



CAPE COD
COMMISSION

Land Use Planning for Economic Resilience

SUPPORTING CAPE COD'S MIXED-USE AND
COMMERCIAL DEVELOPMENT

JUNE 2023

Prepared by Cape Cod Commission Staff with funding from a
Massachusetts Executive Office of Energy and Environmental Affairs
Planning Assistance Grant.

Land Use Planning for Economic Resilience

SUPPORTING CAPE COD'S MIXED-USE AND COMMERCIAL DEVELOPMENT

This study was carried out with a planning assistance grant from the Massachusetts Executive Office of Energy and Environmental Affairs.

CONTENTS

Introduction	4
Cape Cod's Development Patterns	4
Existing Commercial & Mixed-use Development Trends.....	5
Impacts of COVID-19	8
Cape Cod Commercial Typologies.....	10
Neighborhood Hub.....	10
Village Center.....	11
Downtown.....	12
Commercial Strip Plaza	13
Large Commercial Plaza.....	14
Lifestyle Plaza	15
Commercial Corridor	16
Enclosed Mall.....	17
Analyzing Performance.....	18
Site Visits.....	18
Site Visit Observations	18
Cellphone Visitation Data	23
Interviews Summary	25

CAPE COD COMMISSION

3225 Main Street • P.O. Box 226 • Barnstable, MA 02630

508-362-3828 • Fax: 508-362-3136 • Email: frontdesk@capecodcommission.org

www.capecodcommission.org

List of Interviewees:..... 26

Best Practices 26

Appendix A: Literature Review..... 29

Introduction

This project, funded through a Planning Assistance Grant from the Massachusetts Executive Office of Energy and Environmental Affairs, sought to identify a local typology of commercial and mixed-use developments in the region, analyze how those different development types adapted to or fared in light of the impacts of the COVID-19 pandemic, and provide guidance to municipalities on fostering vibrant, thriving, and resilient mixed-use development.

CAPE COD'S DEVELOPMENT PATTERNS

Cape Cod's built environment reflects the interaction of successive eras in its history. In the 1800s, the region's reliance on maritime industries defined its development patterns: development clustered around small village centers and close to harbors and waterways, with minimal residential or commercial uses in the surrounding areas. In the late 19th century, the region witnessed a gradual shift away from subsistence farming and fishing activities and toward a role as a seaside resort destination, drawing in seasonal visitors and outside wealth.

With the advent of rail, cars, and the interstate highway system, Cape Cod's accessibility and popularity as a tourism destination grew. The latter half of the 20th century ushered in rapid population growth as the region emerged as a destination for second-home owners and retirees, with development spreading from the Cape's coastal peripheries toward its interior areas to accommodate the increased number of residents. The era's zoning and other regulations set the standard for large lot sizes and buildings set far back from roads, creating car-dependent land use patterns and shifting development away from dense village centers. These spread-out land use patterns demanded increased land clearance to support roads, parking lots, and other infrastructure.

Balancing the needs of human-built and natural systems remains both a challenge and an opportunity for Cape Cod communities. The region's diffuse growth patterns have consumed resources, heightened infrastructure costs, and reinforced residents' car dependency. It is critical, however, to maintain or enhance open space, which improves the land's capacity to absorb further climate impacts and remains integral to the region's identity and tourism-based economy.

The region's economic history is one of repeated reinventions in response to changes in technology, resources, a seasonal population, and competition, and its next chapter of land use planning efforts must include both protection of the region's sources of intrinsic wealth – its natural beauty, coastal and freshwater environments, and historic character – and provision of the spaces, services, and amenities that residents, workers, and visitors need to thrive over the long term.

EXISTING COMMERCIAL & MIXED-USE DEVELOPMENT TRENDS

Cape Cod Commission staff conducted a literature review in the early stages of this project to understand existing, researched trends for commercial and mixed-use developments. While there is not a single agreed-upon definition for “mixed-use” or its form, planners have advocated mixed-use development as a tool for sustainable development. Common perceptions of its benefits include generating neighborhood diversity and vitality, encouraging non-motorized transportation, environmental and infrastructural sustainability, enhancing accessibility, and supporting a variety of housing choices.^{1,2} However, holistic discussions on how social and economic factors affect mixed-use development is absent from the literature, since many studies tend to focus on one aspect, like form and physical configuration.³ Some advantages of mixed-use identified within the literature include:

- Creating an urban environment that is active at all hours,
- Making optimum use of infrastructure,
- Providing a greater range of housing options for smaller households,
- Mixing housing types could increase affordability and equity,
- Providing housing near commercial and civic activities could reduce the dependence of the elderly and children on cars,
- Enabling people to live near places where they can shop, work, or play which could reduce car ownership and vehicle trips, increase pedestrian and transit use, and thus alleviate the environmental consequences associated with automobile use.

Regarding drivers of success and failure for ground floor retail, Holdzkom and McCarthy found that mixed-use developments near, or within, already vibrant areas are more successful than those in more remote locations. The ability to connect to and attract customers is harder when buildings are near vacant areas, like parking lots. Developing retail without understanding the local retail market can curtail the success of new commercial development. The authors found that vacancies in ground floor retail space as it is typically used will likely continue due to changing consumer needs from the pandemic. This could lead to an emergence of opportunities for using the space in

¹ Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).

² James DeLisle and Terry Grissom, “An Empirical Study of the Efficacy of Mixed-Use Development: The Seattle Experience,” *Journal of Real Estate Literature* 21, no. 1 (January 1, 2013): 25–57, <https://doi.org/10.1080/10835547.2013.12090352>.

³ Qing Shen and Feiyang Sun, “July 2020 What Makes Mixed-Use Development Economically Desirable? Working Paper WP20QS1,” July 2020, https://www.lincolnst.edu/sites/default/files/pubfiles/shen_wp20lmq51.pdf.

alternative ways like coffee shops or co-workspaces or even the growth of retail in residential neighborhoods as retail moves into different places.⁴

Multiple studies have identified characteristics that affect the success of mixed-use developments and include internal dynamism (derived from concentration and diversity, physical configuration and design, and internal circulation and external access), having a major draw (employers, a university and/or entertainment facilities), compatible and complementary uses that are incorporated in a way to create a seamless whole.⁵ The firm HR&A Advisors Inc., in their study for the Maryland-National Capital Park and Planning Commission (MNCPPC) Montgomery Planning Department, found a few additional mixed-use success factors:

- Mixed-use development can succeed both by adding to adjacent authentic/older neighborhoods and by using good design and an appealing streetscape to attract shoppers, workers and residents to a new place,
- Communities adjacent to rail transit tend to have more successful mixed-use projects, as measured by convenience, walkability, and sustainability,
- Ground floor retail that is within or adjacent to already-vibrant areas is much better positioned for success than ground floor retail that is more isolated from pedestrians and other retailers or adjacent to major roadways, vacant land, or parking.⁶

The D.C. Policy Center, an independent 501(c)(3) nonprofit that provides fact-based, unbiased research and analysis, completed one of the few studies on the impact of COVID on mixed-use and office markets in a city. Specifically, they wanted to know which types of neighborhoods with a heavy office presence in the District of Columbia have been most resilient to the pandemic and made the following observations:

- More office space has been vacated than leased (with a net absorption loss of 3.3 million square feet between April 2020 and October 2021),
- Economies in mixed-use areas recovered faster due to their greater concentration of residents. In Q1 2021, mixed-use submarkets began to show signs of recovery, while recovery did not begin for the office-heavy submarkets until Q2 2021,
- Rents in mixed-use submarkets increased by nearly 3% in Q3 2021 relative to Q3 2019, while rents in office-heavy submarkets remained below 2019 levels,

⁴ Nicholas Holdzkom and Caroline McCarthy, "Study of Mixed Use Development Trends" (https://montgomeryplanning.org/wp-content/uploads/2021/07/Mixed-use_PB-Staff-Report_062921_V02.pdf: The Maryland-National Capital Park and Planning Commission, June 29, 2021).

⁵ Joseph Rabianski et al., "Mixed-Use Development: A Call for Research," *Journal of Real Estate Literature* 17, no. 2 (January 1, 2009): 205-30, <https://doi.org/10.1080/10835547.2009.12090251>.

⁶ HR&A Advisors Inc., "Montgomery County Mixed-Use Development Study Summary of Findings," *Montgomery County*, July 2021, https://montgomeryplanning.org/wp-content/uploads/2021/07/Montgomery-County-Mixed-Use-Study-7-12-21_FINAL.pdf.

- The high amount of Class A space in mixed-use submarkets could be a reason for resilience. In mixed-use submarkets, 75% of office space is Class A compared to 60% in office-heavy submarkets. It is thought that Class A spaces will be desirable in the future because of the amenities they offer, like quality air filters and advanced technology. It's suggested that "as preferences shift from quantity of space to quality of space, the District's mixed-use submarkets are in the best position to accommodate...demand."⁷

There is little research on the comparative success of mixed-use versus single-use commercial development before, during, and after the pandemic. The above studies offer some examples of how mixed-use developments operate and why they have or have not been successful in places, but most of the findings are qualitative in nature and do not point to time-tested characteristics that ensure the success of this type of development.

Even though the costs and benefits of brick and mortar mixed-use and commercial developments are not thoroughly researched, there are noticeable emerging trends in commercial and mixed-use spaces: 2022 was seen as a good year for commercial development, but slowing economic growth, inflation, workforce shortages and supply chain issues pose potential challenges for 2023. Arguably the largest changes will be with office properties, where lower demand due to hybrid and remote work models is resulting in more available space, which puts downward pressure on lease rates.⁸

In terms of commercial space, post-pandemic retail sales, which have improved due to new innovations and methods of distribution, like direct to consumer (DTC) sales and online platforms, are now at pre-pandemic levels. The retail sector is also diversifying as more retail space is reappropriated as grocery stores, restaurants, and service providers.⁹ However, retail property development remains below 2016 levels, which limits the supply of new space. One reason may be that developers are increasingly interested in mixed-use development and less on single-use commercial. The pandemic created a scenario where many people had to work from home, a model that many companies have stuck with since. Businesses that have scaled down in response to this new work paradigm require smaller office footprints that mixed-use buildings can offer.¹⁰

Another aspect of the retail market that has been measured during and after the pandemic is e-commerce and the shift to online shopping. At the beginning of the pandemic, shopping online was a way to avoid in-person contact, and COVID lockdowns negatively impacted physical retail stores

⁷ Bailey McConnell, "Is Mixed-Use the Future of Downtown D.C.?", D.C. Policy Center, November 23, 2021, <https://www.dcpolicycenter.org/publications/mixed-use-future-downtown-dc/>.

⁸ Shawn Moura, "Commercial Real Estate Made Record Impact on U.S. Economy in 2022 | NAIOP | Commercial Real Estate Development Association," www.naiop.org, 2023, <https://www.naiop.org/research-and-publications/magazine/2023/Summer-2023/business-trends/commercial-real-estate-made-record-impact-on-us-economy-in-2022/>.

⁹ " "

¹⁰ Patrick Freeze, "Is the Mixed-Use Real Estate Investment Trend Right for You?," Bay Property Management Group, September 15, 2022, <https://www.baymgmtgroup.com/blog/mixed-use-real-estate-investment-trend/>.

significantly. Companies started to rethink how to connect to customers and stay relevant, and for many it meant selling directly to consumers through online platforms.¹¹ For example, in the second quarter of 2020, when lockdowns were in place, the “share of U.S. retail sales that happened online surged more than four percentage points to 15.7%, according to Census Bureau data (and adjusted for seasonal factors).”¹²

However, by the “fourth quarter of 2021, that share had dropped to 12.9%, putting consumer buying habits roughly back to their pre-pandemic trend.”¹³ As the lockdowns lifted and people started to go out more, customers were embracing in-person shopping experiences once again. One source said that ecommerce’s share of retail sales dropped from 16%-14% during this same period.¹⁴ This suggests that the ability to connect with customers both online through mobile and other virtual tools and services as well as through the experience of physical stores may be a characteristic that will factor into the success of retail developments going forward.

IMPACTS OF COVID-19

COVID-19 has exacerbated existing economic trends and dealt setbacks specific to the vulnerabilities of Cape Cod. The pandemic heightened pre-existing challenges for the region’s tourism-reliant industries, with Accommodations and Food Service and Retail being two of the region’s largest industries by employment size. Before the pandemic, for example, Retail had been facing growing e-commerce competition and evolving consumer preferences; social distance measures and related safety precautions further facilitated shifts away from brick-and-mortar retail operations. According to a Cape Cod business survey conducted in August 2020 – typically peak season – only 21.5% of respondents in the restaurants, catering, and food/beverage services industry predicted that their business could operate for one year or more based on existing cash flow and reserves, compared to 33.8% of all business owners.¹⁵ Though the pandemic was unprecedented, understanding the land use and physical characteristics of the areas and businesses that not only survived, but even thrived, during this time will help inform the outcomes of this project.

¹¹ Alex Song, “The 5 Biggest DTC Trends of 2019,” Retail Dive, October 10, 2019, <https://www.retaildive.com/news/the-5-biggest-dtc-trends-of-2019/563613/>.

¹² Peter Rudegeair Herrera Charity L. Scott and Sebastian, “The Pandemic Was Supposed to Push All Shopping Online. It Didn’t,” *Wall Street Journal*, April 16, 2022, sec. Business, <https://www.wsj.com/articles/the-pandemic-was-supposed-to-push-all-shopping-online-it-didnt-11650081652>.

¹³ “ ”

¹⁴ Stephen Babcock, “The Current US Ecommerce Sales Grow to 15% of Retail in First Quarter,” thecurrent.media, May 18, 2023, <https://thecurrent.media/ecommerce-sales-q1-2023>.

¹⁵ Cape Cod Commission. Cape Cod COVID-19 Business Economic Impact Survey. 2020. Link: <https://datacapecod.com/secondbusiness-impact-survey/>.

COVID-19 led to a severe spike in unemployment: the region's unemployment rate reached a high of 21.5% in April 2020, compared to the statewide rate of 16%.¹⁶ Outer Cape towns saw even higher rates, as those towns are typically more reliant on tourism-driven employment opportunities. The housing crisis was greatly exacerbated by the pandemic as well. Starting early in the pandemic, people began looking for ways to increase their access to outdoor activities and ensuring they had adequate home space for remote work and school. The Cape Cod real estate market saw unprecedented sales and median prices, trends which have not let up in 2021 as demand still far outstrips supply: 43% of all March transactions in Barnstable County closed above asking price, compared with 11% in 2020.¹⁷ The median sales price in Barnstable County rose 16.8% year-over-year, with an annual median sales price of \$479,000 for 2020.¹⁸ In March 2021, the regional median sales price was \$653,500.¹⁹ The pandemic has further underscored the need for more diverse and affordable housing types so that people can live and work on Cape Cod year-round.

Fostering more compact development patterns that consume less land and resources, support a mix of uses where people can live and work in the same area and reduce their reliance on automobiles, and provide more affordable and diverse housing opportunities can help create a region that is thriving and resilient.

This report is broken into three key sections. The first is the Cape Cod commercial and mixed-use typology, which describes the key types of commercial and mixed-use development found in the region, their attributes, and local examples. The second section discusses different ways these types were analyzed for their resilience to the impacts of the COVID-19 pandemic, including visitation data, observations from site visits, and interviews with relevant stakeholders. The last section identifies best practices for fostering mixed-use development that can better withstand potential impacts from systemic shocks, such as a global pandemic. Supporting these best practices are a mixed-use model bylaw and guidance for the bylaw, which towns may take and tailor to best fit their needs. The complete literature review, details on the cellphone data analysis, and the mixed-use model bylaw and guidance are found in the appendices.

¹⁶ MA Dept. of Unemployment Assistance. Labor Force and Unemployment Data. 2020. Link: <https://lmi.dua.eol.mass.gov/lmi>

¹⁷ Cape Cod & Islands Association of Realtors. "Market Report: Nearly Half of All Sales Sell for More Than Asking Price in March." April 19, 2021. Link: <https://cciaor.com/news/market-report-nearly-half-of-all-sales-sell-for-more-than-asking-price-in-march>

¹⁸ Cape Cod & Islands Association of Realtors. "Annual Report on the Cape Cod Housing Market." 2021. Link: <http://capecod.stats.10kresearch.com/docs/ann/2020/x/report?src=page>

¹⁹ The Barnstable Patriot. "Cape Cod median home sales price sets new record high." April 2021. Link: <https://www.barnstablepatriot.com/story/business/2021/04/21/cape-cod-median-home-sales-price-sets-new-recordhigh/7318054002/>

Cape Cod Commercial Typologies

To better understand the existing development patterns in the region, Commission staff identified the following mixed-use and commercial space typologies found on Cape Cod, with examples of each type that illustrate key features. The list of local examples is not meant to be exhaustive of all of the examples in the region but rather to provide an idea of the type. The primary example of each type (in bold) was analyzed in the next step of this project.

NEIGHBORHOOD HUB

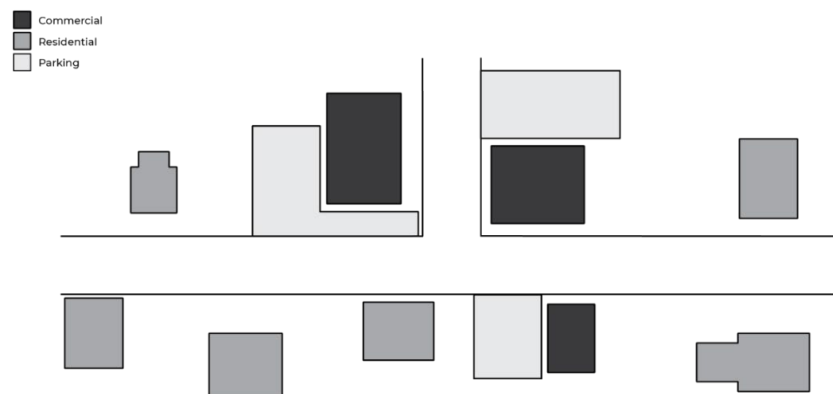
Neighborhood hubs are small commercial nodes that provide adjoining residential neighborhoods with essential goods and services, such as a general store or a post office, within buildings that reflect and match the residential neighborhood scale. An apartment is sometimes located on the second floor of the store. Neighborhood hubs blend in with, and are visually integrated into, the surrounding residential neighborhood.

DEFINING FEATURES

- Small node; typically 1-5 buildings; < 400' road frontage; less than a block; often located at crossroads of a major/regional road and local road,
- Buildings sited close to road or behind small parking lot; on-site parking,
- Accessible by bike or on foot from surrounding residential neighborhood,
- Includes a general store or small grocery market; sometimes with apartment on top.

EXAMPLES

- **Eastham Superette**
- Brewster General Store
- South Wellfleet Post Office/Blue Willow Fine Foods
- Pleasant Lake General Store/Pizza Shark, Harwich



VILLAGE CENTER

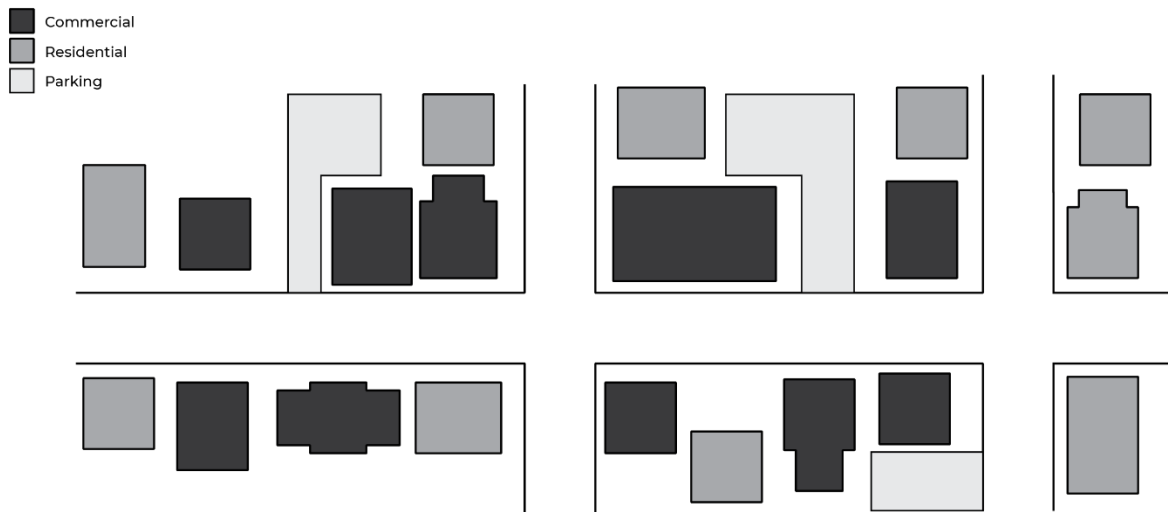
Village centers are small walkable areas generally one block deep with buildings close to the street and close to each other. They include a mix of primarily locally owned, small-scale commercial businesses and may have apartments on top or behind the primary buildings. Building sizes vary from a few thousand square feet to tens of thousands of square feet but generally appear residential in scale when viewed from the street.

DEFINING FEATURES

- Buildings are close to the street and appear residential in scale,
- Typically one block deep and a few blocks long; comprised of multiple lots,
- Primarily on-street parking. Any off-street parking is located to the side or rear of buildings,
- Mix of uses. Primarily locally owned businesses and may include retail, food/grocery, dining, professional office, personal services, banking, and civic uses; apartments may be located on top or behind commercial buildings,
- Bike/pedestrian accessible; may be on bus route or proximate to bus stop,
- 12-20 buildings,
- Usually surrounded by residential neighborhoods.

EXAMPLES

- **Barnstable Village**
- Wellfleet Main Street
- Osterville Village Center
- Yarmouth Port Village Center
- Harwich Port Village Center



DOWNTOWN

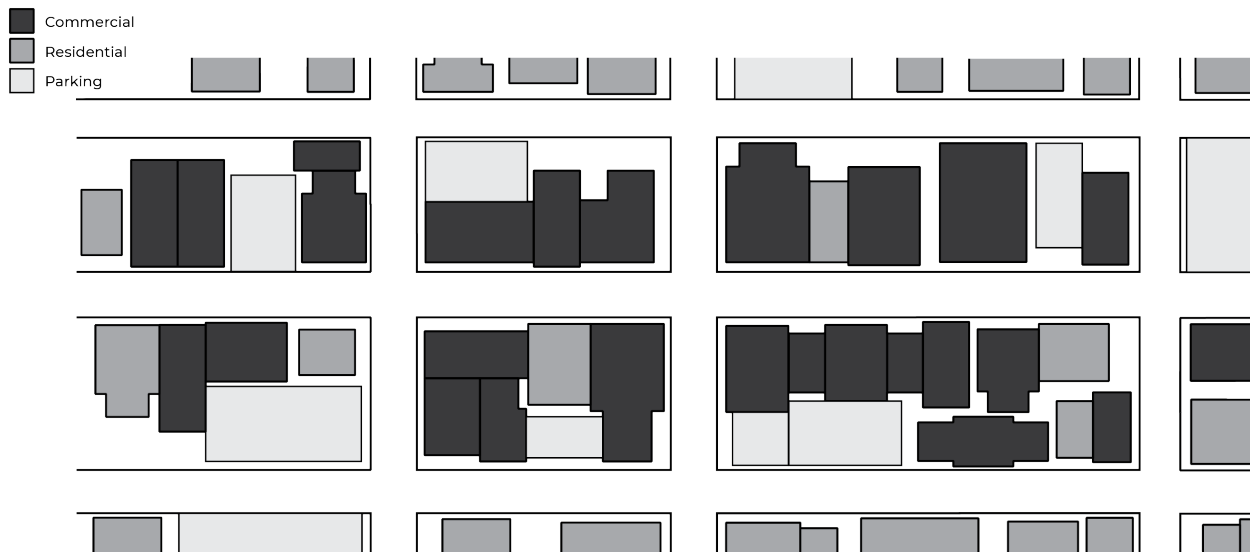
Downtowns are local activity centers on a main road (e.g., Main Street). They are generally 1-2 blocks deep, with moderate-scale buildings close to the street and several buildings adjoining each other or sharing side walls. They are pedestrian-oriented, with parking both on the street and available in municipal or private business lots. Downtowns serve as community activity hubs, with a mix of small, often locally owned, businesses including retail, professional office, banking, personal services, civic uses, and apartments above shops. Though the downtown’s mix of uses and configuration resembles village centers, downtowns are larger, occupying more land area.

DEFINING FEATURES

- Moderate scale buildings, with shared or adjoining side walls, close to the street,
- Individual storefronts generally appear small but may be within a larger building,
- Buildings have multiple stories (2-3),
- Multiple, interconnected blocks with multiple lots,
- On-street parking, private, and public parking lots,
- Mix of uses including retail, office, 2nd floor residential, civic (town hall, library, post office), banking, grocery/market, dining/eating, inns or small-scale lodging, public/social spaces,
- Bike/pedestrian accessible; on bus route.

EXAMPLES

- **Chatham Main Street**
- **Hyannis Main Street**
- Provincetown Commercial Street
- Falmouth Main Street



COMMERCIAL STRIP PLAZA

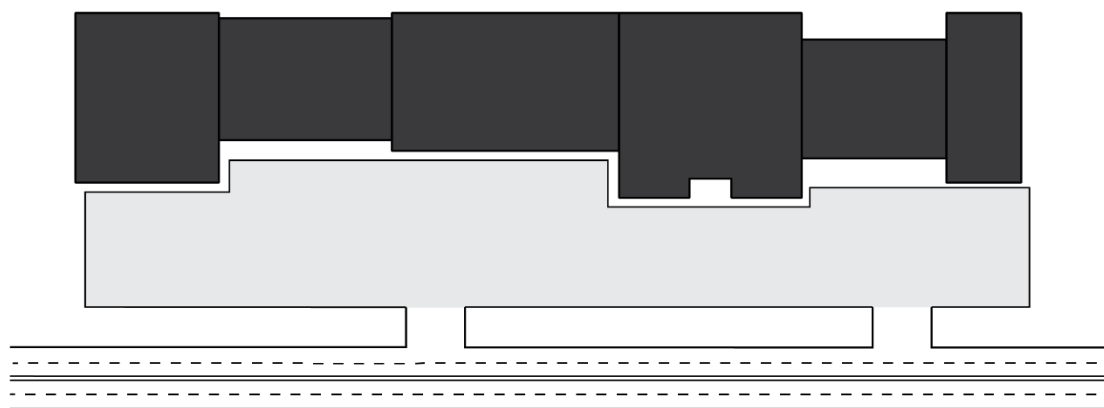
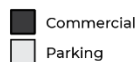
Commercial strip plazas are commercial developments of multiple businesses arranged linearly, in mostly connected structures, with on-site parking between the buildings and the road. Strip plazas are automobile oriented but may be located on a bus route. They are typically surrounded by other commercial uses. The larger uses are primarily national or regional formula retail businesses. Strip plazas range in size. Larger strip plazas may have an anchor store, and often include personal services.

DEFINING FEATURES

- On-site parking lot between building and street,
- Buildings arranged linearly, mostly connected, and usually single story,
- Commonly on a single parcel,
- Auto oriented access,
- Mostly national or regional retail uses, sometimes with an anchor.

EXAMPLES

- **Centerville Bell Tower Mall**
- **Eastham Ace Hardware Plaza**
- Chatham Shop Ahoy Plaza



LARGE COMMERCIAL PLAZA

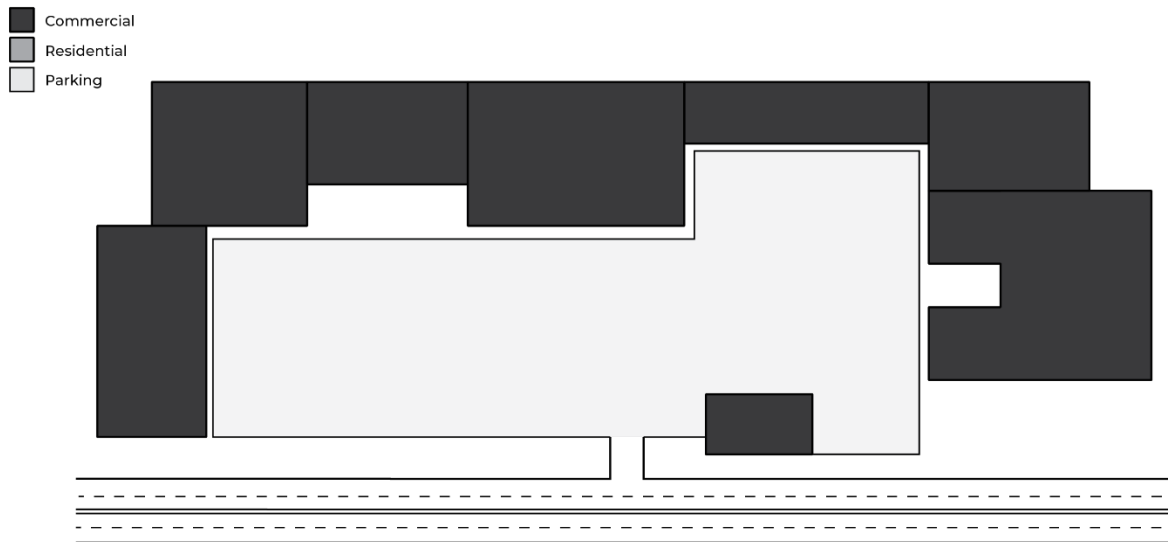
Large commercial plazas are large scale retail centers arranged behind a parking area or in an L or U-shape. Buildings are connected and single story but may include detached smaller buildings. They are auto-oriented and may have a bus stop. These plazas typically include one or more nationally owned anchor stores (often a supermarket), with other formula businesses, including restaurants. Banks and fast food are sometimes located in small buildings within the parking areas of these plazas.

DEFINING FEATURES

- Large scale, single story, connected buildings configured in a U-or L-shape,
- Commonly on a single lot,
- Large parking lot visible from the road and centered between buildings,
- Located on a regional road/highway,
- Formula businesses; national retail and restaurants; supermarket anchors; other uses may include professional services such as offices or banks,
- Total building area is typically hundreds of thousands of square feet.

EXAMPLES

- **Harwich Commons (East Harwich Stop & Shop Plaza)**
- **Hyannis Festival Plaza**
- Canterbury Plaza, Sandwich
- Dennis Patriot Square



LIFESTYLE PLAZA

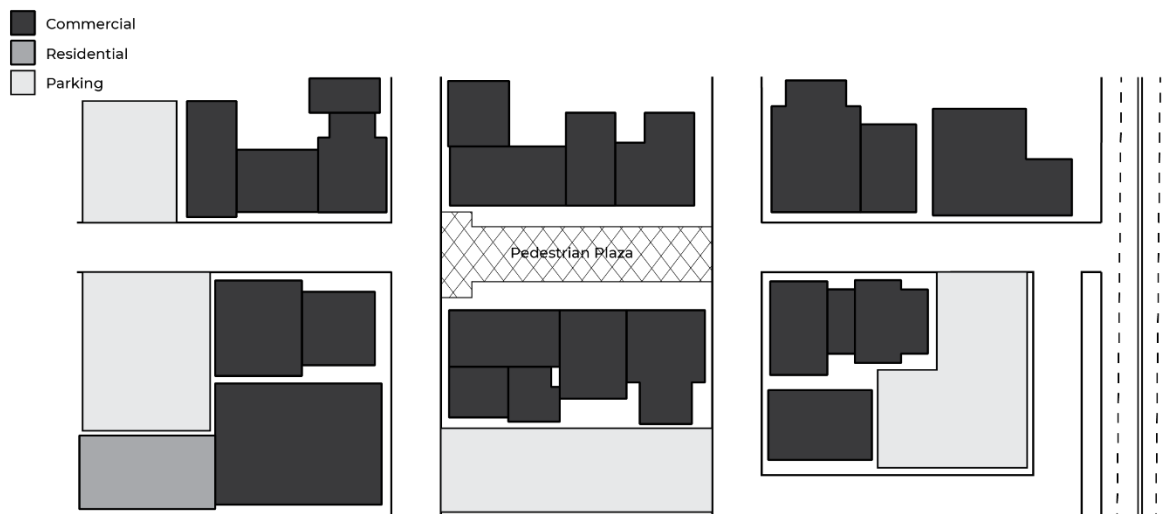
Lifestyle plazas or centers are commercial nodes located off a highway or major roadway, with large- and medium-scaled buildings that face internal streets arranged in blocks to mimic village centers. Buildings can stand alone or be connected. Parking is located on internal streets and to the rear or side of the buildings. Uses include primarily national and regional retail and restaurants, including an anchor store, and may have housing units on top. Pedestrian amenities and social spaces are located adjacent to the businesses. The development may include or be proximate to a bus stop but access into the plaza is automobile oriented.

DEFINING FEATURES

- Buildings arranged on internal streets that create blocks; can be a single lot or multiple lots,
- Variety of medium and large-scale buildings,
- Parking on internal streets and shared parking lots to the rear,
- Pedestrian amenities within the site but access to the site is auto oriented,
- Mix of uses includes national and regional retail and restaurants, personal services with an anchor; may have housing on second floor,
- Traditionally found in suburban areas and near major roadways/highways.

EXAMPLES

- **Mashpee Commons**
- South Cape Village



COMMERCIAL CORRIDOR

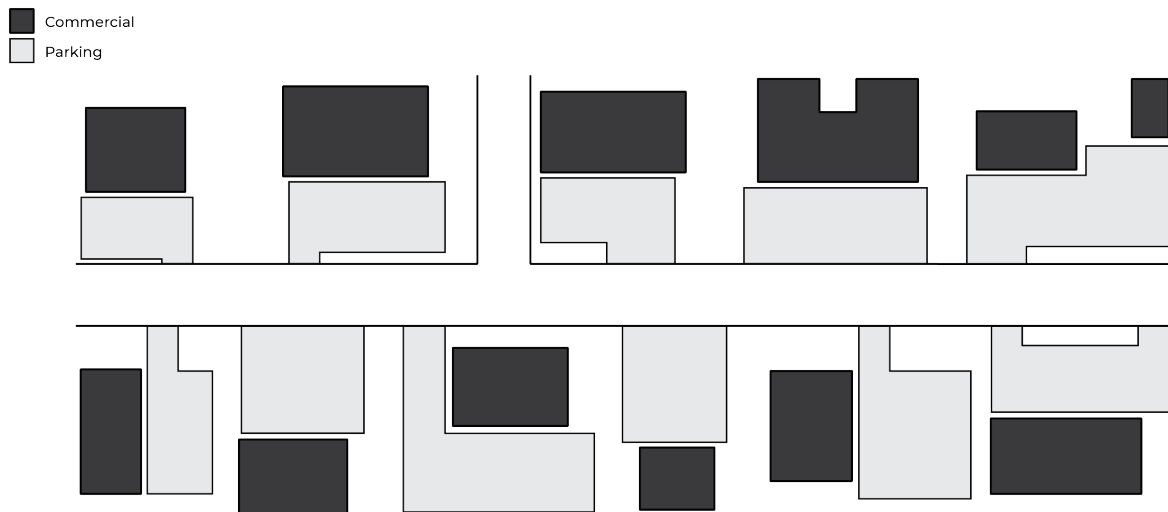
Commercial corridors are areas along roads with a series of separate commercial properties with varying setbacks. Most properties have parking in front of the buildings. Each property tends to have its own road access and generally does not have connections to adjacent properties. The location is commonly along a main/arterial road that supports public transportation with bus stops. Uses typically include office, service, retail, and hotel/motel with varying building sizes and scales.

DEFINING FEATURES

- Along main road or thoroughfare,
- Separate commercial properties with varying setbacks,
- On-site parking in front of building,
- Automobile oriented access,
- Mix of small, medium and large buildings,
- Uses include office, service, retail, hotel/motel,
- Length of road can vary from a couple thousand feet to over a mile.

EXAMPLES

- **West Yarmouth Route 28**
- Eastham Route 6 south of Brackett Road
- Barnstable Route 28 south of Hyannis Airport



ENCLOSED MALL

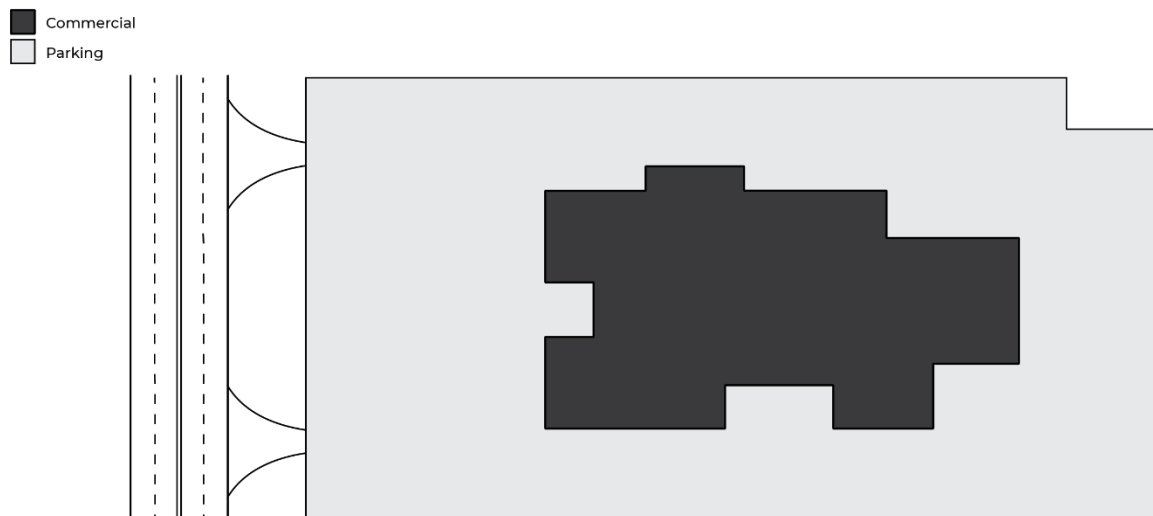
Enclosed malls are single, large buildings set well back from the street with parking surrounding it on all sides. They are accessed primarily by car due to their location near main thoroughfares or highways and contain ample parking. They contain multiple national anchor stores which are usually the largest businesses by area (such as department stores) but also contain smaller businesses, primarily national or regional formula businesses. Uses include retail, entertainment, and dining.

DEFINING FEATURES

- Single, large-scale building with internal corridors,
- Surrounded by parking,
- Automobile oriented access,
- Near or adjacent to major thoroughfares and highways,
- Two or more anchor stores paired with many smaller businesses,
- Uses include retail, dining, and entertainment businesses (frequently national or regional formula businesses),
- Typical building area is hundreds of thousands of square feet or more.

EXAMPLES

- **Cape Cod Mall**



Analyzing Performance

Following identification of local typologies, the different types were analyzed in three key ways. Site visits were conducted in January and February of 2023 to identify the current business mix and perceived property condition. Commission staff also looked at assessor records and analyzed cellphone activity data to understand visitation trends. Additionally, Commission staff interviewed professionals that included town staff, business owners, realtors, and property managers who were familiar with the developments to understand the changes and trends they had seen in commercial and mixed-use spaces in the region during the pandemic.

SITE VISITS

Staff conducted site visits to each commercial typology during weekday business hours to observe the level of off-season business activity and the condition of each development and its surroundings. To identify characteristics that could distinguish a successful commercial or mixed-use typology from a less successful example, staff took note of any businesses that appeared to generate significant pedestrian or vehicular activity, any building vacancies, the variety of uses present, and features that might attract customers who were not en route to a specific business. Attractive site landscaping, prominent pedestrian amenities, building maintenance, recent renovation work, and unique neighborhood amenities were all noted.

Site Visit Observations

VILLAGE CENTER

Barnstable Village

Uses include civic buildings (courthouses, county offices, fire station, post office), a small food market with apartments above, restaurants, a coffee shop, services (hair salon, realtors offices, physiotherapy, and law offices), retail art galleries and a pottery shop, and entertainment (Barnstable Comedy Club). The project team counted three vacant properties. Almost all businesses in the village are independent and locally owned. The mix of uses is about 90% commercial/10% residential.

Pedestrian amenities include brick sidewalks, speed tables/crosswalks, benches, bike racks, and gathering spots in front of businesses with benches and tables (at the coffee shop and market). Landscaping, street trees, and hedges line the building frontage. The area feels pedestrian friendly. Parking is available on-street, in private lots to the side and rear of buildings, and in a large public parking area.

The area is well-kept; buildings and grounds are in good condition. The town recently repaired and upgraded sidewalks and crosswalks on Route 6A, a National Scenic Byway, which runs through the

village. The village is in the Old Kings Highway Historic District, which regulates exterior changes to building to preserve the historic character of the area. The surrounding area outside of the village is residential single-family, with water views and nearby beach and harbor access.

DOWNTOWN

Chatham Main Street

Uses include small retail shops and art galleries, restaurants and food venues, a hotel, a cinema, and civic uses (public library and town offices). Residential units are located above several businesses, and a small park is adjacent to Main Street. About 25 percent of the businesses are seasonal, and several were under renovation during the off-season. Several year-round businesses were open with reduced wintertime hours (e.g., Friday – Sunday from 11 AM-5 PM). Most businesses are local and independent.

Pedestrian amenities include benches, painted crosswalks, brick sidewalks, and a few gathering spaces. The area feels easy to navigate and walk. The storefronts are attractive and welcoming. The downtown is pedestrian-scaled and pedestrian friendly. The proximity of the businesses to each other encourages walking between them. Parking is available on-street with some parking areas to the rear of businesses. A couple of municipal parking lots are also located in the area.

The buildings are in good condition, and many are historic with unique architectural details. The area is within the Chatham Historic Business District, which regulates exterior changes to buildings. The surrounding area outside the downtown is residential single-family and near wetlands/water/beach access points.

Hyannis Main Street

Uses include a mix of retail, restaurants, offices over shops, personal care (tattoo studio, nail studio, etc.), church/worship, educational (Sturgis Charter High School and Cape Cod Community College satellite classrooms), civic (post office and town hall), small museums, and green space/park area. The project team noted at least six vacancies, and several storefront windows were covered, making it difficult to determine their operational status. Several businesses were under renovation. Downtown Hyannis businesses are primarily locally owned, with greater diversity among retail business types than in the other Cape Cod types.

Main Street is one-way through downtown, and on-street parking is available on both sides of the road. Public parking is also available in municipal lots and in shared commercial parking lots north and south of Main Street.

The condition of the buildings and street area varies but most buildings are in good repair and most sidewalk areas include pedestrian amenities. The downtown is within the Hyannis Main Street Waterfront Historic District, which regulates exterior changes to buildings. A Business Improvement District (BID) is in place to assist businesses in this area.

Pedestrian amenities include several small park spaces, plus seating areas on the sidewalk and adjacent to businesses. In some blocks, buildings lack display windows or other features to draw pedestrians, but elsewhere display windows are prominent and outdoor restaurant seating brings activity to the street. A cluster of businesses near the west end (restaurant, market, church) provide community gathering spaces for the Brazilian community. Downtown Hyannis lacks bicycle facilities, though experienced cyclists familiar with the local street network might feel comfortable accessing the area on bike.

COMMERCIAL STRIP PLAZAS

Bell Tower Mall, Centerville

Uses include personal services (hair, nails, fitness, etc.) and professional services (legal, accounting, real estate, etc.), retail, and food/dining. About 22 businesses occupy the plaza plus one vacant space “for lease” at the time of the site visit. The mix of uses is currently 100% commercial, but the property’s website features future apartments (planned).

The plaza is located on Route 28, which has high traffic volumes but no bicycle accommodations or sidewalk access. Pedestrian amenities include a partially covered sidewalk connecting all commercial spaces on the site but no pedestrian accommodations from Route 28. The modest scale of the plaza and the proximity of businesses encourages walking between businesses. Parking is located in an un-landscaped lot in front of the building (between Route 28 and the building).

The building is in good condition with some recent renovation work visible (updated roof, siding), and a second story over part of building. Buildings have sloped roof forms (some with solar panels) with exterior brick and wood siding. A clock tower is visible and ample display windows along the sidewalk provide interest to the building facades. There is minimal landscaping along the entrance though some in front of the building and sidewalk. The pavement and markings are in good condition.

The surrounding area includes Route 28 and other commercial developments adjacent and across the roadway, most with buildings modest in scale.

Ace Hardware/Seatoller Plaza, Eastham

Types of uses include hardware, several small retail and office spaces, and one restaurant. Two residential duplexes about 1,500 sf each (4 units total) are located in detached buildings in the rear (on Massasoit Road) and are not considered part of the typology. There are 10 businesses in total in two groups of connected buildings occupying the plaza.

Buildings are mostly a single story and have pitched roofs and wood clapboard/shingle siding. There are clusters of smaller pitched roof forms that are mostly residential in scale. The buildings and grounds are in good condition.

Pedestrian amenities include a sidewalk in the Route 6 ROW which allows accessibility to the front of the plaza. There is also a rear entrance to Massasoit Road which is a local road that is bike and pedestrian friendly and connects to the adjacent residential neighborhoods behind the plaza. The parking lot, a single row of spaces, is in front of the building. The site is visible from Route 6, which is characterized by moderate-size commercial developments in this area, but this example is set back from the roadway at a higher elevation so its parking is less visible.

LARGE COMMERCIAL PLAZAS

Harwich Commons, Harwich

Types of uses include a bank, large grocery store, personal services (dentist, hair salon, physical therapy), and retail shops. The grocery store (Stop and Shop) is the anchor building, with other uses in four smaller buildings. One commercial space was vacant. Businesses are primarily year-round.

The buildings and grounds are in good condition with well-placed, attractive landscaping that breaks up the parking lot into smaller sections. The large parking areas are screened from the main roadways by the smaller buildings. Which are mostly in traditional Cape forms with a modest scale, pitched roofs, and several smaller massings.

The plaza is located at the intersection of Route 137 and Route 39, which is a heavily commercial area with commercial plazas extending both north and south on Route 137. Sidewalks along the roadways connect to the site, with vehicular entrances from each road. The site is accessible by bike and on foot, with a bus stop at the grocery store.

FESTIVAL PLAZA, HYANNIS

Types of uses include a large supermarket, large retail (Hobby Lobby, Home Goods, Pet Smart, etc.), discount retail (Dollar Tree, Bob's Discount Furniture, etc.), small retail (Vitamin Shoppe, Aveda, UPS store, etc.), and personal (fitness, massage, hair salon) and medical (health care, eye care, dental) services. The plaza contains five buildings (one large, connected mall structure, four separate smaller structures) with a total of 22 businesses and one vacant space. All of the uses are commercial.

A large central parking lot, with trees along internal roadways, is located between the buildings and Route 132. The only pedestrian amenity is a sidewalk at the front of the stores and at one of the entrance drives but there are none within the parking area.

All buildings are one-story (except the mezzanine above the supermarket) and are mostly in good repair with large, blank masonry walls between large retail uses. Some buildings (Dollar Tree and Home Goods) look older or outdated,

The surrounding area includes the Route 132 commercial corridor and adjacent commercial plazas. It has high traffic volumes and few bicycle and pedestrian accommodations.

LIFESTYLE PLAZA

Mashpee Commons, Mashpee

Types of commercial uses include retail, restaurant, and personal service (optometrist, music academy) establishments. Several anchor businesses include national chain stores and a post office. There were three vacant spaces at the time of the site visit: one large space (an entire building) and two smaller tenant spaces (within a larger structure) – all had information posted about future tenants. While national and local chains were prevalent, a row of small-scale, locally owned businesses is present. Many of the small and locally owned businesses had reduced hours for the off-season, but appeared to coordinate open times with adjacent businesses, mostly on weekends. A few buildings on the edge of the property are residential; there are also some residential units above commercial businesses. The ratio of business types is around 60% retail, 27% service, and 13% grocery, restaurants, entertainment and other.

Pedestrian amenities include a bandstand, EV chargers, brick accents on the sidewalks, internal pedestrian walkways within blocks, and plazas.

The whole area, including the buildings, roads, and public spaces, is well maintained with consistent sidewalk and landscape treatments, which seem to be coordinated by its professional management.

Parking is available on-street and within the large lots surrounding the complex.

The site is bordered by Route 151 and Route 28 with adjacent commercial plazas. While the interior of Mashpee Commons is bicycle and pedestrian friendly, the surrounding area is not walkable and site access is autocentric.

COMMERCIAL CORRIDOR

Route 28, West Yarmouth

Types of uses include retail, service, restaurants, and one civic use (post office). Many of the businesses are seasonal and were closed at the time of the site visit. A few modest residential buildings are located along the corridor between the commercial developments. The project team counted several vacancies, including five vacant lots and two vacant commercial spaces in a multiple-business structure. One vacant building contains over 10 spaces for businesses and is planned for redevelopment.

Route 28 is a commercial corridor with high traffic volumes. Pedestrian and bicycle amenities are minimal. The sidewalks on both sides of the road are in fair to poor condition, except for a new bridge and sidewalks near the Parkers River crossing. No foot traffic was observed during the site visit.

Route 28 has no on-street parking. Parking is primarily in front of the buildings, typically with a separate lot and driveway for each business property, and mostly in poor condition.

Most of the businesses along the corridor are small in scale. Several buildings were under renovation, and several were in poor condition. The overall condition of the commercial corridor neighborhood was fair, with little visible activity on a winter day.

The surrounding area includes the Route 28 commercial corridor and single-family residential to the north and south, off of Route 28. Commercial development, including parking lots and multiple curb cuts, characterizes the Route 28 corridor.

INDOOR MALL

Cape Cod Mall, Hyannis

Types of uses include retail (national retail anchors, large and small), entertainment (cinemas, arcade, virtual reality/escape rooms), restaurants (exterior-facing, food court, etc.), and personal services (gym, massage, nails, etc.). There are several anchor stores with both exterior and interior entrances (such as sporting goods, department, and bookstores); the cinema has an exterior entrance that is adjacent to a rear entrance to the mall. Several smaller restaurants and businesses also have exterior entrances along the Route 132 façade of the mall. All businesses are within one central building.

Several stores were vacant, including two empty spaces in the food court, but they were well maintained and decorated with signage to appear active. The building was well maintained, especially along the side facing Route 132. The interior was clean, well lit, and was actively used. Vacant commercial spaces were attractively labeled.

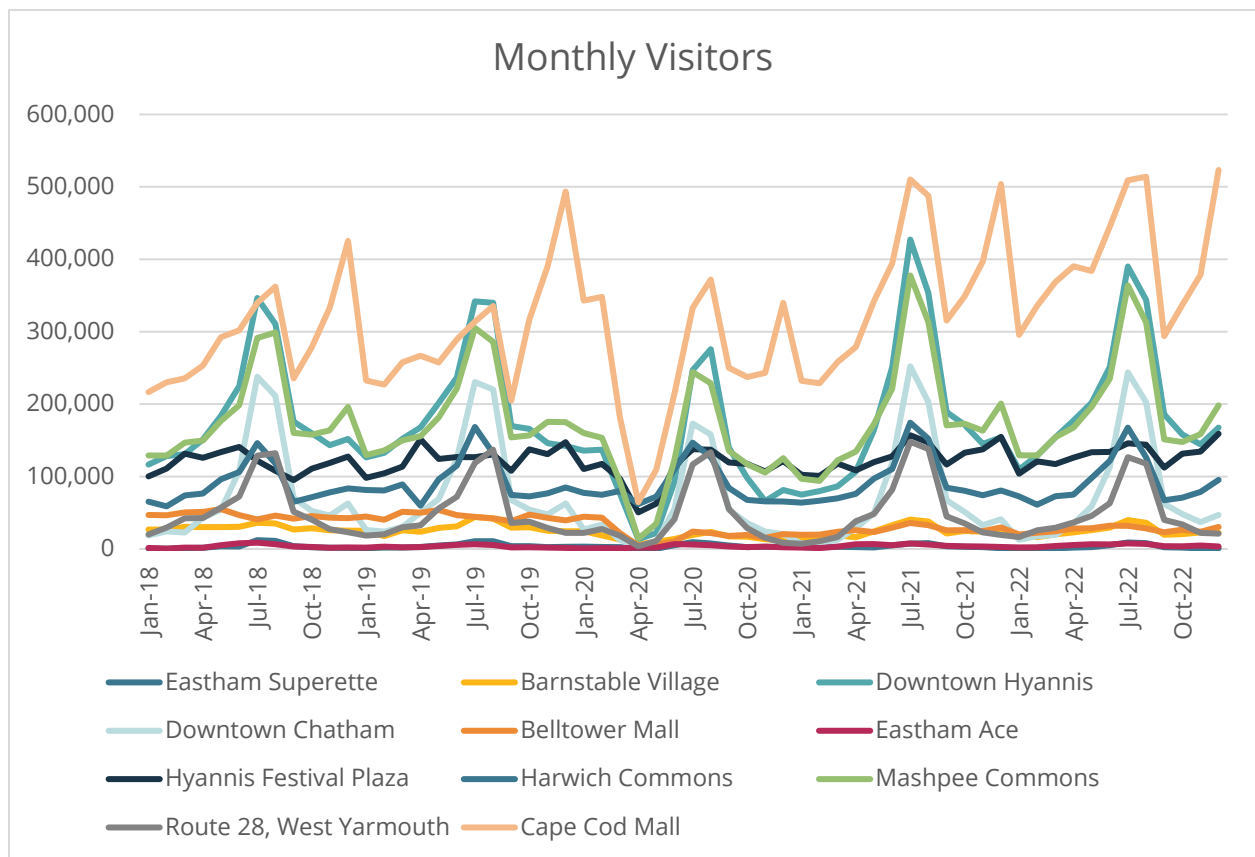
The mall is located between two commercial highway corridors lined with commercial plazas and commercial strips. The site is surrounded by large parking lots. A residential neighborhood is located across the highway to the south. While both Route 28 and Route 132 have sidewalks, the area is primarily auto oriented, with hazardous crossings for pedestrians, and lacks bicycle accommodations. The mall is located on a bus route.

CELLPHONE VISITATION DATA

Commission staff analyzed cellphone visitation data from the platform Placer.ai to try to discern if there were different patterns in visitation to commercial and mixed-use developments before and during the pandemic. This included looking at the number of visitors weekly, monthly, by season, and by square foot for each of the example types, as well as identifying where the pandemic impacted visitation patterns.

All of the developments showed some seasonality in their visitation, reflective of the Cape's seasonal economy. The COVID-19 pandemic strongly impacted retail in the spring of 2020 when non-essential businesses were forced to close. As a result, visitation to all development types dropped during that period. However, based on the cellphone visitation data, the number of estimated visitors to the

selected locations in this study rebounded during the summer of 2020, once all types of businesses were allowed to reopen. In many cases, visitation was higher than the summer of 2019, before the pandemic. While staff's initial hypothesis was that some development types would have fared better than others during the pandemic, what became apparent instead in the cellphone visitation data was a different phenomenon: the Cape Cod region experienced increased overall visitation and activity after the initial closure of businesses in spring of 2020, across all locations. That pattern reflects the increase in activity and visitors in the region during the summer of 2020 and continued through the following year with an even higher increase during the summer of 2021 as people sought out places with outdoor and recreational amenities, where socializing and recreating was safer. This was also supported by many of the interviews, during which it was noted that several businesses saw their busiest summers yet over the past few years.



Due to the nature of the of the COVID-19 virus, there was a preference for outdoor activities and venues during the early stages of the COVID-19 pandemic. Given this, a drop in activity for the only fully indoor location assessed in this analysis—Cape Cod Mall—would be expected. However, after a detailed analysis of this and all the other selected locations, between the spring of 2021 and the end of 2022 (once vaccinations were widely available), there was no significant correlation between the

weekly number of total COVID-19 cases, new COVID-19 cases, or changes in the number of COVID-19 cases, and the number of visitors to the different retail locations included in this study.

Rather, the data indicated that weather and seasons more likely explain visitation activity. Seasonality played a role in visitation for all types, as seen by the spikes in visitation in the summer months, but some locations were more strongly influenced by seasonality than others.

INTERVIEWS SUMMARY

Interviews were conducted with town staff, business owners, developers, and other local professionals familiar with the developments and types of developments identified initially to gain a better understanding of what helped commercial and mixed-use developments survive, even thrive, throughout the pandemic.

Most interviewees generally agreed that throughout the pandemic, restaurants, and other food establishments like grocery stores, fared better than other commercial use types given that they fulfill a critical need. Restaurants that were flexible in how they operated, like establishing accessory outdoor dining spaces, providing short-term pick-up parking, switching to online ordering, and adding a delivery option, were better able to adapt to pandemic-related changes and in some cases even led to positive impacts on operations.

In some locations, the switch to providing outdoor dining coincided with an increase in pedestrian-oriented changes to the streetscape like shutting down streets to cars, providing more bike lanes and traffic calming measures, putting up barriers, creating parklets out of parking spaces, and more. Some of these changes have become permanent and have placed more of a spotlight on planning for walkability. With greater pedestrian amenities, it was noted that more people want to live in walkable areas; having housing in close proximity to the businesses helped ensure they had a strong customer base throughout the pandemic.

A larger issue for all commercial businesses post-pandemic has been a lack of available workers. Staffing for restaurants has been especially difficult. Interviewees believed that because housing prices have increased so dramatically, potential workers cannot afford to live on the Cape. In some cases, this has meant that businesses have put off opening for the summer season or are closed during school holidays because they cannot find staff. One interviewee said that the staffing problem has been more acute during the summer season and for seasonal businesses, while year-round businesses were less severely affected.

Businesses that were already struggling pre-pandemic tended to be less successful and were more likely to go out of business. Multiple interviewees also mentioned that the visibility of a business was important in its success – if it could be seen from the street then it had a better chance of success. In addition, interviewees noted that business longevity, being a known local entity, as well as

uniqueness (providing something that no one else in the area offered), also helped businesses succeed through the pandemic.

Interviewees noted that there has been a large increase in demand for small-scale office space and commercial space, and less demand for larger spaces. The inventory for both types of commercial space is extremely limited since the pandemic absorbed office space that had previously been numerous. There is also little retail space available for new businesses and for current businesses, physical expansion is extremely difficult due to the scarcity of available space. Combined with staffing problems, even those businesses who did well during the pandemic are facing real challenges as businesses or spaces that are for sale are selling very quickly.

An overarching theme from the interviews was that flexibility, in terms of physical spaces and characteristics, as well as in terms of operations, was important in businesses adapting and surviving, or even thriving, throughout the pandemic.

List of Interviewees

- Elizabeth Wurf Bain – Executive Director of Hyannis Main Street Business Improvement District
- Katie Donovan – Chatham Director of Community Development
- Paul Lagg – Eastham Director of Community Development/Town Planner
- Lauren Barker – Eastham Economic Development Planner
- Darin Krum – Owner of Ace Hardware/Sea Toller Plaza in Eastham
- Sarah Wilcox – Owner of Eastham Superette
- Tom Feronti – Mashpee Commons
- Kevin Pepe – Commercial Real Estate Agent

Best Practices

Throughout this study, some of the key aspects of commercial and mixed-use developments that helped businesses during the pandemic included the flexibility of space and supporting or enhancing existing village center and downtown features. Additionally, in fostering mixed-use developments that can support businesses in the long-term, and through unanticipated economic shocks, some of the overarching principles include allowing for housing above commercial establishments and to the rear of lots (which can also help provide a stable customer base for proximate businesses), ensuring active commercial uses are in the area, and allowing for reduced parking requirements with flexibility in how that space is used. Context-specific best practices for each commercial or mixed-use type follow. A mixed-use model bylaw is also available for communities. It provides a guide to its use and communities can tailor it for targeted areas to encourage vibrant mixed-use spaces in their town.

NEIGHBORHOOD HUB

- Allow residential on upper floors or allow a certain percentage of building square footage to be used for housing. Neighborhood hubs are often surrounded by neighborhoods comprised mostly of single-family homes. Allowing apartments can support housing diversity and provide financial flexibility for the business owner.
- Encourage small grocery and/or restaurant uses. Food stores were among the most resilient uses during the pandemic. Having food stores within walking distance or a short drive supports walking and bicycle travel, reducing car trips.

VILLAGE CENTER

- Allow flexibility in uses and a mix of residential and commercial uses and spaces.
- Design spaces that can be flexible and can be easily divided into smaller spaces for multiple tenants, each with façade area and shared or separate entries.
- Provide outdoor spaces to accommodate seating and service options beyond the interior space.

DOWNTOWN

- Allow flexibility in uses and a mix of residential and commercial.
- Design spaces that can be flexible and can be easily divided into smaller spaces for multiple tenants, each with façade area and shared or separate entries.
- Provide outdoor spaces to accommodate seating and service options beyond the interior space.
- Address the need for employee housing by considering including provisions for some dorm-like housing options for seasonal workers or year-round employees.

COMMERCIAL STRIP PLAZA

- Require enhanced pedestrian amenities.
- Move buildings closer to the street and remove parking from in front of the building.
- Allow a mix of residential and commercial uses, with commercial uses prominent and fronting on the street.
- Allow flexibility in uses and a mix of residential and commercial.
- Design spaces that are flexible and can be easily divided into smaller spaces for multiple tenants, each with façade area and shared or separate entries.
- Connect to bicycle network.
- Reduce parking areas.

LARGE COMMERCIAL PLAZA

- Require enhanced pedestrian amenities.
- Develop frontage buildings with commercial uses on the ground floor and residential above.

- Allow a mix of residential and commercial uses, with commercial uses prominent and fronting on the street.
- Allow flexibility in uses and a mix of residential and commercial.
- Design spaces that are flexible and can be easily divided into smaller spaces for multiple tenants, each with façade area and shared or separate entries.
- Address the need for employee housing by considering including provisions for some dorm-like housing options for seasonal workers or year-round employees.
- Connect to bicycle network.
- Reduce parking areas.

LIFESTYLE PLAZA

- Allow flexibility in uses.
- Design spaces that are flexible and can be easily divided into smaller spaces for multiple tenants, each with façade area and shared or separate entries.
- Allow a mix of residential and commercial uses, with commercial uses prominent and fronting on the street.
- Connect to bicycle network.
- Reduce parking.

COMMERCIAL CORRIDOR

- Require enhanced pedestrian amenities.
- Connect to bicycle network.
- Move buildings closer to the street.
- Remove parking from in front of the building.
- Connectivity between properties.
- Allow a mix of residential and commercial uses, with active commercial uses prominent and fronting on the street.
- Focus retail uses into smaller nodes that are surrounded by mixed use and residential development at walkable distances

INDOOR MALL

The indoor mall is a unique typology in the region, and while it is unlikely more malls will be built there are still some best practices to keep in mind for this type of development.

- Require some active uses with an outside presence along the main façade.
- Allow housing/mixed use on site or nearby.
- Enhance pedestrian amenities and connections to nearby residential areas.

Appendix A: Literature Review

LONG-TERM TRENDS AND SUCCESSES, CHALLENGES, AND ROLES OF MIXED-USE DEVELOPMENT

WHAT IS MIXED-USE DEVELOPMENT?

There is no single agreed upon definition for mixed-use development, and even though it appears frequently in urban planning literature, it is not usually defined (Grant, 2002) (Hoppenbrouwer & Louw, 2005). This is partly due to the fact that it can come in many shapes and sizes, and can vary in building form, tenant mix, and intensity of use. Mixed-use can be evaluated by spatial scale - including on the city, neighborhood, and project level, by form or pattern, by design, and by environmental context, exhibiting the fact that there is no one way to determine the success of this type of development.

The varying definitions of mixed-use development have included: “a deliberate mix of housing, civic uses, and commercial uses, including retail, restaurants, and offices” (Un, 2017), a “project or geographical area with two or more primary revenue-generating land uses” (Shen & Sun, 2020, p. 28), and “three or more significant revenue-producing uses that are significantly and functionally integrated and developed in conformance with a coherent plan” (Rabianski et al., 2009, p. 206). Blackson describes mixed-use as “multiple functions within the same building or the same general area through superimposition or within the same area through adjacency... from which many of the benefits are... pedestrian activity and traffic capture.” He continues by saying that mixed-use creates pedestrian-oriented places that combine compatible land uses, public amenities, and utilities at different scales and intensities which allows for people to live, work, and play in one place, drawing people from other communities (2013).

A more detailed and comprehensive definition was created in 2006 when the International Council of Shopping Centers, Inc. (ICSC), the National Association of Industrial and Office Properties (NAIOP), the Building Owners and Managers Association International (BOMA), and the National Multi Housing Council (NMHC), came together to create an industry-wide, comprehensive definition of mixed-use based on a member survey that received over 1,000 respondents: “A *mixed-use development is a real estate project with planned integration of some combination of retail, office, residential, hotel, recreation or other functions. It is pedestrian-oriented and contains elements of a live-work-play environment. It maximizes space usage, has amenities and architectural expression and tends to mitigate traffic and sprawl*” (para. 3).

In addition to applying uses as a defining factor, mixed-use can also be defined by its spatiality. For example, in the Montgomery County, Maryland, planning department's study of mixed-use development trends, attention was specifically focused on *vertical* mixed-use, and that its most common configuration took the form of residential above retail in a single building and on a single parcel. However, the department did recognize that this was different than the *horizontal* form of mixed-use which they defined as different uses placed alongside one another on separate parcels (Holdzkorn & McCarthy, 2021).

The definition of mixed-use, as well as the terms used to describe how it operates, can differ between countries as well as across academic and professional fields. For example, an urban economist may conceptualize mixed-use as different types of land uses in the same location, which could be a parcel, block, or area of a city, while developers may conceptualize it as the integration of multiple types of uses in a single development project (Shen & Sun, 2020).

On the surface, the definition of mixed-use development would seem to be straightforward, but due to the multiplicity of its definition and the methods it has been evaluated by as well as the limited literature on its economic success or failure makes mixed-use development a complex topic (DeLisle & Grissom, 2013) (Grant, 2002) (Rabianski & Clements, 2007) (Rabianski et al., 2009) (Shen & Sun, 2020).

TRENDS AND COMPONENTS OF MIXED-USE DEVELOPMENT

The lack of agreement on a definition or use composition of mixed-use development is not due to the newness of the concept. Mixed-use has been part of the urban landscape for centuries with examples as early as the Greek agora and medieval market squares (Witherspoon et al., 1976). Many of the large cities that we have now were built upon smaller and more dense mixed-use urban fabrics that exhibit some of the same characteristics that planners today are trying to promote in mixed-use projects.

Mixed-use development has been widely advocated by planners as a tool for sustainable development. Some common perceptions of its benefits include generating neighborhood diversity and vitality, encouraging non-motorized transportation, environmental and infrastructural sustainability, enhancing accessibility, and supporting a variety of housing choices (Jacobs, 1961) (DeLisle & Grissom, 2013). However, holistic discussions on how mixed-use development is affected by various social and economic factors is somewhat absent from the literature, since many studies tend to focus on one aspect, like form and physical configuration (Shen and Sun, 2020).

Like the definition of mixed-use, its proposed components vary widely within the literature. The variation of concepts, uses, and forms of mixed-use development are extremely wide reaching, and each component has been used as the defining feature to describe the essence of mixed-use.

Concept

The concept of mixed-use development was meaningfully introduced into the planning literature lexicon by Jane Jacobs in her seminal 1961 book *The Death and Life of Great American Cities*. In the book, Jacobs extols the benefits of mixed-use when she argues that a fine-grain mix of diverse uses makes a vibrant and successful neighborhood. She lists four conditions to generate diversity in an area: 1) *The area must serve more than one primary function so that people use the area for different purposes at different times of the day*, 2) *The area must have short blocks – street intersections and opportunities to turn corners are readily available*, 3) *The area must have a combination of older and newer buildings*, and 4) *The area must experience a dense concentration of people who are there for different purposes including those who live in the area* (1961).

Rabianski et. al. contends that the “conceptual model of mixed-use development shows that it is a combination of urban texture (how fine the grain, density, and permeability), setting or scale (building, block, street, district), and location (town center, urban, suburban, greenfield) that includes a time dimension” (2009, p. 207).

According to Hoppenbrouwer and Louw, another way to view the concept of mixed-use is from a spatial perspective, with a typology organized by function, dimension, scale, and urban texture. In their review of Hoppenbrouwer and Louw, Rabianski et. al. summarize the four dimensions of “*point* (shared premises), *vertical* (multiple uses in one building), *horizontal* (multiple uses on the ground), and *time* (sequential use). Thus, the scale can be at the building, block, district, or city level. The degree of mixing (texture) can be measured by grain, density, and interweaving of functions. They suggest that the typology could be extended to type of location (town center, suburban, rural) and classifications within each land use” (2005) (2009, p. 207).

In a 2013 study, over 200 articles (written in the last 50 plus years) were systematically reviewed to offer a more complete understanding of the key elements of mixed-use projects based on the discourse in the literature. Seventy-eight of those articles were evaluated based on how thoroughly they provided detail on defining elements of mixed-use projects and whether they cited at least five deterministic variables of these types of projects. Eleven variables were identified at the conclusion of the study: growth management, urban form issues, land use issues and relationships, access measures and constructs, sustainability concerns, economic development issues, policy objectives and regulatory constraints, market constraints and measures, project and development scale, operations, options, and measures, project and financial issues and measures. The authors found that the topic of *land use* was a consistent variable and area of concern and that the interest in *urban*

form and scale drastically increased over time (DeLisle & Grissom, 2013). This study shows how the concepts of what mixed-use is, and what its defining elements are, changes over time.

Jill Grant, in an article exploring the theory and practice of mixed-use, claims that there are three levels to the concept. The first is *increasing the intensity of land uses* by improving the range of residential choices through a mix of forms and tenures and in effect increase overall density. Second is *increasing the diversity of uses* by encouraging a compatible mix which could generate synergies and avoid conflict. For example, adding high-density residential to commercial and office spaces may be compatible if the residents visit or work at those businesses. The third involves *integrating segregated uses*, by bringing together different categories of uses in a way that is compatible (2002).

The concept of mixed-use also includes the dimension of time. Mixed-use development is “commonly interpreted as involving different uses occupying discrete parts of a building, block or area; as a result people come and go for differing reasons and on varying time-schedules” (Rowley, 1996, p.1). For example, “a school can be used as a community centre in the evening and a theatre can be used for conferences during the daytime and as a cinema in the evening” (Hoppenbrouwer & Louw, 2005, p. 971).

The Oregon Department of Transportation came up with different mixed-use and commercial zones in their *Commercial and Mixed-use Development Code Handbook* due to a lack of standardized zone districts. There were:

- **Downtown and Main Street:** a typical downtown area, 4 to 5 block main street commercial district. Usually the historic commercial “heart” of a city and contain a mix of residential and commercial uses
- **Neighborhood Center:** small and large centers less than 1 acre and up to 10 acres. Size and density depend on population served. Mix of commercial and residential
- **Community Commercial Center:** large, greater than 10 acres. Variety of discount and department stores, entertainment, services, and sometimes housing
- **Corridor:** commercial area that has developed a linear pattern along a highway or arterial street. Outside of downtown, main street or neighborhood centers. Objective around corridor is to retrofit them with development nodes around planned centers (Oregon Transportation and Growth Management (TGM) Program, 2000)

In a report examining the commercial and mixed-use development landscape in the Rocky Mountain West, the Sonoran Institute characterized trends in commercial real estate and identified regional challenges and opportunities for mixed-use development. They also came up with different forms of mixed-use and commercial development:

- 1) Mixed-use
 - a. Vertical
 - b. Horizontal
 - c. Lifestyle Center

- d. Historic Urban
- e. Main Street Commercial
- f. Complete Neighborhood
- g. Live/work Units
- 2) Single-use Commercial
 - a. Big-box Store
 - b. Power Center (“A retail center dominated by several anchors, often big-box stores,” p. 12)
 - c. Strip/Convenience Center (2014)

The preceding viewpoints of, and approaches to, elements of mixed-use development are neither wrong nor right, nor do they individually explain the complexity of this type of development. Together, however, they demonstrate that there is no one-size-fits-all method for implementing mixed-use.

Uses

The types and mix of uses in mixed-use development are the most frequently mentioned components within the literature. It is often suggested that mixed-use tends to increase combinations and interactions—physical, social, and visual—that support urban vitality and quality (Hoppenbrouwer & Louw, 2005). A well-known example is Jane Jacobs, who makes a distinction between mixed primary uses and mixed secondary uses (*primary* and *secondary* are common terms in the literature). Primary uses, like residential and major employment or service functions, generate a large amount of people moving through an area and produce demand for secondary uses like shops, restaurants, bars, and other small-scale facilities. This results in movement between the uses at different times throughout the day and leads to a better distribution of demand over the day, increasing interest and diversity (1961).

According to Rabianski and Clements, the literature uses two terms to describe the uses in mixed-use developments – a “cornerstone use” and a “dominant use.” The cornerstone use is “the most viable and profitable use [and] drives the development concept as well as the decisions about the suitability and compatibility of the other uses in the project” while the dominant use is the use that takes up the most space (2007, p. 5).

In a study for the Maryland-National Capital Park and Planning Commission (MNCPPC) Montgomery Planning Department about the development of mixed-use properties in the county in the last decade, the firm HR&A Advisors Inc. concluded with some common mixed-use characteristics: “Mixed-use buildings [are predominantly] anchored by residential, followed by office, with ground floor retail generally as the secondary use. Mixed-use is mainly developed in already existing commercial nodes near transit and highly walkable areas” and that “mixed-use projects are mostly mid-rise (4-14 floors)” (HR&A Advisors Inc., 2021). A national study of mixed-use trends between

2010 and 2020 found that mixed-use development is “predominantly anchored by residential uses with ground floor retail as the secondary use” and that the scale is mostly mid-rise in form (Holdzkom & McCarthy, 2021, p. 2).

That same study showed that mixed-use developments made up nearly 50 percent of new commercial and multifamily developments which they found was consistent with national trends - that mixed-use projects are becoming more common than single use (Holdzkom & McCarthy, 2021). In addition, the firm HR&A Advisors Inc. concluded that, for Montgomery County, “Emerging mixed-use typologies differ from the primary use/ground floor retail model, often pairing a typical primary use with a non-retail co-primary, secondary or tertiary use. Examples of atypical mixed-use include office buildings paired with industrial makerspaces, senior living communities with assisted living services, live-work developments, urban agriculture on building rooftops, and gallery spaces with attached studios” and that “Primary uses within the 61 recent mixed-use projects are most often residential or office, with retail as the secondary use (2021, p. 8).

This suggests that new mixed-use projects shouldn’t necessarily rely on the “ground-floor retail with residential above” approach, acknowledging that mixed land use involves increasing the diversity of uses within the fabric by encouraging a compatible mix, which is by no means beholden to the “retail and residential” combination. Uses must generate synergy, not create conflict, but finding that specific mix depends on the project (Grant, 2002).

The “primary and secondary use” typology is also limited because there is not one definition of each use that is used consistently across the literature. Jacobs specified primary vs. secondary uses in her book based on differences in patronage and movement where Rabianski and Clements use terms like “cornerstone vs. dominant” based on profitability and spatiality, while the D.C. Policy Center’s study of the city’s most pandemic-resilient neighborhoods used mixed-use to mean the mix of buildings in a neighborhood based on solely on their *primary* use (1961) (2007) (McConnell, 2021).

Form

The spatial form that a mixed-use development can take is extremely variable. When described in the literature, the texture (grain or density), and the scale (building, block, etc.) are commonly mentioned to explain the varying forms of mixed-use.

Rowley’s comprehensive conceptual model of mixed-use development shows that “it is a combination of urban texture (how fine the grain, density, and permeability), setting or scale (building, block, street, district), and location (town center, urban, suburban, greenfield) that includes a time dimension” (Rabianski et al., 2009, p. 207) while Blackson categorizes mixed-use as either: A) vertical mixed-use buildings, which combine different uses in the same building; B) horizontal mixed-use blocks, which combine single-use buildings on different parcels with a range of land uses within one block; or C) mixed-use walkable neighborhoods, which have many different variations but

generally combine vertical and horizontal use mixing in an area ideally within a 5 to 10 minute walking distance; focusing primarily on *scale*, starting with the building, then block, and ending on the neighborhood scale (2013).

Rabianski and Clements get slightly more specific with their forms when they contend that mixed-use development takes four general forms: 1) a single high-rise building on a single site with two or more uses in the building usually with retail on the ground level with office space above and residential above that, 2) two or more high-rise buildings on a single site with each structure a different use (office, residential, hotel combination) with possible retail on ground floor, 3) combination of low-rise structures on single site with retail on ground level with residential units above in one building and office above in another, 4) single mid-rise building on single site in urban setting with retail on ground level and residential or office above (2007).

Jacobs focuses on the urban fabric, or grain, when she advocates for a fine-grain mix of diverse uses and for medium to high residential densities between 100-200 units/acre to maintain vitality in cities (1961). In planning literature, the *grain* can refer to both urban form and the economy. In terms of form, a coarse-grained urban fabric would include large blocks and large buildings, reducing opportunities for social interaction, while a fine-grained fabric encourages social interaction through small blocks with intersections in close proximity. In terms of the economy, fine-grain would refer to a fabric made up of many small businesses while coarse-grain is made up of a few larger businesses (Price, 2017).

Hoppenbrouwer & Louw define grain as “the size of the urban block and the subdivision of the block” and that the notion of permeability refers to “good urban development [that] allows a ‘democracy’ of choice in pedestrian movements through it, as derived from the layout of roads, streets and paths (2005, p. 972). It has been suggested that the best development practices mix the finest grain the market will bear, but that the degree of mixing depends on the local market characteristics (Grant, 2002).

BENEFITS OF MIXED-USE

The benefits of mixed-use development have been discussed at length in planning literature for years. Some benefits include:

- Generating neighborhood diversity and vitality
- Encouraging non-motorized transportation
- Environmental and infrastructural sustainability
- Enhancing accessibility
- Supporting a variety of housing choices
- Convenience of live-work-play options in a single location
- Satisfying the desire to live in more of a small-town (e.g. "Main Street") environment

- Reducing traffic congestion (Jacobs, 1961) (DeLisle & Grissom, 2013) (Rabianski & Clements, 2007).

Social reasons to encourage mixed-use:

- Reducing the need for travel and thereby reducing traffic congestion
- Increasing vitality, preventing crime, and promoting security through intensity of use throughout the 24-hour period
- Creating a variety of different buildings and spaces that can contribute to visual interest
- Making urban areas more attractive places to live
- Promoting more efficient and intensive use of space, thereby protecting the countryside from urban sprawl (Rabianski et. al., 2009, p. 210).

Further advantages of mixed-use include:

- Creates an urban environment active at all hours, making optimum use of infrastructure
- Smaller, post-baby-boom households can have a greater range of options
- Mixing housing types could increase affordability and equity by reducing the premium that exclusive, segregated areas enjoy
- Providing housing near commercial and civic activities could reduce the dependence of the elderly and children on cars
- Enabling people to live near places where they can shop, work, or play could reduce car ownership and vehicle trips, increase pedestrian and transit use, and thus alleviate the environmental consequences associated with automobile use (Grant, 2002).

CHALLENGES AND DISADVANTAGES OF MIXED-USE

Both proponents and opponents of mixed-use realize that there are many challenges to implementing this type of development. Based on the extensive literature review that Rabianski et. al. undertook to better understand the existing information on mixed-use, they came up with the following factors that both encourage and discourage this type of development:

- 1) **Regulation:** Rabianski et. al. describe what the complicated process may look like when they say that “Before development can begin, the project must gain approval from local regulators under a variety of zoning, conditional use permit, variance requirements and then follow different building codes for each use. Residential uses above retail often have to meet commercial standards for handicapped accessibility, fire safety, and mechanical requirements. If multiple uses are going to share mechanical and fire safety systems, then the entire project may need to be completed simultaneously to obtain certificates of occupancy for any portion of the project...” They also cite a 2004 survey of U.S. developers that showed the most common barriers to expansion of alternative developments (like mixed-use) to be regulation (78%) and neighborhood opposition (60%) while according to the

2006 BOMA, ICSC, NAIOP and NMHC survey, top challenges developers face are “assembling the land, maneuvering through zoning regulation, and managing the financial challenges of a sequenced roll-out of the parts of the development” (2009, pp. 209-210)

- 2) **Tenure:** Leases can become complicated due to the various types of occupants who pay for the parking, utilities, and common areas. This could cause conflict between residential and commercial tenants over allocation of operating costs. To minimize conflict, separate and duplicate technical systems could make operating expense recovery easier for the manager, but may also add to construction costs (2009, pp. 210-211)
- 3) **Financial Return:** Developers are interested in adequate financial return and rising land cost in urban areas can be a reason that developers are interested in mixed-use development. Since mixed-use projects are more complicated, due to multiple owners and lenders, they can be more expensive to build than single-use properties, due to the need to house automobiles in a parking structure which costs more than a surface lot. Construction must reduce conflict between different users such as separate exhaust systems and different building codes... “trends indicate that mixed-use pedestrian-oriented projects are outperforming some single-use projects in terms of lease rates, rents, residential sales, and retail sales, which will lead to higher medium- and long-run return; however, they do not provide any empirical evidence” (2009, pp. 211-212)
- 4) **Diversification and Risk:** It has been debated whether mixed-use development provides diversification which, as a result, lowers overall risk relative to return compared to single-use developments on a similar scale. Rabianski et. al. cite a 2006 survey by BOMA, ICSC, NAIOP, and NMHC where 70% of the respondents rated mixed-use projects as more risky than single-use projects due to higher construction costs and longer construction time. It is also thought that mixed-use projects are riskier due to the complexity of developing and connecting different uses. They point to further studies that suggest that “mixing uses diversifies risk by reducing reliance on a single market sector” and that “in an uncertain market in which the different uses are not highly correlated, mixed-use diversification should decrease risk to the developer” (2009, p. 213)
- 5) **Design and Planning:** A potential conflict is the parking demand among the different users of the mixed-use project. The hope is that peak parking demand is staggered enough to reduce the total amount of parking that would be required for each use individually. Even the success of a mixed-use development can create conflict by being busy at all times throughout the day. For example, retailers may want access to busy roadways and to attract as many people as possible, which can create a noisy environment, while residents may want a quieter environment with less constant movement of customers (2009)

In addition, some have reported the following (untested) causes of mixed-use develop failures:

- Unclear business plan
- Poor timing and inflexibility

- Ownership conflicts
- Incomplete capital plan so no long-term financing
- Untapped public/private benefits
- Following letter of the law rather than negotiating to meet intent
- No exit strategy
- Lack of street presence, and
- Insufficient or inappropriate parking allocations (Rabianski et. al., 2009, pg. 222).

In talking specifically about the drivers of success and failure regarding ground floor retail, Holdzkom and McCarthy found that:

- Mixed-use developments near, or within, already vibrant areas succeed better than those situated in more remote locations or on back-streets. Connectivity and customer attraction are more difficult when buildings are near large, vacant areas or parking lots...the vacancy of ground floor retail is considered a “negative amenity,” behaving similarly to vacant areas and parking lots,
- While retail can act as a demand driver for residential, blanket retail requirements can have mixed results, particularly if the developer doesn’t really know the appropriate retail market,
- There will likely be continued vacancies in ground floor space, as typically used, due to the changing relationship between ground floor retail and COVID-19...there could be potential opportunities to reconsider these typical uses for things such as alternative workspaces like coffee shops or co-workspaces. There are even opportunities for the growth of retail in more residential neighborhoods (2021, pp. 2-3).

According to Rabianski and Clements, some developers believe mixed-use projects diversify risk across the uses while others believe that the “added financial and physical complexity of a mixed-use development heightens the uncertainty associated with the project and thereby increases the level of risk.” They believe that the financial success of mixed-use projects depends on:

- A faster time to build out and lease up the project,
- Minimizing the outflow of funds,
- Maximizing and mixing uses that is cognizant of market conditions, opportunities, and economics.

Additionally, mixed-use developments may have to contend with:

- Involves planning, management, political patience, capital resources and risk
- Assembling land parcels
- Inadequate capital planning
- Lacking knowledge of available public/private benefits
- Maneuvering through zoning regulations
- Addressing environmental issues
- Working with planning agencies

- Working with the community
- Working with multiple development teams
- Working with multiple owners
- Securing project finance/capital
- Addressing transportation issues
- Designing parking
- Designing a pedestrian-friendly environment
- Managing the financial challenges of a sequenced roll-out of project parts (2007, pp. 15-16).

Research challenges

Determining the true efficacy of mixed-use, especially along quantitative economic markers, is difficult due to the following reasons: First, the diversity of mixed-use projects in their form, intensity, use-mix and more made it hard to compare different projects; Second, the ambiguity of public records meant that qualitative descriptions rather than standardized classification codes meant that analyzation was based more on descriptive attributes; Third, data mapping challenges made linking a physical structure/building to its individual components complicated; Fourth, limited longitudinal data meant that, after a mixed-use project was identified, enough information on the description of the overall project as well as its individual components had to be available; and lastly, the extremely varied, small-scale, mixed-use combinations that exist make it difficult to adequately analyze both primary and subordinate uses, where the subordinate use (commercial for example) is marginal compared to the primary use (residential) making it hard to gather longitudinal data (2013, DeLisle and Grissom).

FINDINGS AND SUCCESSES

It seems that there is no one ideal mixed-use development. Each project must consider existing surrounding uses, local market and economy trends, and financial feasibility of all parties involved. Based on their analysis of the literature, Rabianski et. al. found studies on different aspects of mixed-use projects including “resident usage and satisfaction with the development, transportation choices, financial returns, and the influence of mixed uses on the surrounding community,” but few empirical analyses of mixed-use (2009, p. 215).

In their 1976 assessment for ULI, Witherspoon, Abbett, and Gladstone “identify internal dynamism as the essential quality experienced in the best mixed-use developments. This dynamism is derived from concentration and diversity, physical configuration and design, and internal circulation and external access. The scale must be of sufficient size to create a minimum critical mass (gross built area of at least 500,000 sq. ft.) and distinctive market identity, while the density must be sufficient (floor area ratio of at least 3) to allow diverse economic and social activity to take place within an integrated physical configuration (Rabianski et. al., 2009, p. 220)

Many authors rely on developers and owners as experts to identify the characteristics of successful mixed-use developments without any empirical testing of their perceptions. They cite the NAIOP book, *Mixed-Use Business Parks*, which says that “the most important factors for financial success are having a major draw (employers, a university and/or entertainment facilities) and developing the project as part of a master-planned site in an urban location... Successful mixed-use developments contain uses that are compatible and complementary, that create synergy. One key to success in an urban, horizontal mixed-use project is the proper incorporation of all components to create a seamless whole (Koch, 2004). Each use should experience increased sales, rents, or value from the occupants creating demand for the other uses (pp. 220-221).

In their literature review, Rabianski et. al. provide the results of a few experiments that explored consumer preferences for housing within mixed-use developments:

- A 1989 survey for Builder magazine found that two-thirds of home shoppers would prefer a house in a homogenous neighborhood while one-third would prefer a mixed neighborhood containing multiple housing types and nearby commercial activities. The highest preference for the mixed neighborhood was found in the Northeast and mid-Atlantic regions among younger, single, less affluent homebuyers who were considering purchasing a home in a townhouse or mid- to high-rise development,
- A 2007 survey found that 24% of the Atlanta residents surveyed would prefer a neighborhood where they could walk to retail and public buildings even if that meant the houses and commercial areas were within one-third mile of each other,
- Another study could not identify a lifestyle group that significantly preferred mixed-use over an urban or rural community type in Portland, Oregon (2009, pp. 215-216).

The firm HR&A Advisors Inc., in their study for the Maryland-National Capital Park and Planning Commission (MNCPPC) Montgomery Planning Department, found a few common mixed-use success factors:

- Mixed-use development can succeed both by adding to adjacent authentic/older neighborhoods and by using good design and an appealing streetscape to attract shoppers, workers and residents to a new place,
- Larger down-county communities and communities adjacent to rail transit tend to have more successful mixed-use projects, as measured by convenience, walkability and sustainability,
- Ground floor retail that is within or adjacent to already-vibrant areas is much better positioned for success than ground floor retail that is more isolated from pedestrians and other retailers or adjacent to major roadways, vacant land or parking (2021).

They also came up with drivers of success and failure:

- Mixed-use buildings within or adjacent to already vibrant areas are much better positioned for successful ground floor retail,

- Within vibrant areas, fronting on quiet back-streets can harm retail prospects even if vibrant corridors are around the corner,
- Large, vacant areas and parking lots serve as major impediments to connectivity and customer attraction and hamper the success of ground-floor retail,
- It is hard to make walkable retail typologies work on major auto thoroughfares that are not comfortably walkable,
- Ground floor retail is frequently underwritten with very conservative assumptions, which can have negative implications for project financing,
- Vacant ground floor retail is a “negative amenity” that harms other uses within a mixed-use project (HR&A Advisors Inc., 2021)

HR&A Advisors Inc. continues by saying that ground floor retail, based on their study of the county, could be broadened to include other active uses based on their evaluation of the changing retail market and the challenges they’ve see ground floor retailers face who are not already in active, pedestrian-oriented destinations. It may be beneficial to think about retail as just one of many public amenities that are open to the public during regular business hours and that it may be beneficial to use an “active use” designation rather than ground floor retail specifically (2021).

COMPARATIVE PERFORMANCES OF MIXED-USE AND SINGLE-USE DEVELOPMENT

Unfortunately, there is little research of financial performance of mixed-use in comparison to single-use projects which is arguably due to a lack of sufficient data. Despite a renewed interest in mixed-use projects over the past few decades, there is still uncertainty about the success of such projects. This is partly due “to the absence of coverage of mixed-use projects in traditional performance measures (e.g., NCREIF (a provider of performance indices and data for commercial properties) Index, NAREIT (a voice for real estate investment trusts)) [and so it has been] difficult to compare the risk/return profile of mixed-use projects against single-use projects” (DeLisle & Grissom, 2013).

In their 2017 study that estimated walkability premiums on single-family properties, with the goal of explaining how built environment factors may potentially mitigate negative effect from foreclosures, Won et al. found that “walkable neighborhoods tended to be more resilient to the negative spillover effects of foreclosures on property values, but... were more significant in higher income communities...This study also suggests that walkability was more effective in maintaining neighborhood stability during the housing recovery market of 2011–2013 than it was during the housing market crash of 2008–2010...Our findings indicate that neighborhood walkability can help boost recovery from a foreclosure crisis by producing economic benefit and reducing the impact of foreclosure. As a long-term strategy, walkable neighborhoods would seem to enable residents to better utilize community resources to achieve a resilient community” (p. 472).

Rabianski et. al. reviewed a study that compared travel patterns of residents in older mixed-use neighborhoods with modern single-use suburbs in the suburb of Westerville, Ohio. The results of a comparison of residents in the traditional small urban center to those in a conventional suburb showed that those living in the mixed-use neighborhood where the uses were within ¼ mile were more likely to use their automobiles less for trips to retailers than those living in the homogeneous suburban housing development (Rabianski et. al., 2009).

Within the literature, it was rare to come across papers that compared mixed-use areas to single-use areas, especially due to the lack of information on empirical analysis of mixed-use developments. Information about the theoretical benefits of mixed-use in comparison to single-use were much more common, but were qualitative rather than quantitative in nature.

OBSERVED AND ANTICIPATED ECONOMIC EFFECTS OF THE PANDEMIC ON THESE UNDERLYING AND PRE-EXISTING TRENDS

The D.C. Policy Center, an independent 501(c)(3) nonprofit that provides fact-based, unbiased research and analysis, completed a study on the impact of COVID on mixed-use and office markets in the city. Their research teams asked the question, Which types of neighborhoods with a heavy office presence in the District of Columbia have been most resilient to the pandemic? They classified the city's office submarkets, as defined by the Integrated Tax System Public Extract database and the Common Ownership Lots database via DC Open Data, as "office-heavy," "mixed-use," or "other" (typically residential-heavy), based on each submarket's built environment and actual use of buildings (McConnell, 2021). The following observations were made since the beginning of the pandemic:

- More office space has been vacated than leased "with a net absorption loss of 3.3 million square feet between April 2020 and October 2021 [with] the majority of these losses [concentrated] in the city's office-heavy submarkets,"
- Economies in mixed-use areas recovered faster due to their greater concentration of residents. "In Q1 2021, while office-heavy submarkets, on net, accounted for all the city's negative absorption, mixed-use submarkets began to show signs of recovery, with a positive net absorption rate for the first time since the onset of the pandemic. Recovery did not begin for the office-heavy submarkets until Q2 2021,"
- Rents in "mixed-use submarkets have increased by nearly 3% in Q3 2021 relative to Q3 2019, while rents in office-heavy submarkets remain below 2019 levels,"
- The high amount of Class A space in mixed-use submarkets could be a reason for resilience. In mixed-use submarkets, 75% of office space is Class A compared to 60% in office-heavy submarkets. It is thought that Class A spaces will be desirable in the future because of the amenities they offer, like quality air filters and advanced technology. It's suggested that "as

preferences shift from quantity of space to quality of space, the District's mixed-use submarkets are in the best position to accommodate...demand" (McConnell, 2021).

A study by Hong and Choi determined economic resilience from the perspective of local consumption in Suwon, South Korea. They purported that decreased consumption is a common result of pandemics and the study gauged the economic resilience by how quickly regional consumption recovered. They add that the "most widely cited item for the economic impact of the epidemic is the decrease in GDP...due to the combined economic impact of the epidemic" and that due to "the individual economic impacts of infectious diseases, [a] reduction in consumption is widely cited (2021, p. 39).

They found that most countries reported decline in consumption, in particular the service, tourism, catering, and leisure sectors. This, combined with the transfer of consumption to online services, greatly affected local retailers. They also noted that the collapse of supply chains was a major economic impact of the pandemic, which affected many industries (2021).

Based on the results of their study, Hong and Choi came up with three neighborhood types:

- 1) High-resilient neighborhoods (HRN)
 - Had many senior citizens
 - More large-scale detached homes than other areas
 - Between LRN and BFN land-use wise (commercial and residential are "properly" mixed
 - Many low-rise detached homes with low density
- 2) Low-resilient neighborhoods (LRN)
 - More commercial buildings than other neighborhoods
 - Mixture of various uses
 - Many young people
 - Lots of studio-type small houses
 - Many cases of non-family members living together
 - Usually the most vibrant area in the city due to lots of young people and commercial/social activities
 - Found to have low resilience during the pandemic – young people transition to online consumption
 - Recovery was slow due to decrease in social activities and social distancing
- 3) Benefited neighborhoods (BFN)
 - Large population of minors
 - Many households comprised of parents and children
 - Mainly high-density apartments
 - Ratio of residential use is higher than in other neighborhoods
 - Residents normally shop in large commercial facilities far from their home

Hong & Choi found the following conclusions for future planning:

- 1) First, urban characteristics that enhance urban vitality in general situations, such as youth population, various social activities, and land-use mix, can be disadvantageous in a pandemic because it is easy for young people to move their consumption online, and social activities are greatly restricted,
- 2) Second, experiences in pandemic situations may have a positive effect in the long term. In Korea, the problem of local retail stores closing due to their inability to compete with large commercial facilities has been noted. In a pandemic situation, as the preference for large-scale commercial facilities declines, consumption in local retail stores around residential areas is emerging...the possibility of change to sustainable consumption behavior through experiences in pandemic situations is suggested,
- 3) Third, it is necessary to supply urban infrastructure for each neighborhood living area. As seen in the case of HRNs and BFNs, in a pandemic situation, people have the potential to shift their activities of everyday life, such as consumption, to the neighborhood around their homes, and there is a need for efforts from the public sector to sustain and strengthen such positive changes,
- 4) Fourth, the elderly's digital literacy needs to be supported. In HRNs, consumption recovered rapidly, which could be due to the elderly's low accessibility to online shopping (2021, p.22)

Some post-COVID trends and observations that HR&A Advisors Inc. included in their 2021 study about the development of mixed-use properties in Montgomery County in the last decade include:

- Retail is likely to struggle in broad terms, in line with a pronounced national downturn in the sector. A number of retailers and restaurateurs are likely to go out of business and it may take a long time to fill spaces vacated during the pandemic,
- The pandemic may open up opportunities for more daytime retail in residential neighborhoods,
- Increased comfort with remote work may increase the demand for alternative working spaces outside the home (e.g. coffee shops near housing) post-COVID (p. 12).

CONCLUSION

According to Kashef, the term [mixed-use] "has become more of a bandwagon phrase used to invoke the aura of urban vitality that is often associated with traditional cities and most recent Neo-traditional views and New Urbanist developments. However, urban vitality is not simply achieved by placing or sowing these functions in close geographic proximity and inevitably anticipating or harvesting pedestrian activity and street livability" (2021). Moving forward, the term *mixed-use* should detach itself from the hegemony of advocacy pieces that purport social and environmental benefits like reducing traffic, limiting sprawl, and general *live-work-play* taglines and instead consider the specific characteristics of the local environment of each project and consider the financial and economic aspects involved.

Shen and Sun make the point that “there is a disconnection between the theoretical framework of mixed use and the actual measurement of mixed use. On the one hand, many theoretical frameworks are proposed based on case studies and qualitative analysis but have not been tested empirically. On the other hand, existing literature on the measurement of mixed use has been mostly driven by the available data and methodologies but have made limited references to the existing theoretical frameworks. The disconnection has constrained the ability to translate some of the research findings into a more general understanding of mixed-use development. Besides, in the evaluation of mixed-use development, without proper measurements, it is impossible to quantitatively monetarize the benefits and costs” (Shen & Sun, 2020, pp. 11-12).

Additional research on costs as well as economies of scale for mixed-use developments need “further quantification before one can definitively say whether the costs or benefits dominate. The suggested typology of mixed-use developments can be employed to group similar projects with what may be similar construction and operation cost profiles for further analysis. Financial return on mixed-used developments has not been systematically compared to returns available from single-use properties” (Rabianski et. al., 2009, p.225)

WORKS CITED

- Blackson, H. (2013, April 4). *Don't Get Mixed Up on Mixed-Use* | *PlaceMakers*. Placemakers. <https://perma.cc/SPW9-Q3DH>
- DeLisle, J., & Grissom, T. (2013). An Empirical Study of the Efficacy of Mixed-Use Development: The Seattle Experience. *Journal of Real Estate Literature*, 21(1), 25–57. <https://doi.org/10.1080/10835547.2013.12090352>
- Doremus, A. (2023, June 15). *Retail's Ongoing Evolution....* Hanson+Doremus. <https://hansondoremus.com/retails-ongoing-evolution/>
- Freeze, P. (2022, September 15). *Is the Mixed-Use Real Estate Investment Trend Right for You?* Bay Property Management Group. <https://www.baymgmtgroup.com/blog/mixed-use-real-estate-investment-trend/>
- Grant, J. (2002). Mixed Use in Theory and Practice: Canadian Experience with Implementing a Planning Principle. *Journal of the American Planning Association*, 68(1), 71–84. <https://doi.org/10.1080/01944360208977192>
- ICSC: International Council of Shopping Centers, ARDA (American Resort Development Association), BOMA (e Building Owners and Managers Association International), NAIOP (National Association of Industrial and Office Properties), NMHC (National Multifamily. (2006, November 17). *What Exactly is Mixed Use? Four Leading Associations Provide Industry-wide Definition for Mixed-Use Development*. <https://www.icsc.com/>. Retrieved May 12, 2022, from https://www.icsc.com/uploads/research/general/Mixed-use_Definition.pdf
- Herrera, P. R., Charity L. Scott and Sebastian. (2022, April 16). The Pandemic Was Supposed to Push All Shopping Online. It Didn't. *Wall Street Journal*. <https://www.wsj.com/articles/the-pandemic-was-supposed-to-push-all-shopping-online-it-didnt-11650081652>
- Holdzkom, N., & McCarthy, C. (2021). Study of Mixed-Use Development Trends. In *Montgomery Planning*. https://montgomeryplanning.org/wp-content/uploads/2021/07/Mixed-use_PB-Staff-Report_062921_V02.pdf
- Hong, S., & Choi, S.-H. (2021). The Urban Characteristics of High Economic Resilient Neighborhoods during the COVID-19 Pandemic: A Case of Suwon, South Korea. *Sustainability*, 13(9), 4679. <https://doi.org/10.3390/su13094679>

- Hoppenbrouwer, E., & Louw, E. (2005). Mixed-use development: Theory and practice in Amsterdam's Eastern Docklands. *European Planning Studies*, 13(7), 967–983.
<https://doi.org/10.1080/09654310500242048>
- HR&A Advisors Inc. (2021). Montgomery County Mixed-use Development Study Summary of Findings. In *Montgomery County*. https://montgomeryplanning.org/wp-content/uploads/2021/07/Montgomery-County-Mixed-Use-Study-7-12-21_FINAL.pdf
- Jacobs, J. (1961). *The death and life of great American cities*. Modern Library.
- Kashef, M. (2021). Energizing Street Life of Urban Neighborhoods: Qualitative Narratives versus Quantitative Metrics. *Theoretical and Empirical Researches in Urban Management*, 16(4), 77–99.
- Kim, J. H. (2010). Linking Land Use Planning and Regulation to Economic Development: A Literature Review. *Journal of Planning Literature*, 26(1), 35–47.
<https://doi.org/10.1177/0885412210382985>
- Liusman, E., Ho, D. C. W., Lo, H. C., & Lo, D. Y. F. (2017). Office rents, mixed-use developments, and agglomeration economies: a panel data analysis. *Journal of Property Investment & Finance*, 35(5), 455–471. <https://doi.org/10.1108/jpif-02-2017-0015>
- McConnell, B. (2021, November 23). *Is mixed-use the future of downtown D.C.?* D.C. Policy Center.
<https://www.dcpolicycenter.org/publications/mixed-use-future-downtown-dc/>
- Moura, S. (2023). *Commercial Real Estate Made Record Impact on U.S. Economy in 2022* | NAIOP | Commercial Real Estate Development Association. [www.naiop.org](https://www.naiop.org/research-and-publications/magazine/2023/Summer-2023/business-trends/commercial-real-estate-made-record-impact-on-us-economy-in-2022/).
<https://www.naiop.org/research-and-publications/magazine/2023/Summer-2023/business-trends/commercial-real-estate-made-record-impact-on-us-economy-in-2022/>
- Oregon Transportation and Growth Management (TGM) Program. (2000). *Commercial and Mixed-use Development Code Handbook*. Oregon Department of Transportation and Department of Land Conservation and Development.
https://www.oregon.gov/lcd/Publications/Commercial_MixedUse_CodeHandbook.pdf
- Price, A. (2017, October 30). *Fine-Grained vs. Coarse-Grained Urbanism*. Strong Towns.
<https://www.strongtowns.org/journal/2017/10/31/fine-grained-vs-coarse-grained-urbanism>
- Rabianski, J., & Clements, J. (2007). Mixed-use Development: A Review of Professional Literature. In *Council of Development Finance Agencies*. The National Association of Industrial and Office

Properties Research Foundation.

[https://www.cdfa.net/cdfa/cdfaweb.nsf/ord/e85f455bb30951708825793600673c68/\\$file/mixed-use.pdf](https://www.cdfa.net/cdfa/cdfaweb.nsf/ord/e85f455bb30951708825793600673c68/$file/mixed-use.pdf)

Rabianski, J., Gibler, K., Tidwell, O. A., & Clements III, J. S. (2009). Mixed-Use Development: A Call for Research. *Journal of Real Estate Literature*, 17(2), 205–230.

<https://doi.org/10.1080/10835547.2009.12090251>

Rowley, A. (1996). Mixed-use Development: Ambiguous concept, simplistic analysis and wishful thinking? *Planning Practice & Research*, 11(1), 85–98.

<https://doi.org/10.1080/02697459650036477>

Sharifi, A., & Khavarian-Garmsir, A. R. (2020). The COVID-19 pandemic: Impacts on cities and major lessons for urban planning, design, and management. *Science of the Total Environment*, 749(142391), 142391. <https://doi.org/10.1016/j.scitotenv.2020.142391>

Shen, Q., & Sun, F. (2020). *What Makes Mixed-Use Development Economically Desirable?* Lincoln Institute of Land Policy.

Sonoran Institute. (2014). Restore: Commercial and Mixed-Use Development Trends In The Rocky Mountain West. In *Sonoran Institute*. <https://communitybuilders.org/wp-content/uploads/2019/11/RESTORE-Report.pdf>

Un, K. (2017, November 17). *What is Mixed Use?* MAPC. <https://www.mapc.org/resource-library/what-is-mixed-use/>

Witherspoon, R. E., Abbett, J. P., & Gladstone, R. M. (1976). *Mixed-use Developments: New Ways of Land Use*. ULI.

“What Exactly is Mixed-use?” the International Council of Shopping Centers, Inc. (ICSC), the National Association of Industrial and Office Properties (NAIOP), the Building Owners and Managers Association International (BOMA), and the National Multi Housing Council (NMHC), November 2006.

Won, J., Lee, C., & Li, W. (2017). Are Walkable Neighborhoods More Resilient to the Foreclosure Spillover Effects? *Journal of Planning Education and Research*, 38(4), 463–476.

<https://doi.org/10.1177/0739456x17702443>

CAPE COD COMMISSION

3225 MAIN STREET • P.O. BOX 226 • BARNSTABLE, MASSACHUSETTS 02630
(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org

