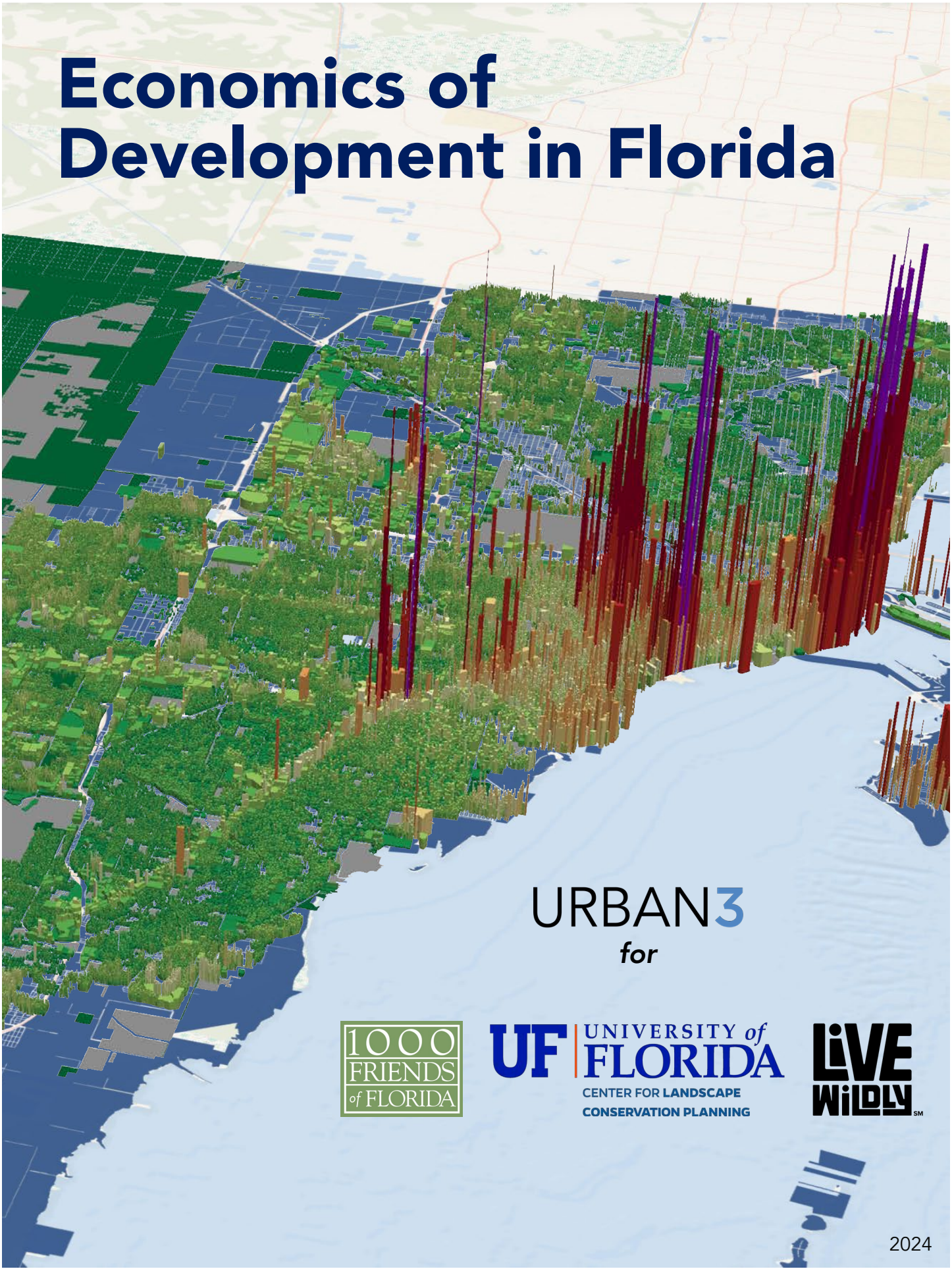
Economics of Development in Florida



URBAN3
for

1000 FRIENDS of FLORIDA

UF UNIVERSITY of FLORIDA
CENTER FOR LANDSCAPE CONSERVATION PLANNING

LIVE WILDLY℠

2024

Glossary

Arterial Roads

Thoroughfare roads designed for high capacity and speeds that usually connect activity centers; these roads sit below freeways/motorways in the road classification hierarchy.

Geoaccounting

Process of mapping a community's revenues and expenditures to understand how different land uses and development patterns perform financially.

Infill Development

The process of developing vacant or under-utilized parcels within existing urban areas that are already largely developed.

Land Uses

Regulating the use of land to achieve urban and regional planning goals; land uses include commercial, residential, industrial, agricultural, open space, recreational, etc.

Mixed-Use Development

A development that combines two or more land uses on one site. A classic mixed-use development type is a building with ground-floor retail spaces and apartments above.

Parcel

Area of land that is owned (i.e. lot, plot).

Return on Investment (ROI)

The measure of how much is earned over the course of an investment relative to the initial investment; profit minus cost.

Single Family Housing

A residential development intended to house only one family at a time.

Value Per Acre (VPA)

A metric used to evaluate the effectiveness of land use policy; property value divided by acres utilized.

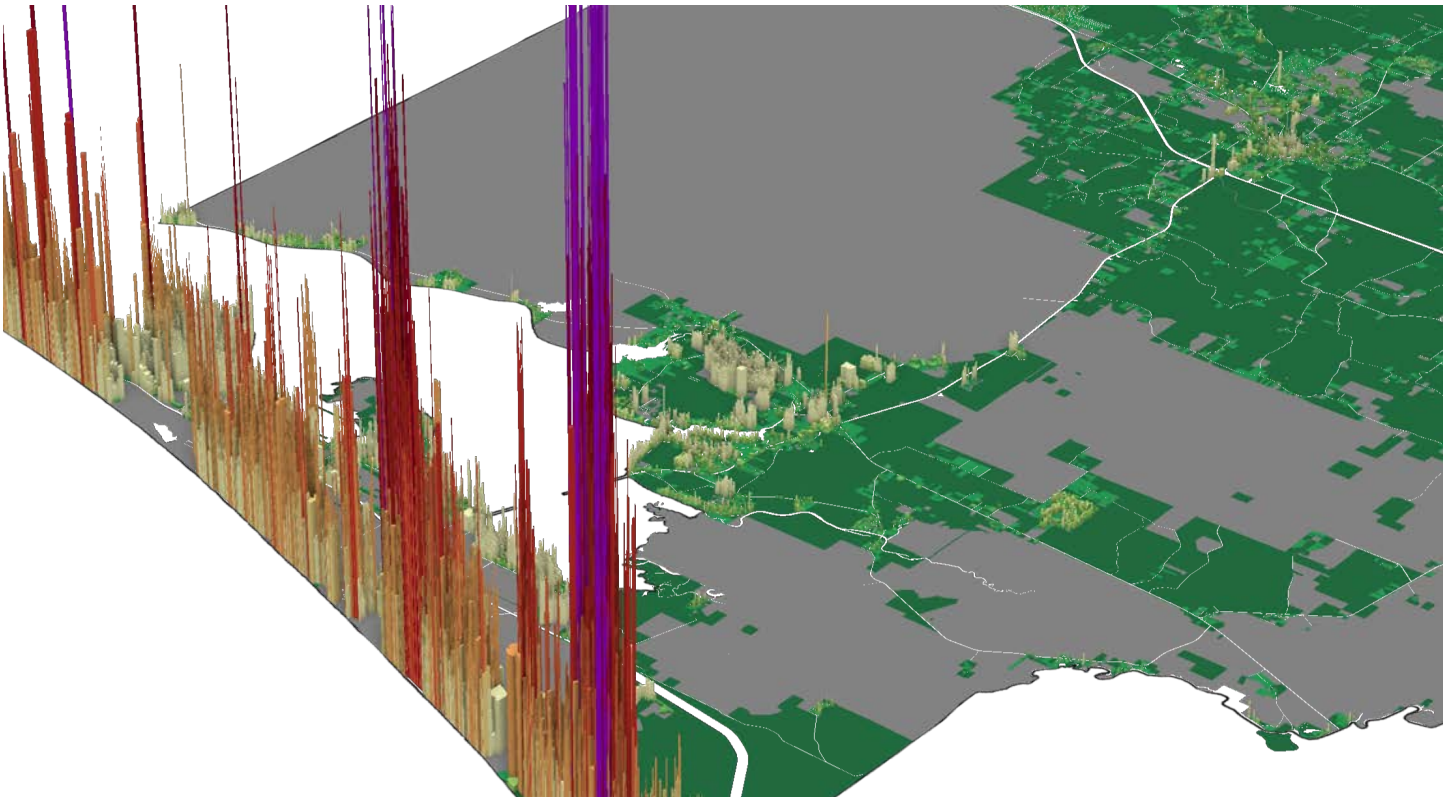


Table of Contents

About the Authors

URBAN3

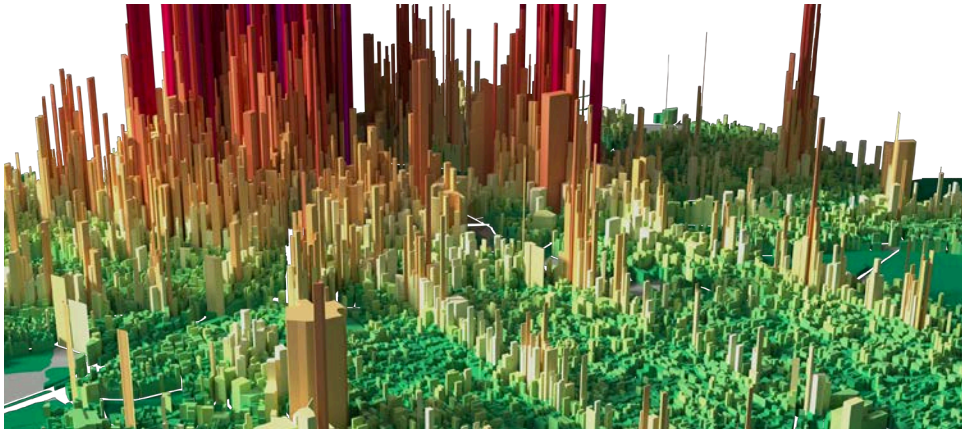


Image credit: Urban3

We are a consulting firm specializing in land value economics, property tax analysis, and community design. Our approach bridges the gap between economic analysis, public policy, and urban design. Our work will empower your community with the ability to promote development patterns that both secure its fiscal condition and create a strong sense of place.

We provide communities with an in-depth understanding of their financial health and built environment by measuring data and visualizing the results.

1000 FRIENDS of FLORIDA

Photo credit: 1000 Friends of Florida

For more than half a century, Florida has depended on growth and sprawling development to fuel its economy. Sadly, we continue to experience the tragic consequences of this approach, which has been likened by some to a "Ponzi scheme." Since 1986, 1000 Friends has been leading the way to a more sustainable future for Florida. We educate, advocate, and negotiate to protect our quality of life. Citizen involvement is at the heart of all we do. We conduct webinars and workshops, prepare special reports, and maintain a robust website to share information on Florida's planning process. Through projects like Sea Level and Agriculture 2040/2070, we share visions of what our state could look like if more sustainable patterns of development are followed. We also advocate on behalf of citizens in the halls of the Legislature and in city and county chambers, and work to promote sound public policy on growth and development issues.

UF UNIVERSITY of FLORIDA
CENTER FOR LANDSCAPE CONSERVATION PLANNING

Photo credit: University of Florida

The Center for Landscape Conservation Planning was established in 2010 to provide an official forum within the University of Florida's College of Design, Construction and Planning for conducting applied research on the relationship between conservation, green infrastructure, and land use. The Center is affiliated with the Department of Landscape Architecture, forming a bridge between the disciplines of design, planning and wildlife conservation, and providing applied learning opportunities for students. Results of the Center's research are used to influence public policy through education and direct involvement in the application of relevant science, technology, sound planning principles, and state-of-the-art methods of conservation analysis, planning and management.

LIVE WILDLY℠

Photo credit: Live Wildly

Live Wildly Foundation is a 501(c)3 organization that applies an entrepreneurial approach to the conservation of half the State of Florida while seeking to balance smart growth, a robust economy and a connected, resilient landscape. We advance conservation in Florida by creating diverse coalitions, fostering collaboration, and empowering stakeholders. In partnership with Bellini Better World, Live Wildly strives to achieve a harmonious and sustainable future where economic prosperity coexists with a thriving and resilient ecological landscape.

Introduction

Urban3 has been in the practice of visualizing land-use economics for over a decade. We have analyzed hundreds of municipalities in 42 states, as well as communities in Canada, Australia, and New Zealand. Our portfolio includes 19 of the 67 counties in Florida (Figure 1). Although no two communities are identical, even in the same state, there are patterns and lessons that emerge to help policy makers better understand the forces that shape community development. As major population shifts continue over the coming decades, several factors will shape Florida's inland communities as well as the coasts. In fact, these changes are already happening. As inland communities grow, they have a chance to learn from coastal communities that have passed their growth spurts and avoid some of the inefficiencies from poor land-use practices.

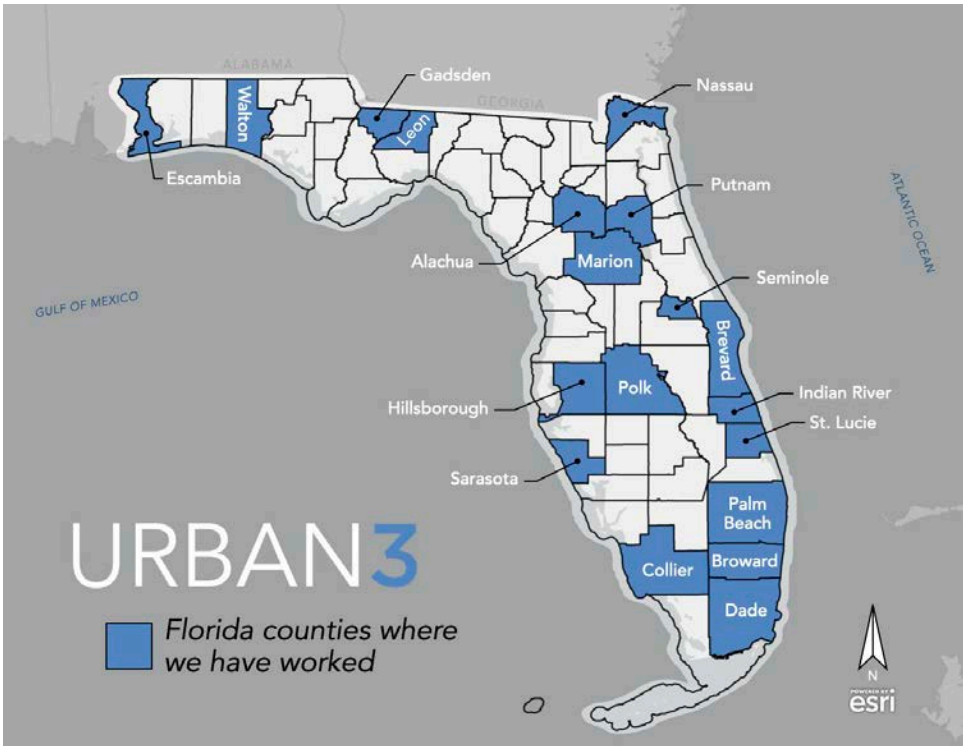


Figure 1. Map showing county locations of past Urban3 projects
Source: Urban3

This report is built on decades of professional work that has led Urban3 to analyze land-use economics for all kinds of places, from small towns such as Brevard, North Carolina of 8,000 residents to larger metros such as the Dallas-Fort Worth, Texas metroplex of several million. The knowledge gleaned from these projects gives Urban3 an expert advantage in perceiving and understanding modern issues in long-range planning.

Urban3's analyses focus on helping local governments understand their community's fiscal health by considering the potency of different development patterns from a value per acre perspective. Broadly speaking, every parcel of land in a community has different characteristics that make it unique, perhaps most importantly its size. Simply comparing the overall productivity of properties with varying sizes is akin to comparing automobiles based on the miles they can travel per tank of fuel. We know that cars have different sized fuel tanks, so to understand their efficiency we compare them by how many miles they can travel per gallon of fuel. Comparing parcels similarly using value per acre as the key metric and applying it to both the revenues a property generates as well as the costs incurred to serve that property, we can determine how different land uses impact the long-term financial health of a community.

Major Findings

The first most important insight that Urban3 has gained by doing analytic work across the country is that communities of all sizes are struggling to afford essential infrastructure. The truth is that many communities have followed a development pattern that is fiscally insolvent. Suburban growth was made popular by federal subsidies beginning in the early- to mid-20th century, which helped pay for infrastructure and finance mortgages. Communities were flush with a combination of public and private money that made suburban development fast

and easy. Since the long-term financial liabilities of infrastructure have come due, communities have struggled to pay for those liabilities. In its professional practice, Urban3 has found that a suburban-type development pattern does not produce enough tax revenue to pay for its infrastructure liabilities. Unfortunately, this growth pattern has not been widely recognized as being fiscally insolvent and many communities have continued to grow in this way. This has been perpetuated over the decades by continued federal investment in highways, state policy, local planning and development standards, lending regulations, and more.

The second most important insight, inverse to the first, is that dense, walkable, mixed-use development patterns produce far more tax revenue per acre than is needed to pay for infrastructure. It is often the most dense, walkable areas of a community, such as a downtown, that help subsidize areas that are not as tax productive. By capitalizing on the potency of these areas, or even building new ones using principles of good urban design, communities can increase their fiscal sustainability.

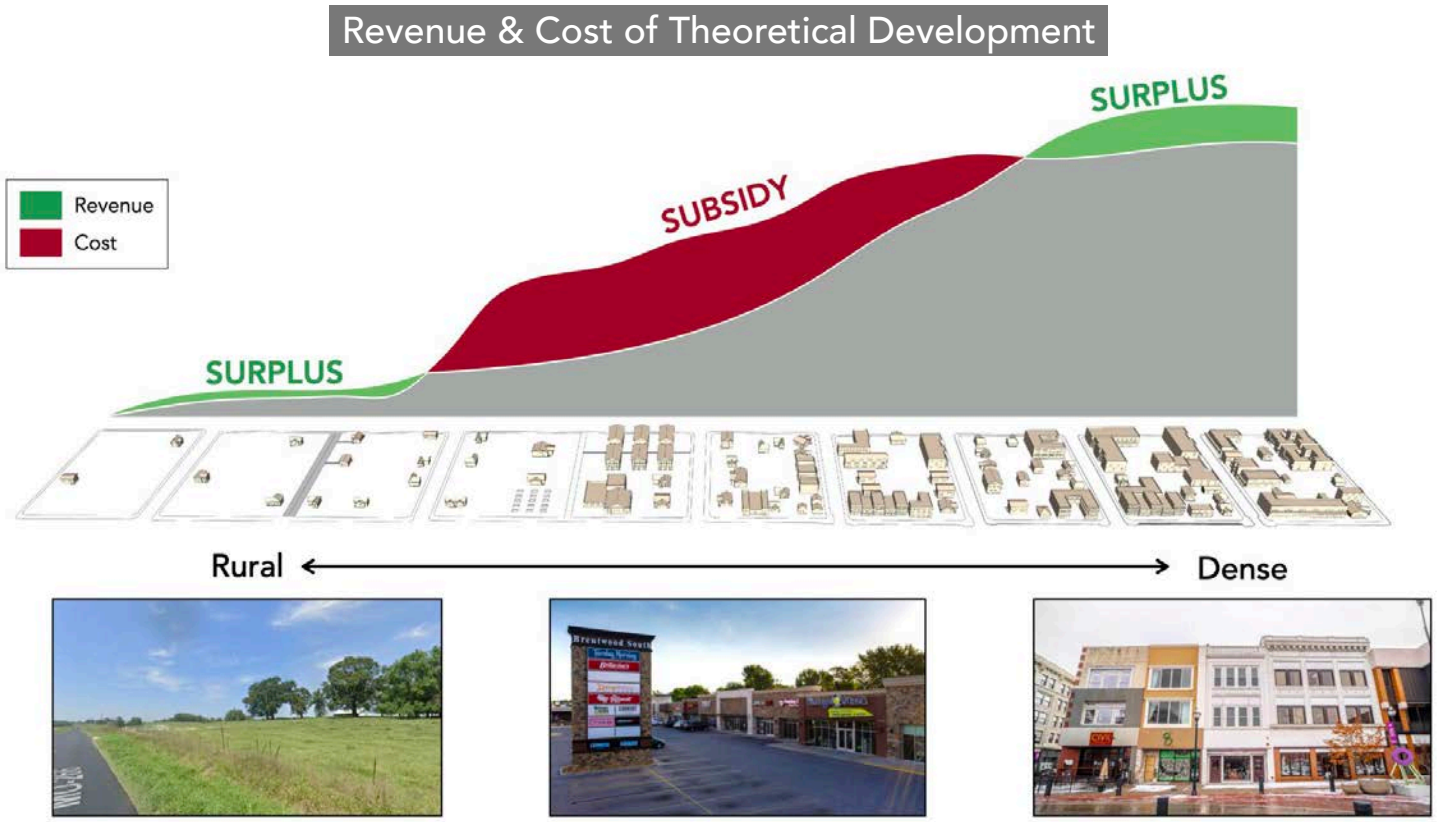


Figure 2.
Source: Urban3, Google Maps

The Connection Between Urban and Rural Planning

Good urban planning makes efficient use of land to maximize social and financial returns on investment. With sound planning, more people can be accommodated in more sustainable and livable communities that consume fewer acres of land, lessening the need to convert currently undeveloped natural and agricultural land to development. This, in turn, helps avoid fragmentation of land, which can play a critical role in maintaining functioning natural systems and economically viable agricultural lands.

Florida's natural and agricultural lands play a significant role in a variety of areas that directly impact people's lives across the state. Agriculture and related industries contribute more than $106 billion to Florida's economy and serve as the economic backbone of communities from the Panhandle to the tip of the Peninsula. And

natural areas help support one of Florida's largest industries, tourism. Springs, woods, wetlands, prairies, and beaches bring in visitors from around the world and significantly contribute to a more than $100 billion tourism industry. In addition, these natural areas provide a variety of ecosystem services, helping to remove pollutants from water, provide clean air, and improve the state's resilience to natural disasters.

Natural and agricultural lands require fewer services associated with urban and suburban development, reducing their burden on cities and counties where they are located. The development patterns that pose the greatest threat to these lands are low-density, disaggregated developments. Not only does low-density develop-

Figure 3.
Source: Eugene, OR (2019); Google Maps

ment have the potential to remove agricultural land production and fragment ecosystems, it also consumes far more in required revenue and annual maintenance for road, water, sewer, stormwater, and other urban services compared to natural and agricultural areas (Figure 3). Replacing agricultural and natural lands exclusively with low-density suburban development generates long-term economic and environmental challenges for communities including increased tax burden, increased infrastructure maintenance and costs, reduced services per capita, degradation of water quality, loss of greenspace and wildlife habitat, and reduction in food security. As we will see from an analysis conducted in Springfield, Missouri, maintaining natural infrastructure in urban envi-

"Every building must be thought of as adding one piece of the whole world."
- Leon Krier

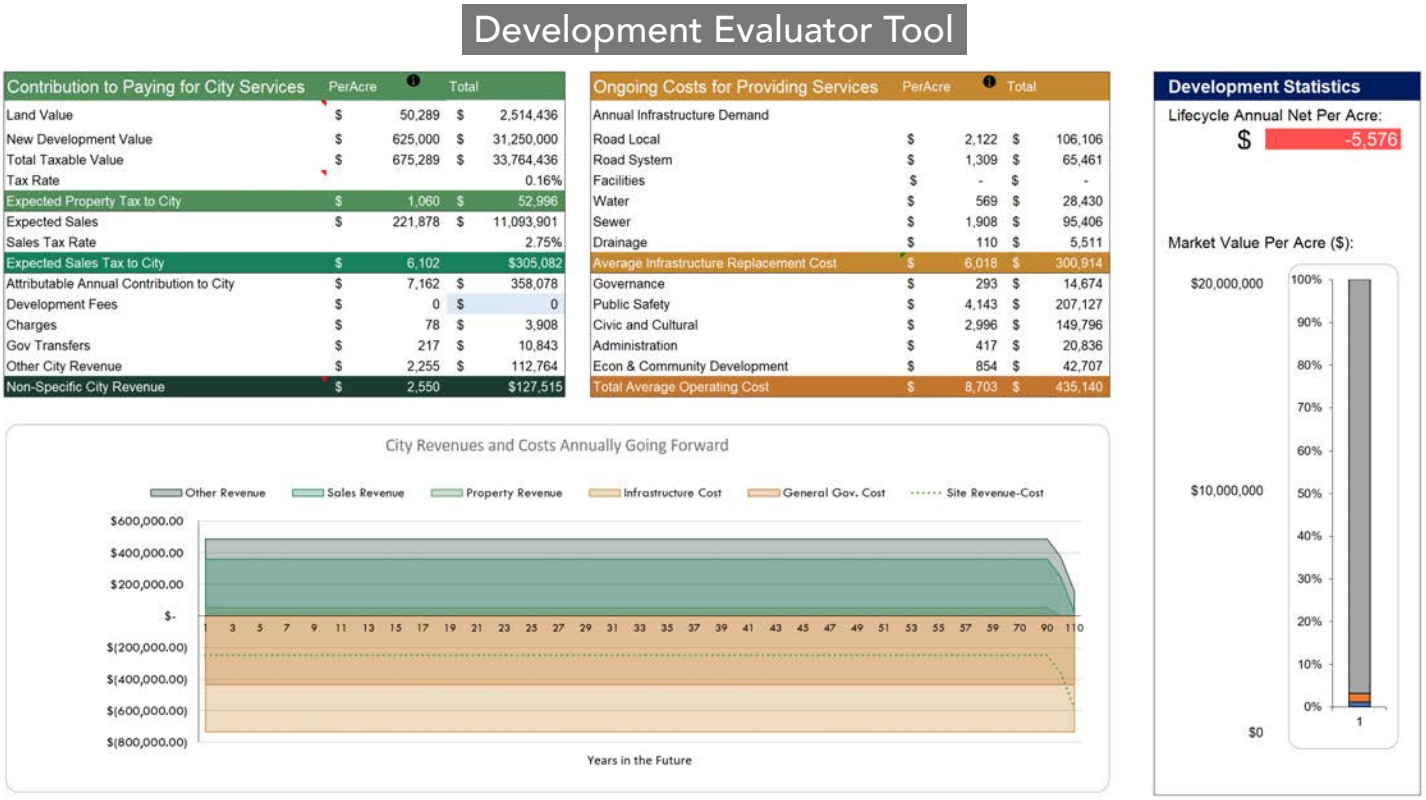


Figure 4.
Source: Urban3

ronments can, in fact, generate a direct financial surplus and improve the long-term fiscal health of a community.

Dense urban spaces lessen the need to develop natural lands, and those natural lands lend immense value to the communities that preserve them. Simply put, good urbanism is environmentally conscious, as it considers the long-term consequences and the efficiency of land use. To be blunt, it considers the land a priceless opportunity, not to be wasted by inefficient land-use patterns. The byproduct of this is also a financial and social benefit to the community. By doing both, Florida's communities can create greater compatibility between urban and natural environments, emphasizing protection of critical green infrastructure while providing essential grey infrastructure.

Florida is growing. In economic terms, this is a good position to be in. In environmental terms, this growth has significant ramifications. However, Florida has a choice in how it grows. It can continue to sprawl, increasing its fiscal liabilities and decreasing its environmental sustainability and availability of agricultural lands; or it can grow using the principles of good urbanism, increasing its tax productivity and minimizing its environmental and agricultural impacts.

When a new development, like a residential neighborhood, is constructed the developer takes responsibility for building not only the homes, but other pieces of infrastructure that support that development (Figure 4). Take the roads, for example (Figure 5). The city or county where that development is located gets those roads for "free" because they didn't have to build them initially. However, those roads, as well as other pieces of infrastructure, typically then become the responsibility of the city or county to maintain. They have to pay for annual maintenance as well as less frequent, but more costly, things like resurfacing. And eventually, those roads must be rebuilt entirely, which is extremely costly. The cyclical nature of maintenance is important for jurisdictions to consider as they grow and take on more infrastructure they will be responsible for maintaining in perpetuity.

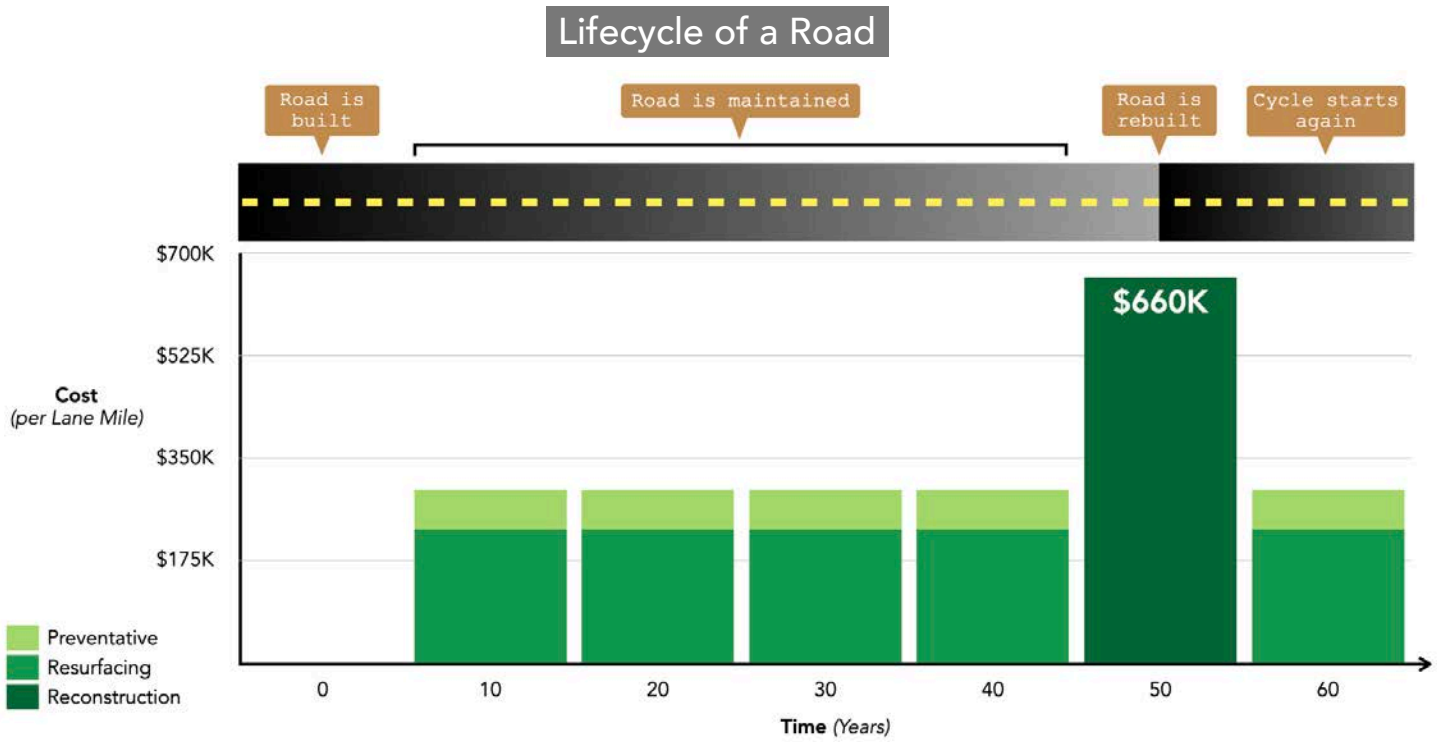


Figure 5. For illustration purposes as an "average," and may fluctuate due to level of service, usage, scale of road and substrate, and local cost of labor.
Source: Urban3, indusinc.com

Tax System

When considering the development patterns of a community, one should start by understanding the revenue and expenses of how communities are financed.

The largest driver of municipal design starts with how places create their revenues, and that starts with taxes (Figure 6). Local governments in Florida, including cities and counties, are funded mostly by property taxes. Sales taxes are typically the secondary driver, followed by other incomes such as fees, state transfers, grants, etc. Other forms of revenue include development fees, called impact fees in Florida, that are meant to help offset some of the costs associated with new development. However, it is rare that these fees do a reasonable job of accounting for the lifecycle costs of new systems that support new developments. Property taxes are the prime revenues for cities and counties. School board budgets are also largely reliant on property taxes.

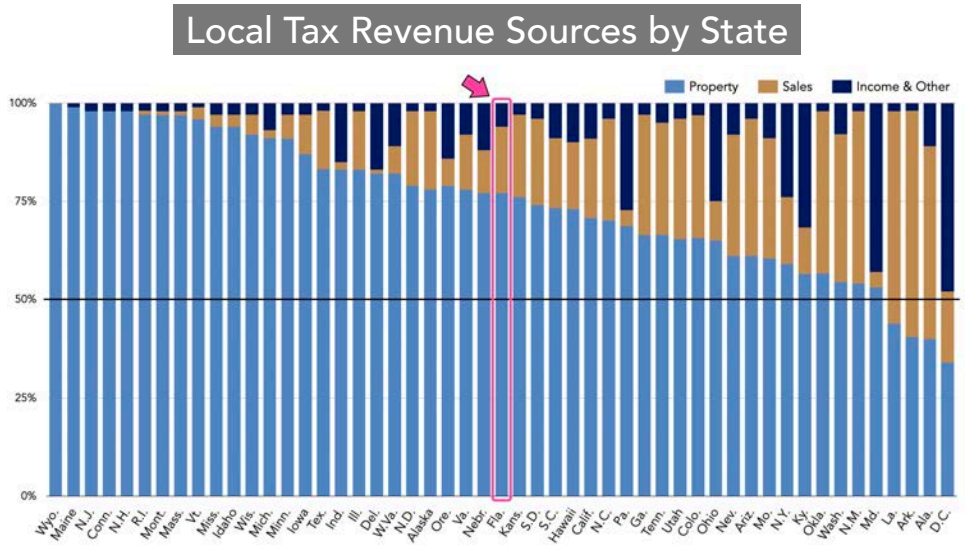


Figure 6.
Source: US Census 2021 State & Local Government Finance Historical Datasets and Tables

Not every property pays the same effective tax rate, however. First, homeowners are eligible for exemptions, which can take tens of thousands of dollars off their taxable value. Second, the Save Our Homes Amendment limits yearly taxable value increases for homeowners to the Consumer Price Index (CPI) increase or 3%, whichever is less. The lowest increase post-2008 was 0.7% in 2016.

It's important to keep in mind that while increases in residential taxable values are artificially limited by these policies, the cost of services and infrastructure they help pay for is not. The average price of asphalt, for instance, grew 5% annually from 2011 to 2020. But increases in infrastructure costs, as well as the CPI, have been much larger recently. The CPI increased 7% from 2021 to 2022 and the Producer Price Index for asphalt paving and roof materials increased 29% in the same period. However, for a significant share of properties, the growth of taxable value was capped at 3% (Figure 7).

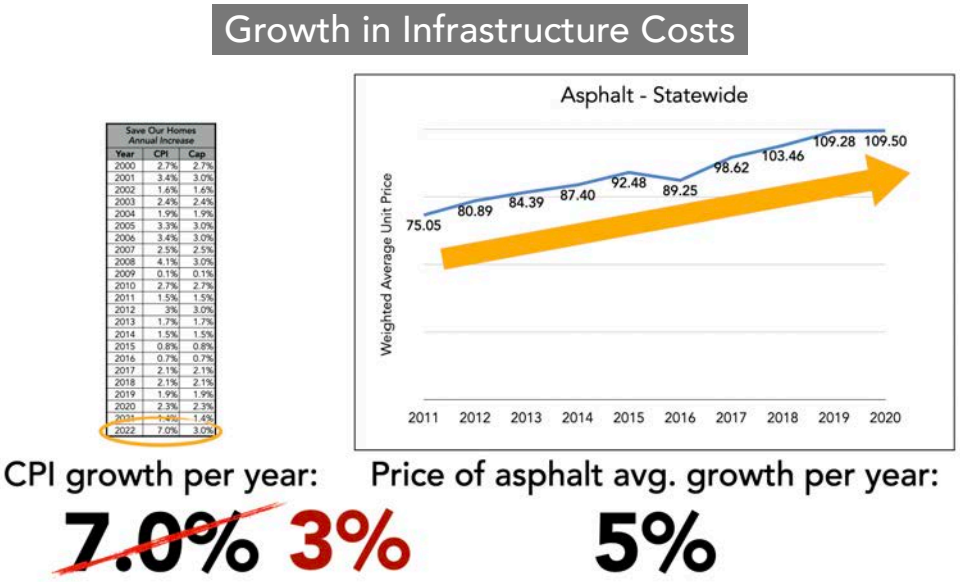


Figure 7.
Source: pcpao.org, FDOT 10 Year Cost Trend Report

Simply put, though it may be politically popular to cap homeowners' property values and their subsequent taxes, the economics of what a city costs does not follow those same rules. As inflationary periods continue, the chasm between the cost of materials and labor, on the one hand, and a community's ability to pay for those costs, on the other hand, will widen. One way out of this trap is to add more new taxpayers, but that comes with additional costs. Another method is to better understand the cost side of the ledger and maintain a more efficient pattern of development that is net neutral or net positive with its revenues against municipal cost.

Sales taxes are a sizable portion of municipal revenue, but not as significant as property taxes. The problem with sales taxes is that they are more responsive to market forces. For instance, in the Great Recession, sales of goods like boats and cars plummeted, and with it the sales tax revenue. Additionally, the state of Florida does not allow municipalities to analyze sales tax production at a local level smaller than a zip code. This may be sufficient for larger cities, but it is not for smaller communities. Urban3 has experience in states where this data is accessible for analysis (e.g., Texas, Colorado, California, South Carolina, Iowa to name a few) and those studies have shown that downtowns outperform suburban "big box" developments in tax productivity. In this report, we include the analysis of Gainesville, which tracks with those studies. Furthermore, we'd recommend that communities seek policy changes to allow for sales tax transparency at a more granular level, so that communities may be better informed.

The citizens of Florida should insist upon open access to this information, especially if they are counting on it for maintaining city services. There are ways to analyze sales tax production geospatially without revealing confidential business information. The states mentioned above have those policies in place and they can be replicated in Florida.

Finally, there is the question of fairness and equality with the Save Our Homes protections. Although logical

from a standpoint of arresting market dynamics caused by population shifts within Florida, the protections this creates are not equal for all residents. A renter does not enjoy the same protection from market forces as a homeowner does. For instance, two identical houses that are side-by-side can have two very different tax bills for the same infrastructure access. This is yet another example of local economic quirks caused by policy created at a state level.

City Design Principles

City development patterns take many forms, but a few types seen over and over again are documented by Duany Plater-Zyberk in the guidebook *Architectural Graphic Standards* (2000). The drawings in Figure 8 show the general shape of each community (left) and that community turned into a diagram (right). Think of the diagram as the skeletal shape of the community that sets structure. There is a broader chapter on this concept, but the simple visual here works as a general primer on urban design.

These are by no means the only structural shape, but the predominant shape that allows for efficient growth while maintaining a sense of place without the larger negative effects of low-density patterns. Communities should consider the overall structure of the organizing elements of design within a neighborhood, but also how it scales up regionally. Communities are dependent on their neighbors for labor, commerce, and economics, but also for environmental integration. In Florida's case, this is necessary for functional hydrology and maintenance of water quality. But it is also true for habitats for focal species, and even agricultural productivity and integrity. While these illustrations help diagram ideal patterns for human settlement, nature follows its own pattern as well. Although this report will focus on the built environment, it will also discuss how cities interface with natural patterns.

It's important to understand each diagram's shape. The "towns and villages" diagram is a structure where there is a prime community (town or city) that has a regional network of smaller villages that connect through transportation corridors. Madison, Wisconsin offers an example in this case. This diagram can be thought of as a mother and children relationship. The space between developed areas is land reserved for agriculture and nature.

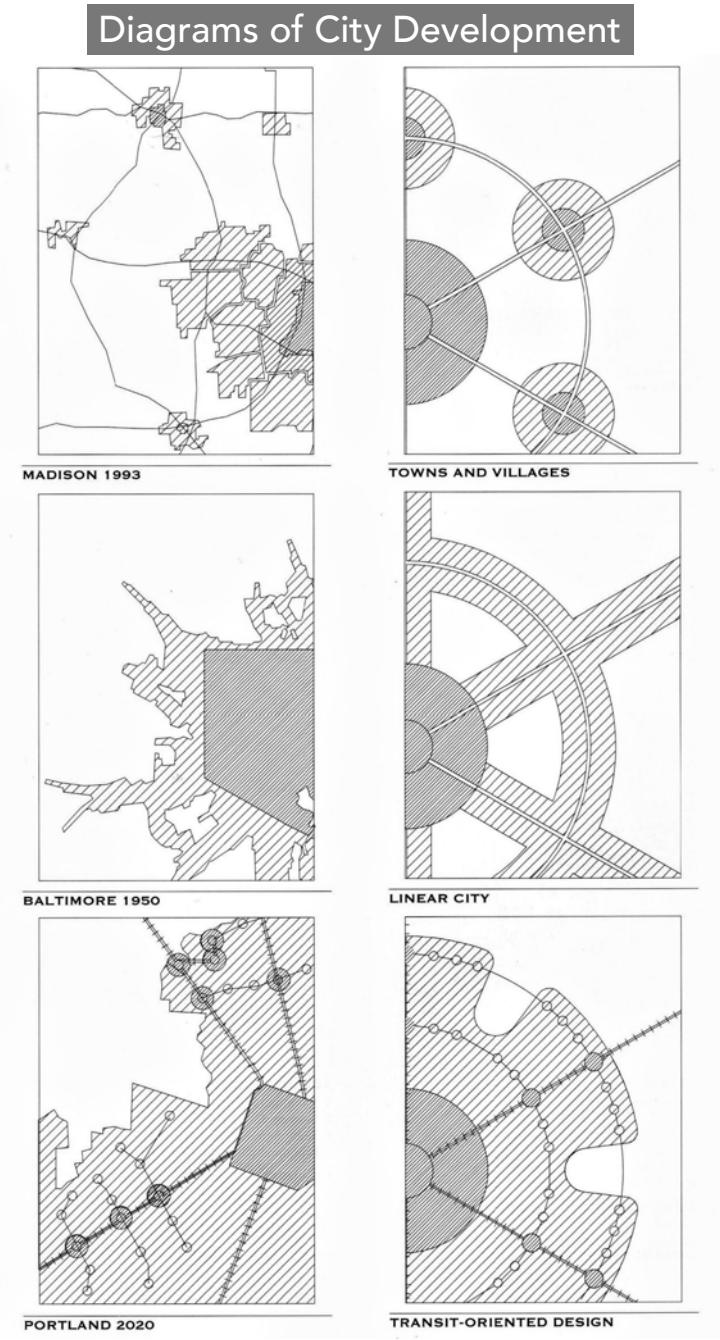


Figure 8.
Source: 'Architectural Graphic Standards,' Duany Plater-Zyberk (2000)

The "linear city" is a community that focuses on transportation corridors, like spokes out of a hub, seen in Baltimore, Maryland as an example. The transportation system in this model is a multimodal system that includes a transit strategy, as the core city is constrained by natural or geographic areas.

The diagrammatic patterns for healthy cities and nature are very similar. They both rely on the "node" and "network" and are scalable. Both rely on an interrelated diversity in proximity, similar to a "polyculture" in farming terms. Conversely, a "monoculture" is fragile in nature, as it is in city development.

Applying these diagrams to various Florida case studies outlines how some areas in the state have accomplished a reasonable balance between built and natural environments and how others can improve to better integrate development with the protection of green infrastructure.

Alachua County

Alachua County, Florida demonstrates an excellent example of the hub-and-spoke diagram (Figure 9). Not surprisingly, Gainesville, especially the zone from downtown to the University, stands out as the hub. At the county scale view, various villages across the county appear with smaller productivity spikes marking their downtowns, such as Alachua, Newberry, and Micanopy. The region has also maintained a form of "greenbelt" between the City and the villages in the form of wetland reserves to the south and east or agricultural lands to the west.

But Gainesville, and other unincorporated development, has also stretched itself westward, and foregone opportunities to make new "cores" among these new development patterns. Notable in the model is the unincorporated development west of I-75 which represents itself as a yellow-to-red range of development that is uniform like a carpet. This is what sprawl looks like. It's a pattern of sameness without structure, unlike the core of Gainesville to the whole city. The structure of neighborhood centers should be smaller versions of the core of downtown, but it is clear from the model that they have not emerged. On the contrary, the downtown toward

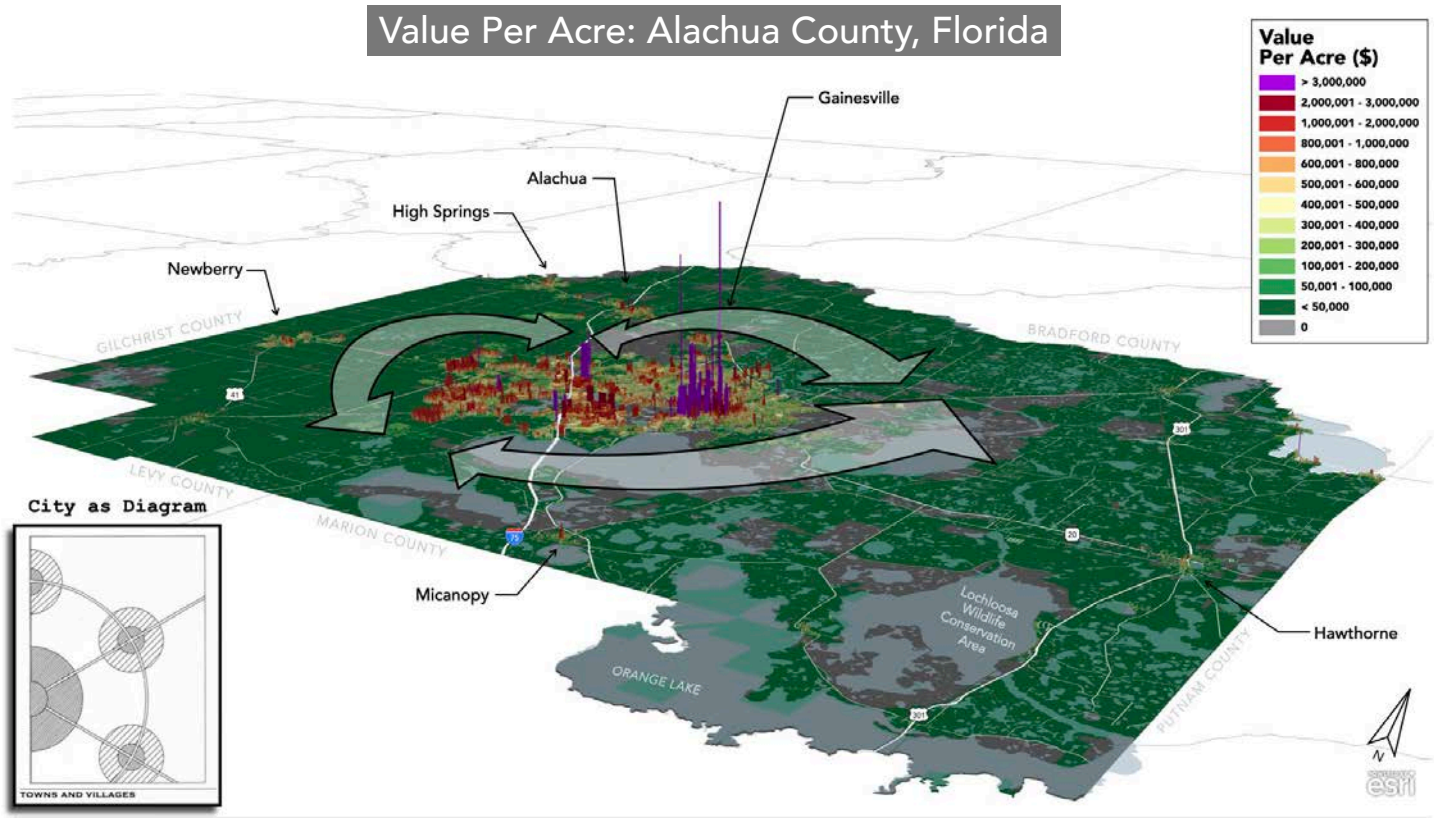


Figure 9.
Source: Alachua County Assessor (2017)

Taxable vs. Exempt Land in Alachua County

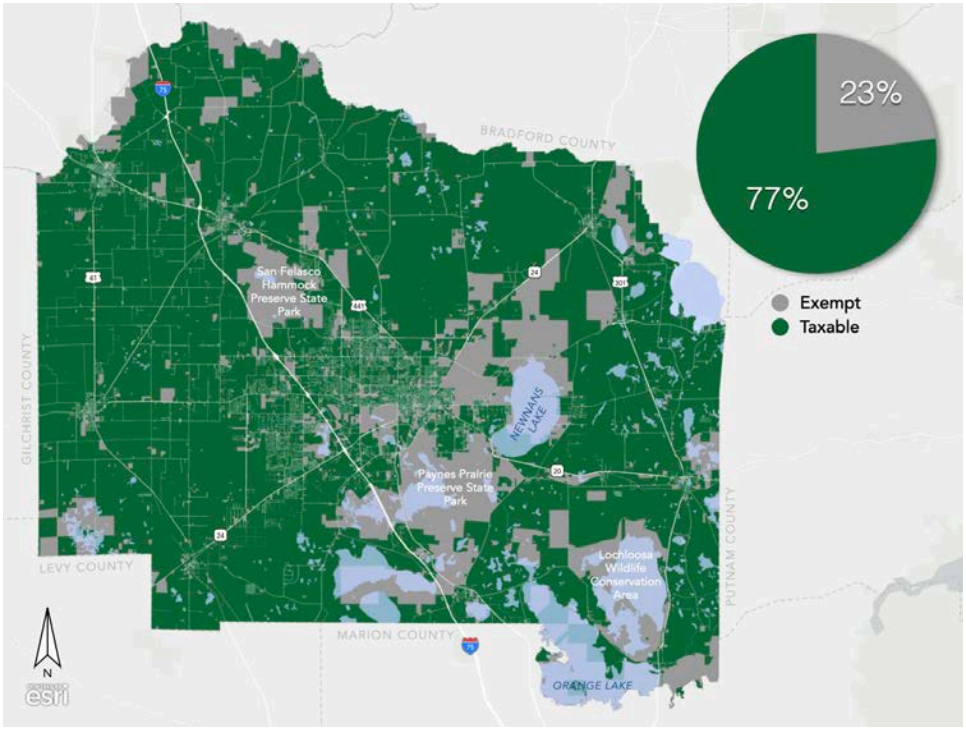


Figure 10.
Source: Alachua County Assessor (2017)

the University has demonstrated the potency of that walkable core in productivity, like a purple mountain. You can also see the downtowns of the communities beyond Gainesville, like Alachua, Newberry and Micanopy relative to their neighborhoods.

It should be noted that the county has worked to create a connected open space corridor. In the 2D map (Figure 10), it's easier to see some of the open space network from above, designated by the non-taxable areas on the right side of the city core. Most of the non-taxable area on the east side is public land. The same structural elements for human settlement patterns should be reflected in the natural space connectivity and structure.

Value Per Acre: City of Gainesville, Florida

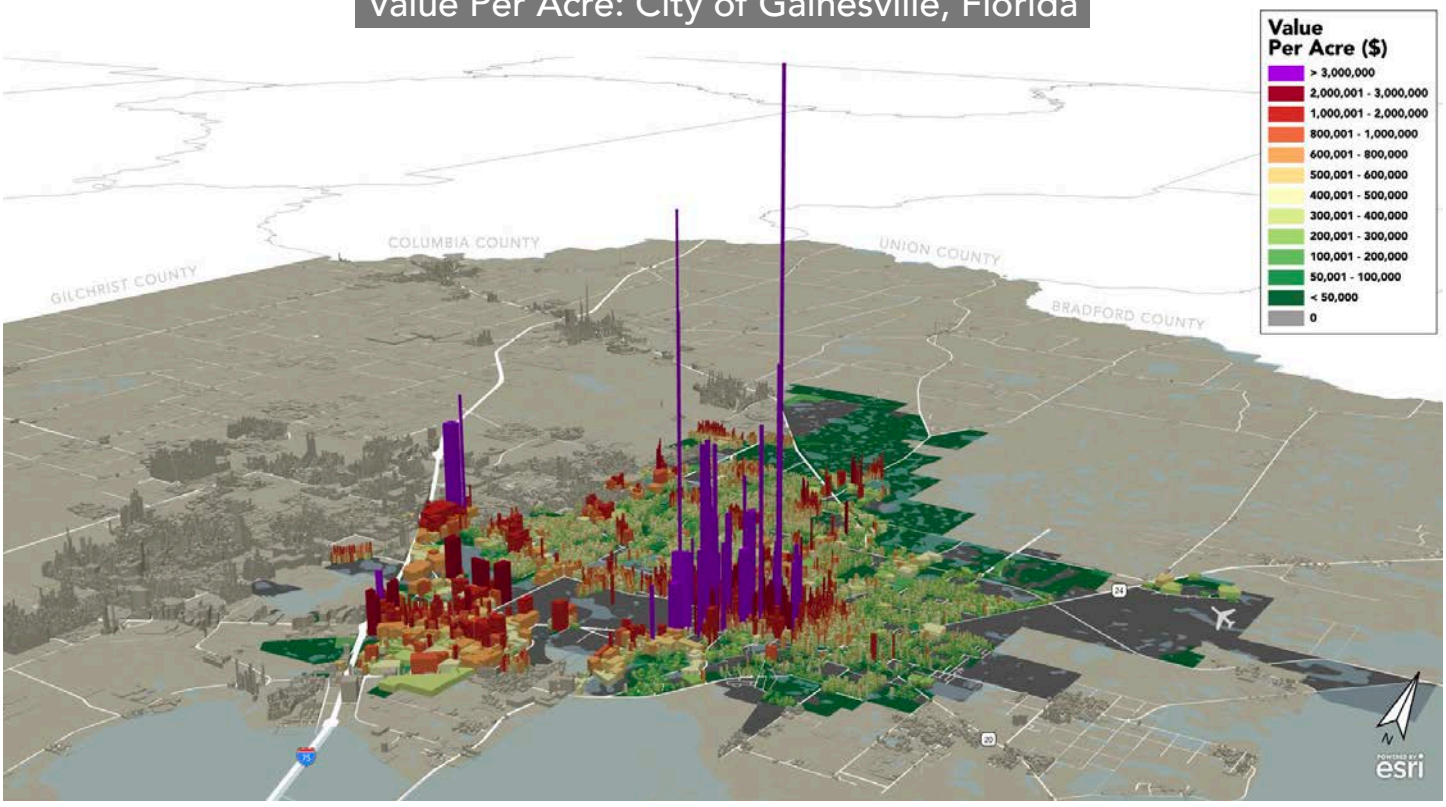


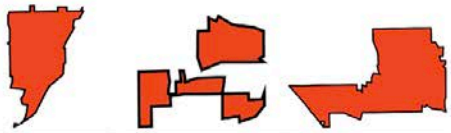
Figure 11.
Source: Alachua County Assessor (2017)

Zooming into Gainesville (Figure 11), downtown appears prominent, but new growth toward the University also stands out. In the City itself, some semblance of "sub-cores" can be seen elsewhere, but none have a clear pattern of development.

We also analyzed Gainesville's retail sales productivity (Figure 12). However, we were limited to analyzing the data at a zip code level. Despite the relative lack of granularity, similar trends in sales per acre emerge. Downtown zip codes perform better compared to more suburban areas, even those that have robust retail districts on the west side of the core. The more compact development patterns of downtown support a more productive retail sales environment when considering the data on a per acre basis.

Gainesville has worked well to keep some structure of open space connectivity to the natural and rural landscape, but this is more difficult now that unplanned growth has seeped into the western, more agricultural portion of the county.

Sales Tax Productivity by Zip Code in Gainesville



	Downtown	CRA	Northern Gainesville
	32601	32603	32605
Taxable Acres	2K	260	5K
Population	19K	8K	23K
Density (per acre)	8	7.6	
Taxable Property Value	$855M	$179M	$1.4B
Taxable Sales	$158M	$21M	$230M
Property Value/Acre	$507K	$686K	$283K
Taxable Sales/Acre	$94K	$80K	$48K
Property Value/Capita	$46K	$27K	$59K
Taxable Sales/Capita	$8K	$3K	$10K

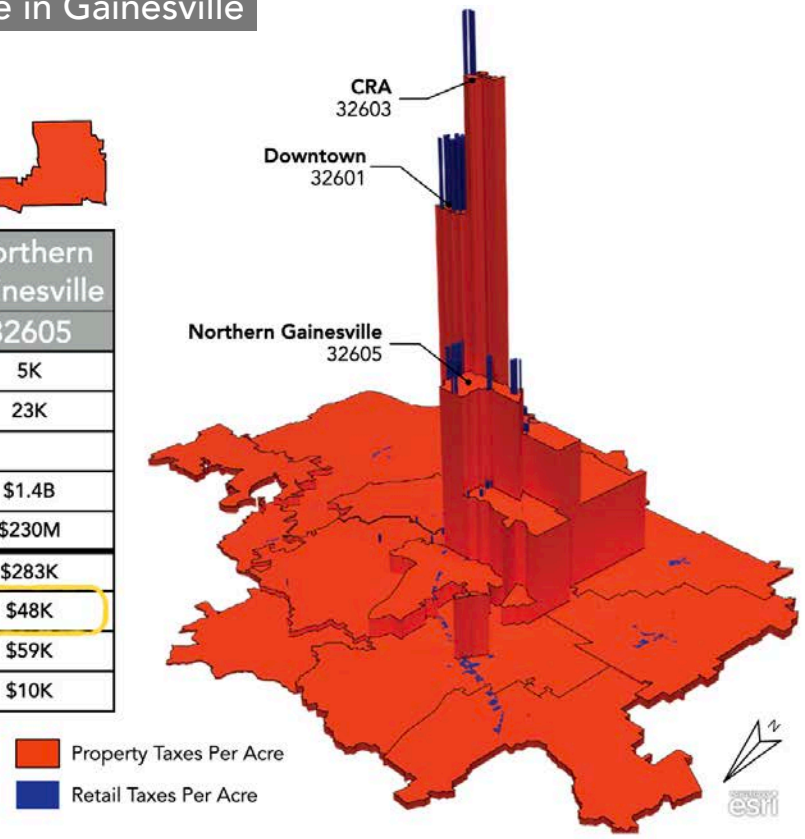


Figure 12.
Source: Alachua County Assessor (2017)

Florida Case Studies

Most patterns that emerge across Florida are based upon amenities such as ocean or Gulf access or lakes and rivers. Settlement patterns on the coast have a ridge of value near the water, as one would expect. For cities that have no waterfront, their patterns are more typical of city development that follows a prevailing industry and are centered on a downtown.

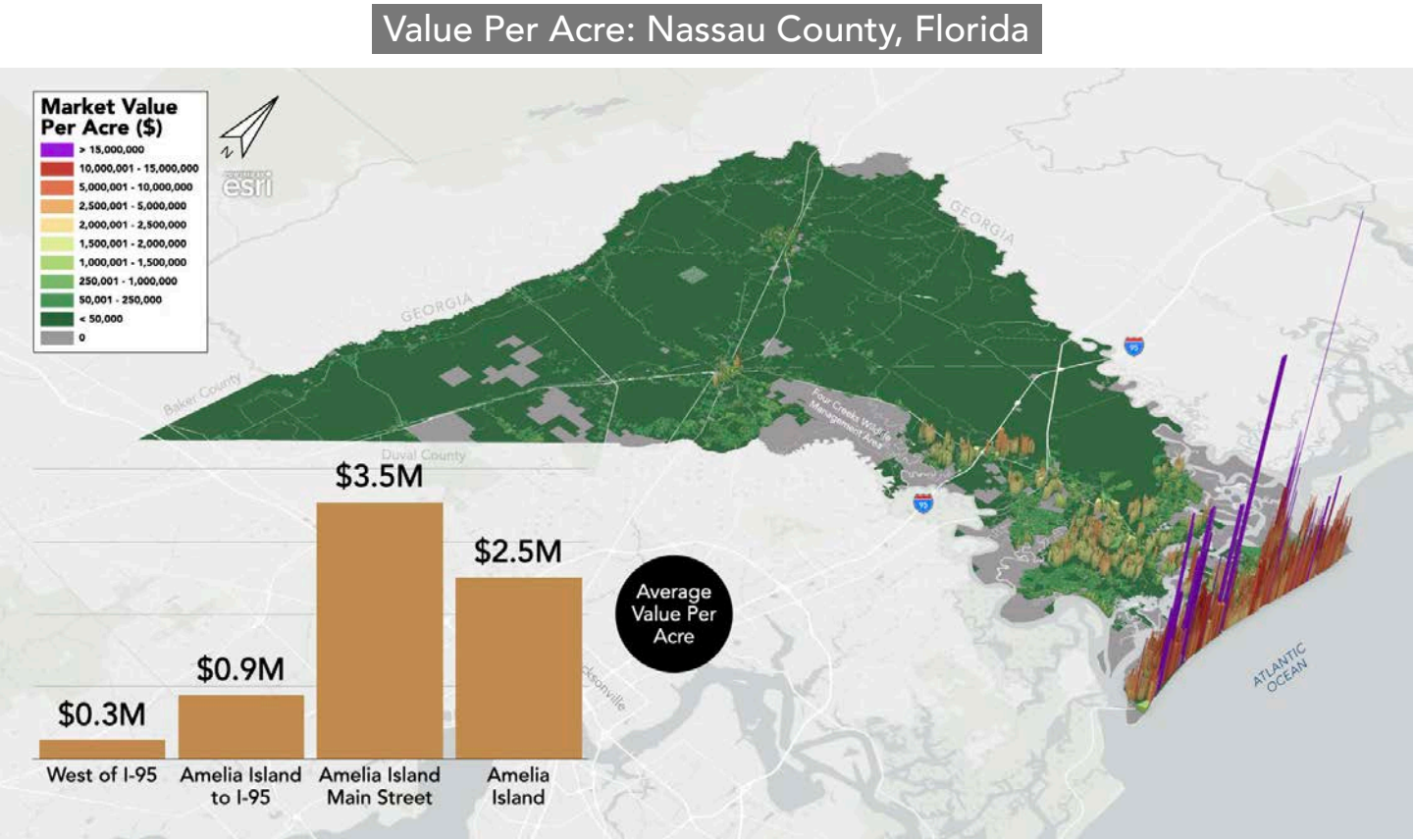


Figure 13.
Source: Nassau County Assessor (2023)

Nassau County

Nassau County exemplifies what Urban3 calls the "coastal effect" (Figure 13). Direct access to the ocean is highly desirable and creates immense value for properties along the coast. Counties along the coast of Florida follow similar predictable patterns, and it is very clear in the 3D models. Property along the coast, often situated on barrier islands, is magnitudes more productive than property on the mainland, as if it is two counties within one. Moving westward from Amelia Island, the productivity drops drastically in Nassau County. Amelia Island as a whole has an average value per acre (VPA) of $2.5 million. Its Main Street has a VPA of $3.5 million, despite being off the beachfront. Between Amelia Island and Interstate-95, the average VPA drops to less than $1 million. West of I-95 is much lower, at $300,000 per acre. But keep in mind, as the impacts of sea level rise intensify, this "coastal effect" may shift or even weaken.

Figure 14.
Source: Nassau County Assessor (2023)

This trend is somewhat natural.

As you move west, land becomes less connected and accessible to higher valued amenities and is therefore worth less. However, even within a highly productive area such as Amelia Island, there are some variations. The Amelia Park neighborhood is slightly more productive than the island average, whereas the Will Hardee neighborhood to the south is less productive (Figure 14).

Will Hardee offers a standard suburban lifestyle with large lots and homes with garages. Amelia Park doesn't shun single family homes or the automobile, but it capitalizes on its location to be more productive. Building types mix detached single-family homes along with townhomes, and site designs tuck garage access behind homes in alleyways. The edge of the neighborhood also accommodates commercial uses, so residents have easier access to goods. On Amelia Island, land is not plentiful, and Amelia Park recognizes that, having developed in a way that blends productivity and livability. The Amelia Park example should be encouraged because of its productivity.

Walton County

Walton County, in the Panhandle, contains a variety of development patterns that highlight the fiscal realities of lower-density urbanization compared to more-dense urbanism. The coastal edge caters to a unique development economy due to its desirability for tourism as opposed to land that is farther inland which is much more residential in character. The economic model clearly shows that the coastal edge is a different condition than inland development, but within each area there are differences to be observed.

Many coastal communities have given up their waterfronts to resort developments that maximize land values with hotel and condo towers and meet the needs of tourists. While developing sensitive coastal lands creates challenges, various developments along Walton County's coast offer an alternative development pattern. Seaside, Alys Beach, and Rosemary Beach are communities that accommodate tourists and locals while also max-

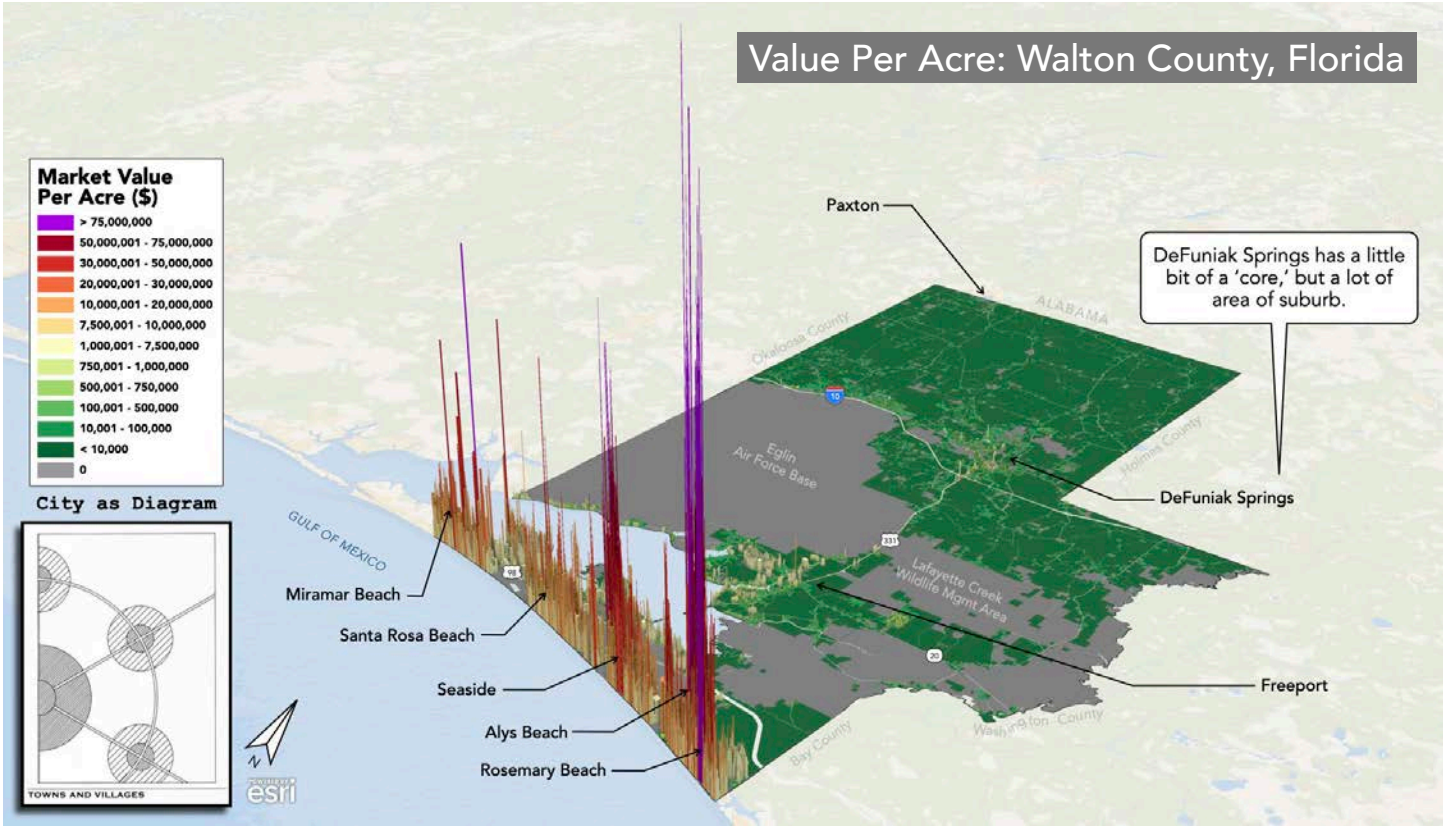


Figure 15.
Source: Walton County Assessor (2023)

imizing locational value. These communities feature walkable downtowns and an integration of building types with mixed-use cores that appeal to short-term visitors and long-term residents. This design approach creates more value across the entire development compared to adjacent developments of similar acreage. In a way, the design of those three communities builds upon lessons learned from urbanism patterns, and those same patterns, and subsequent values, are replicable in areas that are not Gulf adjacent.

Development along the Gulf displays clear economic advantages, but there are communities deeper into the county, such as DeFuniak Springs, not as visible in the model (Figure 15). If one zoomed into DeFuniak Springs, you'd see a similar pattern that one sees in Gainesville, just smaller. Additionally, much like some of the coastal developments, DeFuniak Springs also started as a resort community, albeit in the 1880s, but has maintained its identity as an evolved town. Its traditional layout has given it the ability to grow along its existing street network by intensifying parcels that are well connected.

If one of the "towns and villages" diagrams were to be applied to the inner county, DeFuniak Springs would be the core, and Paxton or Freeport would be villages on spokes. One caveat here is that Freeport shows the signs of monoculture development, as it appears flat in the Value Per Acre model. A village should have a more visible core as a "baby mountain" of productivity.

DeFuniak Springs should have its own core and network, but it isn't evident from the model that it has achieved that internal balance. To use the metaphor of the city diagram being like a fried egg with a yolk and egg white, DeFuniak Springs is mostly egg white, while Freeport is almost all egg white and no yolk.

South Florida

Figure 16 shows a model of South Florida, containing Miami-Dade, Broward, and Palm Beach County, plus the Florida Keys in Monroe County. This pattern mimics many of the patterns we've seen earlier, just at a larger scale.

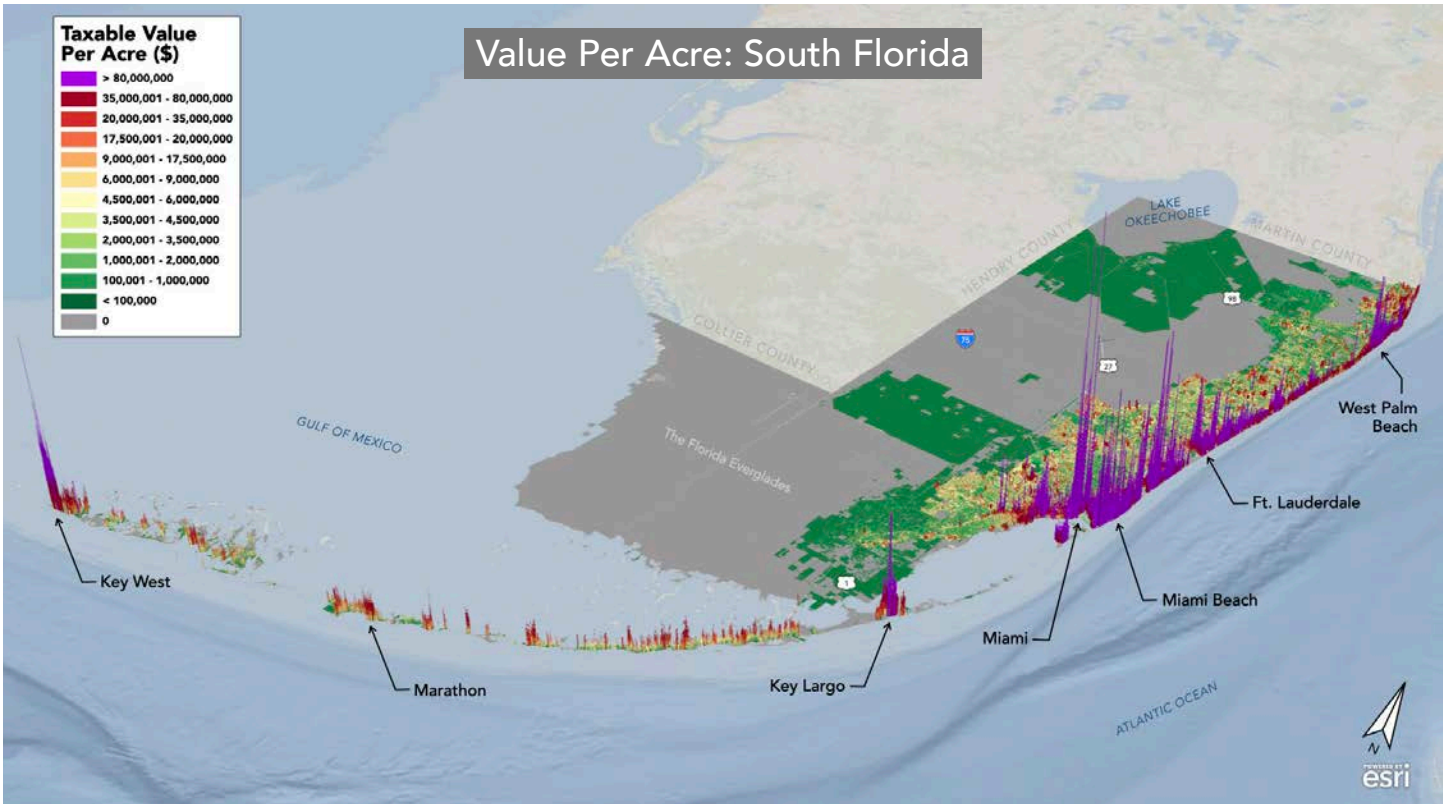


Figure 16.
Source: Miami-Dade, Broward, Palm Beach, and Monroe County Assessors

The Miami metro area, Florida's largest, exhibits several typical development patterns. The edge condition, where productivity is highest along the coast, is clear in downtown and the barrier islands. But west of this edge, an unproductive development pattern runs undifferentiated to the edge of the Everglades. Miami-Dade County has long held fast to its growth boundary, but it missed the opportunity to develop a coordinated open space plan within the boundary area. Additionally, the structure of the development patterns in the post-WWII development areas are indistinguishable from one community to the next. Numerous cities essentially form an undifferentiated blanket of sprawl west of Miami. But for the coastal cities and Coral Gables, there really isn't anything "popping up" on the maps to show a center that could be perceived as a second or third tier city. Doral is trying to change this, but it takes significant effort (as they know) to change the pattern, rather than building with intention as Coral Gables did.

West of I-95, the productivity across all three counties falls off. Zooming into Broward, this trend becomes clearer. There are 24 cities in Broward, 16 of which are west of I-95, yet none of the cores of these 16 cities stand out on the map. Where they begin and where they end is not obvious from the Value Per Acre map, which shows the communities' short-sightedness in planning. Most of them are characterized by suburban development patterns that repeat undifferentiated across the landscape. Again, this is the hallmark of Miami-Dade County development, but replicated in Broward. Because of this, the open-space infrastructure is fragmented and disconnected. Development patterns such as this are substandard in their design, tax potency, and ecosystem services. The error here is that as communities grow and add new development, there is an illusion of productivity as the tax base transitions from orchard to subdivision. But much like a sugar high, the infrastructure will eventually need maintenance and the productivity in suburban patterns is far too low to maintain its own infrastructure. These communities do not have their own "purple mountains" of productivity to benefit from (Figure 17).

"The error here is that as communities grow and add new development, there is an illusion of productivity as the tax base transitions from orchard to subdivision. But much like a sugar high, the infrastructure will eventually need maintenance and the productivity in suburban patterns is far too low to maintain its own infrastructure."

Many sprawling developments west of I-95 offer value not much more than farmland, but they come with all the costs of a neighborhood. Suburban sprawl in Davie isn't that much more valuable than farmland to the west. Farmlands don't demand services, but these new residents will. Rural sprawl in southwest Geneva isn't that much more valuable than orange farms to the north. Oranges don't call 911 for emergencies, but these new residents will. If counties are going to allow development into farmland that produces obligations for infrastructure maintenance and social services, those developments should offer tax returns far greater than the farmland they replace.

One city that bucks the poor productivity trend west of I-95 is Coral Gables. Its average city-wide value per acre is nearly that of Miami, at $4 million. This is leagues above Doral, at $1.8 million. Surprisingly, Doral is denser than Coral Gables. Doral has 5,485 people per square mile and Coral Gables has 3,804 per square mile. Doral achieves its density by spreading low dense development across its footprint without leaving much space for nature. Density typically adds value, but as Doral demonstrates, if it isn't planned accordingly, it won't create value. Coral Gables achieves its density by concentrating dense development in core areas and leaving space for nature, a large share within R. Hardy Matheson County Preserve. Coral Gables makes better use of its developed land, building fiscally valuable neighborhoods in the process, while leaving extra space for natural areas to thrive, ensuring environmental sustainability and increasing desirability for residents. The same density can be accomplished in two ways: sprawl out and destroy the connectivity of natural networks or encourage more

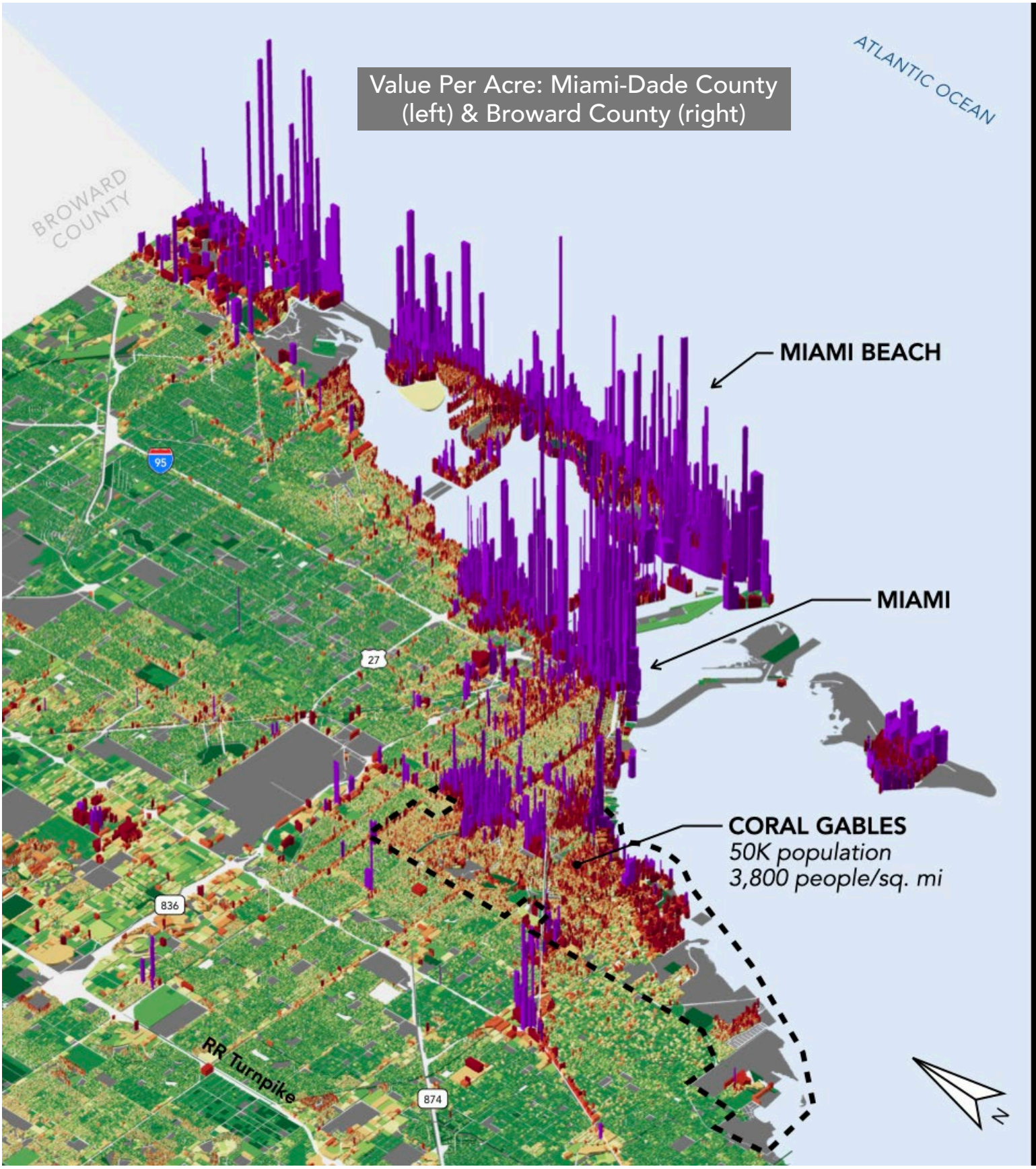
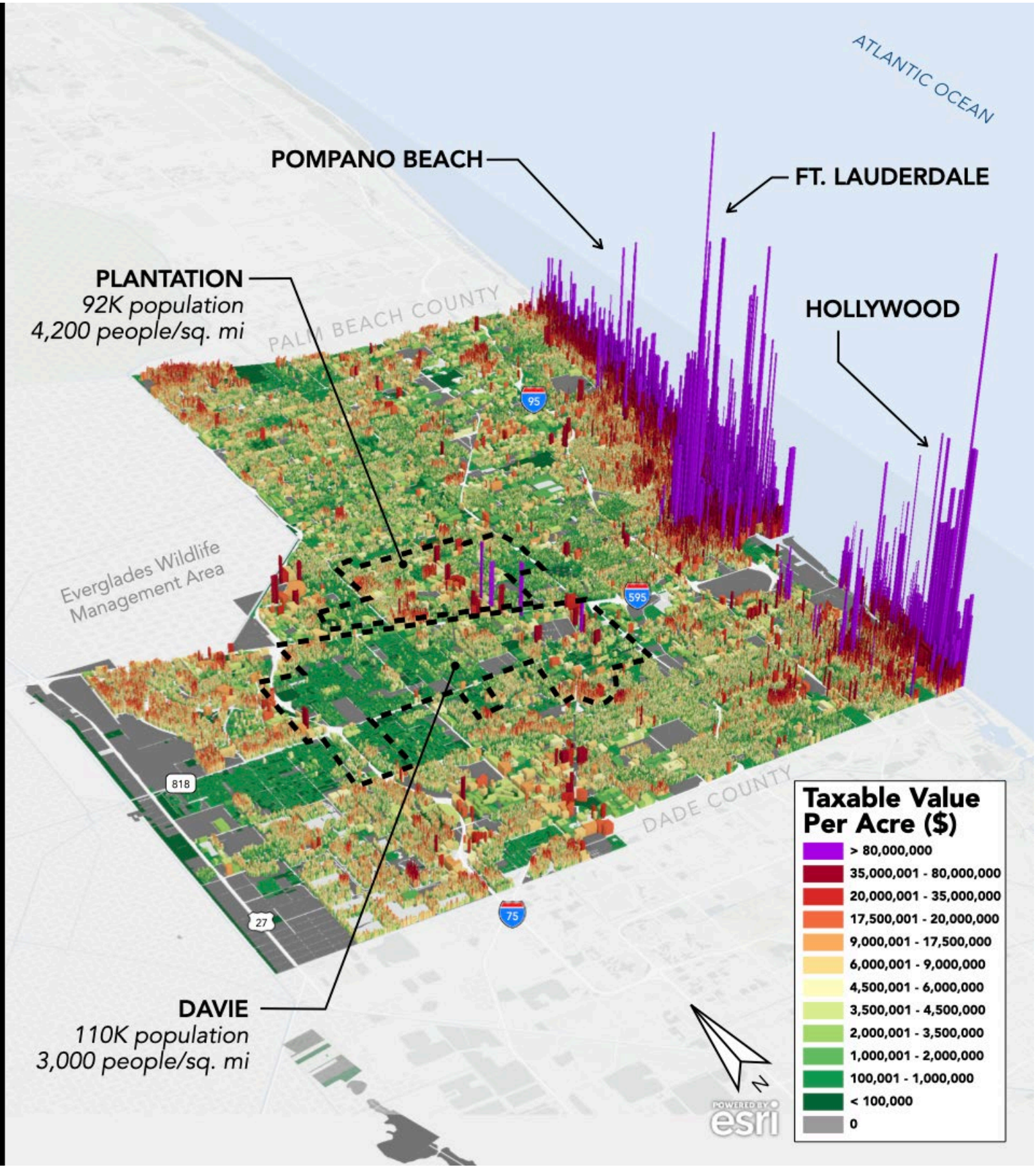


Figure 17.
Source: Miami-Dade, Broward, Palm Beach, and Monroe County Assessors


ATLANTIC OCEAN
POMPANO BEACH
FT. LAUDERDALE
PLANTATION
92K population
4,200 people/sq. mi
HOLLYWOOD
PALM BEACH COUNTY
Everglades Wildlife Management Area
DADE COUNTY
DAVIE
110K population
3,000 people/sq. mi
95
595
75
818
27
N
POWERED BY esri
Taxable Value Per Acre ($)
> 80,000,000
35,000,001 - 80,000,000
20,000,001 - 35,000,000
17,500,001 - 20,000,000
9,000,001 - 17,500,000
6,000,001 - 9,000,000
4,500,001 - 6,000,000
3,500,001 - 4,500,000
2,000,001 - 3,500,000
1,000,001 - 2,000,000
100,001 - 1,000,000
< 100,000
0

density and protect important agricultural and ecological spaces (Figure 18).

While most productive cores in coastal counties are along the coast, not all future cores are destined for the coastline. With thoughtful and intentional development, new cores like Coral Gables can be developed where a community lacks amenities such as a coast or waterfront.

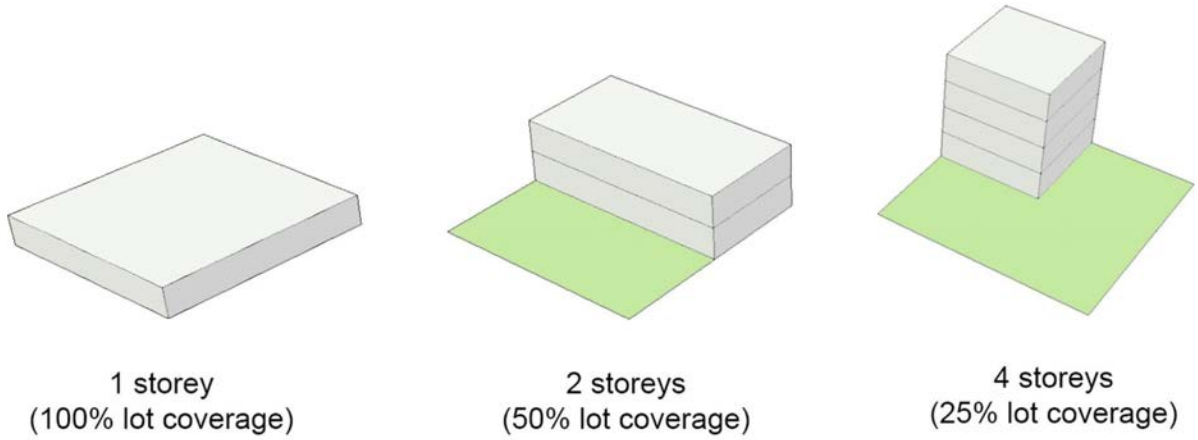


Figure 18. This graphic shows three different ways of accommodating the same amount of development. First, where a site is completely covered by low-density development. Second, where the same amount of development at a slightly higher density is built on half of the site, leaving the other half untouched. Third, where the same amount of development is built on a quarter of the site at a higher density, leaving three quarters untouched. If we extrapolate this out to an entire city, consider how much more space would be left for parks, civic spaces, or other uses and how much less infrastructure, like roads, water pipes, and sewer pipes, would be needed to accommodate the same total amount of development.
Source: kda.nyc

West Coast

Hillsborough County

The west coast is not immune to the coastal effect, and the 3D productivity models created on the west coast are familiar patterns found on the east coast of the state, just flipped. Tampa visually dominates the 3D (VPA) model of Hillsborough County (Figure 19). However, there are some interesting lessons in the productive cores that the inland communities are trying to grow. Plant City, another traditional city founded in the 1880s, shows up with the familiar pattern of a core with suburbs. The County is working with the unincorporated Wimauma community to do the same with its core. The Brandon community was notable because of the size of its population, and yet it lacks a core. Much like the patterns seen west of I-95 on the east coast counterparts, Brandon's pattern is flat with low productivity. While the County's most productive site is the Bank of America plaza in Tampa at 42 stories ($170 million per acre), Plant City's most productive site is a modest two-story building hosting a local coffee shop, Krazy Kup ($24 million per acre), in part because the site does not include on-site parking. For a city of only 31,653 people, a building of this productivity is impressive. The site is a standout for Plant City. Krazy Kup's VPA outshines the city's average VPA, and new buildings located downtown should shoot for this as a standard.

Downtowns of other inland cities don't fare as well. Brandon's peak VPA is a storage unit development, a far cry from good urbanism and a missed opportunity. Wimauma, a much smaller, more rural community, has its peak VPA represented by a townhome development, but there's still opportunity to build more of a village core there.

Value Per Acre: Hillsborough County, Florida

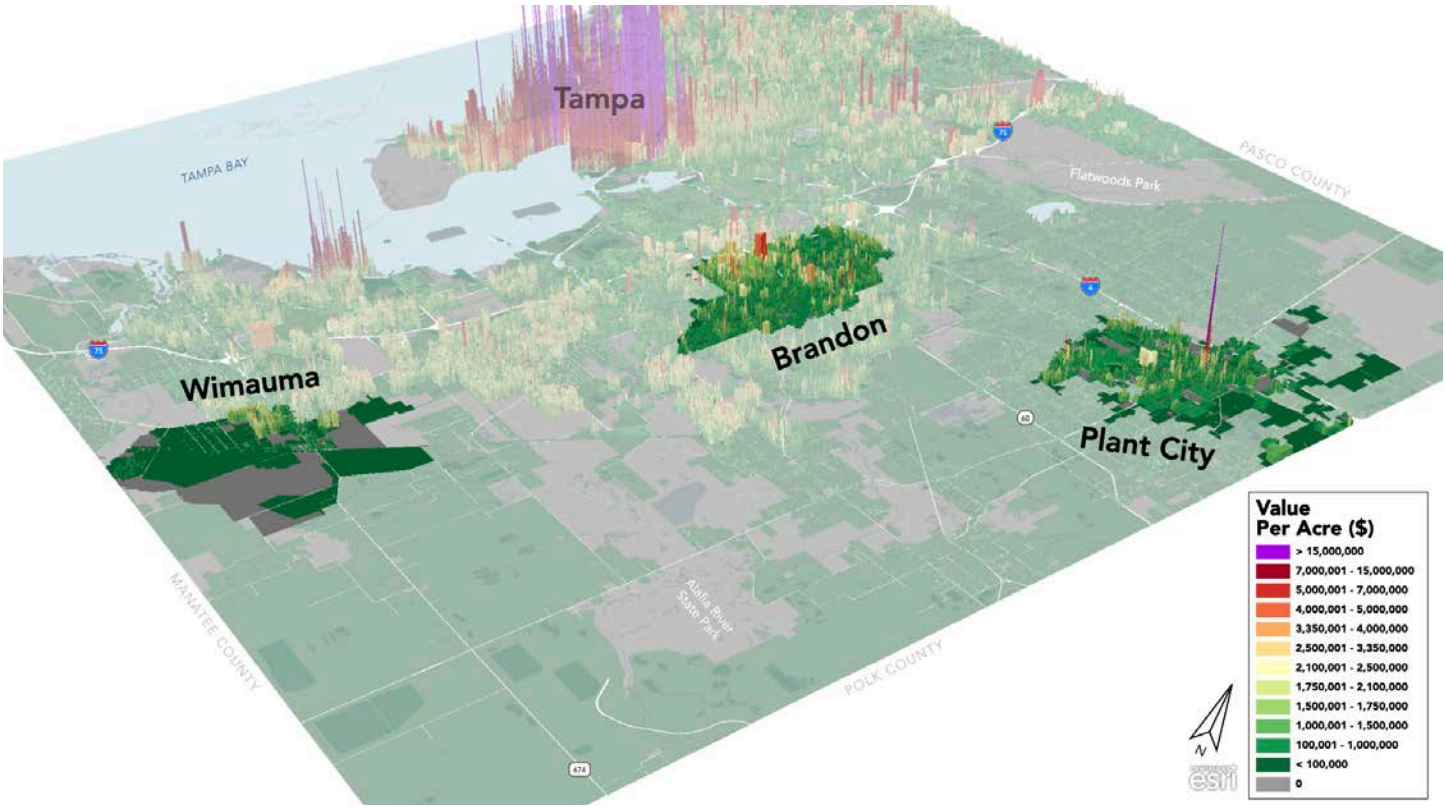


Figure 19.
Source: Hillsborough County Property Appraiser (2022)

Value Per Acre: Wimauma, Brandon, & Plant City

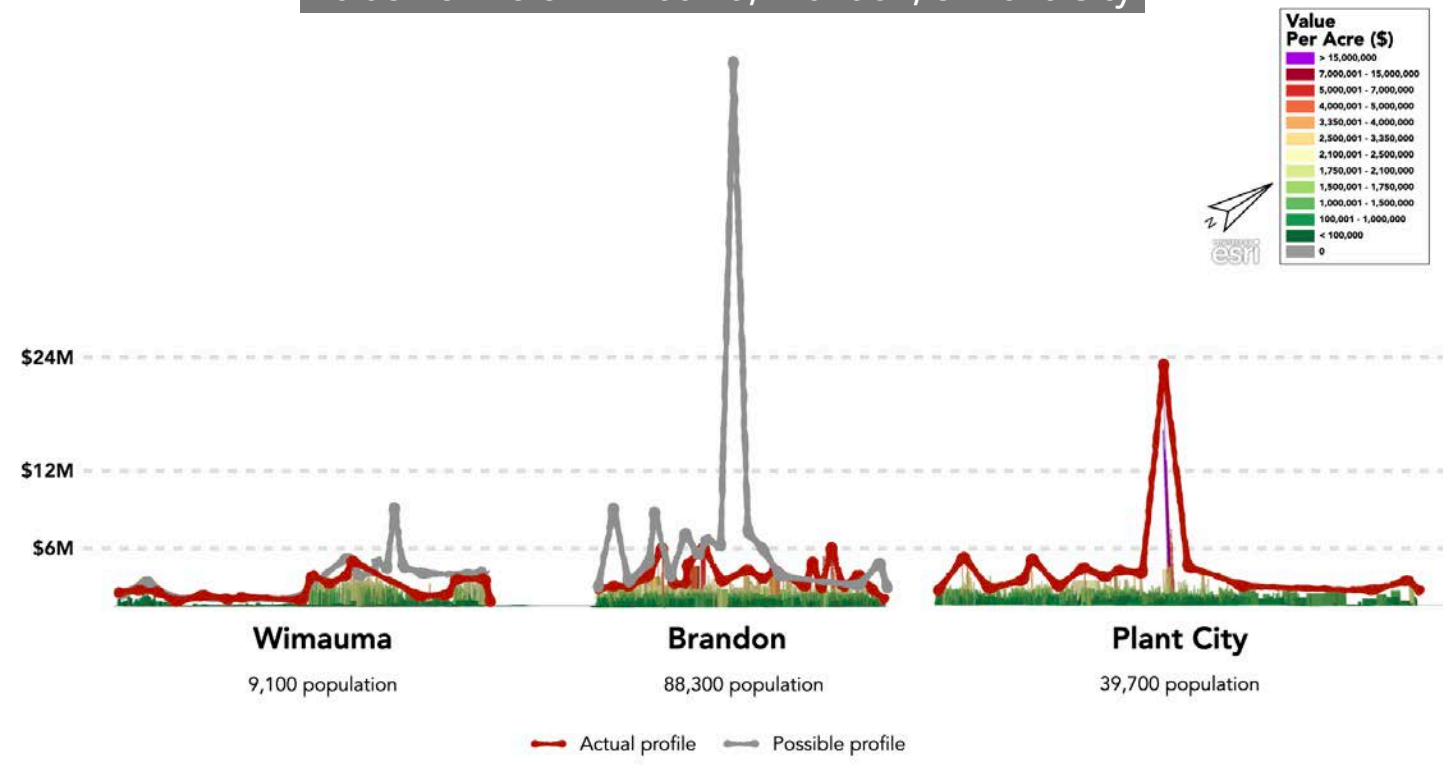


Figure 20.
Source: Hillsborough County Property Appraiser (2022)

Looking at the 3D VPA models of these communities from the horizon (Figure 20), Plant City's model follows what looks like a livelier "heartbeat" in profile. If Brandon and Wimauma were to have a downtown with a similar profile, their peaks would be closer to $50 million and $9 million, respectively. Brandon could grow by sprawling across the county, or it could strategically densify by developing a new core that would strengthen not only its fiscal sustainability but its communal identity as well.

Inland Cities

Leon County

The City of Tallahassee, similar to Gainesville in Alachua County, dominates the VPA model in Leon County (Figure 21). Tallahassee's core produces significant property value productivity compared to its surroundings. The major economic drivers of the State Capitol, Florida State University and Florida A&M University attract people to this area and the city has been able to capitalize on the economic activity through more dense development.

Some of this development has occurred around Gaines Street west of downtown, which can be seen in the model. This area has lower peaks but has a larger density of parcels high in productivity. In this way, Tallahassee demonstrates that cities can build on their core and build productive neighborhoods outside their traditional downtowns. And not all productivity comes in the form of tall buildings; neighborhood context buildings can be productive.

Generally, Leon County has been able to maintain ecological networks and green infrastructure with large swaths of protected lands in the southern and western portion of the county and hunting plantation lands to the north. However, low-density development patterns to the south of Lake Iamonia in the northern portion of the county exhibits the low productivity observed in other areas around the state. Leon County should be wary of allowing more of this development pattern that not only consumes important agricultural and natural spaces

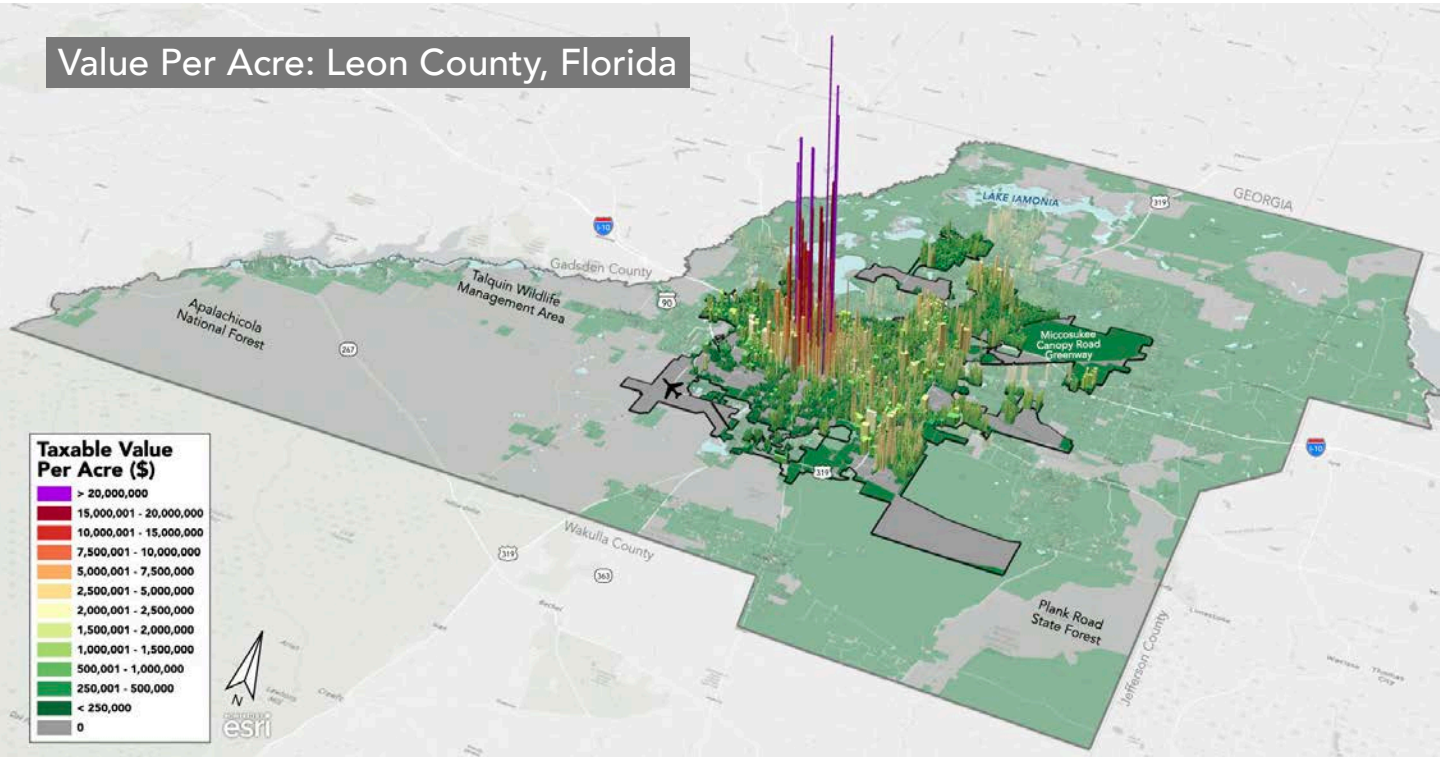


Figure 21.
Source: Leon County Property Appraiser (2022)

but is highly unlikely to be fiscally sustainable in the long-term.

Seminole County

Oviedo exists at the suburban fringe of the Orlando metropolitan area in Seminole County. Its traditional main street core has been impinged upon by state infrastructure projects, and it is building a new core deeper in the city. This community is a great example of a city that has identified its challenges and is seeking data-driven policies and practices to alter its future. Though it is a predominantly suburban environment, Oviedo is discovering that not all development is created equal. It's clear in the analysis that different development typologies come with different infrastructure costs. Townhomes toward the center of the city come with less than a third the costs than a suburban development at the edge of town on a per unit basis. The city's engineering department is aware of this. However, the existing financial system is not set up to reflect geographic differences in costs. Despite different developments carrying different costs and long-term liabilities, every household contributes the same amount, leading to a geographic inequity of who generates more significant costs and who pays to cover those costs (Figure 22).

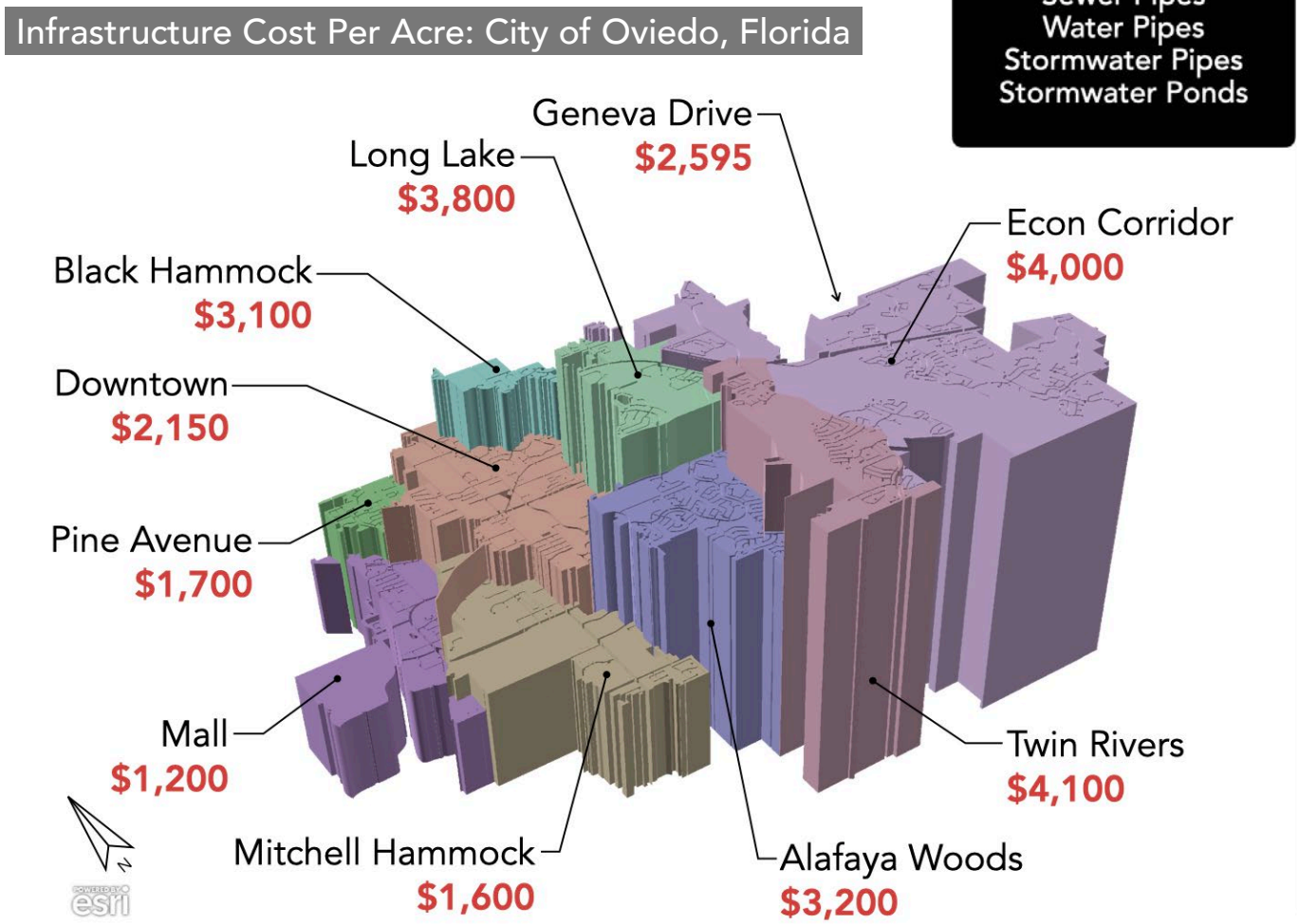


Figure 22.
Source: Oviedo FL Public Works, Seminole County, & Urban3 Estimates

Value Lost to Sea Level Rise

Investing in productive development in inland Florida is not only possible, but it seems to be a safe bet for the future. Some of the most valuable land in Florida's coastal counties is at risk of sea-level rise. Six feet of sea-level rise will likely see a loss of nearly one-third of both taxable value and taxable square miles in Miami-Dade County (Figure 23). For South Florida at large, this would result in over $250 billion in taxable value being lost, making up nearly 340 square miles of land throughout Palm Beach, Broward, Miami-Dade, and Monroe counties. Residents in these counties are well aware of these issues; so are their insurance carriers. These factors are influencing consumer behavior in these counties, and counties in communities farther from the coasts should take note.

Sea-level rise will consume land directly along the coast, but a large share of land lost to water in scenarios with severe sea-level rise will be miles inland. Figuring out where to grow urban systems relies on understanding where to support natural systems, and that includes areas that will give way to flooding.

"Figuring out where to grow urban systems relies on understanding where to support natural systems, and that includes areas that will give way to flooding."

Susceptibility to Sea Level Rise: Miami-Dade County, Florida

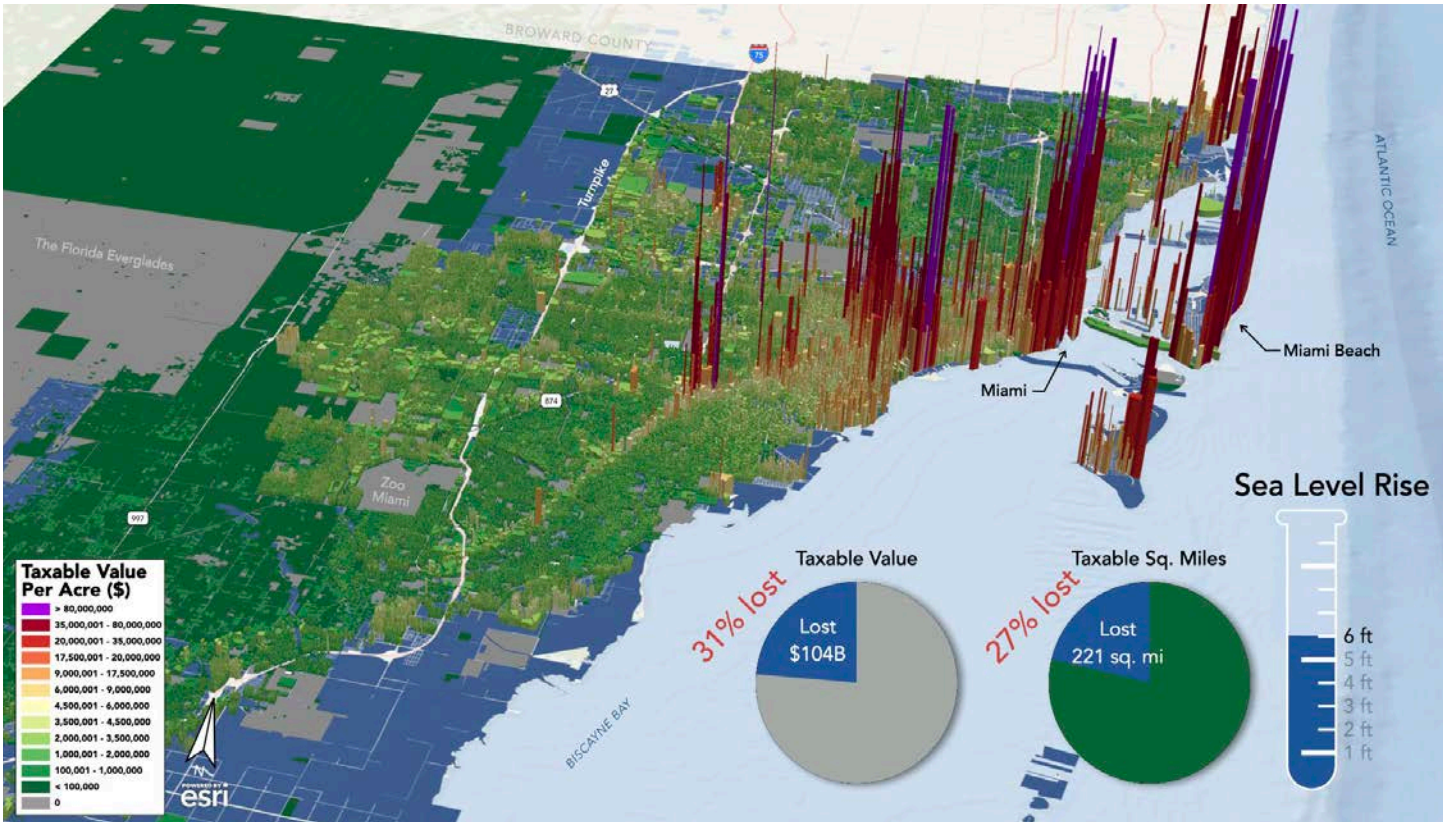


Figure 23.
Source: Miami-Dade County Assessor, NOAA

Migration

Intensifying effects of climate change will continually produce climate migrants, people leaving areas increasingly prone to natural disasters. Some Floridians will migrate inward (Figure 24), staying in the state, and some will leave altogether. From 2015 to 2019, over 100,000 Miamians left the county. The majority, 24,255, found new homes in Broward County. Most of the rest of them stayed in Florida, with some transplanting to Texas and even New York City (Data from US Census Bureau American Community Survey 5-Year Data 2015-2019).

A nearly identical amount of people moved to Miami-Dade County during this period, about half from within the United States and half from without. Most newcomers came from the Caribbean or South America, with the third largest coming from Broward County.

While Florida as a whole experienced net positive migration during this period, the state experienced some

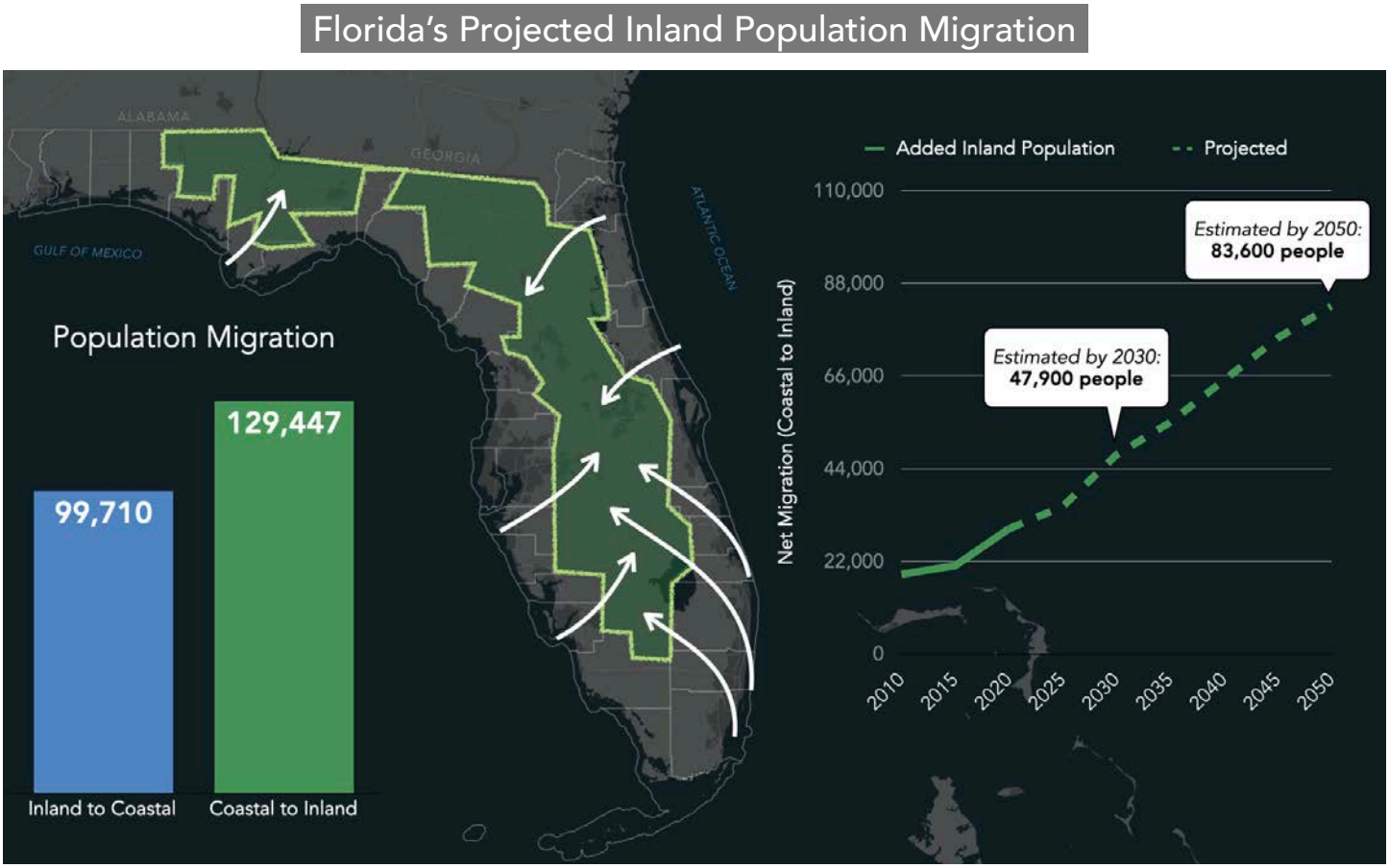


Figure 24.
Source: American Community Survey (2016-2020)

reshuffling of where people are choosing to live. As a whole, the state's coastal counties experienced a net negative migration of nearly 30,000 people relocating to the interior counties of Florida. By far the largest county receiving Floridians is Orange County.

Given these trends, Florida's inland communities will be forced to accommodate more and more people. Like it or not, this is a trend that will continue. With large swaths in the center of the state currently used for agricultural purposes or in a natural state, a significant amount of land is likely to be developed, and communities receiving this growth should make choices that their coastal counterparts failed to do. As discussed in the examples

above, the different development patterns that can be used to accommodate new residents can have varying environmental and fiscal consequences. The examples below will further highlight the realities of infrastructure liabilities associated with these patterns.

Neighborhood Design Comparison

Nassau County offers a spectrum of development typologies. Even strictly looking at single-family homes, there are various ways of delivering this type of housing product. Three specific development patterns—large lot, medium lot, and small lot—help compare and contrast the costs and benefits of building at different densities (Figure 25).

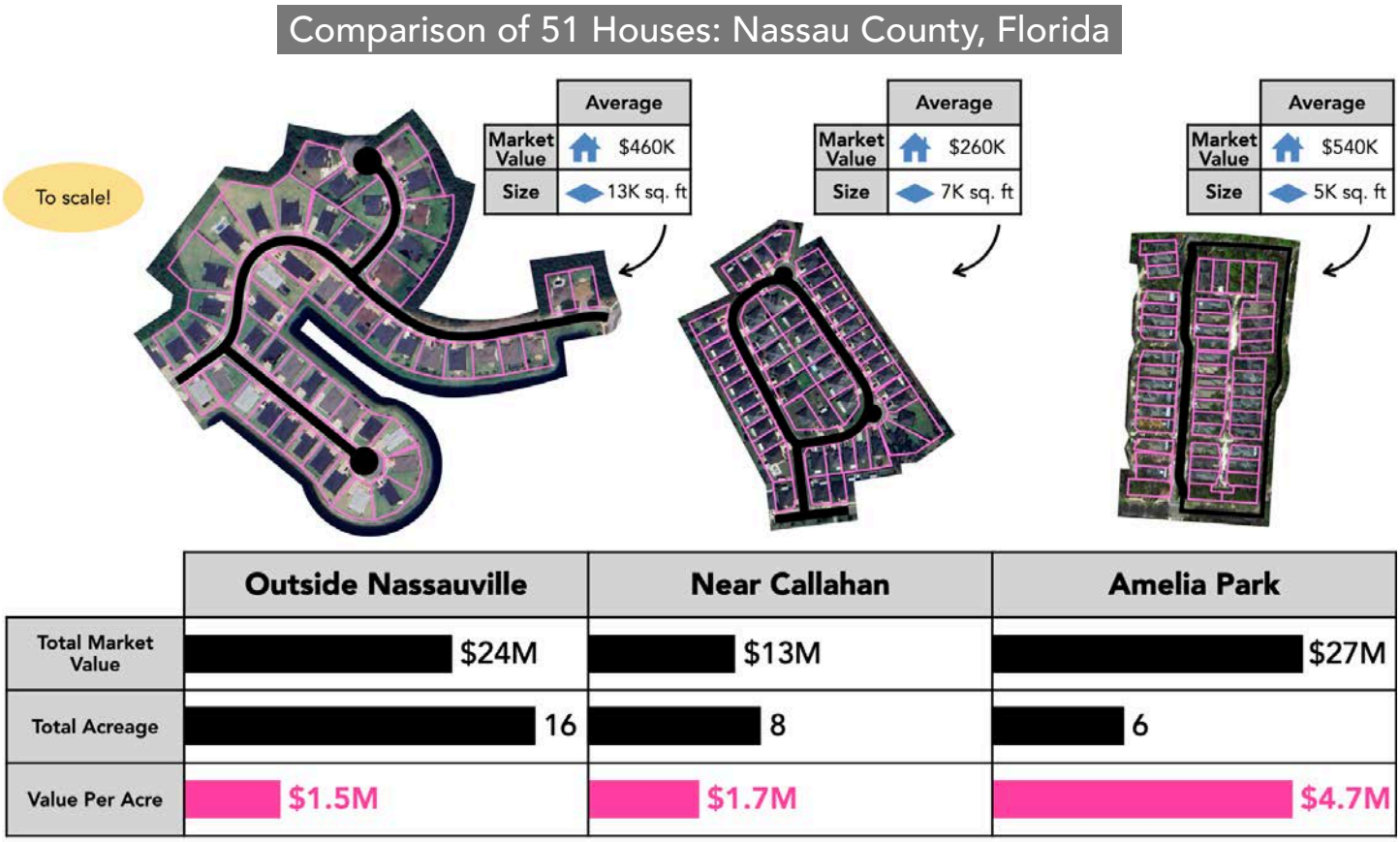


Figure 25.
Source: Nassau County Assessor (2023), Google Earth

The large-lot example is quintessential suburban development. Large-lot houses sit on organic-looking street networks with cul-de-sacs and poor connectivity. The streets are like tendrils extending from a large branch. The traffic that these neighborhoods generate needs to be funneled to the nearest arterial road by default. This results in congested roadways, rather than the dispersed pattern common to small block gridirons. Even neighborhood trips to the nearest store require one to drive on an at-grade arterial. Typically, these types of developments exist off a major arterial road with only one or two ways in and out, offering a poor template for an urban network. A development of this style might seem more supportive of a natural network on its own, with lots of space between homes, but it can have devastating consequences when replicated at scale. Because of its hungry land use, this development pattern offers a poor template for a natural network as well.

The medium-lot example attempts to resemble a block style pattern of development, although it also has one way in and one way out. While this development has the same number of homes as the large lot example, it takes up exactly half the space. In addition to reduced land consumption, the housing units created in this neighborhood are nearly half the cost of those in the more low-density development, with the average value of $260,000 and $460,000 respectively. However, though less value per unit, the overall value per acre is greater at $1.7 million per acre versus the higher value houses at just $1.5 million per acre. Increased housing affordability in this case, and potentially when evaluating compact development patterns more generally, is a positive by-product of this development. Additionally, both of these developments abut forested areas. However, the large-lot development had to consume more of the natural area to create the same number of dwelling units as the medium-lot development. Some advocates may decry dense urban development because it isn't "green." However, "green" space for lawns in low-density development is not always a fair trade for undisturbed forest.

"Some advocates may decry dense urban development because it isn't 'green.' However, 'green' space for lawns in low-density development is not always a fair trade for undisturbed forest."

Finally, the small lot example from Amelia Park exists on a classic city street grid that is connected to its surrounding context. A trip to the store here allows more than one option — not only in regard to the route but travel mode as well, as walking, biking, and transit are more likely options here. This development pattern takes up a whole 10 acres less than the large-lot example. The productivity of this sample comes in at a whopping $16 million per acre, even though its housing averages only a little more than $100,000 over the value of the Nassauville homes. This example, despite having better street connectivity, also has the least amount of roads, less than half the road area of the large-lot example. For every square foot of road, this example has the largest amount of property value per home, at $16, while Nassauville only produces $6 per home. Because of this ratio, this development pattern is better positioned to pay for the infrastructure it consumes.

Return on Investment

Urban development consumes both urban and natural resources. Urban resources come in the form of infrastructure, such as roads, sewer, stormwater, and water pipes. These resources do have direct costs, and they are primarily paid for by development in the form of property and sales taxes. The small lot example in Nassau County offers a wonderful example of a development pattern that is better positioned to pay for itself rather than relying on subsidies from elsewhere. Simply put, when you have less infrastructure, it is less expensive. When development is not capable of carrying the costs of its share of infrastructure, it must rely on more fiscally productive places to subsidize those costs. Subsidization is not inherently a bad thing, but it needs to be measured and managed so that a community has knowledge of the fiscal consequences of development patterns. Without enough productive neighborhoods, jurisdictions will face insurmountable maintenance and capital costs.

Asheville's regional neighbor, Brevard, has a solid walkable core that outshines the rest of the city on a productivity basis (Figure 26). This core might be enough to subsidize the neighborhoods within its older boundary, but as Brevard has grown northward, it has followed an unsustainable pattern of low-density development. Its northern growth spurt follows along a commercial "stroad" — a roadway that attempts to provide the accessibility of a street and the speed of a road while failing at both. Developments alongside stroads are characterized

by cheap, "big box" buildings set behind surface parking lots. Brevard's pattern of development has slowly tipped the scale towards a net cost system rather than a net revenue system.

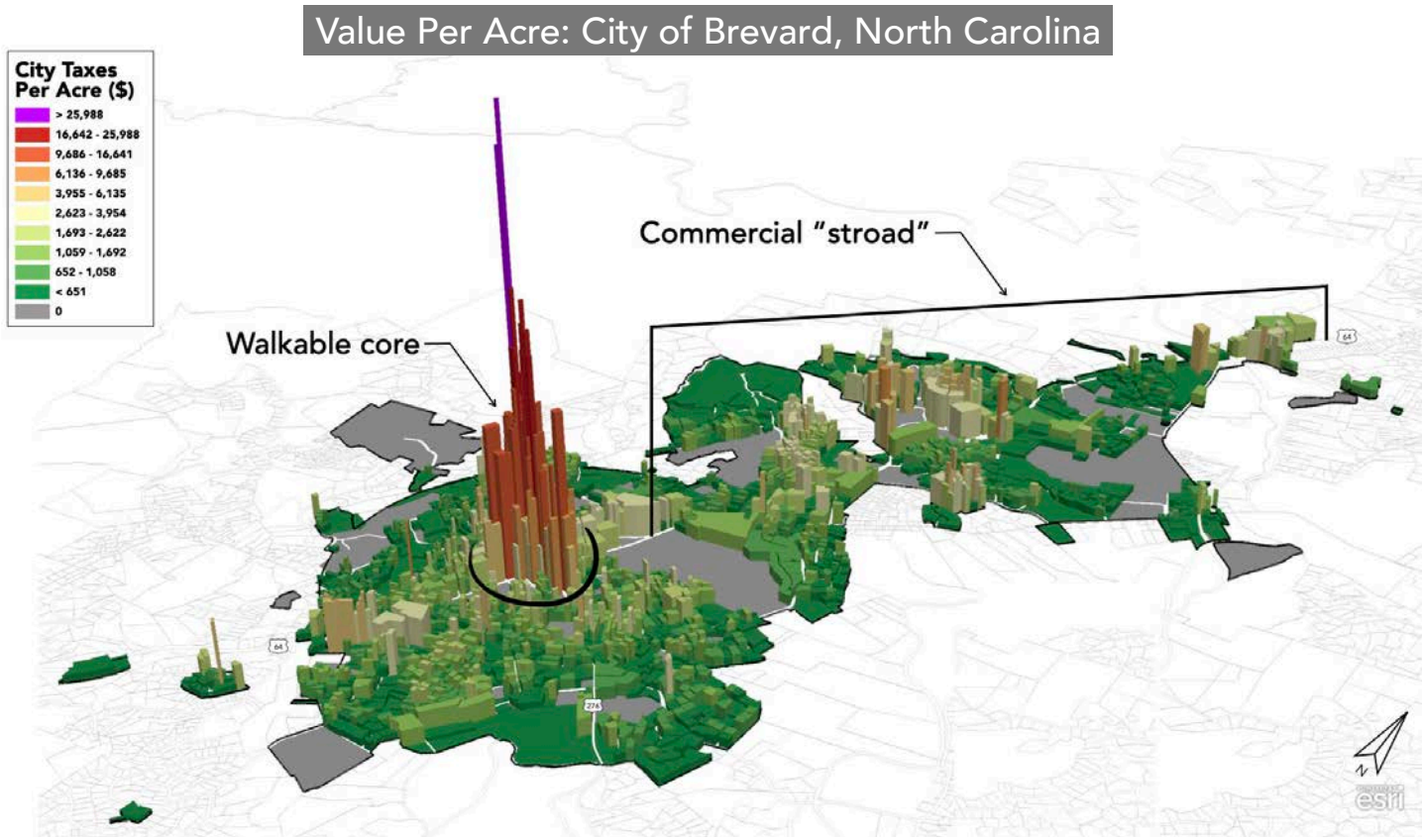


Figure 26.
Source: Transylvania County, NC Assessor

Urban Environments & Natural Resources

Urban development also consumes natural resources, but the scale of the consumption is dependent on the type of development. While dense urban development might seem less natural and green at the site level, it may save acres of undeveloped land elsewhere. Undeveloped natural resources don't generally have a direct monetary cost, but they can be valued for storing carbon, enhancing property value, creating ecotourism, and so on.

Street trees are a specific type of resource that offers many benefits, including the ability to reduce stormwater runoff. The loss of a tree has a direct, calculable cost on the imposed need to manage stormwater runoff with hard infrastructure. Without trees absorbing water, the water must be managed through gutters, channels, and passive treatment to reduce pollution and flooding. While street trees come with costs for planting and maintenance, their cost savings for stormwater are higher.

For example, in Springfield, Missouri, we noticed that there was a lack of street trees. The community bias was that the trees are a nuisance to the streets and sidewalks. If one were to look at the world from a sidewalk maintenance only perspective, that may be true. But it neglects the fact that a proper tree pit and species selection would solve the problem. With that said, knowing the bias of the community, we focused on the stormwater benefit of a tree. Put another way, the tree is a stormwater replacement. The tree and maintenance have a cost

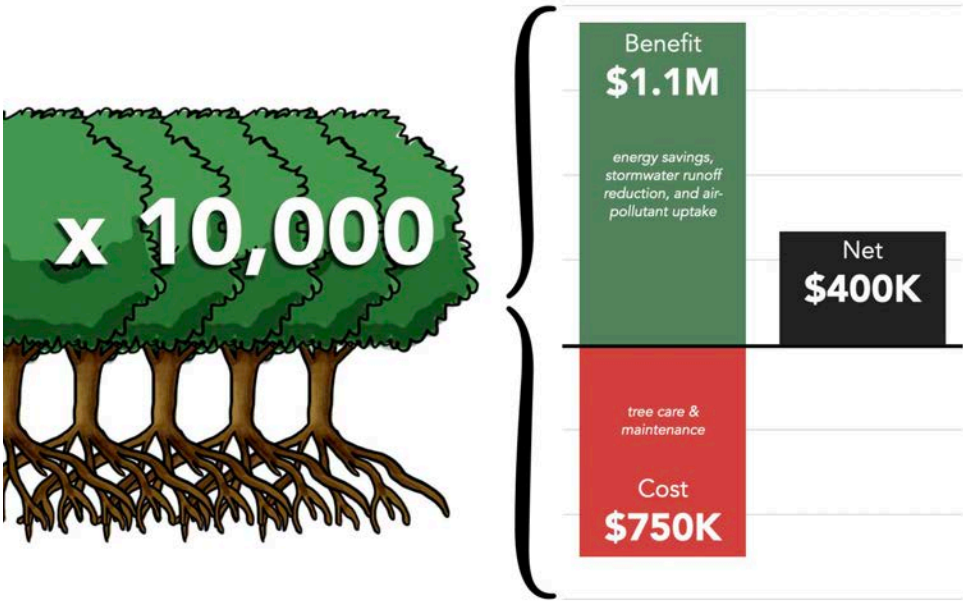


Figure 27.
Source: City of Springfield MO (2022), agnr.osu.edu

of $75/year for the life of tree but provides $115/year of infrastructure savings by doing the work of what would typically go to infrastructure expenses. Their trees currently have a net savings of approximately $2.2 million per year in money that doesn't have to be spent on the stormwater system. Or put another way, if Springfield didn't have those trees, it would have to add $2.2 million in expanding their stormwater system to manage excess runoff. Additionally, if they added 10,000 more street trees, they would see a net gain of $400,000 per year (Figure 27). This value includes the cost of trees and their maintenance. The savings from investment in trees would be enough to pay the salaries of 4 to 5 police officers. By doing the math on green infrastructure, communities can save money and fund other needs.

The Value of "Edge Effects"

The above lesson is for street trees. What if a community took this thinking more comprehensively into their community plan, and connected this thinking to neighborhood parks and networks of parks and open spaces? What if those spaces were networked as mentioned earlier as a system in conservation corridors and open space? That value of land is not "lost" or an 'opportunity cost' of lacking real estate development. On the contrary, that value does enhance developed area's value if it is comprehensively coordinated.

Urban parks also have clear "edge effects" on property values as well. The land value model of Hennepin County, Minnesota offers a great example (Figure 29). We all understand the waterfront real-estate value productivity spikes around Lower Lake. There is a clear edge spike in value in the land for those properties that have direct and private access to that amenity. However, the same is true for a park if it is designed to include a community. Minneapolis' older, 1920's neighborhoods have a park system and greenways that are accessible to several neighborhoods. The value of that park and lake amenity thus transfers into the neighborhood's land value, as if each property were alongside the amenity itself.

In Florida, Seaside, Alys Beach and Rosemary Beach offer similar examples (Figure 28). Coastal parcels that have decided to cede land to better protect dune ecosystems actually have higher land values than parcels that develop as close to the water as possible. As noted in the Land Value Per Acre maps, the aforementioned communities step back from the dunes, but also connect the community areas north of 30A to the beach, and thus the amenity value goes deeper into the community. This is noticeable for the properties in the western portion of the map. Areas that committed to this decision are both helping to protect the shoreline, adding value to their property by maintaining a valuable environmental asset, and providing greater access to natural amenities for more people. Communities should think of design options for natural and open space amenities this way at a neighborhood scale, but also for quadrants and the city as a whole.

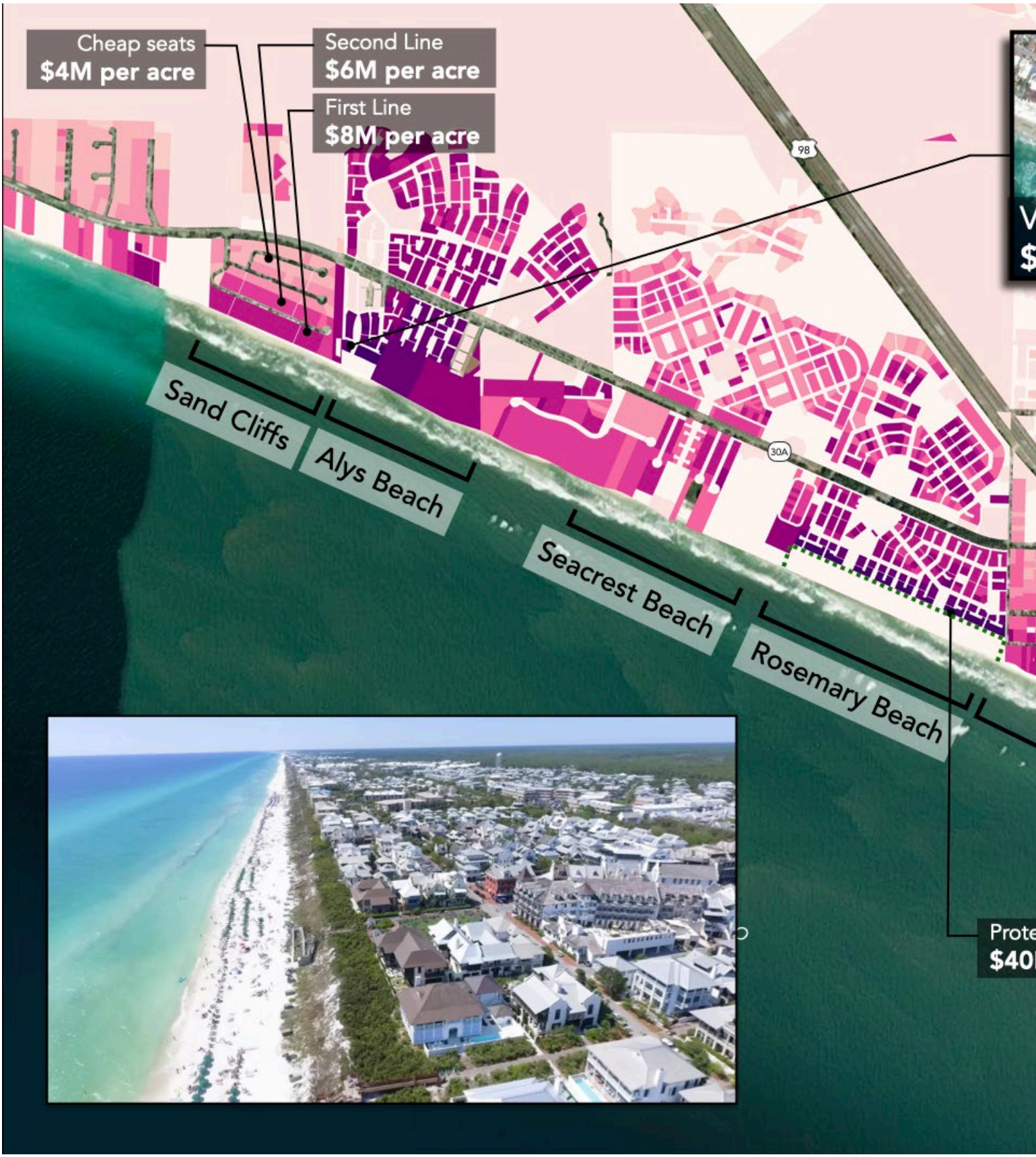
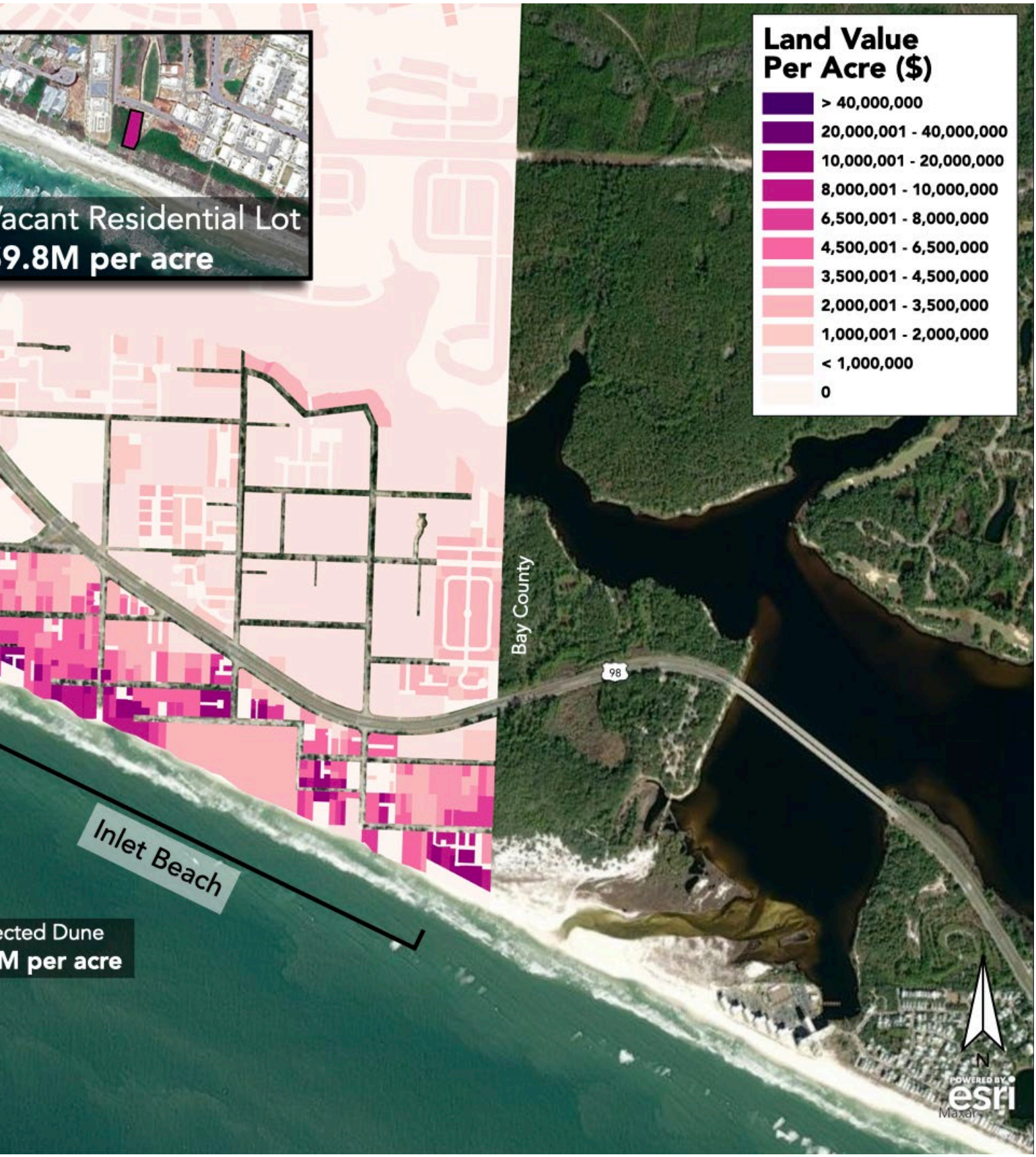


Figure 28.
Source: Walton County Assessor (2023)


Land Value
Per Acre ($)
> 40,000,000
20,000,001 - 40,000,000
10,000,001 - 20,000,000
8,000,001 - 10,000,000
6,500,001 - 8,000,000
4,500,001 - 6,500,000
3,500,001 - 4,500,000
2,000,001 - 3,500,000
1,000,001 - 2,000,000
< 1,000,000
0
acant Residential Lot
9.8M per acre
Bay County
98
Inlet Beach
ected Dune
M per acre
N
POWERED BY esri
Maxar

Land Value Per Acre: Hennepin County, Minnesota

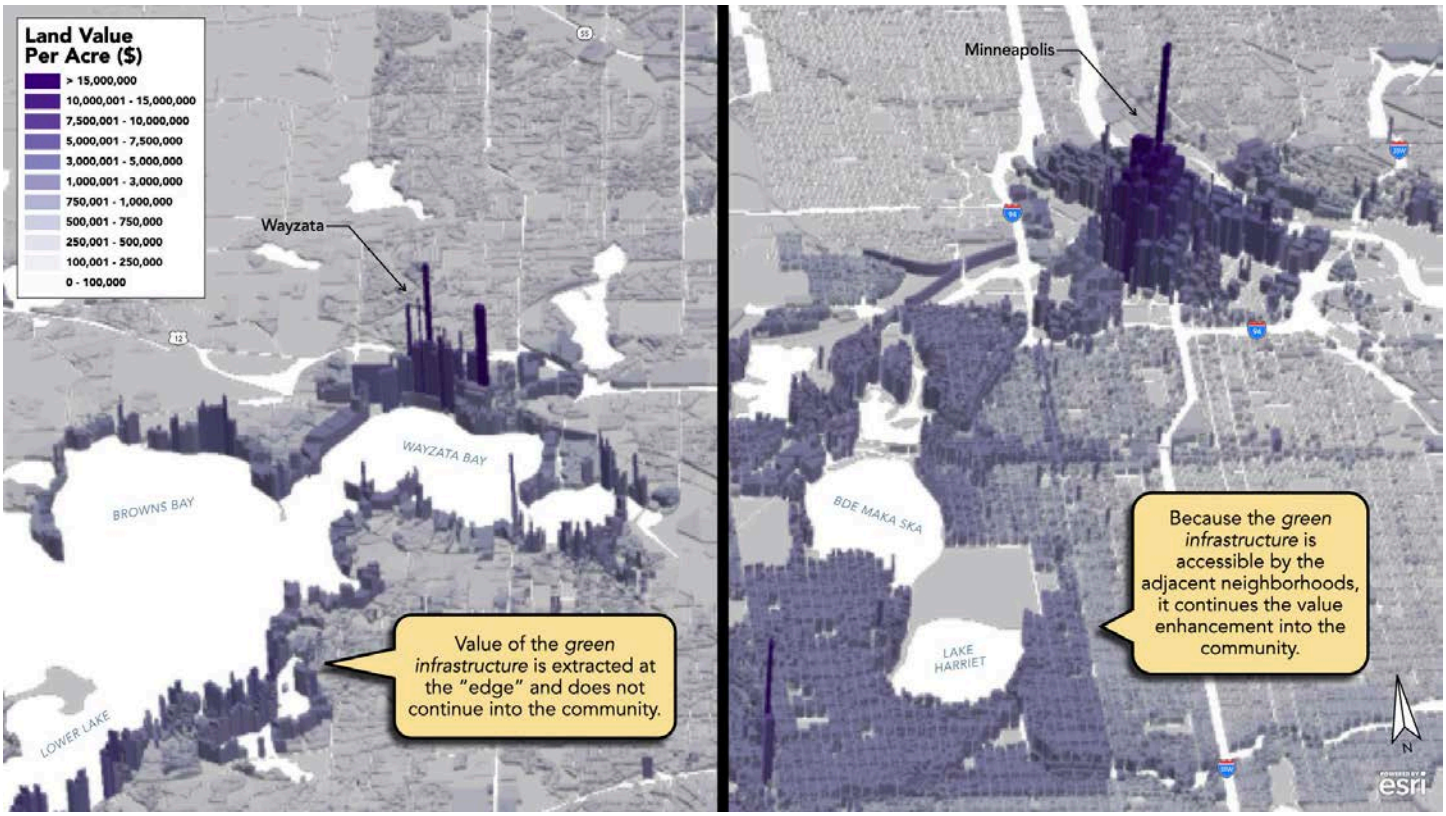


Figure 29.
Source: Hennepin County, MN Assessor

These are but a couple of examples to exhibit the opportunity for communities that haven't had the explosive growth that the coastal communities have already experienced. Now is the time to consider coordinating open-space plans along with development plans to maximize value and minimize infrastructure costs. Street trees are just part of it. Maintaining a wetland infrastructure that functions as a drinking water purification system will save the cost of building additional filtration systems. West Palm Beach is a great example of that with their water catchment preserve. That system had foresight, but an opportunity was missed in not expanding it for the entire county. Once development happens, you cannot go back and reconstruct a natural system that was doing the work for free. Or at least, if you try to reconstruct nature after the fact, it won't be cheap to do.

"The man on the moon will know the value of a gallon of oxygen."
- Ian McHarg

As Florida grows, the value of natural resources will only increase. As the population increases, the demand for parks, open space, natural lands, and agriculture will increase as well. But so will demand for developable land as more people move into the state or to inland parts of the state from the coasts. These demands will put pressure on natural and agricultural resources. Preserving them will become more difficult but also more important. As Ian McHarg once said, "The man on the moon will know the value of a gallon of oxygen." So too should communities understand that the "value" of open space in Florida will only soar in price as it becomes rarer. The value is not lost or squandered when undeveloped but transferred to communities surrounding them. While it may never seem like a good time to invest in conserving land, Florida communities should encourage the protection and integration of natural resources as they will only grow more valuable.

So, What Now?

Shoot for 1:6

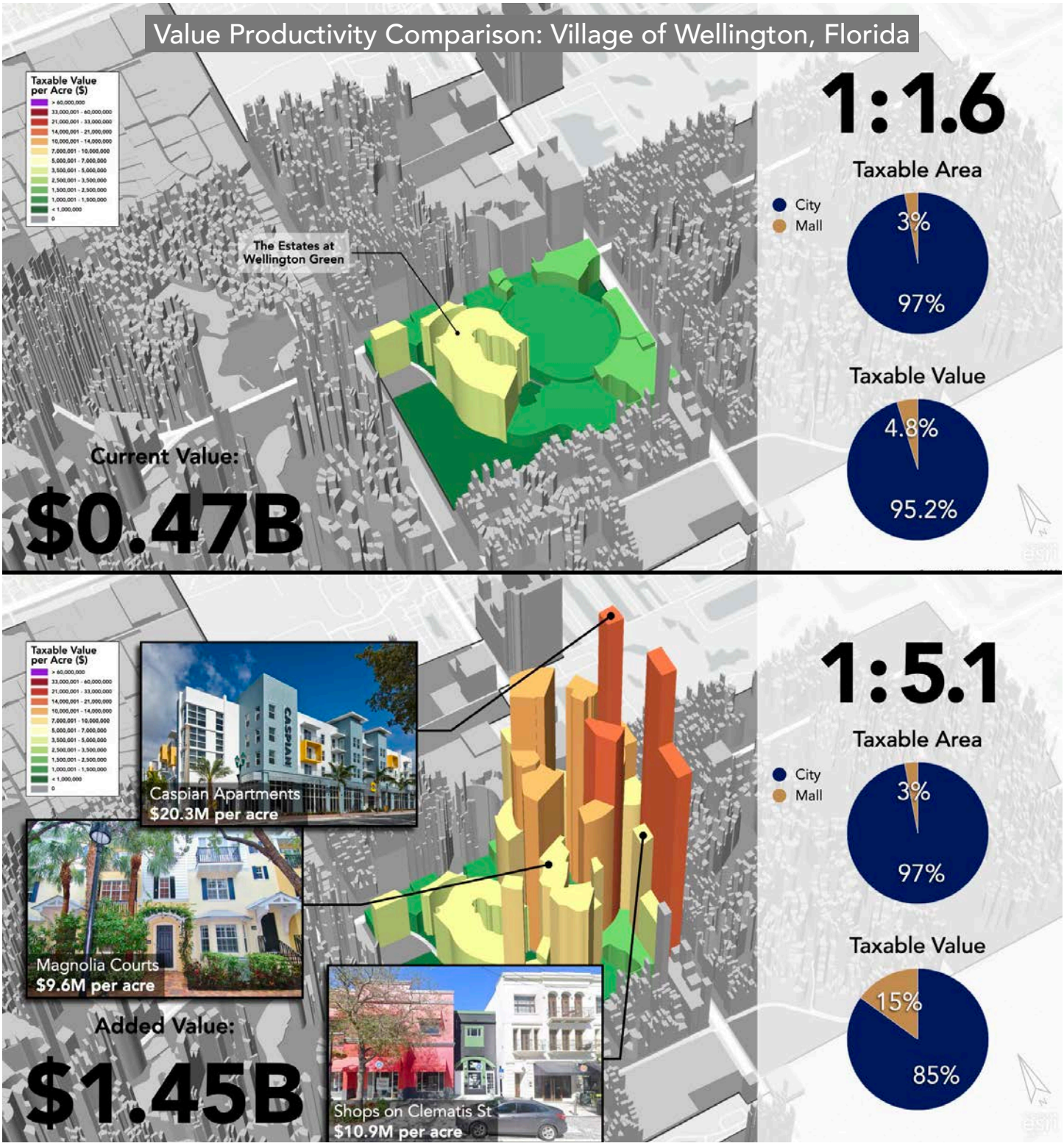


Figure 30. Current value of selected site in Wellington (top) versus a projected growth scenario for that same site (bottom)
Source: Village of Wellington, FL (2022)

In our collection of city analytics, one of the most important data points for economic productivity is the relationship of the city center to its surrounding neighborhoods. Cities have a stronger economic position if their downtown core has a 1:6 relationship with the remaining city. The value per acre of the downtown should be six times as productive as the average for the city. This is usually easy to spot in the productivity model if the downtown pops up in purple spikes as a visual "mountain." Cities that lack this relationship tend to lack an older city center. This is typical of newer developed cities, such as those in Western Broward County. This development pattern may suffice in a growth spurt but when the city runs out of land, and moves into the replacement and maintenance of infrastructure, it becomes problematic.

As is demonstrated in the models, the conventional low-density development patterns cannot produce the revenues necessary to support maintenance or replacement of their infrastructures. Cities that have a strong core such as West Palm Beach or Gainesville have the benefit of their core productivity that carries their surrounding, low-density neighborhoods.

For communities that have a less than 1:6 relationship, they should prioritize the core development. Communities that don't yet have a core can focus on retrofitting suburban centers into proper urban cores, like Wellington plans to do. By building up the center of the Mall at Wellington Green, the city's core has the potential to become over five times as productive as the city average (Figure 30).

Development Patterns Impact Productivity

As our studies have shown, lower-density single-family development is a net loss when subtracting their infrastructure costs against their revenue contributions (Figure 31). This isn't necessarily problematic, but it becomes so when a large share of a community follows this development pattern. Rural patterns can be productive, but

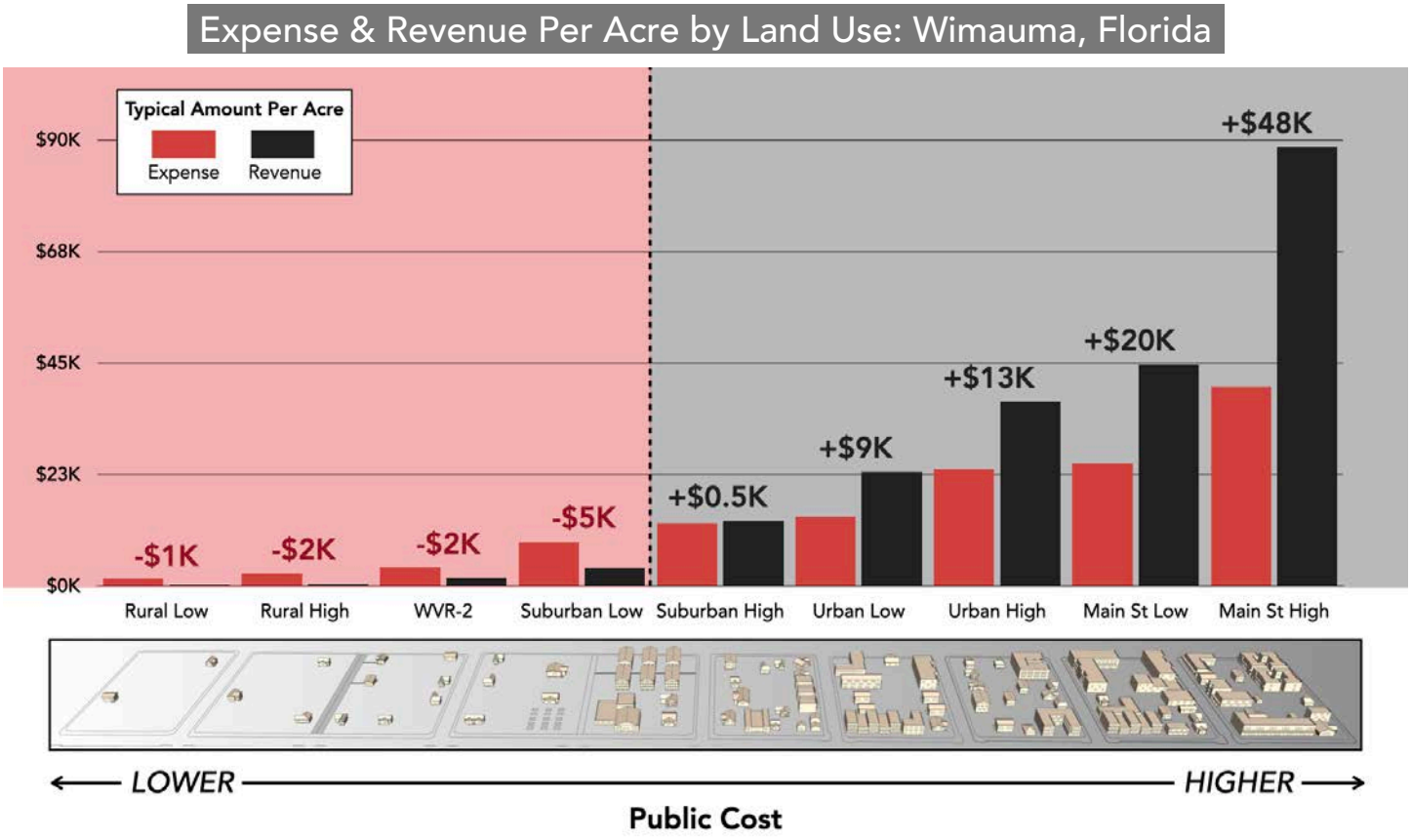


Figure 31.
Source: Hillsborough County FL Assessor, Urban3 Estimates

only when truly rural, and in demand of low levels of service and less than city-standard infrastructure. However, a plan must be made should those areas transition to ensure that more net positive development patterns are added when subsidized patterns of suburbia are added. Cities such as Gainesville have strong downtowns that are net positive, as well as various land uses of higher density typologies, such as townhouses and main street buildings, that help carry the losses of low-density development. Keeping this balance in mind is key. Communities such as Oviedo and Wellington are actively working on building up a core to compensate for net-negative development patterns and catch up financially.

With our focus on productivity, where do natural and agricultural lands fit in? These lands are less financially productive in terms of generating property and sales tax revenue, but they preserve many other economic and environmental benefits that suburban areas don't offer. These lands also demand minimal infrastructure services. Strawberries do not call the police, go to school, or use fire services. A dirt road is significantly less expensive per linear foot than a paved one. When it comes to return on investment, communities can either increase revenue productivity or decrease investment. Increasing productivity is a smart move in urban areas where development is encouraged, but where development isn't encouraged, reducing infrastructure and service needs accomplishes the same goal. For example, in Wimauma, low-density suburban areas are five times more costly than low-density rural areas. While rural areas may still come with costs, they return environmental and cultural value that suburban development patterns don't offer. Suburban areas require areas of higher productivity to cover the inherent subsidy in the low-density pattern. This is especially true in Florida because of the tax abatements baked into state property tax policy.

"While rural areas may still come with costs, they return environmental and cultural value that suburban development patterns don't offer. Suburban areas require areas of higher productivity to cover the inherent subsidy in the low-density pattern."

It is important to note that, in recent years, there has been increased state emphasis on the importance of Florida's rural lands, particularly the Florida Wildlife Corridor. A visionary 18-million-acre network of interconnected lands and waters, the Corridor protects Florida's drinking water, connects wildlife habitats, supports agriculture, and provides critical ecosystem services. To help protect the Corridor, Florida has allocated increased state funding for the conservation of natural and agricultural land through the Florida Forever and Rural and Family Lands Protection programs. Some counties also provide funding for land conservation that can match these and other programs.

Design Your Future

Patterns of migration are already underway within Florida. There are opportunities for revitalization for inland communities, but there are also challenges that growth will bring to these communities. Inland and growing communities should learn from the positives and negatives of their peer counties along the coast that are experiencing challenges of poor land-use planning. Escambia County offers a great example.

Escambia County contracted with Duany Plater-Zyberk CoDesign (DPZ CoDesign) to develop a series of development options for the redevelopment of a former military property, known as the OLF-8 Site. The County wisely sought to explore development options for likely development scenarios, based upon market demands. They spanned four basic scenarios (Figure 32). The Commerce option responded to demands for warehouse and commercial development. The Market development contained primarily residential development. The Gre-

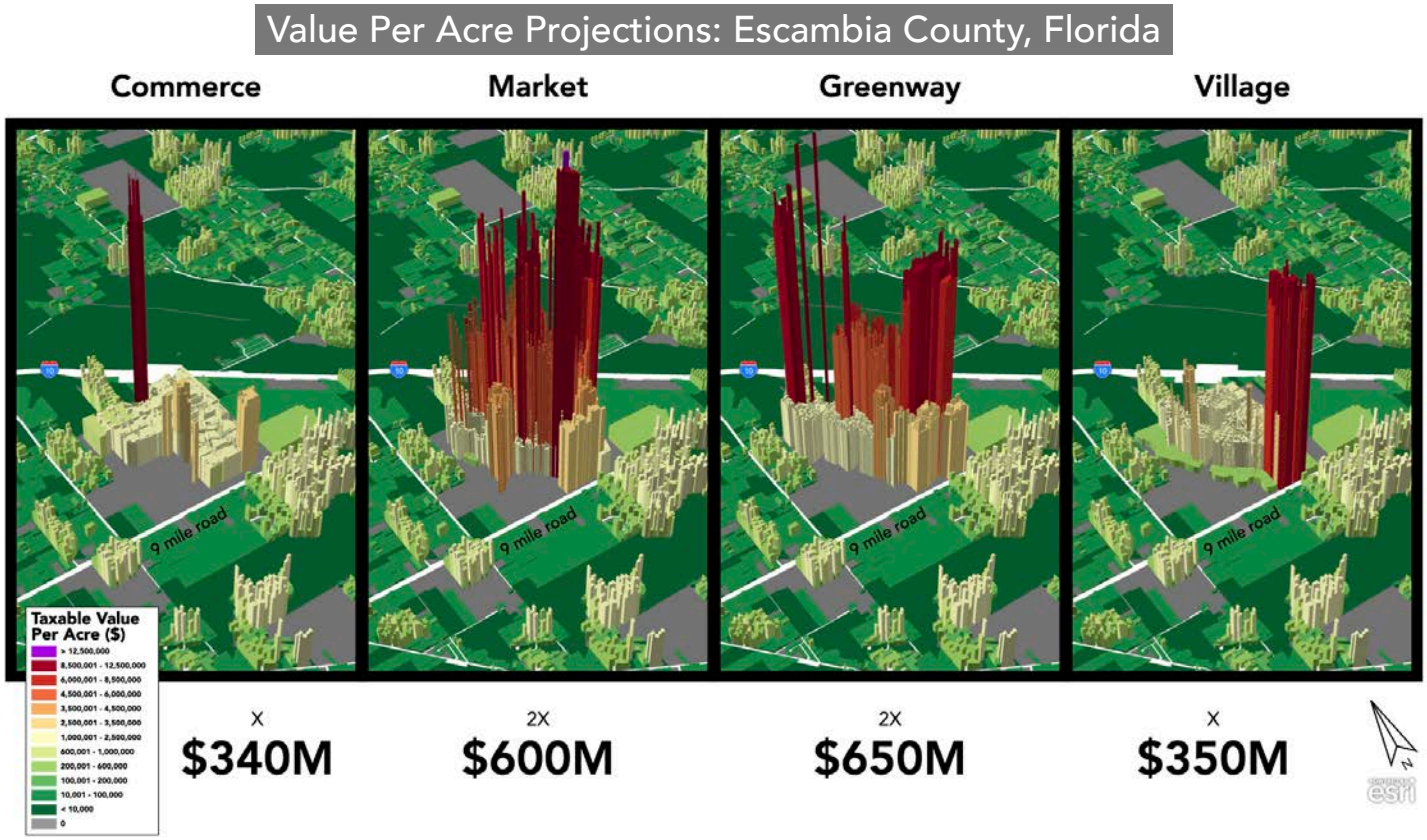


Figure 32.
Source: Escambia County FL Assessor, Urban3 Estimates

enway option prioritized an internal greenway with residential and commercial development. The Village option responded to a request for a rural village type development.

All of the plans contained DPZ CoDesign's integrated street networks and walkability. With design differences, the resulting market value of the developments differed significantly. The total value of the Commerce and Village options yielded about $340 million and $350 million, respectively. However, the two plans that focused on denser, walkable urbanism came in close to two times those values. The Market option came in at $600 million and the Greenway came in at $650 million. The difference in yield is a mix of additional density and walkable design.

What these four options reveal is that communities have a choice over how they develop. The decisions they make today will shape their legacy for decades to come. Communities can neglect their agency and continue with business as usual, or they can empower themselves and their residents to choose options that produce lasting value. Communities should follow Escambia's lead to better understand the economics of land-use choices and add that to community decision-making processes.

"Communities can neglect their agency and continue their business as usual, or they can empower themselves and their residents to choose options that produce lasting value."

Conclusion

Many communities around Florida and across the nation are under the false assumption that any growth is good growth. Compiling knowledge gleaned from more than a decade of visualizing land-use economics in hundreds of communities nationally and internationally and working in 19 of Florida's 67 counties, major findings include:

- Low-density development, suburban in nature, does not produce enough tax revenue to pay for its infrastructure lifecycle liabilities. This form of development is fiscally insolvent over the long term.
- Inverse to the above, dense, walkable, mixed-use development patterns produce far more tax revenue per acre than is needed to pay for infrastructure.

Not only are denser, walkable, mixed-use communities more livable than low-density development designed primarily for the car, but they also accommodate more people on fewer acres of land. This lessens the need to develop Florida's rural areas, leaving more land available for nature and agriculture and the many ecosystem services they provide. It also helps avoid fragmentation of functional natural systems and economically viable agricultural land. Natural and agricultural land, in turn, creates far less public burden (eg.: roads, water, sewer, stormwater, schools, and other services) compared to suburban areas.

Communities can support the following to enhance their fiscal health:

- **Shoot for 1:6** – Cities have a stronger economic position if their downtown core has a 1:6 relationship of land to value with the remaining city. The average value per acre of the downtown should be six times as high as the average for the city. Proper infill development, mixed uses, and walkable urbanism support this.
- **Increase fiscal productivity in existing suburban areas** – Suburban areas can be retrofitted with areas of higher productivity through infill development, new mixed-use centers, and enhanced walkability to help address the inherent subsidy in the low-density pattern.
- **Do the math on development patterns** – Develop a process of measuring development fiscal productivity on new and old development patterns to better understand fiscal consequences of growth and how to best maintain long term fiscal health of your community.
- **Keep rural lands rural** – While natural and agricultural lands are less financially productive in terms of generating property and sales tax revenue, they preserve many other economic and environmental benefits that suburban areas don't offer and require only minimal infrastructure demands. There are planning and land conservation strategies that can help protect natural and agricultural lands.

By making the right decisions today, communities can create a wealth building legacy for their children and grandchildren. They can build financial wealth through intentional land-use development and environmental wealth through enhanced ecological protection and connectivity. They can maintain the considerable economic, food security, and natural benefits provided by agriculture. Growth and preservation don't have to be in conflict. Proper infill development and walkable urbanism can build livable places while preserving Florida's natural and agricultural landscape heritage.

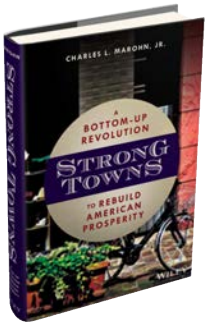
Expanded Readings

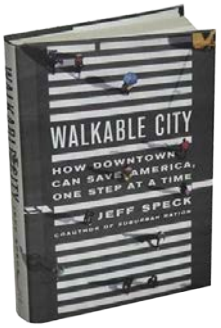
Strong Towns: *A Bottom-Up Revolution to Rebuild American Prosperity*
Charles L. Marohn, Jr.

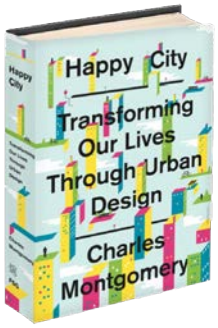
Walkable City: *How Downtown Can Save America, One Step at a Time*
Jeff Speck

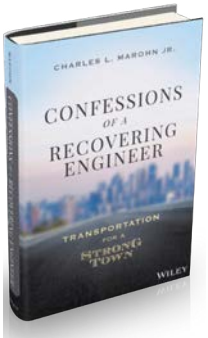
Happy City: *Transforming Our Lives Through Urban Design*
Charles Montgomery

Confessions of a Recovering Engineer: *Transportation for a Strong Town*
Charles L. Marohn, Jr.









All maps are created with ESRI software, and all data used in this analysis and report (unless otherwise noted) was provided by the Urban3 clients from the state of Florida.

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