The economic case for form-based codes

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ABSTRACT: As many communities across the US look to Form-Based Codes (FBCs) as an alternative policy tool to segregated land-use zoning, increased research seeks to understand their impact beyond the physical built environment. FBCs have received both criticism and praise by academics, lawmakers, and citizens for desired or resultant social and economic effects. However, there are limits to what FBCs can and should control as a policy tool, and as each iteration is created uniquely for a given area, the intent and principles that form the basis of that code are, potentially, more influential on the repercussions experienced than the type of code employed. As such, criticisms and praise are often wrongly ascribed to FBCs. There is little research to determine the scope of misunderstanding surrounding FBCs and the varied players involved in their implementation. Additionally, as modern FBCs are still relatively new as implemented policy governing the built environment, examples of mature development formed under their direction, or academic studies of the resultant social and economic effects of those developments, are few. This gap in knowledge allows for the continued dissemination of misleading information attributed to FBCs, both positive and negative. Using a mixed-method approach, I will perform a comparative economic analysis of mature developments formed under both conventional segregated land-use zoning and FBCs in Kendall, Florida. This analysis will aid lawmakers in making evidenced-based decisions for community economic development and will help inform planners and government officials of clarifications needed during the participatory process.

KEYWORDS: form-based codes, policy, zoning

INTRODUCTION

Cities, towns, or communities are comprised of three main components: the built environment, or the physical component, the people who live within the built environment, or the social component, and the underlying purpose for living in close proximity, at least in modern society, economic activity, or the fiscal component. (Ciccone and Hall 1993; Inniss 2007) All three are inherently linked, where changes to one often impact the others. (Rothwell and Massey 2010) There are simple and direct examples, such as where local tax incentives impact development activity — a fiscal to physical connection, the emergence of economically vibrant hot spots from once dead parts of town due to music and the arts — a social to fiscal connection, or community groups acting in unison to have bike lanes installed — a social to physical connection. These changes can occur organically or through conscious thoughtful planning efforts, many times through the implementation of policy, gradually over time, and in accordance with the will of the local community. (Campbell 2016) As community demographics differ by location or regions, ideologies and local governing policies do as well. However, the underlying premise for policies that govern much of our physical built environment, segregated land-use zoning codes (SLU), permeated the United States as part of a mass adoption of zoning codes in the early twentieth century. (Fischel 2004) While the creation and adoption of zoning codes occur on a local basis as well, the segregation of use as a basic organizing framework was ubiquitously applied, despite demographic variances, and had complex, indirect, and unanticipated negative repercussions to our physical built environment, social fabric and fiscal health at the local level in the long-term. (Harvey and Clark 1965) (Brueckner 2001) As many communities across the US look to Form-Based Codes (FBCs) as an alternative policy tool to SLU zoning, increased research seeks to understand their impact beyond the physical built environment. For clarification of what a FBC is, the following is a description from the Form-Based Codes Institute.

> Form-based codes address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks. The regulations and standards in form-based codes are presented in both words and clearly drawn diagrams and other visuals. They are keyed to a regulating plan that designates the appropriate form and scale (and therefore, character) of development, rather than only distinctions in land-use types. (FBCI 2018)

1.0 BACKGROUND

1.1 Ancient law

Rules that govern our built environment have a long and extensively researched history. Imhotep, believed to be the first architect, wrote an encyclopedia on architecture that was used as reference for thousands of years after his death, around 3,000 BC. He designed a 37-acre complex as a model city, to be ruled in the afterlife. Nearing 4,000 years old, the Code of Hammurabi addressed liabilities for poorly built structures in ancient Babylon. (Johns 1903) Branching from these roots, working toward the evolution of western society, Plato's Laws (Bury 1967), clearly describe how new cities should be built, with attention given to housing, civic buildings, theaters, temples, and the market. In describing the spatial relationship of these primary components, it is clear that the segregation of use was not the recommended approach. In a theoretical debate with Socrates about the "indispensable minimum of the city," Plato emphasizes a balance of the economics of the individual, the city, and the nation state with the virtue of being just to its citizens. (Shorey 1969) The collocation of commercial activity, a consumer base, and requisite individual domestic needs, whether proximate or collocated in a single structure, provide the conditions needed for a functional economy with the exchange of goods and services. Regardless of nuances, these use categories: residential, civic, cultural, religious, and commercial, remain the primary (use) components of a city. The agglomeration of these uses can be found in almost every culture, as a basic building block of modern civilization. (Davis 2012) In addition to rules and laws governing the physical organization and planning of urban areas, theorists, architects, and later urban planners, also understood the relationship between the built environment and socio-economic conditions. (Campbell 1996)

1.2 The birth and life of modern zoning

The American Dream, up until the mid-twentieth century, followed a vision of a land of opportunity, where upward mobility was a reward for hard work. (Lamoreaux 2010; Blackford 2003) Mixed-use structures, rural or urban, were a fundamental component of achieving that dream. A family could simultaneously manage their domestic and commercial responsibilities, without a need to consider transportation or additional care for family members, both young and old, as additional costs. This morphology contributed to entrepreneurship and self-reliance, was financially efficient from the familial unit to the urban scale, creating a density that was appropriate for pedestrian-based economic activity. (Davis 2012) Free market forces also govern density by a ratio of businesses to residents served within a given distance, simple economic viability. (Inniss 2007) As industry and mass production transformed economies, from the kitchen table to the nation state, personal transportation modalities transformed in lockstep. Rising incomes and innovation allowed for greater distances, in shorter time, for a growing percentage of the population. Where commutable distances between inexpensive land and commercial centers allowed, single-family housing increasingly became a viable option for an aspiring supply of single-income families, to be known as the middle-class. The spatial repercussions, over time, are the sprawling suburbs that are loved by many.

1.3 New Urbanism and Form-Based Codes

New Urbanism (NU) was a response to this crisis of sprawl. (Urbanism 2000) FBCs emerged jointly with New Urbanist principles in the late twentieth century, and there is often conflation between the policy tool and principles with which they are most often associated. (Inniss 2007) (Garde and Kim 2017) (Inniss 2008) These principles concern the social, economic, and physical realms, and would require policy to govern each pursuant those principles. (Urbanism 2000) (Bohl 2000) FBCs, in regulating the physical built environment, are one part of that

equation, and there are limits to what FBCs can and should be expected to control as a policy tool. To be clear, regulation of one does not preclude an impact on the others. (King and Clarke 2015) The Congress for a New Urbanism (CNU) promotes the development of mixed-use walkable neighborhoods; however, FBCs, have, and can be created to govern any type of built environment, from sprawling single-family suburbs, to commercial strip centers, to high density mixed-use districts. (FBCI 2017; Woodward 2012) As each iteration is created uniquely for a given area, the intent and principles that form the basis of that code are, potentially, more influential on the repercussions experienced than the type of code employed. (Woodward 2012) (Talen 2013) FBCs, as a tool divorced from morphology, are said to be beneficial for their ease of use, simplified creation and implementation, and as part of a streamlined development process. (Woodward 2012) (Barry 2008) (Geller 2010) (Hughen and Read 2017) This would certainly have a beneficial economic effect, but a quantitative analysis of that aspect is beyond the scope of this paper. Rather, I will perform a comparative economic analysis of mature developments formed under both conventional SLU zoning and FBCs in Kendall, Florida.

2.0 ANALYSIS

2.1 Analysis perspectives

The analysis was conducted on two fronts. The first was a simple comparison of two sites within the research area governed by FBCs, in downtown Kendall, Florida. One was developed under the previous SLU code and the other under the new FBC. This analysis considers the impact to the developer / land-owner and also the budget of the governing body collecting property tax revenue. The second analysis is of three areas within Kendal, containing both commercial and residential uses of differing densities, from 1990 to 2017. This analysis is primarily concerned with census data to track the evolution of community characteristics.

2.2 Kendall, Florida

Kendall, Florida is an unincorporated census designated place (CDP) southwest of Miami. It is within Miami-Dade County, and was entirely governed by county-wide segregated land-use codes. Kendall CDP has an area of 16 square miles, with a population of around 75,000 people. It is bordered on the east by US Highway 1, which is paralleled by a commuter rail, in service since 1984. Of the 23 total stations, two are located in downtown Kendall, Dadeland North and Dadeland South. In 1998, the Chamber of Commerce, along with property owners, community members, business owners, elected officials, and appointed technical experts, participated in a charrette conducted by local planning firms Dover-Kohl and Duany-Plater Zyberk & Company, for downtown Kendall. The community's vision to convert the commercially zoned downtown to a mixed-use metropolitan center, formed the basis of the resultant plan, taking advantage of the adjacent transportation system. The existing built environment consisted of strip retail, accompanying parking lots, hotels, office towers, and a cluster of multi-family residential units to the north. I did not include the residential sector in my analysis, as it remains residential to date. The tool to achieve this vision was the adoption of FBCs in 1999 that took precedence over county zoning codes. This impacted 324 acres that were auto-centric and fully built out per the existing SLU codes.

2.2 A two-site analysis[i]

Aside from being located within the research area, there were two requirements for selection of sites for analysis: similar square footage of commercial space, and date of construction. Site SLU is a two-story, standard big box strip totaling 114,900 square feet of building area and approximately 250,000 square feet of surface parking. It was completed in 1999 under the prior SLU codes. Site FBC is a 25-story mixed-use building with 98,800 square feet of commercial space, 463,900 square feet of residential space, and integrated garage parking. It was completed in 2006 under the newly adopted FBC. As downtown Kendall was built out, new development required demolition of existing structures. Prior zoning limited construction to two-story commercial structures for some areas, which, under the FBC were permitted 25-stories and a specified mix of uses under the new FBC. As is common in older, low-density

areas, there was stagnation in development due to financial viability, given restrictions in buildable square footage and demolition costs for older structures. This was alleviated by up-zoning under the new FBC. As it would be difficult to parse out economic gains due to FBCs from those attributed to up-zoning, this analysis is based on what was possible under the prior SLU codes to that under the new FBCs.

In *Retrofitting Suburbia*, Ellen Dunham-Jones lays out the resultant boom in construction from adoption to 2004: "3,000 residential units, 350,000 square feet of retail/commercial, 110,000 square feet of office space, and a hotel." (Dunham-Jones and Williamson 2011, 201) There is no question that the adoption of new, less restrictive zoning codes, had a beneficial economic impact. This aligns with basic economic theory; Edward Glaeser notes, with respect to land-use regulation, that "each extra type of rule is associated with about 10 percent less building." (Glaeser 2012, 192) The question then becomes, in what ways, in addition to up-zoning, is it economically beneficial.

Sprawl is chiefly responsible for a widespread and growing municipal budget crisis due, principally, to the inefficient use of infrastructure. (Burchell et al. 2005) Studies show that property taxes between urban and suburban homeowners are comparatively equal, while the suburban costs for utility infrastructure is 40 percent higher than compact development and road costs are 60 percent higher. (Burchell et al. 2005) This amounts to a regressive tax on urban households which subsidize their suburban counterparts. (Burchell et al. 2005) Not only is the cost of infrastructure reduced for compact development over sprawl, but tax revenues are greater for a given area as well. The rule holds true for urban commercial centers as well. If we look at the property tax per acre in Table 1, we see that Site SLU generates only $98,000/ac, where Site FBC generates $383,000/ac between the commercial space and all residential units. As for infrastructure, as Site SLU is not occupied 24 hours a day, it sits dormant for a portion of the night, yet must be sized for peak loads. Additionally, since it has no residential component, employees and customers must come from elsewhere, and the same dormancy rule is true for their infrastructure, both utilities and roads. This is without taking distance and corresponding infrastructure needed to reach their residences into consideration. While the dormancy between uses exists in a mixed-use building as well, they offset, generating a more regular demand curve by spreading use over a 24-hour period. In downtown Kendall, there is no added distance between uses, and both are located close to the city center and other properties with similar characteristics, an exponential increase in efficiency.

Table 1: Site Specific, Financial and Spatial Characteristics.

	Lot Area (Acres)	Bldg Area (SF)	Bldg Area per acre (SF)	Value	Value per acre	Property Tax (per month)	Property Tax per acre	Projected Rent $39/sf[ii] ($/mo)	Cash on Cash Return
Site SLU	7.60	114,900	15,000	$42.3M	$5.6M	$61,700	$98,000	$308,300	**0.7%**
Site FBC 1	1.36	98,800	27,700	$8M	$2.2M	$10,800	$37,000	$308,300	**3.9%**
Site FBC 2	3.75	463,900	355,200	$108.7M	$83.2M	$141,700	$1,300,000		
FBC Tot	4.90	562,700	115,300	$116.7M	$23.9M	$152,500	$383,000		

For a developer, return on investment (ROI) is a requisite indicator. ROI is the overall return upon completion of a project. In the development of a project such as Site FBC, valued at $116,700,000, it requires financial services to execute, and completion of the project could take many years. Due to the unknowns of long-term projects, the second-most cited measure of return for developers, cash-on-cash return, is often used to determine project viability. (Peiser and Hamilton 2012) Cash-on-cash return is cash flow after debt services, divided by investment costs. A simple example can be demonstrated with the purchase of rental property (Table 2). Option 2 is the more lucrative choice for both cash flow and cash-on-cash return. However, Option 2 also benefits from continued reductions in investment costs and increased

equity for each house with each monthly loan payment. As the investment costs are reduced, the cash-on-cash return increases; coupled with increases in equity, this can be leveraged toward future loans for additional rental properties.

Table 2: Cash-on-Cash Return

	Cash Investment	Equity	Loan Amount	Monthly Rent	Monthly Loan Payment	Monthly Property Taxes	Monthly Cash Flow	Cash on Cash Return
Option 1	$200,000	$200,000	$0	$2,000	$0	$200	**$1,800**	**0.09%**
Option 2	$50,000	$50,000	$150,000	$2,000	$715	$200	$1,085	
	$50,000	$50,000	$150,000	$2,000	$715	$200	$1,085	
	$50,000	$50,000	$150,000	$2,000	$715	$200	$1,085	
	$50,000	$50,000	$150,000	$2,000	$715	$200	$1,085	
Total	$200,000	$200,000					**$4,340**	**2.2%**

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In the analysis of Site SLU and Site FBC, the lending details are not available, but a similar calculation can be made (Table 1). In doing so, for sake of comparison, property value was used for investment and/or sales figures, and equity will be omitted. Site SLU, with 114,900 square feet of commercial space and 250,000 square feet of surface parking, returns $308,300 in revenue per month after property taxes. The developer has $42,300,000 in either cash investment or debt into the project. Site FBC, at 98,800 square feet of commercial space with parking below, also returns $308,300 per month in revenue. However, while the project is valued at $116,700,000, the 463,900 square feet of residential space was sold for $108,700,000, leaving the developer with only $8,000,000 in cash investment or debt. The cash-on-cash return for Site FBC is more than five times that of Site SLU. Not only is this a more profitable venture, it allows the developer of Site FBC to undertake other projects, as capital is not tied up. This example is cash-on-cash return for a single project, but with available capital from sales or additional potential for lending, and like the rental property example above, the developer can acquire additional properties and calculate the cash-on-cash return for an entire portfolio. The margins of Site FBC would not be possible without mixed-use development. Another benefit of mixed-use development for a developer is risk mitigation. The ability to flex ratios of residential, retail, and office space to market fluctuations allows developers to move forward with a project and make spatial-use decisions later in the development process. (Hughen and Read 2017) Quantifying this benefit is nebulous given the numerous externalities, but that it's beneficial is clear. Additionally, the predictability of form, a cohesive plan, and other qualities set forth in a specific FBC reduce the development risk of negative externalities from neighboring sites. (Hughen and Read, 2017)

2.3 A longitudinal study[iii]

As discussed earlier, prior research indicated that increased densities in mixed-use developments have a beneficial impact on municipal coffers due to infrastructure efficiencies and tax revenue. The two-site analysis showed the benefits of mixed-use development to developers. But, as approval of zoning changes by elected officials is impacted by voting, how zoning changes affect those that live within the applicable area is key. To analyze the impact of FBCs on community characteristics for a given area, I compared current data as well as a longitudinal analysis for downtown Kendall (DK) and two reference sites within Kendall CDP (KCDP), and also included KCDP as a reference measure as well. As the FBC for DK was adopted in 1999, I used the 2000 census to mark the beginning of the study and the 2017 American Community Survey for the end marker. The two reference sites selected had similar populations to DK in 2017, although the land area varied, and as a result, the densities of these sites varied as well (Table 3). The Falls (TF), like DK, was located on US Highway 1, with a character reminiscent of suburban America, SLU zoning with single-family housing and low-rise commercial strip centers. The second was Snapper Village (SV), also SLU zoning, but with a higher density of multi-family housing and similar low-rise commercial strip centers. I used archival data to determine multiple indicators for comparison; a comparison of 2017 statistics were the most appropriate measure for some indicators, while the measure of performance over time provided the most insight for others. For an equivalent comparison,

given the variation in area, certain indicators were best leveraged as a ratio to area (per square mile). Also, as tract lines can vary between census counts, much of this information was sourced at the block level for continuity and accuracy. This analysis looked to address some misconceptions with mixed-use development governed by FBCs, with respect to families and density, housing and affordability, and jobs and income. There aren't a multitude of academic criticisms in this milieu, rather, there is an overwhelming amount that attempt to disprove these uncited misconceptions. Being uncited doesn't negate their existence as I have heard these criticisms declared, as if fact, much of my life living in the largest of US cities, specifically in Texas.

Table 3: Population and Families, 2000-2017

	Area (sq. mi.)	Percent of KCDP	Pop 2017	Pop Percent of KCDP	Pop Density (/sq. mi.)	Number of Families 2017	Family Density 2017 (/sq. mi.)
DK	0.45	2.8%	4,700	6.3%	10,500	1,600	3,600
TF	2.06	12.8%	5,500	7.4%	2,700	1,400	700
SV	0.41	2.5%	4,300	5.8%	10,500	1,000	2,400
KCDP	16.10		74,500		4,600	18,400	1,100

Anecdotally, and in some published research, developments formed under FBCs, and a motivation for their expansion, is described as a solution for retiring baby boomers or single young professionals. (Geller, 2010) While DK and SV were almost identical in area, total population, and population density, more families live in DK than SV, or TF. When considering area, the family density in DK for 2017 is 50% higher than SV, more than three times KCDP, and more than five-times that of TF. At only 2.8 percent of KCDP in area, 6.3 percent of families live in DK. From 2000 to 2017, the population density of DK increased by 32 percent (Figure 1). That was more than five times the rate of the nearest reference site, while KCDP contracted during the same period. Given that population density is commensurate with SV, it alone cannot account for the increased family density of DK. Additionally, given the lower, albeit similar population totals of DK to TF, the higher number of families in DK, for a given population, cannot be attributed to a preference of single-family housing to a denser mixed-use neighborhood.

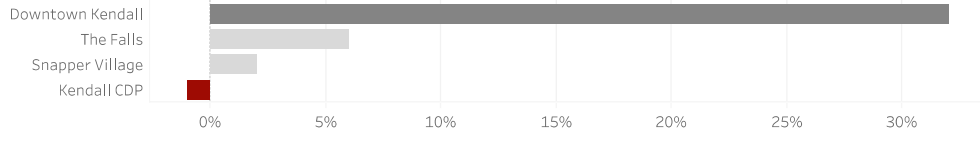

Figure 1: Percent Growth Population Density, 2000-2017

Criticisms of denser, more walkable developments are that they are exclusive enclaves with rental premiums only affordable to the elite. (Grant, 2006; Song and Knaap, 2003) Basic economic theory would say that an increased supply of a given item would lower costs, if demand is constant. Housing counts in DK were similar to both SV and TF in 2000, and housing density was also comparable to SV (Table 4). Housing counts and density for DK grew by 106% between 2000 and 2017, compared to negligible increases for TF or SV. The housing density in 2017 was more than double SV, almost five times KCDP, and near ten times TF. This increase served to accommodate local growth as well as providing second homes for many wealthy Latin Americans that would otherwise increase housing costs. (Dunham-Jones and Williamson 2011) Additional studies infer that mixed-use development, akin to what materialized in DK under FBCs, result in displacement and a decrease in affordability (Koschinsky and Talen 2015), yet DK was comparable to TF and KCDP in 2000 and rents had become homogeneous by 2017 (Table 5). Affordability, for this analysis is shown as a rent-to-income ratio. DK was comparable in rent-to-income ratio, at a lower median household income, to SV in 2000, and due to outperforming growth in median incomes for DK, the margins in affordability narrowed between the group. The change in the rent-to-income ratio for all test sites increased, but DK produced the second lowest growth rate, and 37% lower than KCDP (Figures 2 & 3). While it would be prohibitively difficult to trace every citizen

from 2000 to 2017, I considered increases in household income, comparable to the rent per unit, and family incomes, which would indicate the potential for dual-income households for a given rental unit. The percent of the population in a family was the highest in DK at 34%, 40% higher than the closest reference site, but the lowest percentage under 18 years old at 11.4%. The percentage for SV was commensurate at 11.6%, and 19% for TF, indicating a bias towards married couples without kids. However, given the higher family density of DK over all sites, but specifically TF and KCDP, and a higher housing density, TF is the more exclusive enclave of the three test sites. Median rents for TF stayed consistent with the other test sites, but the housing counts were half of DK, housing density was 10 times less, and median income remained historically higher.

Table 4: Housing, 2000-2017

	Total Housing Units 2000	Housing Density 2000	Total Housing Units 2017	Housing Density 2017	Housing Density 17-year change
DK	2,043	4,560	4,214	9,406	106%
TF	1,976	959	1,959	951	-1%
SV	1,671	4,076	1,676	4,088	0%
KCDP	29,652	1,844	30,561	1,901	3%

Table 5: Rent, Income, and Affordability, 2000-2017

	Median Rent 2000	Median Household Income 2000	Rent-to-Income Ratio 2000	Median Rent 2017	Median Household Income 2017	Rent-to-Income Ratio 2017	Rent to Income Ratio 17-year change
DK	$ 734	$ 33,000	27%	$ 1,446	$ 55,000	32%	5%
TF	$ 736	$ 58,000	15%	$ 1,448	$ 80,000	22%	6%
SV	$ 1,005	$ 49,000	25%	$ 1,482	$ 62,000	29%	4%
KCDP	$ 780	$ 51,000	18%	$ 1,400	$ 63,000	27%	8%

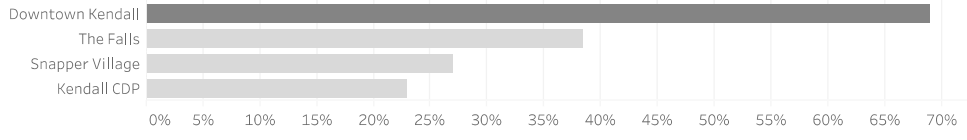

Figure 2: Percent Growth: Median Household Income, 2000-2017

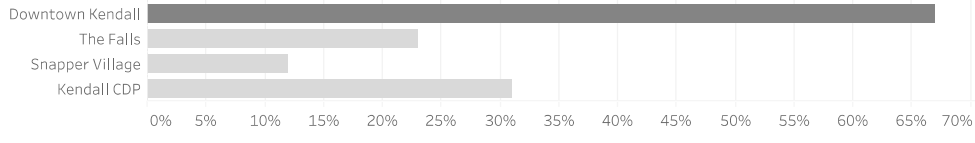

Figure 3: Percent Growth: Median Family Income, 2000-2017

The exclusive enclave status for TF should be given a frame of reference with respect to the age of housing stock. TF, similar to KCDP, had only 16% of units built after 1990 (Figure 4). In fact, 36% of the housing is more than 50 years old. Prior to 1969, whether the age of a unit is a positive or negative attribute is on a case by case basis, where craftsman and mid-century modern homes can bring a premium. I cannot, in this study, go into that level of detail, however, it would provide additional evidence towards economic exclusivity. Excluding these exceptions, both reference sites and KCDP contain a higher percentage of residential units built between 1969 and 1989 than DK. Only 17 percent of housing units in KCDP were built after 1990, and the figures for TF were within that range as well. For SV, it was less than 5 percent, yet while comparable in rent, 49 percent of housing units in DK were built after 1990, and only 18% prior to 1969 (Figure 4). A simple calculation for DK reports that only 30% of the added housing units were at the expense of older units. This would suggest that a variety of housing options, with respect to age, are available within DK. This diversity of housing marks a clear difference between the criticisms of affordability in denser mixed-use developments, and the implementation of a FBC that allows this type of development to be collocated within an existing urban fabric. While the zoning code allowed for new development,

and whether that new development is affordable becomes, at most, ancillary to the larger scale economics of an area governed under FBCs. I would argue, and basic economics would support, that any new construction, without an external supplement to consider, is more expensive than older units of the same build quality of their time.

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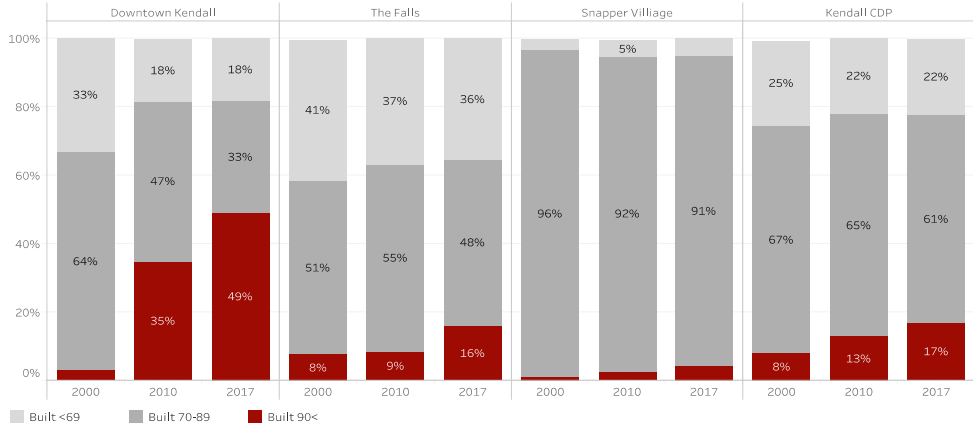

Figure 4: Age of Housing Stock, 2000-2017

Income growth was previously discussed, and income is directly related to jobs. The last comparative measures pertain to the validity of mixed-use development, governed under FBCs, towards a preferential job/housing ratio. Job density in DK dwarfed both reference sites and KCDP, and for 2014, was 30,700 jobs per square mile (Figure 5; U.S. Census Bureau, 2018). The nearest comparisons were both KCDP and TF, at 2,700, while SV was 1,800 jobs per square mile. Between 2004 and 2014, DK added 6,000 jobs, while TF added 400, SV added 500, and KCDP contracted. Urban economic theory posits that this elevated rate of job creation was not derived solely from direct job creation but included induced job creation, or indirect jobs, partly from increased population density. Local direct jobs are market dependent, but local indirect jobs result from both the market and the density of consumers within a given market area. To be clear, using statistics from 2015, almost 12,000 people commute into DK for work, which bolsters both direct and indirect jobs disproportionally (U.S. Census Bureau, 2018).

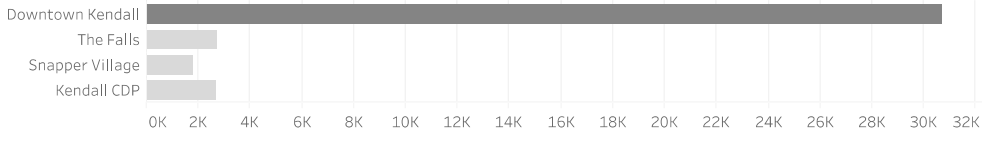

Figure 5: Job Density, 2014

While not analyzed, additional benefits attributed to collocation of jobs and housing within a defined area are reduced congestion and commute times, reduced costs for employees, reduced costs needed to enter the job market, reduced employee tardiness, a 24-hour market for local businesses, reduced stress to roadways and accompanied services (such as police), the previously mentioned infrastructure savings, and reduced carbon emissions and accompanying air quality. (Armstrong et al., 2001) From that list, the costs to enter the job market were considered integral for upward mobility and positive impacts to community characteristics. Between 2010 and 2017, after the banking crisis of 2009, poverty in DK was reduced 3.6 percentage points. This reduction was 56% greater than TF, 620% greater than KCDP, and the poverty rate increased for SV.

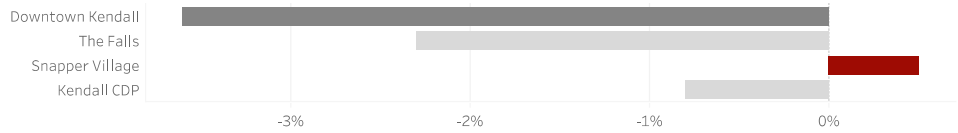

Figure 6: Percent change: Poverty Rate, 2010-2017

CONCLUSION

This study was a precursory analysis in discovering the economic benefits of FBCs, but quantifiable results clearly indicate benefits to DK after the adoption of FBCs. The benefits to municipal coffers are well documented by numerous researchers, and tax revenue benefits are clearly demonstrated. Benefits to the development community, in the manner reflected in this paper, are market flexibility, risk mitigation, and most importantly, financial arrangements that exponentially increase cash-on-cash returns. For the urban scale case study, the notion that denser, mixed-use developments do not support family populations is shown to be a misnomer. Additionally, exponential symbiotic relationships between increased densities of citizens, housing, and resultant jobs had a positive impact on incomes, poverty, upward mobility, and a diversity in housing options. There were certainly externalities, such as up-zoning, that played a role in the success of DK over comparable reference sites or KCDP as a whole, but as increased density is promoted by the Form-Based Codes Institute, this change is also in alignment with intent. These initial findings support FBCs as a beneficial policy tool for economic development, much needed relief for the balance sheets of governing bodies, and the flexibility needed to reduce risk for developers. If this is an example of how America returns to the original dream, it is a worthy path to replicate. There is clearly a need for continued research on this topic, a task I wish to assume with an expanded scope, in the future.

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[i] Financial data is in thousands of dollars. All property data sourced from the Miami-Dade Property Appraiser, property search portal. Residential units were not retained by the developer (sold), figures represent a total sum of data for 400 units sourced independently. (Appraiser 2018) For a relative comparison, I use a per acre figure to describe attributes. Projected rent (PR) is figured for a full year at the median rate per square foot for commercial space in Kendall CDP. Market Data sourced from 42Floors.com. (Inc. 2019) For Site FBC, being mixed-use, Site FBC 1 represents the commercial space, Site FBC 2 represents the residential space, and FBC Tot are the combined figures.

[ii] Current average rate per 42Floors.com.

[iii] The majority of data was sourced from the US Census Bureau's American FactFinder. (Bureau 2018b) The varied sources within include: Decennial Census Survey's for 2000 and 2010; Census Gazetteer 2010; American Community Surveys for 2010 and 2017; and the Longitudinal Employer-Household Dynamics Surveys for 2004 and 2014. The decennial Census Survey for 1990 was sourced from the US Census Bureau.