

Spatial Partitioning of Livability Indices: South Florida Case Study

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1 ABSTRACT

Metropolitan level indices (competitiveness, livability, etc.) don't translate well in any visceral or planning sense. This is because the referenced spatial unit normally exists only as a statistical artifact; in fact, metropolitan regions are made up of individual sub-spaces, each with local character and local dynamics. The purpose of this paper is to implement a more holistic approach toward measuring a city's livability at the local level by identifying measurable criteria and criteria's indicators extracted from *Urban Vitality*, *Symbiotic Processes*, and *Urban Rhythm* theories, that, although addressed independently in this paper, are very much co-dependent of each other and when working together, can effortlessly spot life patterns in a city. This will be accomplished by first selecting four cities that reflect different social, economic, and physical characteristics within the South Florida Metropolitan Region boundaries and contrasting them based on their local livability levels. Findings should help to identify if (1) a city's livability levels can be measured by its own local traits and uniqueness and (2) if these three theories are a good place to start a new holistic approach that is able to recognize each city individually by its own livability traits and contrast it with other cities of similar spatial characteristics rather than ranking them and rewarding some while ignoring others.

2 INTRODUCTION

Livability (or liveability) is a concept on the rise. As with most concepts, livability takes on different meanings at different scales. For example, some of the most visible livability efforts are those associated with the ranking of world cities, while others have developed their own livability indices to use as a measuring tool to identify change and/or in public decision making to increase the quality of life of areas at different levels (state, county, and local). Livability as a socio-economic concept has a great, but limited, cache. In the postmodern world of "city selling", however, the efforts of Mercer, EIU, Monacle, and now Philips have great meaning for politicians and bureaucrats. However, for the most part, they are formed at the metropolitan scale and use less than rigorous data, discussed below. This is in keeping with their (stated, but not marketed) purpose: to rank the desirability of places for trans-national companies to set up branch offices. These macro-scale indices are for entire metropolitan areas, but it is also known that metropolitan areas are not uniform entities, and that there is large variation along virtually every dimension of possible description (economic, social, environmental, etc.).

The research question addressed here is whether it is possible to disaggregate the socioeconomic versions of livability to scales less than the metropolitan area due to the findings of inconsistency patterns at the city level, and if a different approach (holistic) aside from the metropolitan-wide indices can produce a better representation when used at the local level. We do this by creating an "analogous" livability index from criterias and indicators found in *Urban Vitality*, *Symbiotic Processes*, and *Urban Rhythms*, and using them as a measuring tool to identify the traits of four selected cities of the South Florida Metropolitan Region, USA. This paper is organized in five sections. The first section reviews the livability metaphor and discusses the reasons for not relying on a metropolitan-wide index and the need to partition these areas. The next section explains the three selected urban theories based on literature review. The third section states the research problem. The fourth section demonstrates the cities' Socioeconomic Statistics (SES) and findings based on the extracted criterias and indicators from each theory. The last section focuses on the discussion and conclusion of findings as well as a reflection on the study and a suggestion for future research.

3 THE LIVABILITY METAPHOR

3.1 A General Discussion about livability and its indices

3.1.1 Livability

As mentioned earlier, the concept of livability recently has become a hot topic that has captured the attention of public officials and policy makers around the world as an alternative tool for making decisions. However,

the definition of livability includes a wide range of issues that are underlined by a common set of guiding principles such as participation, equity, and accessibility, all of which can define livability at many different levels. But what is urban livability exactly? Recent literature has used livability interchangeably with 'quality of life', which conveys different meanings and implications at different scales of interest. The results from a specific scale of measurement may not reflect the same conditions of a different scale, and neither will one style of measurement generate the same results at another scale (Hovey 2008). Livability also refers to the 'quality of life' that is experienced by the people that reside within a city or region, which is based on the ability to sustain the quality of life that people value or to which they aspire (Ji, 2006). McCann (2008), on the other hand, argues that urban livability is an 'idealization' of the dynamic of urban neighborhoods and geographical competition among 'livable' and 'creating' cities with the aim to nurture, attract, and retain the 'creative class.' Pacione (1982, 1990) views it as a measurement of equity and justice, which aims to improve the quality of life of cities by decreasing overcrowding and mitigating natural hazards for every inhabitant.

The following are some of the major socioeconomic concepts of livability, based on indices that are recognized globally and that are followed by major transnational corporations around the world. Each case examines its conceptual model of index, its criteria and indicators, and some of its typical results and reviews.

3.1.2 Mercer

The quality of living survey produced by Mercer is the most popular survey of measuring livability, and is released annually. Its release garners attention worldwide from businesses, industries, and governments and serves as a matter of pride for those cities who top the list and as a motivator for those who do not. The survey is composed of a set of 39 criteria used to compare over 220 cities around the world; the purpose of the survey is to allow multi-national businesses and industries to determine cost of living and operation in these cities based on a number of categories and factors. The categories are: political and social environment, economic environment, socio-cultural environment, medical and health considerations, schools and education, natural environment, public services and transport, recreation, consumer goods, and housing. Each category is divided between additional factors and a system of weighting is involved based on the determined importance of those factors. While the survey uses objective data, this weighting system, derived by Mercer's experts, causes the survey to become subjective. The survey assigns a baseline score of 100 to New York and then rates other cities in comparison. In the latest survey released in 2010, the top 5 cities were: Vienna, Austria (1st), Zurich, Switzerland (2nd), Geneva, Switzerland (3rd), Vancouver, Canada (tied 4th), Auckland, New Zealand (tied 4th). In recent years of the survey, European cities tend to dominate the top of the rankings and United States cities tend to do poorly; in 2010, the highest-ranked US city was Honolulu, ranked 46th. Critics of the Mercer survey state that it fails to take into account the needs and interests of the inhabitants themselves and relies entirely on the opinions of experts that may have perhaps never visited the cities being judged to determine firsthand the true nature of the cities. Quality of living in a low ranked town could actually be much higher than the survey declares because of civic pride, native familiarity, and the true ability of the city to serve its people in ways that only understood by its inhabitants (Mercer, 2011).

3.1.3 The Economist

The Economist Intelligence Unit produces an annual survey which is based upon Mercer's data but uses a different weighting system which gives greater importance to the cities' widespread availability of goods and services, low personal risk, and effective transportation. An interesting fact is that along with experts creating the weights of the factors used, a field correspondent from each city is also used in order to get a true sense of the city. The survey weighs scores given in five factors, stability, healthcare, culture and environment, education, and infrastructure to "quantif(y) the challenges that might be presented to an individual's lifestyle" (EIU, 2011). The Economist Intelligence Unit states a bias towards cities with a lower perceived threat of terrorism. This shift in factors being observed, in contrast with the Mercer survey, allows Canadian and Australian cities to dominate the upper positions of the rankings, with all but one of the top ten being either Canadian or Australian. The top five cities of the EIU survey are: Vancouver, Canada (1st), Melbourne, Australia (2nd), Vienna, Austria (3rd), Toronto, Canada (4th), and Calgary, Canada (5th). The New York Times criticized the EIU's survey as being overly anglo-centric, stating that "the (EIU) clearly equates livability with speaking English." despite this statement, however, US cities again performed poorly



among other cities with Pittsburgh reaching 29th place in 2011. Other critics take note of the fact that the highest ranking cities of the EIU's list are not foreigner- or kid-friendly, have population growth that is limited, controlled or non-existent, and have costs-of-living and taxes that are above average (EIU, 2011).

3.1.4 Monocle

Monocle, an international affairs magazine, produces its annual list based on similar factors of the Mercer and EIU surveys: safety, availability of goods and services, traffic congestion, air quality, housing, and conservation. However, Monocle's survey offers unconventional twists such as "urban renaissance and rigorous reinvention in everything from environmental policy to transport." (Monocle, 2010) These criteria allow their list's top five to be the only one to contain an Asian city, Tokyo; however, the top of the list remains mostly occupied by European cities, and the first appearance of a US city, Honolulu, is at number 13. Monocle's top five of 2010 were: Munich, Germany (1st), Copenhagen, Denmark (2nd), Zurich, Switzerland (3rd), Tokyo, Japan (4th), and Helsinki, Finland (5th). It should be noted that in 2009 Monocle's top 25 contained 2 other US cities, Minneapolis and Portland, but neither made the cut in 2010 (Monocle, 2011). Critics state that Monocle's quality of living survey is hardly science-based, and therefore should not garner much merit. Other critics state that this magazine for jet-setters focuses more on its target audiences' idea of livability and ignores costs of living and taxes.

3.1.5 Philips (A Latecomer, but Aggressive Player in the Livability Market)

Philips, a multi-national company and industry-leader in energy technology and electronics, surveys livability in its livable cities index. Philips' global index surveys regional trends in livability and the state of health and well-being. Philips' Center for Health and Well-being maintains this survey of livability in order to assist in improving people's lives, a company mission. The Philips' index observes five factors: job, community, physical health, emotional health, and family/friends. It utilizes these factors to determine patterns of health and well-being in regions, but is not specific to cities. In the patterns that appear in their index, the biggest surprise is that "emerging markets in the Middle East and India are doing better from a health and well-being perspective when compared to some of the world's more developed economies" (Philips, 2010). The US does not fair well when being compared to the rest of the developed world in the factors covered by the index. Philips' index, while useful in determining regional patterns of livability, is limited in scope, and is not precise enough to provide a system for ranking cities. The Philips' index is able to compare livability in some world cities, but does not reach the amount of cities compared that are found in the other surveys. The index fails to put together a final analysis that would allow any overall comparison of the chosen cities and the livability of the cities identified in the study is open to interpretation (Philips, 2010).

3.2 The Need to Partition

Just as nations are dominated by their metropolitan regions in virtually every important socioeconomic attribute, metropolitan regions are themselves dominated by their sub-metropolitan nucleations and/or their local administrative structure. However, this commonly expected phenomena does not translate well when evaluating the livability level of cities by using data at the metropolitan regional level. Even though this commonly used approach has been promoted and implemented by well known companies such as Mercer, EIU, Monocle, and Philips, their results tend to lead us to the wrong impression about cities as well as ignoring their individual traits and characteristics. This paper argues the need of partitioning metropolitan-wide approaches into a local level focus with the intent to address some of the issues generated by their misrepresentation. Among the many issues that can be generated by using different scales on indices, this paper only touches the surface by devoting special attention to only the issues of places as "trading places", local territorial capital, and the fading of local branding.

3.2.1 "Local Territorial Capital"

Local territorial capital represents the natural and developed resources (OECD, 2000). It can also be described as the tangible (physical, financial, etc.) and intangible (cognitive, social, cultural) resources available in an area. These local territorial capital indicators generate competitiveness among cities in an effort to become the most recognized city globally. These local territorial capitals can be constituted either as assets or constraints that either way rely on the collaborative efforts of every stakeholder at the national, regional, and local level.

Because these elements are in constant flux, they are the ones responsible for the attraction and/or the disappearing of both people and business to the area. (Giffinger & Stallbohm, 2009) Local territorial capital characteristics are valuable indicators for livability indices that rely on financial rankings. Regardless of the collaborative effort among cities and stakeholders at all levels, these livability indices use regional statistical data to recognize only one city as the best livable place in the region; in this way they are ignoring the rest of the cities' local territorial capital that in some form were responsible for the success of the best ranked city.

3.2.2 “Trading Places”

As mentioned earlier, metropolitan areas are themselves part of an overall network; individual jurisdictions within metropolitan areas are part of an overall network of places. The new economic geographer Bogart argues that “trading places” would be a more accurate description of how metropolitan regions are structured today, (Bogart, 2005), where each city interacts with the other during their trading of goods and services. An essential part of this is the movement of people from one place to the other to either produce or consume the good and services. The important point is that none of the sub-metropolitan spaces are, by themselves, totally self-sufficient in terms of having all of the goods and services that are needed by a particular individual and/or family unit. Complete autarky (self-sufficiency) is, simply, not possible at the scale of individual political jurisdictions within a metropolitan area. Every city cannot have a hospital, a large set of recreational facilities, a university, etc. Metropolitan areas are not homogeneous units, and should not be treated as such.

3.2.3 “Fading of Local Branding”

City branding is a highly debatable topic in the literature and the practice. Many researchers argue that the true aim of city branding should be to increase the levels of people and business in the area by attracting more investment, tourism, and community development. In essence, this is an economic marketing approach. (Parkenson and Sounder, 2004) Like territorial capital, this urban trend is the result of competitiveness that forces cities to become equal at any cost. Tayebi (2006) argues that city branding should be based on the uniqueness of the city and what it is known for. These economic marketing approaches support a uniform thinking tradition of global market concepts that encourage sameness and monotonous cities that are regarded as cities without ‘soul’. We argued that while some cities are only becoming recognized due to the collaborative effort (solicited and unsolicited) of its regional partner cities, they are on the verge of losing their identity by allowing others to rank them based on inaccurate levels of measurements (regional versus local).

HENCE, A DIFFERENT PERSPECTIVE

There are many cities around the world that are livable based on their native physical, social, cultural, and financial standards of living, but when compared with other global cities at livable ranking systems such as Mercer, EIU, Monocle, or Philips which purposely focus on global marketing and financial recognition, they become ‘invisible’ among their region and the rest of the world. The following theories were selected with the intent to help address the three earlier mentioned discrepancies which come from implementing the higher measuring scale system (metropolitan-wide) to a smaller administrative level (local) space. This can be accomplished by identifying how three commonly used urban theories *Urban Vitality*, *Symbiotic Processes*, and *Urban Rhythms* are used as intended, by identifying local measuring criterias and indicators extracted from each concept.

3.3 Urban Vitality

Urban vitality can have different definitions and have a variety of approaches; however, the overall meaning remains the same: the life and soul of an urban space characterized by its conditions and its inhabitants' culture, skills, and strength. A vital urban space can be based on its diverse population, culture, and spaces, with multifunctional activities available to everyone, and a wide range of mixed-use buildings and places that promote high density (Jacobs, 1961). Since the last decade, urban vitality has been seen from a more holistic approach that focuses on the people's “cleverness, desires, motivations, imagination and creativity” that makes a place functionally alive and productive instead of focusing only on the location and market access (Landry, 2000; Landry & Bianchini, 1994). It is the role of the transaction as both an outcome and a manifestation of urban physical culture, the focus around which activity takes place, the identity and expression of the notion of the place, the particular meaning attached to streets, and the spaces and the urban



public realm (Montgomery, 1995; Montgomery, 1998). More recent views describe it as a new source of urban competitiveness that focuses on embracing the specific pre-conditions of the space such as the city's recognition of its own beliefs and values, the increase of multicultural 'patchwork' (people coming from different places), a vision-driven approach instead of a technical one (land-use codes), and the continued innovation and custom-based redesign of strategic urban planning (Laundry, 2000).

3.4 Symbiotic Processes

In urban systems, symbiotic processes can take on multiple personalities as long as there are mutual benefits from two different spaces (neighborhood, city, urban area) or activities where one gains something from the other. However, it is not impossible to spot systems where at some point in their lifetime one has gained something while the other loses. Symbiotic processes can also be identified during an exchange of opposite things and integrating or fusing them together, while emphasizing the respect for each other and maintaining their political and/or administrative distances (Tamura & Tokita, 2004). In urban systems, symbiotic activities are based on collaboration, cultural society, communication, and consensus (Lin & Mele, 2005). The most common areas for symbiotic activities in urban realms are land, labor, and capital rural-urban integration in special land ownership and regionalized grain market (Amith, 2005; Pacione, 2005). On a smaller scale in an urban setting, symbiotic activities usually attract other activities to benefit their success and survival, such as having ice-cream shops, candy stores, and restaurants near a movie theater, or flower shops and gift shops near a hospital. (Tan & Klassen, 2007; Montgomery, 1998). In the past decade there has been an increase in symbiotic processes in urban settings due to the integration of urban principals such as Smart Growth and New Urbanism that promote the mix of uses. This has helped improve neighborhood safety by encouraging the 'eye-on-the-street' approach (Jacobs, 1961). This movement has fused social systems (capitalist & socialist), cultural systems (religion, ethnicity, race, education, etc.), and most importantly have bridged the gap between human generations and cultures (Tamura & Tokita, 2004).

3.5 Urban Rhythms

Urban rhythms vary among the cities around the world. They are each unique to their physical, social, and cultural characteristics of a place, even though there are times when external conditions (location, weather, economy, trends, politics, human migration, etc.) might begin to portray cities as comparable. In the case of New York and Milan's similarly fast paced lifestyle, their urban rhythm patterns are far from similar. Urban rhythms act like a medium through which a particular form of culture can be expressed (Hansen, 2008). Urban rhythms can be observed and studied by walking through the 'myriad rhythms' of our modern society and its footprint to identify the 'convergent and divergent' spatiotemporal history of a space (Benjamin, 2003; Parson, 2003). This represents each city's constant repetition of circumstances which can be measured at a certain frequency. Lefebvre (2004) identified two different types of rhythms. The cyclical rhythms that, like Hansen (2008), deal with the continuous daily patterns such as day and night whereas alternating rhythms deal with the flow of information from one source to another (People, television, internet, newspaper, etc.). Urban rhythms are also reflected through the city's economic landscape; post industrial urban cities, for example, have increased their labor demand due to a faster time frame of production, leisure time, and services (Tan & Klassen, 2008). The daily behaviors of the city's inhabitants are unique identifiers of a city's urban rhythms. Examples include the amount of time spent moving from one point to another or accomplishing daily tasks, the migration from rural to urban spaces to minimize mobility and to have access to multifunctional space, the high level of stress, and high levels of air and noise pollution (Lefebvre, 1996).

4 RESEARCH PROBLEM

The research problem is to explore notions of livability in four selected areas within the South Florida metropolitan region and measure them based on the extracted criterias and criteria's indicators from the before mentioned three urban theories.

5 FINDINGS

CRITERIA AND INDICATORS	CITIES			
	Boca Raton	Coconut Creek	Miami Gardens	Riviera Beach
Characteristics				
Year incorporated	1925	1967	2003	1922
Land area	27.2 sq mi	11.55 sq mi	20 sq mi	8.3 sq mi
Water area	1.9 sq mi	0.24 sq mi	0.0 sq mi	1.5 sq mi
Elevation	13 ft	13 ft	7 ft	13 ft
Demographic				
Population, 2000	74,764	43,566	100,809	29,884
% Age < 18	18.9%	18.00%	34%	29.2%
% Age > 65	19.8%	26.50%	7.8%	15.0%
Median age	43	41	33	38
Bachelor's degree or higher	44.2%	27.10%	-	17.7%
Economic				
% House ownership rate	75.6%	75.50%	-	59.2%
Average household size	2.26	2.16	3.2	2.6
Median household income	\$60,248	\$43,980	-	\$32,111
Per capita income	\$45,628	\$25,590	-	\$19,847
Median value of housing unit	\$230,200	\$141,800	-	\$80,000
% Private workers	83.6%	84.1%	-	78.9%
% Government workers	8.5%	11.4%	-	15.7%
% Self-employed	7.5%	4.1%	-	5.2%
Social				
Violent crime (incidents per 1,000 people)	248	206	1009	1771
Property crime (incidents per 1,000 people)	3845	2835	6074	6833
% Persons below poverty	6.7%	7.1%	14%	23%
Mean travel time to work	20.7	26.3	30.1	24.3
% Persons using private vehicle to work	89.2%	95.1%	-	88.8%
% Persons using public transit to work	0.9%	0.7%	-	4.3%
% Persons walking to work	2.0%	0.5%	-	2.2%
City bus access	no	yes	yes	no
County bus direct access	yes	yes	yes	yes
County rail (Tri-rail) direct access	yes	no	no	no
Airport (within 10 mile radius)	yes	yes	yes	yes
Water (self-dependent/dependent)	self-dependent	self-dependent	dependent	self-dependent
Fire rescue (independent/share)	self-dependent	dependent	dependent	self-dependent
Police department (self-dependent/dependent)	self-dependent	self-dependent	self-dependent	self-dependent
Hospital (self-dependent/dependent)	self-dependent	dependent	dependent	self-dependent
College & university (self-dependent/dependent)	self-dependent	self-dependent	self-dependent	dependent
Library (self-dependent/dependent)	self-dependent	dependent	dependent	self-dependent
Theater (self-dependent/dependent)	self-dependent	dependent	dependent	dependent
Museum (self-dependent/dependent)	self-dependent	dependent	dependent	self-dependent
#s Cultural & Community Centers	2	1	1	6
# Parks and recreational facilities	51	21	39	9

Table1. Cities Socioeconomic Status (SES): Criteria and Indicators. Source: U.S. Census 2000, FBI Uniform Crime Rate 2008, Cities' website database

5.1 Urban Vitality & "Local Territorial Capital"

"Local territorial capital" is both the tangible and intangible trait of a city that, in most cases, is used in commonly known financially-oriented livability ranking systems as constraints rather than assets, by giving priority only to those cities advanced in technology, infrastructure, development, and which provide elite and quality amenities and services that attract transnational businesses to the area. The theory of *Urban Vitality* was used to help us identify vital indicators of livability in a city based on the city's own social, financial, and physical traits (criteria).

The City of Boca Raton vitality levels appear to be higher compared with the rest of the cities measured. It is the second oldest (1925) city of the four that is easily accessible and has a vibrant aged architecture that attracts tourists to the area while making it an important landmark for the region. More than 40% of its



population has high levels of educational attainment as well as the highest median household and per capita income. The city has a wide range local amenities and services that serve not only its local residents but neighboring cities' residents as well. More than 90% of its population is either self-employed or work for private firms. It has the highest median house value compared with the others cities, and the lowest poverty levels and the second lowest crime rate. (See *Table 1*.)

The City of Coconut Creek vitality indicators are almost parallel with the city of Boca Raton. It is the third oldest city (1967) and the second smallest in area (land and water). It is easily accessible and it is the only one that has its own city bus to encourage public transit, decrease traffic congestion, and lower carbon emissions. It is characterized by a newer architecture style that is environmentally conscious as well as a vibrant set of amenities and services that combine with the city of Boca Raton to provide a wide range of alternatives to their residents. Like Boca Raton, its house ownership is high, and it has the second highest median household and per capita income as well as housing value. It has the lowest level of crime and the second lowest level of poverty after the city of Boca Raton. (See *Table 1*.)

The City of Miami Gardens vitality indicators seem to fall between the city of Coconut Creek and Riviera Beach. The information available in *Table 1* is based on available data and projected calculation from the city of Miami Gardens. The last U.S Census was performed prior to when the city was incorporated back in 2003 and the available data only shows Miami Gardens as an unincorporated Census Designated Place (CDP). However, despite the inaccuracy of data, the city of Miami Gardens has the highest population of the four, exceeding 100,000 inhabitants. Its land area is the second largest after Boca Raton, and while the area is easily accessible, its rundown neighborhoods and blinded areas make it uninviting to investors and tourists to the area. It has the highest average household size (3.2) and highest crime and poverty levels after the city of Riviera Beach. (See *Table 1*.)

The City of Riviera Beach vitality indicators seem lower than the rest of the cities despite being the oldest (1922) city of the four. Even though its population average age is 38, it has the lowest housing ownership rate and housing value. Its median household and per capita income are low while its crime and poverty level are the highest among the cities and the state. It lacks in physical character; it does not contain a university, cultural or civic center, so it is no surprise that its levels of educational attainment are low. It has the highest level of residents working at the public sector and the lowest levels of residents working for private entities. Even though the city has the smallest area (land and water) of the four, it is easily accessible and is the only one that has direct water access through its port and marina. (See *Table 1*.)

5.2 Symbiotic Processes & “Trading Places”

“Trading places” is simply the trading of goods, services, information, housing, or places; in essence, anything that one city trades or exchanges with another regardless of the cause. Financially-oriented livability ranking systems seem to ignore this process that we argue is perhaps the most important after identifying a city's unique assets, because of its reliance on collaboration. The theory of *Symbiotic Processes* was used to help us identify the cities' levels of dependency upon other cities, counties, and states in order to provide the best livable levels of services that it can to its residents. The criterias were the three administrative levels (city, county, state) while some of the indicators were water, electricity, education, hospitals, housing, entertainment, among others.

The City of Boca Raton is an independent city in regard to basic public services (water, police, fire, universities, etc). However, both of its only available modes of public transit are at the county level. Even though the city manages most of its own services and amenities, it relies on neighboring residents and tourists to contribute to the its finances. It also has the highest number of parks and recreational amenities and is the only one with an executive airport. (See *Table 1*.)

The City of Coconut Creek, like Boca Raton, relies on both of the county level transit systems, however, this is the only city that has its own bus system that works only during the week to decrease traffic congestion. It is the second most dependent city of the four in regard to some basic public services and amenities (hospital, fire rescue, libraries, museum, etc.). Even though it has half the amount of the parks and recreational amenities that Boca Raton has, they are one of the main attractions for tourists. (See *Table 1*.)

The City of Miami Gardens also relies on county level transit systems. However, because Miami Gardens is located in Miami-Dade County, the most congested county of the region, Miami Gardens has additional

alternative transit options also provided by the county. Miami Gardens is the most dependent city of the four in regard to most of its basic public services and amenities (water, fire rescue, and hospital, university, museum, etc), but it has the most parks and recreational facilities after the city of Boca Raton. (See *Table 1*.)

The City of Rivera Beach, like the other cities, relies on the county level transit system. It is the second self-dependent city after Boca Raton in regard to basic public services, except for university and culturally related services. Even though it has the lowest number of parks and recreational facilities, it is the only one that offers water sports and activities all year as well as the only that manages and controls its own marina which invites many boaters from neighboring cities. (See *Table 1*.)

5.3 Urban Rhythms & “Fading of Local Branding”

“Fading of local branding” is when cities start losing their identity to become like the best ranked cities in the world. Financially-oriented livability ranking systems encourage an unparalleled competitiveness among cities that not only persuade them to focus on finding the best ways to market and sell themselves internationally, but also forces them to ignore their roots and culture in order to follow others instead. The theory of *Urban Rhythms* was used to identify each city’s unique characteristics and use them as their own marketable tool. Some of the criteria were weekdays and weekend activities, location, architecture, sound, smells, while the some of the indicators were stores and business hours of operation, climate, traffic, flora, fauna, culture, among others.

The City of Boca Raton rhythms falls under a corporate, business, and university atmosphere during office hours (8:00am – 5:00pm) and a more upscale cultural, entertainment, and retiree community during all times. It is home of major corporate headquarters, many business buildings, and the main campus for one of Florida’s largest universities. The City of Boca Raton is known internationally by its upscale shopping stores, restaurants, museums, art centers, and park, attracting retirees and tourists to the area. Even though more than half of its population is relatively young, it is not known for its night life; it relies on other cities such as Coconut Creek for night entertainment and restaurants that are open during late night hours. (See *Table 1*.)

The City of Coconut Creek rhythms seem environmentally oriented and guided by growth, innovation, and entertainment. It is known for having the largest butterfly aviary in the world, and for its advanced environmental efforts despite being adjacent to a landfill. It is the only certified Community Wildlife Habitat in the region and the only among the four cities that has designed, passed, and implemented more green initiatives. It has a combination of mixed-used development, entertainment, technology centers, and business centers that keep the city busy at all times. It is known also for the Seminole Casino Coconut Creek that entertains residents and tourists all year round 24 hours per day. (See *Table 1*.)

The City of Miami Gardens rhythms can be seen and sensed around the city through its effort and desire for renovation, progress, and improvement, both physical and social. Since 2007, the city is no longer allowing low income housing development due to the spread of crime and recreational drug usage. The city has amended its policies and code of ordinance to support its new vision of “progress”. Even though the city is working very hard to reinvent itself, it never forgets to strengthen its roots and culture, which are very strong elements of its new vision and mission. On weekends for example, more than 7,500 community members gather in the region’s largest Baptist megachurch. (See *Table 1*.)

The City of Riviera Beach rhythms correspond with its geographical location, because of its proximity to the Atlantic Ocean. It is home of the Port of Palm Beach and the United States Coast Guard Station. The city has a Caribbean flavor that can be represented through its restaurants, stores, and population. It is known by its water sports, water events, and its business casual attire that attract many water businesses and investors to the area. The city is the perfect vacation destination place for tourists, however, because of its high levels of both violent and property crime, tourists and locals visit other neighbor cities for night and cultural entertainment. (See *Table 1*.)

6 DISCUSSION AND CONCLUSION

The purpose of this paper was to segregate commonly known socioeconomic versions of livability scales into areas less than the metropolitan area and to implement a more holistic approach that requires the extraction of criteria and indicators found in the theories of *Urban Vitality*, *Symbiotic Process* and *Urban Rhythms* and



use them as a tool to measure the livability levels of a city. This paper argues that financially-oriented livability indices such as Mercer, EIU, Monacle, and Philips, tend to lead us to the wrong impression about cities when they measure them against metropolitan-wide data, and, as such, encourage them to behave differently in the hope of being recognized as the most livable city in the world. We selected “trading places”, “local territorial capital”, and “fading of local branding” urban patterns as some of the most commonly altered when applying metropolitan-wide scales to cities.

We would like to state that this research is not an attempt to replace any of the more commonly known livability measurements but instead present alternative holistic approaches that can measure cities at their scale. Through this research we were able to identify that cities can be measured at their scale by alternative approaches of measurement. Through the theory of *Urban Vitality*, cities were able to identify their “local territorial capital” patterns by identifying the traits that make them alive and functional. Based on the available data, the cities of Boca Raton and Coconut Creek seemed parallel with strong vitality levels compared to the cities of Miami Gardens and Riviera Beach that each presented lower levels of vitality indicators, due to crime, poverty, income, and lack of services and amenities. Through the theory of *Symbiotic Process* cities’ “trading places” patterns were tracked by pinpointing their level of dependency to other entities at the local, county, and state level. Based on the available data, the City of Boca Raton and Riviera Beach were the most self-dependent while the City of Coconut Creek and Miami Gardens depended on both county and state levels efforts to ensure at least basic level of services. However, despite their level of dependency, we also found that they all depend on each other to survive financially. Lastly, through the theory of *Urban Rhythms*, cities’ unique and unparalleled “local branding” were identified. However, in this case, despite their unique traits, patterns of similarity were apparent. For example, both the cities of Boca Raton and Riviera Beach active time cycle seems to fall between 12 to 15 hours a day, while some areas of the cities of Miami Gardens and Coconut Creek active cycles operate 24 hours a day.

The findings in this project encouraged us to do more research about alternative livability indices that can produce the most accurate data that best represents a city’s true characteristic. It also raised the question whether *Urban Vitality*, *Symbiotic Processes*, and *Urban Rhythms* theories are reliable enough to develop a more complex local livability index.

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