A Framework for Form-Based Codes on Cape Cod

CAPE COD COMMISSION
The maps and graphics in this document are for planning purposes only. They are not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis.
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Current zoning is broken. The development patterns that create the vibrant, walkable areas of Cape Cod that complement and coincide with traditional New England village development, are generally non-conforming with existing regulations and cannot be emulated today due to current zoning bylaws.

This form-based code framework was developed as part of a larger effort known as Community Resiliency by Design, carried out by Union Studio, the Cape Cod Commission (CCC), and several towns on the Cape. The objective of this effort was to develop a series of context-appropriate prototype designs that could deliver needed housing options at densities somewhere between the typical single-family, detached house and the large format, multi-family, corridor building that are the dominant forms of residential development today. In many cases these prototypes were based on existing building typologies, such as traditional Cape houses and cottage colonies, that can be found on the Cape, albeit in very limited numbers. This process also included various community engagement opportunities to garner feedback on the strategies proposed while also helping demystify and alleviate concerns around the notion of increased density in appropriate locations.

This document is a piece of that effort as form-based codes are an option that should be considered on the Cape as a strategy to help deliver context-appropriate densities in forms that are sympathetic to the historic development patterns that exist. While not an exhaustive study on the topic of form-based codes (for that we suggest referring to the resources listed at the end of this document), this framework is instead intended to help start the conversation around this strategy by introducing the principles, considerations, and options form-based codes can offer.
This section of the framework lays out the unique physical and social characteristics of Cape Cod, defines the challenges related to housing on the Cape, and explains how the Cape Cod Placetypes can describe current conditions as well as guide future development.

Cape Cod’s economy is linked closely to its environment. Its beautiful landscape, coastal character, and natural resources drive its major industries and have made the Cape a unique and popular place to live, work, and visit for generations. But the region currently faces economic and environmental challenges related to climate change impacts along the coast and the effects of seasonal population changes on its environment and infrastructure. Residents and business owners face unaffordable land and housing values fueled by Cape Cod’s unique position as a seasonal and retiree destination. The Cape Cod Commission has identified housing choice and housing affordability as one of the major challenges to the region. If the region does not make significant strides toward meeting the workforce and other year-round housing needs, it will continue to struggle to meet its full economic potential and solve its environmental challenges.
Cape Codders have consistently identified traffic congestion, coastal erosion, and availability of jobs and economic opportunities as top problems facing Cape Cod and have expressed a desire for more small businesses. One major barrier to entering the housing market for prospective employees, or for seniors looking to “right size” or “downsize,” is limited housing choice. The market is dominated by single-family homes; 82% of houses in the region are detached, single-family homes compared to 52% for the Commonwealth of Massachusetts and 62% for the United States.

Regional and local land use conventions, infrastructure norms, and at times limited financing opportunities continue to perpetuate the development of large single-family homes, reinforcing auto-dependent lifestyles, requiring more roadway networks, and necessitating more water and wastewater infrastructure to clean up and protect our coastal and inland waters. These increase the cost of development as well as the cost of maintaining infrastructure to serve these areas. To reduce costs in the long term, and in response to the limited amount of developable land in the region, new opportunities are focused on appropriate infill and redevelopment.

THE HOUSING CHALLENGE

Access to housing on Cape Cod is directly tied to the economy and labor market. In 2017, the Cape Cod Commission sponsored a Regional Housing Market Analysis and 10-Year Forecast of Housing Supply and Demand for Barnstable County, Massachusetts (the Regional Housing Analysis), prepared by Crane Associates, Inc. and Economic Policy Resources (EPR) of Burlington, Vermont, and supported by Cape Cod Commission staff and a review panel of local and regional advisors. The analysis found that in 2015, more than 26,000 households on
Cape Cod were “cost burdened,” that is, spending more than 30% of their income on housing, with most of these households earning less than the median area income. Looking ahead, if there are no significant changes in the housing or labor market, the analysis predicts that more than 44,000 households could be cost burdened, and these households could be earning up to (or even more than) 120% of the area median income.

Not only do analysts predict this challenge will worsen for those currently unable find affordable homes, the challenge will expand to include those earning more than the median household income across the region. The Regional Housing Analysis is supported by interactive visualizations and open access to the data tables used to produce the report, both of which can be found at: http://www.capecodcommission.org/housing

Continued demand for year-round, seasonal, and second homes is expected to persist for the next ten years. Housing constraints for all types of consumers are based on both supply—the availability of housing that is affordable to regional residents—and demand—the ability to pay for housing. The supply of housing that is affordable on Cape Cod is so limited that even modest supply increases across a variety of markets will offer much needed flexibility.

In 2015 in all but one town – Bourne – the median home value on Cape Cod exceeded the affordable home price for those earning the median household income (MHI) of homeowners. Source: Crane Associates/EPR

RPP HOUSING

Goal – To promote the production of an adequate supply of ownership and rental housing that is safe, healthy, and attainable for people with different income levels and diverse needs.

Objective 1 – Promote an increase in housing diversity and choice

Objective 2 – Promote an increase in year-round housing supply

Objective 3 – Protect and improve existing housing stock

Objective 4 – Increase housing affordability
CAPE COD PLACETYPES

Cape Cod is comprised of many different and unique places. To recognize and support these unique areas, the Cape Cod Regional Policy Plan (RPP) prepared by the Cape Cod Commission identifies areas with similar natural and built characteristics as distinct “Placetypes,” which separate areas by their design context, serve as a conceptual framework for regional planning and regulation, and to help guide local planning that is consistent with the Regional Growth Policy. Eight Placetypes were identified, each with a vision consistent with the region’s growth policy, as well as strategies for creating and enhancing their unique characteristics.

Each of these eight Placetypes are described below, but it is the areas in the middle of the range—Suburban Development Areas, Historic Areas, Maritime Areas, and Community Activity Centers—where form-based codes would likely have the most applicability.

For more information about the Cape Cod Placetypes, please refer to the RPP.
Placetypes for Cape Cod include the least developed and most sensitive areas in need of protection as well as a variety of development types where future development is encouraged. In Suburban Development Areas, the RPP encourages infill and redevelopment with denser clusters of buildings and improved design. In Historic Areas, reuse of historic structures and appropriate scale infill is supported.

The vision for Community Activity Centers is to accommodate mixed-use and multifamily residential development in a walkable, vibrant area, providing diverse services, shopping, recreation, civic spaces, housing, and job opportunities at a scale of growth and development desired by the community, with adequate infrastructure and pedestrian amenities to support development.

A form-based code or approach is one way to support infill and redevelopment that can meet the varied visions for future growth in these different areas.

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**RPP Growth Policy**

Growth should be focused in centers of activity and areas supported by adequate infrastructure and guided away from areas that must be protected for ecological, historical or other reasons. Development should be responsive to context allowing for the restoration, preservation and protection of the Cape’s unique resources while promoting economic and community resilience.
Introduction to Form-based Codes

This section introduces the principles of form-based codes, how the concept came about, and how form-based codes differ from conventional use-based zoning.

WHAT IS A FORM-BASED CODE?

A form-based code is a land development regulation that fosters predictable built results and a high-quality public realm by using physical form (rather than segregation of uses) as the organizing principle for the code. It is a regulation, not a mere guideline, adopted into city, town, or county law.

A form-based code uses pictures, diagrams, and simple language to describe the types of growth and development that are desirable to a community. In locations where the existing development pattern is desirable, its defining characteristics can be studied to serve as the basis of the form-based code. In general, a form-based code puts the emphasis on what happens between building faces (the public realm) rather than on what happens behind the front door.

While not a silver-bullet solution, form-based codes represent a more detailed commitment to placemaking that can empower cities, towns, and villages to create vibrant, walkable neighborhoods and help their citizens thrive.
GENERAL PRINCIPLES OF A FORM-BASED CODE:
1. Public - Rooted in a public process that generates and documents consensus amongst public and private stakeholders
2. Contextual - Calibrated to local conditions like climate, history, and market
3. Positive - States what the community wants from the built environment, not just what is prohibited
4. Form Over Function - Greater emphasis on built form than on use or density

HOW WE GOT HERE: Single-use zoning was adopted, in large part, to control the unprecedented population growth of the early twentieth century. Planners believed that segregating all uses would ensure that the newly-built suburbs weren’t bothered by the fumes from the factory, the noise of the commercial strip, or the congestion of the daily commute.

But segregating all uses led to expansive neighborhoods, built on formerly natural or agricultural land, made up of only detached single-family homes. With nowhere to work, shop, or play nearby, these neighborhoods created a greater reliance on cars. To accommodate this new auto-oriented lifestyle, municipalities widened the roads to make driving easier, but in so...
INTRODUCTION TO FORM-BASED CODES

Local Zoning

In an effort to manage growth, Cape Cod towns were early adopters of conventional single-use zoning. Falmouth was the first town to adopt zoning regulations in 1926, just six years after the Zoning Enabling Legislation was authorized by the Commonwealth. By the 1960’s traditional single-use residential zoning “subdivision zoning” was in place throughout the region. The resulting pattern of development combined with other regulations has created an expensive auto-dependent development inconsistent with the traditional village center patterns we seek to support and sustain.

Doing created even more congestion and pollution and an inhospitable pedestrian environment.

In the process of controlling new growth, conventional single-use zoning made it impossible to build new neighborhoods with the vibrant, walkable, mixed-use streets that make up most of our historic cities, towns, and villages.

Now that planners understand the shortcomings of conventional “Euclidean” zoning, a new approach is needed, one that is initiated and controlled locally, and helps produce vibrant neighborhoods where it is possible to walk, use public transit, and live in proximity to daily destinations. Form-based codes were designed to accomplish just that.

Diagram by Peter Katz and Steve Price, Urban Advantage
ORIGINS OF FORM-BASED CODE: Early versions of a form-based approach to zoning were first developed in the 1980s and 1990s when designers and planners realized that conventional Euclidean zoning made their favorite kinds of neighborhoods illegal to build. Although form-based codes were initially applied only to Traditional Neighborhood Developments (TNDs) on empty sites, the idea has been expanded to apply to communities of all shapes and sizes, and has been used to transform existing commercial areas, infill declining neighborhoods, and ensure compatible infill development in historic areas.

EARLY FORM-BASED CODE

The one–page urban code of Seaside, Florida is often considered the first example of a modern form-based code.

Aerial photograph of Seaside, Florida, which is governed by the first example of a modern form-based code.
WHAT A FORM-BASED CODE IS NOT: It is not uncommon for people to confuse a form-based code (the tool) with the sorts of development it is often used to regulate (the result). While the majority of form-based codes have been used in relation to higher density, mixed-use, main street type projects, that is not an inherent result of a form-based approach; the tool could just as easily be used to regulate low density, sprawl-type development. The type of development embedded in the code is determined by a community’s vision, not the format of the code itself.

The strategic advantage of a form-based code is that it ties the policy goals of the municipality to the specific types of development that are most desirable to the community. For instance, the Cape Cod Regional Policy Plan has identified increased housing choice, decreased auto dependence, and protection of natural landscape as policy priorities. There are many different ways to accomplish those policy goals, but a form-based code—and the process used to produce it—can help codify the physical form that will both accomplish those goals and preserve the built character of the Cape. While there will justifiably be concerns about issues like increased infrastructure needs, traffic, and parking demand, it is important to define these as challenges of any type of new development, not as challenges of a form-based code.
Different Approaches

This section of the framework describes the many different approaches a municipality might pursue to reform their zoning code, from incremental changes on one end of the spectrum to a full re-write of their zoning code on the other.

WHAT DOES IT LOOK LIKE?

There are many different ways to do code reform. Some communities may be ready and willing to do a full form-based code overhaul while others prefer to take a more incremental approach. This section lays out three different approaches to incorporating form-based principles into a zoning code: reforming the existing ordinance, adopting a middle-ground approach with elements of both use-based and form-based code, and adopting a full form-based code. Note: Although they are listed separately, these approaches can be combined and reconfigured to suit the needs of a specific community.

CODE REFORM PROCESS

Diagram of the process of code reform as described in the “Enabling Better Places” report by Congress for the New Urbanism

SINGLE USE ZONING

STEP 1
Approve small changes in parking, frontages, uses, form, signs, and the public realm

Proving

STEP 2
Test additional changes in urban standards

Mapping

STEP 3
Adopt new zoning district

NEW CITY-WIDE CODE
DIFFERENT APPROACHES

Code Reform Options

1. REFORM EXISTING ZONING ORDINANCE

At one end of the spectrum is the option of maintaining the existing format and structure of a conventional zoning ordinance but revising elements that are preventing the kind of development the community wants or needs. If the changes are successful, continue to reform until the community is ready for the next step. See “Enabling Better Places: Users’ Guide to Zoning Reform” by the Congress for the New Urbanism.

- Start with short-term fixes of the most common concerns, focusing on streetscape, form, use, frontage, and parking (examples: allow on-street parking on main streets, establish a maximum front setback)
- If the short-term fixes prove successful, continue to build momentum, administrative expertise, and political capital, implementing mid-term fixes (example: reduce travel lane width)
- If the mid-term fixes prove successful, consider undertaking a more comprehensive approach to zoning reform.

2. MIDDLE GROUND: PARTIAL FORM-BASED CODE OR HYBRID APPROACH

If a municipality is ready to move beyond an incremental approach to zoning reform but not quite convinced that they should adopt a form-based code that applies to their entire jurisdiction, they may consider a “middle ground” option. One such option is to create a hybrid of both use- and form-based regulations in the zoning code; another is to adopt a full-fledged form-based code but only apply it to a small geographic area with a special district, overlay, or pilot project.

Hybrid/Composite - A municipality may choose to maintain the existing format and structure of a conventional zoning ordinance, but incorporate form-based standards into uses. For example, the Leander, TX zoning code has three different components: use, site, and architecture. Each parcel of land in the city is assigned a use (just like Euclidean zoning), but each use component has site and architectural standards that accompany it.

In the Louisville and Jefferson County, Cornerstone 2020 Plan, municipalities adopted a two-tiered approach to zoning. The “Zoning Districts” regulate permitted land uses, density and intensity of development. The “Form Districts” then govern the form of development, regulating building height, setbacks, and similar design elements.

This approach helped spur desired significant economic and population growth in the region and was adopted and re-affirmed in the updated version of the plan, Plan 2040. According to the new plan, adopted in 2019, this hybrid approach helped encourage redevelopment, promote land use flexibility, support historic preservation, promote the arts and creativity, and enhance the quality of life and a sense of place.

District/Overlay/Pilot - Possibly the most common approach to a form-based code is to leave the existing zoning in place but add a separate form-based code to achieve or maintain desired characteristics within a specified district or corridor. If this is an optional overlay code, incentives like density bonuses or an expedited approvals process should be considered to encourage developers to use the form-based standards. Selecting a very small geographic area is a non-threatening way to complete a “proof of concept” within a municipality.

3. FULL FORM-BASED CODE

When a community is fully convinced of the form-based code approach, there are two options to consider: adopting and calibrating an existing form-based code template, or starting from scratch and writing a new code that reflects the precise needs and character of the community.

Template/SmartCode - One option is to replace the existing zoning code with a form-based code based on a pre-existing template such as the SmartCode. Originally released by Duany-Plater Zyberk in 2003, the SmartCode is a transect-based form-based code template that is continually updated with input from scores of practitioners from many disciplines. The template will supply typical standards for streets, open spaces, buildings, and blocks. The municipality can then determine which standards and which transect zones are appropriate for their application. Because many different communities utilize the SmartCode, it has been more thoroughly researched and vetted than many other approaches to a form-based code. For more information on the SmartCode Template, see the Miami 21 Zoning Code in Additional Resources on Page 42.

Custom - In especially unique situations, it may make more sense to replace an existing zoning code with a form-based code written specifically for a community. Although a template like the SmartCode has been adopted in many communities across the country, it may not capture the unique character of a community, the laws that govern its state, or its preferred organizational principle. For example, the community of Higgins Beach, in Scarborough, Maine, adopted a custom form-based code to preserve and promote appropriate development in their coastal town with a mix of historic and new buildings. For more information on the Higgins Beach form-based code, see Additional Resources on Page 42.
### 1. Reform Existing Zoning Ordinance

**How long will this process take?**
If planned with time for analysis and community outreach, this process could be accomplished within several months, or within one Annual Town Meeting cycle.

**Who is most likely to be involved?**
Reform to existing zoning will require an analysis by a professional planner. In many cases Town Planning staff have the training and experience needed to analyze existing zoning and the community vision to make recommendations for incremental changes to existing zoning. If staff time or expertise is limited, consulting services may be needed to support recommendations for change. In the case of any zoning changes, the Planning Board and Staff will be involved and facilitate community engagement that includes abutters, neighbors, community groups and public officials and, as needed, broader stakeholder outreach.

**Will funding be needed to implement this approach?**
Funding may be needed for professional services if the local community does not have available staff or needs expertise on issues such as complete streets, architectural standards, historic preservation, or other technical issues. Funding may be desired for enhanced community outreach tools. The cost of technical assistance needed should fall below the Commonwealth procurement thresholds. The Cape Cod Commission is available to provide technical assistance upon request.

### 2. Middle Ground: Partial Form-Based Code or Hybrid Approach

**How long will this process take?**
A community envisioning a hybrid approach should plan several months of community engagement followed by the development of a regulating plan. This could take 12-18 months or longer depending on the community engagement strategy and level of change proposed.

**Who is most likely to be involved?**
A partial form-based code or hybrid approach will require an analysis by a professional planner with experience drafting or implementing form-based codes. While form-based codes are an effective tool and are becoming more broadly used across the country, they are not yet widely implemented in New England. Town Planning Staff may not have all of the expertise needed to develop and implement. External support is recommended to facilitate the public outreach process necessary to build consensus around a community's vision. As a community explores the middle ground, it should anticipate broad community and neighborhood engagement with the Planning Board and Staff.

**Will funding be needed to implement this approach?**
Yes, technical assistance will more than likely be needed to implement a hybrid approach. This can be separated into phases or procured as a complete project including visioning, planning, and code drafting. The cost of technical assistance will vary widely depending on the approach, scope of regulatory change, community engagement strategy, and the size of planning area.

### 3. Full Form-Based Code

**How long will this process take?**
A full form-based code will require several months of community engagement followed by the development of a regulating plan and drafting of the code. This could take 12-18 months or longer depending on the community engagement strategy.

**Who is most likely to be involved?**
The code team is typically composed of municipal staff with consultant assistance, frequently with the consultant team responsible for guiding the effort and completing the majority of tasks required by the planning process. Key municipal departmental staff are essential to represent a deep understanding of local conditions. Departments may include planning, public works, parks and recreation, economic development, police, and fire. Outside consultants, usually planners, architects, or urban designers, should be brought in to augment and implement the expertise of municipal staff. The Form-Based Codes Institute (FBCI) provides a sample Request for Qualifications to help find the consultants best suited to the needs of a community.

**Will funding be needed to implement this approach?**
Yes, technical assistance will be needed to implement a full form-based code. This can be separated into phases or procured as a complete project including visioning, planning, and code drafting. The cost of technical assistance will vary widely depending on the approach, scope of regulatory change, community engagement strategy, and the size of planning area.
HYBRID PLAN SUCCESS

A hybrid form-based code approach helped turn around two decades of population decline in Jefferson County, Kentucky.
Implementation Process

This section describes the process of implementing a form-based code, from determining the scope and gathering data to crafting and codifying the vision.

HOW DOES A MUNICIPALITY IMPLEMENT A FORM-BASED CODE?

In order to succeed, a form-based code must be rooted in a positive vision that has buy-in from the private and public sectors, and it must be calibrated to local conditions. To accomplish this, the early stages of form-based code reform must include a robust public process with periods of assessment/recalibration to make sure the code is functioning as it should.

Note: Although the process laid out here may seem linear, information gained in one step of the process may cause an earlier step to be revisited and its conclusions reexamined, and some steps may be repeated.

**FORM-BASED CODE IMPLEMENTATION STEPS**

1. Determine the scope
2. Gather the data
3. Craft the vision
4. Codify the vision
5. Adopt and administer the code
1. DETERMINE THE SCOPE

Before truly beginning the process in earnest, the planning team must determine the size and extent of the coding project, including who will be involved, which areas of the community will be included in the code, and how the code might fit in with the existing regulatory framework. Depending on the objectives of the planning effort, a wide variety of professional specialists may be needed on the project team. For instance, if downtown revitalization is a primary goal, a retail consultant may prove useful. If flooding is a major concern, a civil engineer may become necessary. If a community has historic development patterns it wants to protect, a preservation professional will be a helpful resource.

The first step in writing a form-based code is determining the size and extent of the coding project. These graphics show Cape Cod communities that were examined in the Community Resiliency by Design project in 2018.

2. GATHER THE DATA

After determining the scope of the process, the planning team will study local precedent, document existing conditions, and evaluate the performance of the existing zoning code. They also start to gather information from the public with tools like visual preference and online surveys. The most well-loved parts of the community, as determined by both the planning professionals and the public, will become the DNA of the code.

DATA RESOURCES

Take advantage of resources compiled by others to fully understand the issues the new code will try to solve. Assemble data collected by others to fully understand how the community relates to the larger region.
3. CRAFT THE VISION

With the scope defined and the data gathered, the planning team and community stakeholders work together to create a detailed positive vision for the future of their community. This can be accomplished through a single focused design charrette—where professionals and community members work together to sketch out how they would like to see the community grow—or a series of workshops and public presentations.

The final result of the public engagement process is a Vision Plan, which should include an illustrative plan, some three-dimensional renderings, and supporting text to express the intent of the plan. The Vision Plan should also include some broad outlines of what the resulting code will look like as it will serve as the “rough draft” that the professional planners will use to write the code.
Below is a small-scale version of a Vision Plan and how it relates to the Cape Cod Placetypes developed by the Cape Cod Commission. The plan, which shows a potential suburban redevelopment site in Falmouth that transitions from a “big box” commercial core to a predominantly detached single-family district, was produced by Union Studio Architecture & Community Design as part of the Community Resiliency by Design project in 2018.

**SUBURBAN PLACETYPE** - Suburban Development Areas include automobile-oriented neighborhoods built primarily between the 1950s and 1990s. The vision for these areas is to redevelop commercial and industrial Suburban Development Areas consistent with the community’s vision to create more concentrated nodes of development, and to improve their design and function so that they are better integrated into surrounding neighborhoods. The vision for residential Suburban Development Areas is to cluster residential development to reduce the development footprint and provide high-quality open space.
**Building Type Strategies** *(see Page 34 for more information on Building Types)*

1. Use larger scale building types like walk-ups adjacent to big-box developments and along major arterials (like Davis Straits) to increase residential density and create a well-defined public realm.

2. Transition from the commercial core to single-family districts with medium-scale building types like manor houses and townhouses.

3. Place smaller scale building types like duplexes, cottages, and ADUs within and immediately adjacent to single-family districts to increase residential density without disturbing the character of the existing neighborhood.

A perspective view of this style of illustration helps communicate a development vision in a way that the layperson can understand.

**Public Space Strategies** *(see Page 28 for information on Public Space Standards)*

A. Whenever possible, create small blocks and an interconnected street network that connects to and supplements the existing grid.

B. Use new buildings to shape public parks and plazas that are accessible to the entire community, not just residents of the new development.

C. Organize buildings around a common green to increase the impact of limited green space and enhance the sense of community.

D. Place parking beside or behind buildings and along streets so that a new development is not defined by the size of its parking lot.
4. CODIFY THE VISION

The planning team transforms the Vision Plan into a Regulating Plan and determines the best way to accomplish the community’s goals. See the other sections in this framework regarding the various forms the code may take.

Form-based codes function best when they are easy to use and easy to understand, so the code writers must always keep the end-user in mind. To this end, a code writer is always balancing the dual goals of precision and brevity, and using graphic illustrations to make concepts more accessible.

**EXAMPLE FORM-BASED CODE DIAGRAMS**

Example diagrams from the form-based code adopted by Beaufort, South Carolina in 2017
5. ADOPT AND ADMINISTER THE CODE

Once the code is written, it must be adopted and administered. If the new form-based code is getting integrated into a more conventional code framework, careful attention must be paid to the relationships between standards and procedures in each code, specifically special permit regulations and road standards under subdivision regulation control, in the event that conflicts between them are perceived. The form-based code will need to include at least one definitive statement that establishes the appropriate relationship between pre-existing codes and standards. After adoption, and as the code is administered, amendments or updates may need to be made to the code to help ensure it is working effectively and efficiently.

Form-Based Building Models

Example models like these, prepared by Union Studio for the Cape Cod Community Resiliency by Design project, help the public to visualize proposed building types.
Components of a Form-based Code

This final section describes the many different typical and optional components that come together to create a form-based code.

WHAT ARE THE COMPONENTS OF A TYPICAL FORM-BASED CODE?

Although form-based codes come in all shapes and sizes, they all include some form of a Regulating Plan, Public Space Standards, and Building Form Standards.

1. REGULATING PLAN

A regulating plan is the visual representation of which rules for development apply where. It provides an entry point into the code that allows a person interested in the possibilities for development or land use on a specific site to identify the applicable zone or category so that they can refer to the text in the code document.
There are different ways to draw a Regulating Plan. The most common are:

1. **Transect-Based** - Each parcel is assigned to a transect zone which determines where it sits on the continuum from most rural to most urban. This is the most common approach.

2. **Building/Lot Type-Based** - Specific regulations are created for a group of allowable building types selected during the documentation and visioning process. This approach seems to work best for small communities or where the project area is no more than one square mile.

3. **Street Type-Based** - This approach is specific about street design parameters and the way that a building should meet and define the public realm, but typically keeps building type and other physical parameters out of the code.

4. **Frontage-Based** - A hybrid of a street-type and transect-based approach. The regulating plan usually designates the applications of zones by showing different colors on the streets instead of on the lots.

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**The Transect**

The Transect is a system of ordered human habitats in a range from the most rural to the most urban. Each zone is defined by common physical characteristics of place and scale, density and intensity of land use. The transect must be calibrated for each place to reflect local character and form. The Cape Cod Placetypes introduced at the beginning of this document are one example of a transect at the regional scale, which could be used as a starting point for a local transect-based approach.

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Example of a Transect-Based Regulating Plan for Jamestown, Rhode Island
2. PUBLIC SPACE STANDARDS

The character of the parks, plazas, other open spaces, and public thoroughfares, including the features within thoroughfare rights-of-way (ROWSs), profoundly affect the quality of a place. For this reason, public space standards that address these features are an essential component of a form-based code.

**Thoroughfares** - Good streets form the backbone of healthy neighborhoods. They serve as the community’s primary public gathering spaces while also facilitating the movement of pedestrians, bikes, and motor vehicles. Most form-based codes regulate the design of thoroughfares by creating a set of approved thoroughfare types and defining the qualities of each. Examples of typical thoroughfare types include boulevards, commercial streets, alleys, paths, etc. These street standards would take the place of road requirements in subdivision regulations.

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Example of a typical thoroughfare standards sheet
Civic Spaces - Well-designed and well-located civic spaces are critical for healthy and vibrant neighborhoods. They provide access to the outdoors, organizing elements within the structure of neighborhoods, and public gathering places for all members of the community. Civic spaces may include plazas, parks, formal greens, informal greens, etc.

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<tr>
<th><strong>SMARTCODE</strong></th>
<th><strong>TABLE 13. CIVIC SPACE</strong></th>
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<tbody>
<tr>
<td><strong>Municipality</strong></td>
<td></td>
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<tr>
<td>a. Park: A natural preserve available for unstructured recreation. A park may be independent of surrounding building Frontages. Its landscape shall consist of Paths and trails, meadows, waterbodies, woodland and open shelters, all naturalistically disposed. Parks may be lineal, following the trajectories of natural corridors. The minimum size shall be 8 acres. Larger parks may be approved by Warrant as Special Districts in all zones.</td>
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<tr>
<td>b. Green: An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturally disposed. The minimum size shall be 1/2 acre and the maximum shall be 8 acres.</td>
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<tr>
<td>c. Square: An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size shall be 1/2 acre and the maximum shall be 5 acres.</td>
<td></td>
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<tr>
<td>d. Plaza: An Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas should be located at the intersection of important streets. The minimum size shall be 1/2 acre and the maximum shall be 2 acres.</td>
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</tbody>
</table>

The civic space table from SmartCode Version 9.2
3. BUILDING FORM STANDARDS

Building form standards have the primary role in defining the physical form of the built environment. They regulate where buildings are placed, how tall they may be, and what they should look like. The preferred format is graphic, integrating simple diagrams and easy-to-read tables for ease of use and clarity of the regulations.

Building Placement

Similar to the bulk restrictions found in a conventional zoning code, building placement dictates where on a lot a building should be located. Because form-based codes are intended primarily to regulate the character and quality of public spaces, the location and size of the buildings that shape the public spaces must be defined to form the edges of that space. These regulations take into account privacy, shared open spaces, and how and where parking is integrated.

In most urban areas, pedestrians find comfort in a sense of enclosure provided by a continuous building wall at the edge of the sidewalks, which is typically defined using build-to-lines. In more rural areas where a continuous edge is not desired or necessary, setbacks are used instead.

Building Form

Building form regulations are intended to help prescribe good

A Build-to Line is a line parallel to the property line where the facade of the building is required to be located.

A wide variety of setbacks creates a confusing and disordered public realm. Build-to lines help create a sense of enclosure, appropriate for main streets and commercial corridors.
public spaces. Building facades are regulated for height to ensure the correct proportion of the public spaces. The finished floor level is regulated to define the separation and transition between public, semi-public, and private spaces. The size of buildings are regulated to create a hierarchy between various buildings thereby helping to establish a rich urban form.

This diagram shows various ways to expand and transform an existing building. Additions are most successful when they defer in scale and proportion to the primary form of the original building. Secondary masses may also be used to compose a new building to create a modern structure with the character of a traditional home that has been around for generations.

These are a few examples of typical building forms on Cape Cod that contribute to the character of the public realm.
Frontages

The frontage of a building is the portion of the building and lot that engages the public realm. Because the frontage plays such an important role in defining the character of a place, it is a critical element to regulate correctly. Examples of possible frontage types include the Common Yard, Porch, Stoop, and Shopfront.

The detailed regulations for allowable frontage types should be based on measurements from good local precedents to ensure they are appropriate. The goal is to ensure that the physical form will ultimately be consistent with the urban patterns the community wants to replicate, preserve, or encourage.

Frontage table from the SmartCode, a form-based code template that can be calibrated to a specific location

The “Public Realm” is a term meant to describe any area where people have the opportunity to mingle, gather, and visually experience their surroundings. It often includes street rights-of-way, park areas, sidewalks, bike paths, plazas, and other outdoor spaces for use by the community, regardless of whether they are publicly or privately owned.
Use

Although form-based codes are not organized around land uses, they do still regulate them. Similar to conventional zoning, allowable uses are subdivided into “permitted uses,” for uses that are squarely in line with desired character of a given neighborhood, and “conditional uses,” for uses that may be in line with desired character but need some degree of oversight to make sure they are appropriate.

The way form-based codes regulate land use looks similar to conventional zoning, but it is important not to commit the same mistakes that many conventional zoning codes do—namely completely segregating all uses and being overly restrictive about what is allowed, especially in commercial areas. One way to overcome these errors is to provide more flexibility in the number and type of land uses allowed by listing them in a more generic form, such as General Retail rather than bookstore, shoe store, etc.

Encroachments

An encroachment is a structural element that breaks the plane of a vertical or horizontal regulatory limit, extending into a setback, into the public right-of-way, or above a height limit. Encroachment is often used to describe awnings, signs, and balconies that project over sidewalks. It is also used to align buildings by their facade, allowing porches and similar elements to extend forward and be afforded a greater variety.
Building Types
Regulating solely by floor-area ratio and density encourages developers to max out the buildable envelope and apply an architectural skin to the resulting box. Using building types as a primary means of regulation can instead prescribe a fine-grain mix of building types that is necessary to create great form and a high-quality place.

When writing the building type standards, it is critical to strike the right balance of specificity and diversity. If the standards are written too narrowly, every new building will end up looking exactly the same, but if there are too many building types or if they are vaguely defined, it will be difficult to maintain a cohesive neighborhood character.

Efforts should be made to encourage “Missing Middle” housing types - the range of housing options between the detached single-unit home and the large apartment complex. These housing types, such as duplexes, fourplexes, and cottage courts, provide diverse housing choices and generate enough density to support transit and locally-serving commercial amenities.

When codifying building types based on historical precedent, special care must be taken to ensure that the standards align with contemporary building codes, construction practices, and market conditions.

Accessory Dwelling Unit (ADU), commonly referred to as a “mother-in-law suite,” is a self-contained apartment that is either attached to the principal dwelling or in a separate structure on the same property.
Parking

Parking is one of the most contentious issues when writing any zoning code, conventional or form-based. There is often a perception that there is not enough parking, but it is important that requirements don’t stipulate more parking than is necessary. Large parking areas in highly visible locations can detract from the desired character of a place while also creating an undue burden on affordability and small-scale infill development.

Parking regulations should be calibrated to the location, with fewer to no required spaces in more urban places where more alternate transportation options exist and where a high percentage of people will be walking and biking. The design of parking lots should mitigate the visual impact by hiding parking from view, especially from main streets and commercial corridors.

![Diagram of parking lot design](image)

Place parking lots and garages behind or beside buildings to mitigate the visual impact.

![Image of parking lot](image)

Surrounding a building with parking on all sides ensures that it will only ever be a car-oriented destination.

![Image of hostile pedestrian experience](image)

A large surface parking lot immediately adjacent to the sidewalk creates a hostile and unattractive pedestrian experience.
4. OTHER OPTIONAL COMPONENTS

Block Standards

Neighborhoods with an interconnected street network and small block sizes are more walkable and vibrant because they provide greater visual interest and create more ways to get from point A to point B. Block standards typically apply to new communities and large developments (over two acres). They may include maximum block length, maximum block area, or maximum block perimeter.

Architectural Design Standards

Architectural design standards regulate a specific architectural character allowed in a given area. Standards can be general or highly detailed, depending on how important architectural character is to the community’s vision. If architectural character is important to the community, but does not make it into the form-based code regulation, design guidelines may be used to give guidance and expertise without bringing architectural expression into the realm of law.

Green Building Standards

If a municipality has environmental sustainability goals, those goals can be reinforced in the form-based code by requiring energy efficient and low carbon footprint buildings.

Landscape Standards

The landscape on private property can have a big impact on the public realm. Landscape standards can maintain existing vegetated character, mandate the screening of utility or parking areas, and/or require native plantings to cut down on water usage and help with water retention during storm events.
Flood Hazard Areas and Stormwater Management

In areas where flooding and stormwater management are key concerns, form-based codes can provide guidance for building higher to meet flood zone requirements and help communities implement low impact design standards that help direct, retain, and absorb water without having a negative impact on the built form of the community.

Historic Preservation

Historic buildings play an important role in defining the sense of place on Cape Cod. A form-based code can reinforce existing building patterns in historic areas through building placement and building form regulations that limit where additions or new construction can go.
Pros and Cons

This section of the framework lays out some of the reasons why a municipality would choose to implement a form-based code, as well as some of the challenges they may encounter along the way.
PROS AND CONS

WHY SHOULD A MUNICIPALITY CONSIDER A FORM-BASED CODE?

1. To create a stronger connection between community vision, regulations, and development plans
2. To establish a supportive relationship between private development and the public realm
3. To generate predictable development outcomes
4. To improve the quality of the public realm
5. To encourage compatible mix of uses
6. To legalize appropriate density
7. To reinforce historic patterns at the building scale
8. To promote economic and social diversity
9. To reduce auto-oriented development patterns
10. To increase pedestrian friendliness
11. To make zoning regulations more accessible to the community through the code's use of photos, diagrams, and drawings

WHAT CHALLENGES MIGHT A MUNICIPALITY ENCOUNTER?

1. Code reform can be time-consuming and it is hard to know exactly how long it will take until it is done
2. Most new codes are written with the help of paid consultants, which can be costly
3. Perceptions about staff, time, expectations, and training can appear too complicated
4. Local developers may be unfamiliar with form-based codes
5. As community vision changes the code will need recalibration
6. Opportunity to affect outcomes happens at the time of adoption, not approvals process
7. Public investments in infrastructure may be required to meet the public space standards set forth in the code
This final section of the framework lists some of the many resources available to citizens and planners looking to learn more about form-based codes, both in theory and in practice. It also briefly describes some of the resources from the State of Massachusetts that may help support a code reform effort.

SUPPORT

Code reform is a daunting task. It can be difficult to know where to start. Thankfully there are resources available that can help determine what kind of reform is best for a municipality, how to accomplish its zoning goals, and offer technical and financial support along the way.

For additional help beyond the resources listed in this document, please reach out to the Cape Cod Commission for support.
EXPLORATORY PHASE

If still considering what degree of code reform is right for a municipality, read “Enabling Better Places: Users’ Guide to Zoning Reform,” a document developed by the Congress for the New Urbanism as part of their Project for Code Reform. This document is meant to help cities and towns improve the quality of their zoning ordinances without necessarily going through a full zoning rewrite. Although the document is specifically intended for Michigan municipalities, the principles will still be useful for Barnstable County citizens and planners. It details short-term, mid-term, and long-term fixes and focuses on Main Streets, Downtowns, and Adjacent Neighborhoods. The companion document on Suburban neighborhoods is scheduled to be released in 2019.


FORM-BASED CODES INSTITUTE

The Form-Based Codes Institute (FBCI), a program of Smart Growth America, is a professional organization dedicated to advancing the understanding and use of form-based codes. They pursue this objective through three main areas of action: they develop standards for form-based codes, they provide education, and they create a forum for discussion and advancement of form-based codes. The following resources are particularly useful:

10-minute Introduction - If looking for a short introduction to form-based codes, either for a planning board or for citizens interested in code reform, FBCI developed a brief slide show that explains how form-based codes help communities achieve development goals. This slide show can be found at https://formbasedcodes.org/resources/
**Expert-level Guide** - For a more in-depth reference, “*Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers,*” by Parolek et al., is the book on form-based codes. It provides valuable information regarding principles, structure, and process. It also includes an extensive list of case studies with expert analysis about what worked and what did not work with each individual form-based code effort, as well as a list of common mistakes.

**Sample RFQ** - FBCI has developed a template to help local governments and private developers seeking bona fide expert help to create an excellent form-based code find someone who has proven expertise. This sample RFQ can be found at: [https://formbasedcodes.org/sample-rfq/](https://formbasedcodes.org/sample-rfq/)

**Library of Codes** - FBCI maintains a regularly updated database of the best examples of form-based codes from communities across the United States and abroad. The library is searchable by physical context, organizing principle, implementation method, development type, and special features. [https://formbasedcodes.org/codes/](https://formbasedcodes.org/codes/)

**Codes for Communities** - In addition to offering online resources to municipalities and consultants, FBCI also offers direct assistance through their Codes for Communities program, which performs reviews, audits, and adjustments to proposed and existing codes.

**FURTHER READING**


“Form-Based Codes: A Step-by-Step Guide for Communities” is a useful report/summary of form-based codes put together by the Chicago Metropolitan Agency for Planning. It draws heavily on *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* by Parolek et al. and does a good job summarizing many form-based code related concepts in easy-to-understand language.


“Smart Codes: Model Land-Development Regulations,” is a report assembled by the American Planning Association that includes model language that can be adapted and adopted by municipalities across
the country, including model “Infill Development Incentives” and Form-Based Code Overview and Model Approaches.

CONSULTANTS

In addition to these resources, there are a number of professional planners, architects, and attorneys both nationally and regionally who can also be brought in to work with a municipality to further discuss the appropriate options for their particular set of circumstances and/or to help develop whichever option the municipality has already determined is the right fit.
Relevant State and Regional Resources

**Chapter 40R** - A state-wide Smart Growth program that seeks to substantially increase the supply of housing and decrease its cost by increasing the amount of land zoned for dense housing. Upon state review and approval of a local overlay district, communities become eligible for 40R payments, as well as other financial incentives. [https://www.mass.gov/service-details/chapter-40r](https://www.mass.gov/service-details/chapter-40r)

**Citizen Planner Training Collaborative** - A collaborative made up of Department of Housing and Community Development, UMass Center for Agriculture, Massachusetts Association of Regional Planning Agencies, Massachusetts Chapter of the American Planning Association, Massachusetts Audubon Society, Massachusetts Association of Planning Directors, citizen and professional planners. Its mission is to empower land use officials to make effective and judicious decisions in the areas of development, transportation, natural resources, and the environment by providing educational opportunities, access to information and resources, and by enhancing cooperation among, and integration of, land use boards within local government. [http://masscptc.org/](http://masscptc.org/)

**Planning Assistance Grants from the Executive Office of Energy and Environmental Affairs (EEA)** - Grants are available to the Commonwealth’s municipalities, and regional planning agencies acting on their behalf to support their efforts to plan, regulate (zone), and act to conserve and develop land consistent with the Massachusetts Sustainable Development Principles.

These Planning Assistance Grants are part of an effort to encourage municipalities to implement land use regulations that are consistent with the Baker-Polito Administration’s land conservation and development objectives including reduction of land, energy, and natural resource consumption, provision of sufficient and diverse housing, and mitigation of and preparation for climate change. Funds help communities retain appropriate technical expertise and undertake the public process associated with creating plans and adopting land use regulations. Priorities include zoning for sustainable housing
production and zoning that results in permanent land conservation. [https://www.mass.gov/service-details/planning-assistance-grants](https://www.mass.gov/service-details/planning-assistance-grants)

**Housing Choice Initiative** - The Housing Choice Initiative rewards municipalities that have produced certain rates or amounts of new housing units in the last five years and that adopted best practices related to housing production that will sustain a 21st century workforce and increase access to opportunity for Massachusetts residents. Communities that achieve the Housing Choice designation, which lasts for two years, have exclusive access to apply for the Housing Choice Grant Program and receive bonus points or other considerations to certain state grant programs. In addition to the Housing Choice Designation and the Housing Choice Grant program, the state recognizes that many small towns face different challenges. Therefore, the Housing Choice Initiative also includes separate funding for the Small Town Housing Choice competitive capital grant program exclusively for towns with populations under 7,000 (per 2017 US Census population estimates). Small Towns can also apply for Housing Choice Designation. [https://www.mass.gov/housing-choice-designation-and-grants](https://www.mass.gov/housing-choice-designation-and-grants)

**Department of Housing and Community Development (DHCD) Compact Neighborhoods** - DHCD offers additional incentives to municipalities that adopt zoning districts promoting the Commonwealth’s strong interest in smart growth and housing for working families of all incomes. This program complements Chapter 40R, but has different density requirements. [https://www.mass.gov/service-details/compact-neighborhoods](https://www.mass.gov/service-details/compact-neighborhoods)

**Housing Development Incentive Program (HDIP)** - The Housing Development Incentive Program (HDIP), established by M.G.L., Chapter 40V, provides Gateway Cities with a tool to develop market rate housing while increasing residential growth, expanding diversity of housing stock, supporting economic development, and promoting neighborhood stabilization in designated areas. The program provides two tax incentives to developers to undertake new construction or substantial rehabilitation of properties for lease or sale as multi-unit market rate residential housing. Barnstable is the only Cape Cod community that qualifies as a Gateway City. [https://www.mass.gov/service-details/housing-development-incentive-program-hdip](https://www.mass.gov/service-details/housing-development-incentive-program-hdip)

**Massachusetts Downtown Initiative** - The primary mission of the MDI is to make downtown revitalization an integral part of community development in cities and towns across the Commonwealth. MDI’s guiding principles are that the most effective approach to downtown revitalization is a holistic one; that it addresses economic and community development needs; and that it provides a framework of interrelated activities that promote positive change in a downtown to keep it healthy and prosperous. [https://www.mass.gov/service-details/massachusetts-downtown-initiative-mdi](https://www.mass.gov/service-details/massachusetts-downtown-initiative-mdi)

**Peer-to-Peer Technical Assistance Program** - The Peer-to-Peer Technical Assistance Program awards small grants to Community Development Block Grant (CDBG) non-entitlement communities to hire Peer Consultants from other municipalities for short-term problem solving or assistance with projects that
RELEVANT STATE AND REGIONAL RESOURCES

support local community development and capacity building activities. Municipalities may apply to DHCD for $1,000 grants to pay for up to 30 hours ($900) of Peer Consultant assistance and up to $100 for reimbursement of their travel, photocopying, and the cost of incidental materials. Elected Officials and town employees are eligible to serve as Peer Consultants. The Program is funded with Massachusetts CDBG technical assistance funds. [https://www.mass.gov/service-details/peer-to-peer-technical-assistance-program](https://www.mass.gov/service-details/peer-to-peer-technical-assistance-program)

**Urban Center Housing Tax Increment Financing** - The Urban Center Housing Tax Increment Financing (UCH-TIF) Program is a statutory program authorizing cities and towns to promote housing and commercial development. The UCH-TIF Program provides real estate exemptions on all or part of the increased value (the “Increment”) of improved real estate. Tax increment financing may be combined with grants and loans from local, state and federal development programs. The Department of Housing and Community Development’s (DHCD) Division of Community Services is responsible for the operation and administration of the UCH-TIF Program. [https://www.mass.gov/service-details/urban-center-housing-tax-increment-financing-uch-tif](https://www.mass.gov/service-details/urban-center-housing-tax-increment-financing-uch-tif)

**MassDOT Complete Streets** - The MassDOT Complete Streets Funding Program provides technical assistance and construction funding to eligible municipalities. Eligible municipalities must pass a Complete Streets Policy and develop a Prioritization Plan. Contact Cape Cod Commission Transportation staff for more information. [https://masscompletestreets.com/](https://masscompletestreets.com/)

**MassWorks** - The MassWorks Infrastructure Program is a competitive grant program that provides a robust and flexible source of capital funds for municipalities and other eligible public entities to complete public infrastructure projects that support and accelerate housing and job growth throughout the Commonwealth. [https://www.mass.gov/service-details/massworks-infrastructure-grants](https://www.mass.gov/service-details/massworks-infrastructure-grants)
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