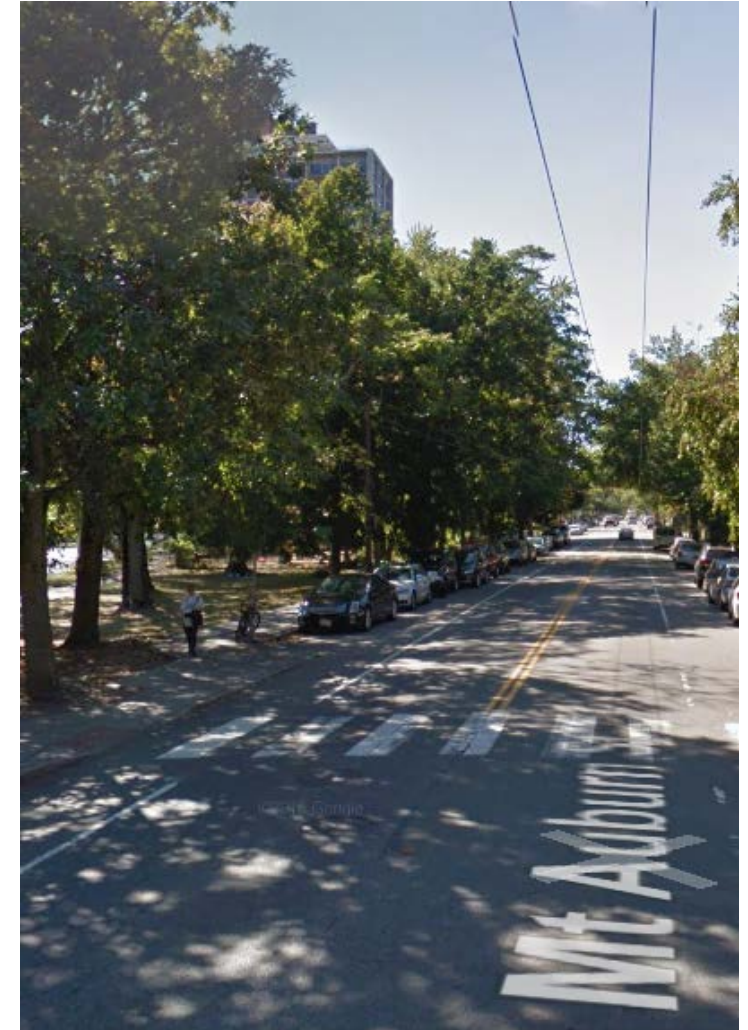
Cambridge's corridors have varying qualities of urban form. We mapped “street wall” which measures the enclosure along a street.

- Commercial corridors and dense residential neighborhoods typically have high street wall measures and can be nice to walk through.
- On the other hand, loading areas, blank facades, and a lack of pedestrian infrastructure can make for unpleasant walking experiences, despite high street wall scores.

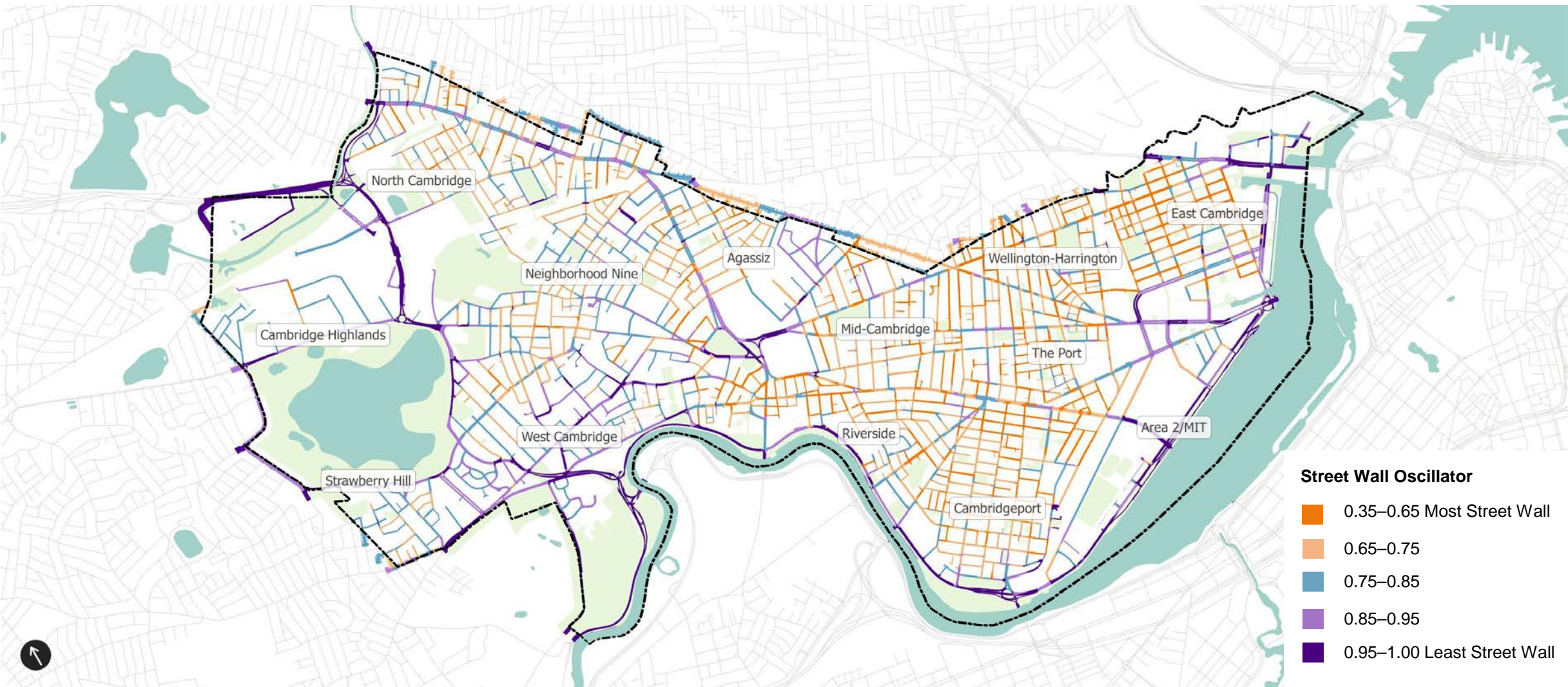


Cambridge's corridors have varying qualities of urban form. We mapped “street wall” which measures the enclosure along a street.

- Commercial corridors and dense residential neighborhoods typically have high street wall measures and can be nice to walk through.
- On the other hand, loading areas, blank facades, and a lack of pedestrian infrastructure can make for unpleasant walking experiences, despite high street wall scores.
- Blocks with a low street wall measure can often seem suburban if abutted by buildings.
- But less street wall \neq bad streets. It may also be indicative of natural resources or open space abutting the street like on Mt Auburn St.



Established residential neighborhoods tend to have continuous street walls. The corridors and edges of neighborhoods have more variation in street wall, scale, and use.



Source: CDD GIS data, Envision Cambridge Analysis.

Private Realm: Most new infill development in Cambridge negotiates between market parameters, the City’s urban design guidelines, and the neighborhood context



However transitions between large new developments and their immediate context continues to be a challenge in many parts of the city.



Issues

- New development, driven by real estate and construction logics, is often of a scale that sharply contrasts with Cambridge's existing building fabric and urban form.
- The transitions between the scale of new development and existing residential neighborhoods, in particular near the corridors, are inconsistent.
- Some of the city's largest open space and natural resources are difficult to access from abutting neighborhoods and therefore underutilized.
- Public space, such as sidewalks, the right of way, squares, vary in scale and quality.

Existing Policies



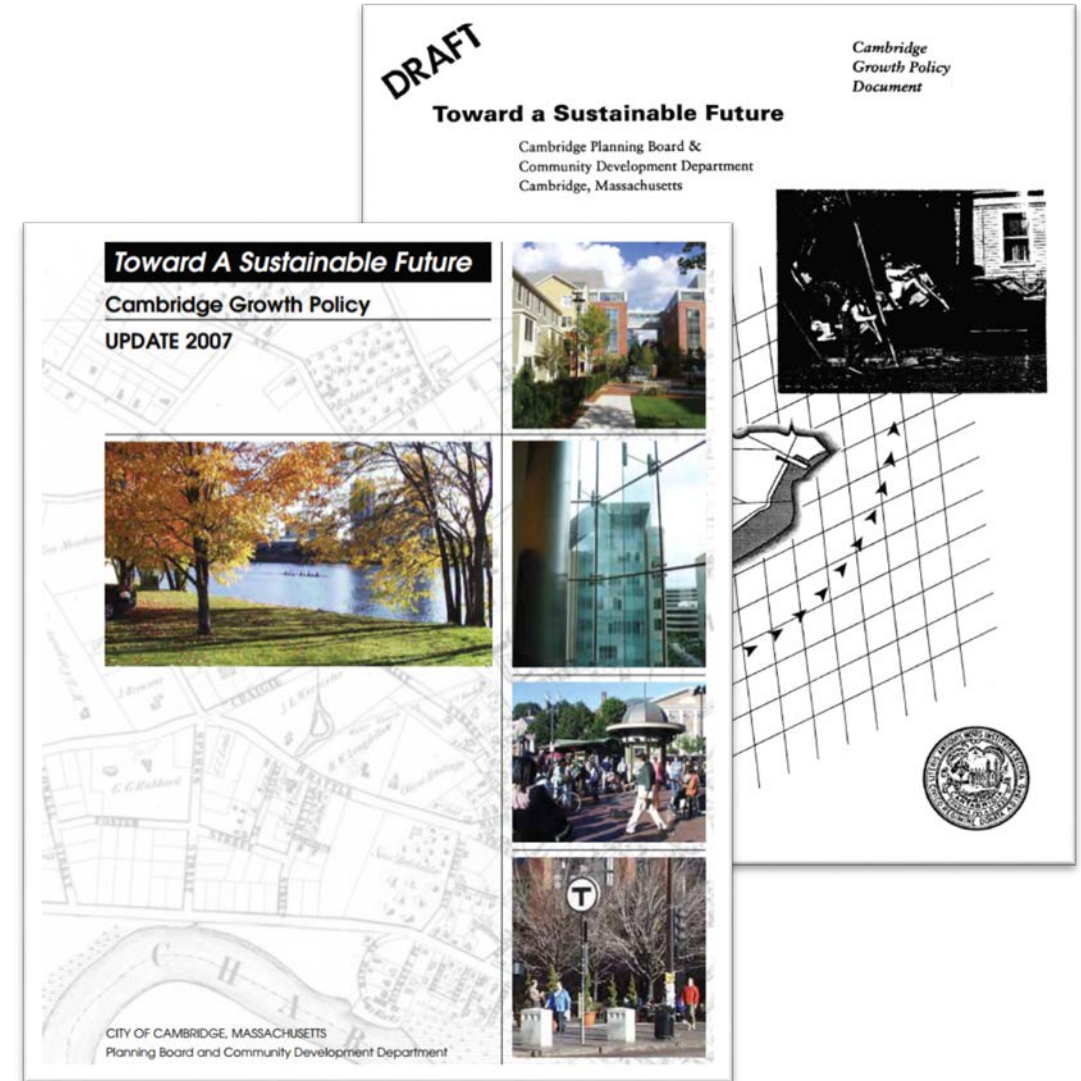
Policies - Growth Policy Report (1993) and update (2007)

1993 Growth Policy Report highlights –

- **Preservation** of urban built character in **residential neighborhoods**.
- The **importance of retail clusters** to the vitality of the city.
- Emphasizes the role of **urban design standards to ensure appropriate transitions** between diversity of scales among neighborhoods.
- Optimal location for highest density **commercial uses near transit**.

2007 Growth Policy Report update highlights –

- Adapting the pace of development to **maintain the City's tax base so long as it does not overburden** the City's infrastructure systems or disrupt the neighborhoods.
- Maintains that **new retail should be directed** towards Cambridge's **existing squares and corridors**.
- Recognizes the role of **urban design review to ensure that infill development is consistent** with the character and scale of the existing neighborhood.



Policies - Growth Policy Report (1993) and update (2007)

Land Use Pattern and Neighborhood Protection

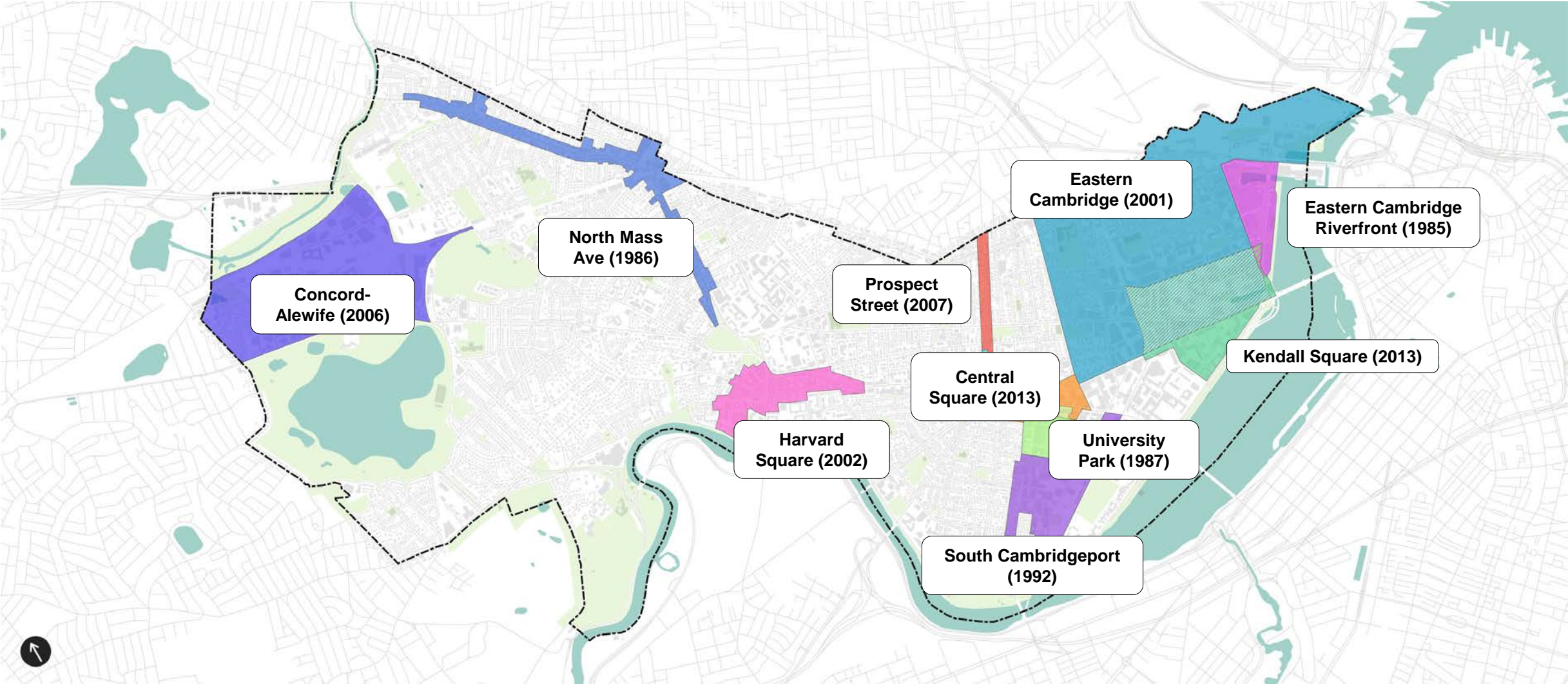
- **Existing residential neighborhoods**, or any portions of a neighborhood having an identifiable and consistent built character, should be **maintained at their prevailing pattern of development and building density and scale.** (Policy 1)
- Except in evolving industrial areas, **the city's existing land use structure and the area of residential and commercial neighborhoods should remain essentially as they have developed historically.** (Policy 2)
- The **wide diversity of development patterns**, uses, scales, and densities present within the city's many residential and commercial districts **should be retained and strengthened.** That diversity should be between and among the various districts, not necessarily within each individual one. (Policy 3)
- **Adequate transitions and buffers** between differing scales of development and differing uses should be provided; general provisions for screening, landscaping and setbacks should be imposed while in especially complex circumstances special transition provisions should be developed. (Policy 4)

Policies - Growth Policy Report (1993) and update (2007)

Urban Design

- **Design review for new development** should be established throughout the city for all areas where future development will be of a scale or quantity that will potentially change or establish the character of the district. (Policy 57)
- Even in areas where the character of a district is firmly established and new development is likely to be very modest, **design review** should be required **where small scale changes are likely to disrupt the desired district character.** (Policy 58)
- The regulations **for all zoning districts in Cambridge should reflect the city's fundamental urban design and environmental objectives:** height, setback, use, site development, and density standards imposed should be consistent with or advance those urban design objectives. (Policy 59)
- **Urban design and environmental standards** should be developed for all areas of the city which are or may be in the future subject to redevelopment or significant new development. (Policy 60)
- **Urban design standards should reflect the historic context within which change will occur while permitting design that is responsive to contemporary circumstances.** (Policy 61)
- As **transitions between differing uses** are extremely important in a densely developed city, urban design standards should be developed to ensure that these transitions are made properly, respecting to the maximum extent possible the needs of each contrasting use. (Policy 62)

Existing Design Guideline Areas



Source: CDD GIS data, Envision Cambridge Analysis.

Policies - Design Review and Zoning

Design Review Process

- Most major new buildings above 50,000 sqf require a Special Permit including Planned Unit Developments, or PUD Special Permits.
- Buildings and open space are subject to design review both by the Planning Board and by City staff.
- Article 19.30 establishes the urban design standards for development.
- Projects also follow area plans and design guidelines applicable to that area or development type.
- Planning Board has granted more than 300 Special Permits since 1979.

Article 19.30 of the Zoning Ordinance

Citywide Urban Design Objectives:

- New projects should be responsive to the existing or anticipated pattern of development.
- Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.
- The building and site design should mitigate adverse environmental impacts of a development upon its neighbors.
- Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.
- Expansion of the inventory of housing in the city is encouraged.
- Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.

Design Review and urban design guidelines have facilitated the creation of Privately Owned Public Spaces (POPS)



Policies – Open space

Green Ribbon Report, 2000

- City Manager appointed 17-member Committee to conduct a needs analysis and suggest a systematic approach for acquiring open space.
- Analysis revealed that the Central Square area has the least amount of open space per 1,000 residents.
- Top priority areas for new open space neighborhoods around Central Square and Porter Square, and connections to existing park trails around Alewife.
- The Committee advocated for strategic partnerships with non-profits to facilitate the acquisition of land for new open space through federal and state funds.

Healthy Parks and Playgrounds, 2009

- Created recommendations for innovative approaches for park design that serve diverse needs of users regardless of age or ability.
- The Task Force advised that their recommendations be incorporated into the City's ongoing open space projects and outlined steps for implementation.

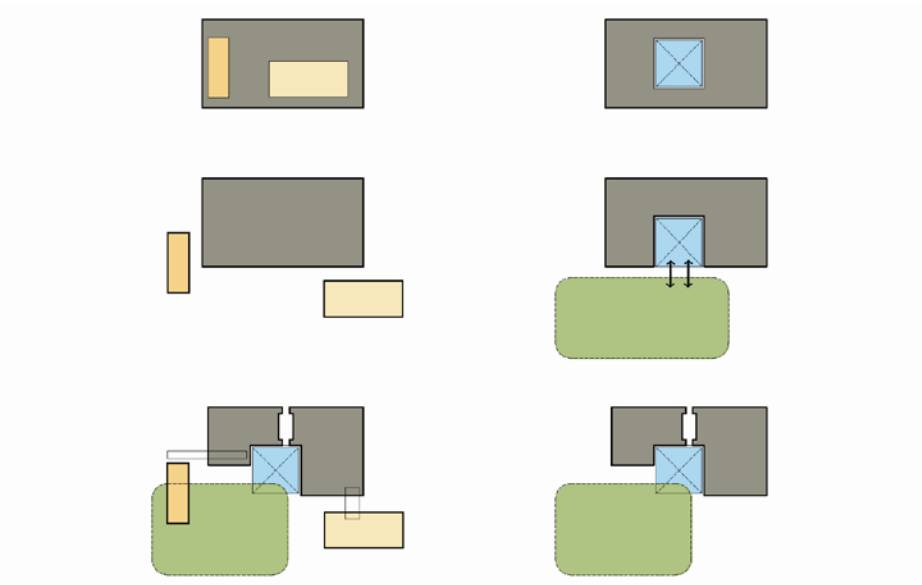
Other Potential Design Guidelines Approaches



Transitions between large new developments and their immediate context continues to be a challenge in many parts of the city.

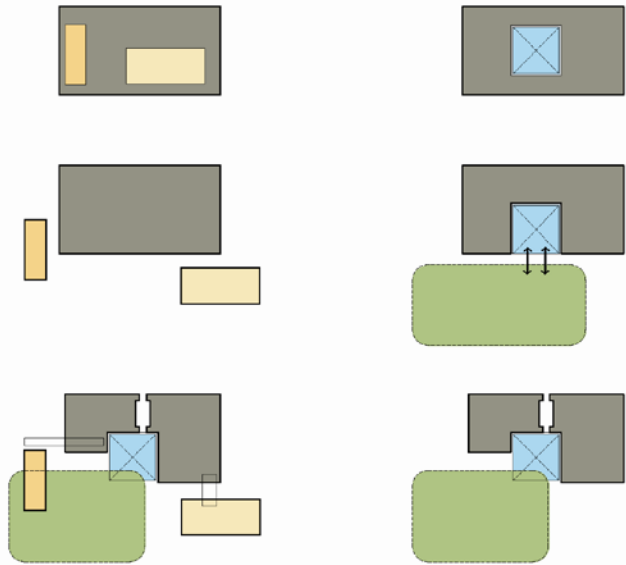


Explore guidelines that break down the scale of large floorplate buildings



Harvard-Allston Life Science Design Guidelines, Utile, 2006

Explore guidelines that break down the scale of large floorplate buildings



Harvard-Allston Life Science Design Guidelines, Utile, 2006

The front street wall of mid-rise buildings should be built to the front property lines or applicable setback lines.

- The street wall is defined as the portion of a buildings façade comprised of the building base (minimum of 10.5 metres or 3 storeys in height and up to the 80% of the permitted maximum building height).
- A building should have a minimum of 75% of its frontage built to the setback line (see Performance Standard 7A) for the first 3 storeys at a minimum.
- The remaining 25% may setback an additional distance up to a maximum of 5 metres to provide a deeper area for lobby entrances, bike parking or outdoor marketing areas such as café seating (for residential uses at-grade see Performance Standard 10).

Rationale

The ground floors of buildings are generally required to provide retail fronting onto the Avenue. Mid-rise buildings should be built to the setback line (as identified in Performance Standard 7A) so that they create a continuous street wall with direct connections between grade-related commercial and community uses and the public realm. This relationship of sidewalk to grade-related uses “encourages diverse economic stimulation and social interaction at a pedestrian scale.” (City’s Vibrant Streets Manual, p. 26).



The front façade build-to requirement may allow for some flexibility in design.

Source: Avenues & Mid-Rise Buildings Study, City of Toronto, May 2010

Past patterns of development have resulted in competing types of urban fabric where corridors meet neighborhoods.



Corridors meeting residential neighborhoods – Portland, OR

Toronto and Portland (OR) are two cities that are tinkering with policy that deals with the condition where two types of housing rub together.

These policies include requirements for setbacks, relative building heights, and the articulation of facades.



Corridor Development Guidelines – City of Toronto

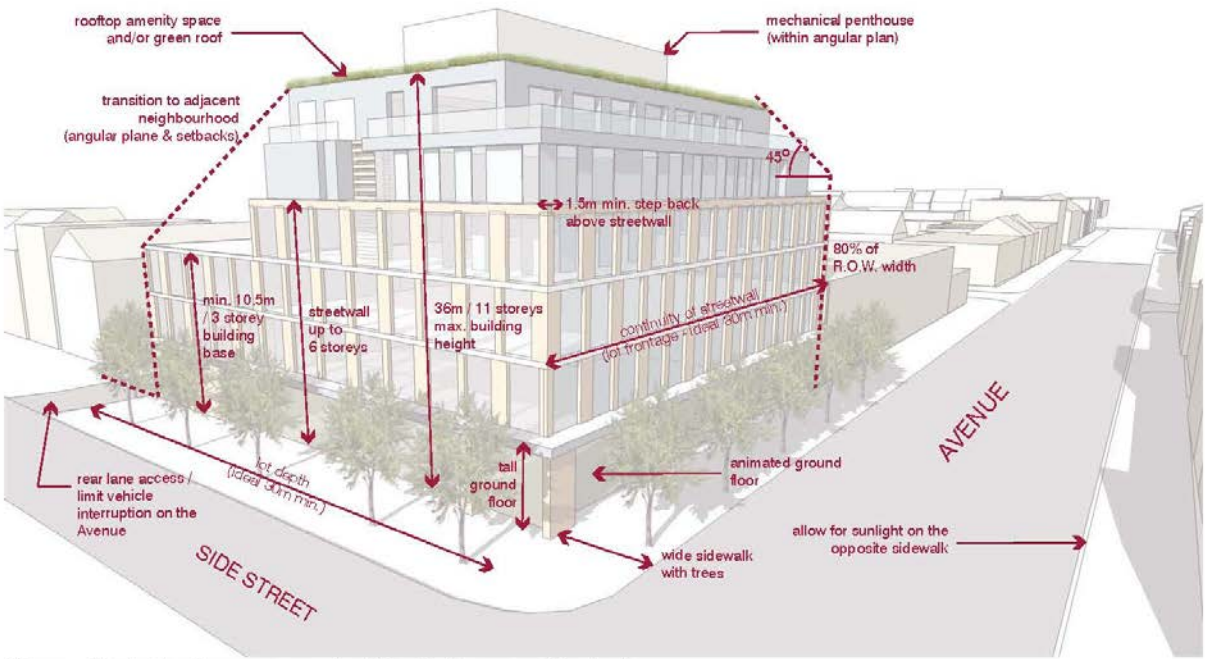


Diagram illustrating key components of the Performance Standards.



A 20 metre wide R.O.W. with several sites that may accommodate potential redevelopment.



The Avenue can gradually intensify through the introduction of mid-rise buildings



Eventually the Avenues will transform as vibrant streets providing a high level of services and amenities while protecting the character of adjacent neighbourhoods

Source: Avenues & Mid-Rise Buildings Study, City of Toronto, May 2010

Corridor Development Guidelines – City of Toronto



Source: Avenues & Mid-Rise Buildings Study, City of Toronto, May 2010

Draft Goals

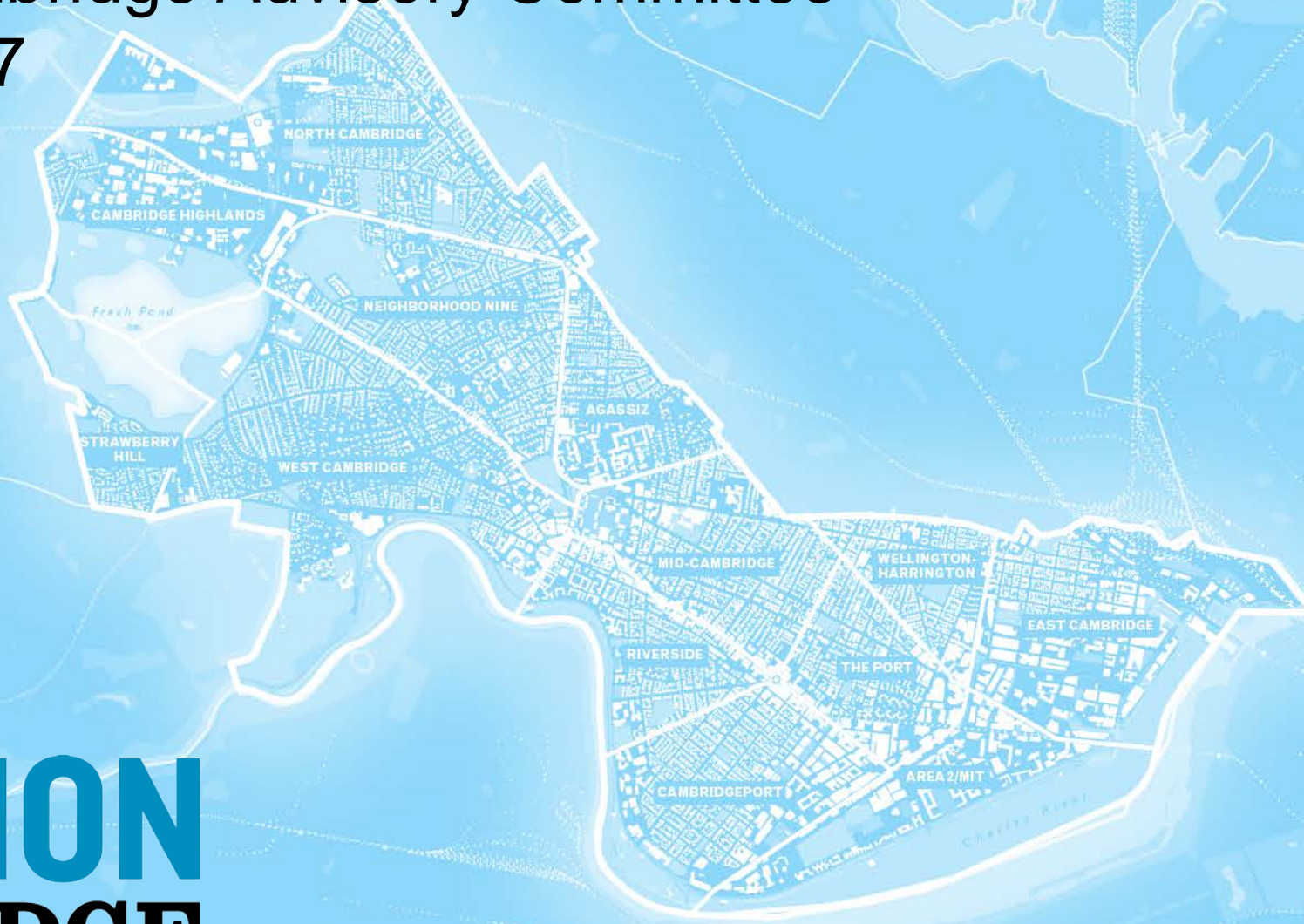


Draft Goals

- **Goal 1: Strengthen the existing patterns of the city:** Reinforce the historical structure of the city - residential neighborhoods complemented by key corridors, squares, and open spaces – with land use regulations, the appropriate densities, and a coordinated mobility plan.
- **Goal 2: Achieve harmonious transitions between neighborhoods:** Create a harmonious relationship between new development and the existing fabric with a particular focus on the seams between the corridors and commercial centers and abutting residential neighborhoods.
- **Goal 3: Direct new development to be human-scaled:** Shape new development so that it balances the desire for human-scaled design and the larger footprints required by specific uses and favored by the real estate market.
- **Goal 4: Ensure a high quality urban environment:** Develop strategic regulations that ensure that private development contributes to the overall quality of the urban environment through the introduction of publicly accessible open spaces and active ground floor uses.
- **Goal 5: Maintain and enhance the public realm:** Find ways to better use public space, such as sidewalks and the right of way, to encourage social interaction and improve the environment.

Envision Cambridge Advisory Committee

April 4th, 2017



ENVISION CAMBRIDGE

