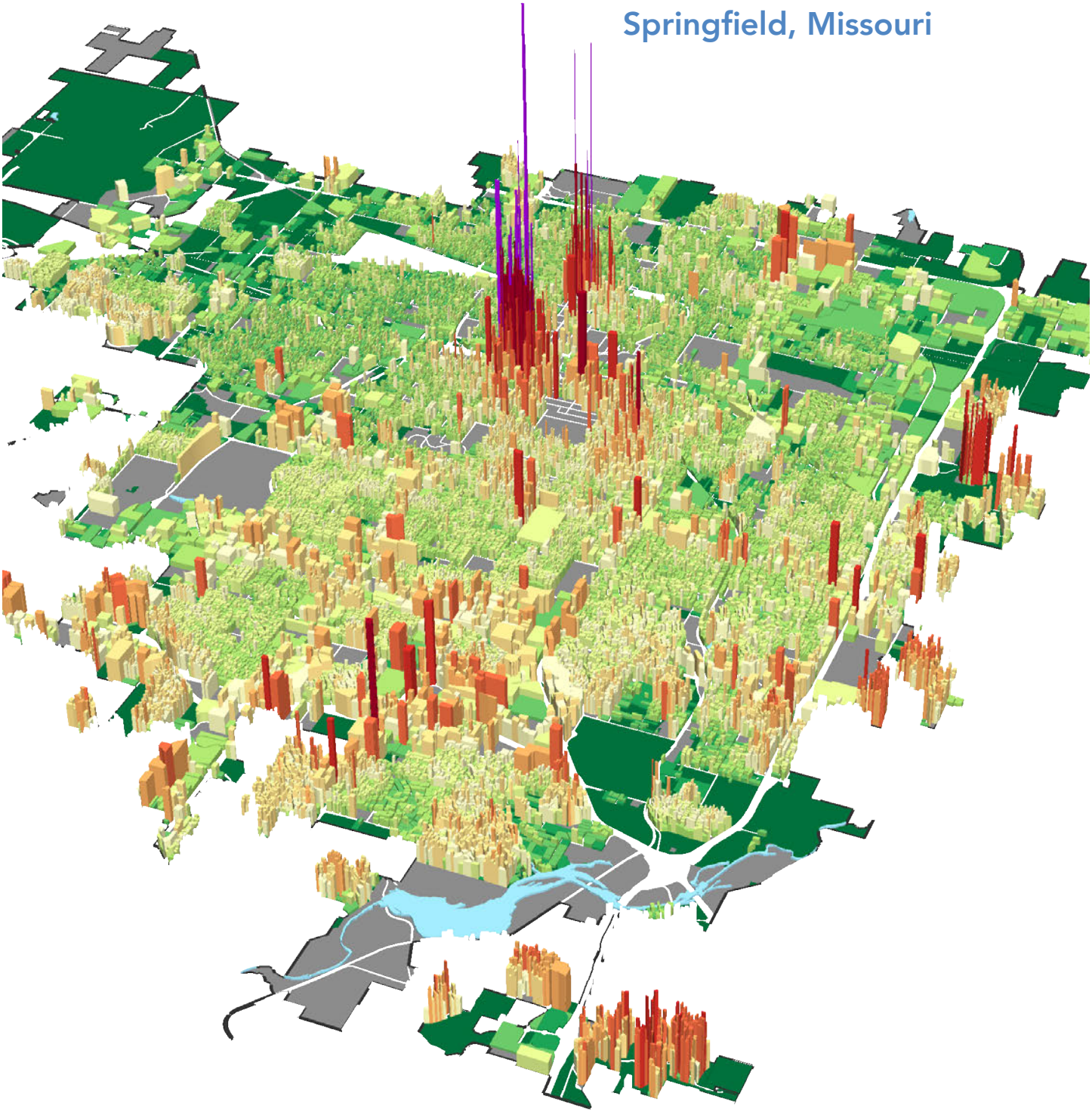
Economics of Community Development

Springfield, Missouri



URBAN3 2024

Glossary

Annexation
The acquisition of new territory by a municipality, usually by expanding boundaries into unincorporated areas.

Auto-Oriented Development
Refers to the urban development pattern in which the individual significantly relies on a vehicle to move from place to place. Does not support walkability or other modes of transportation.

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).

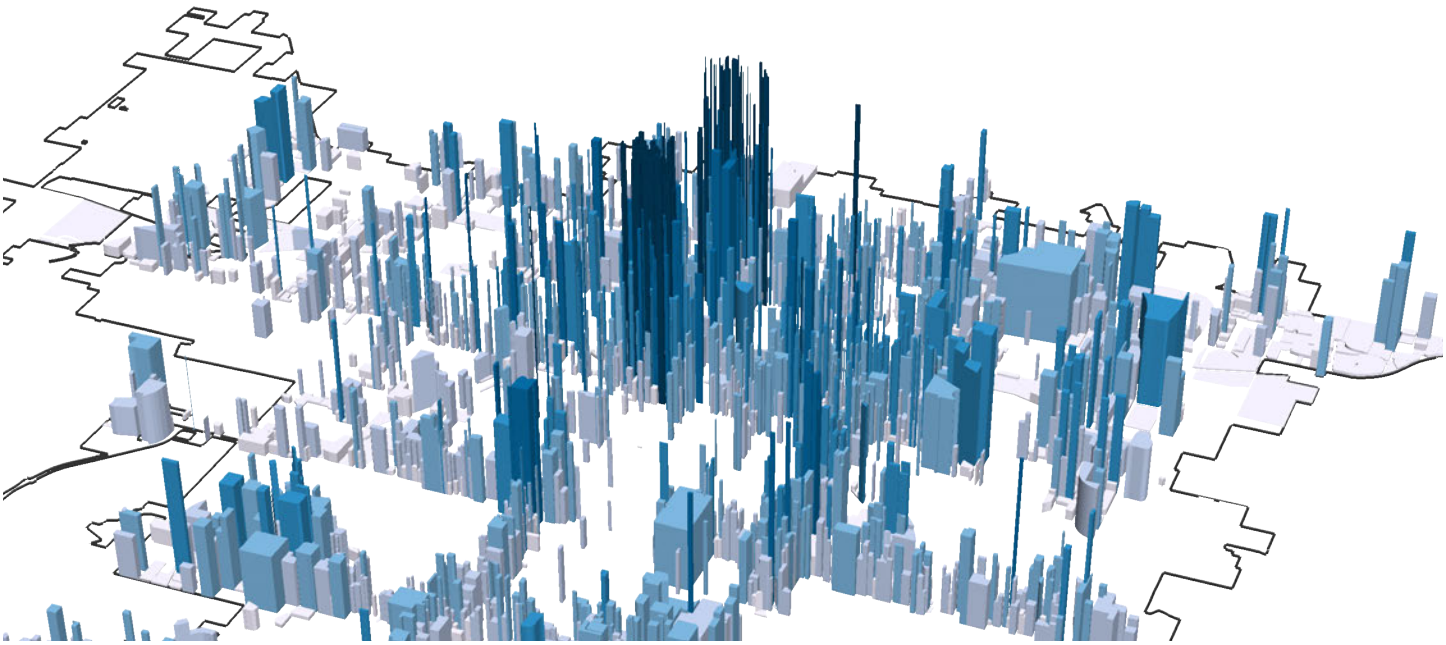
Parking Minimums
Also known as Minimum Parking Requirements (MPR), parking minimums are laws requiring new buildings to include a fixed number of off-street parking spaces based on an assumed demand for parking generated by the building's use.

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.

Urban Revitalization
Improving urban areas that are in a state of economic, social, or environmental decline.

Value Per Acre (VPA)
A metric used to evaluate the effectiveness of land use policy; property value divided by acres utilized.

Table of Contents



History of Urban3 & the Rebirth of Asheville

Before Urban3 helped communities understand the true value of good design, there was Julian Price (Figure 1).

Figure 1. Julian Price

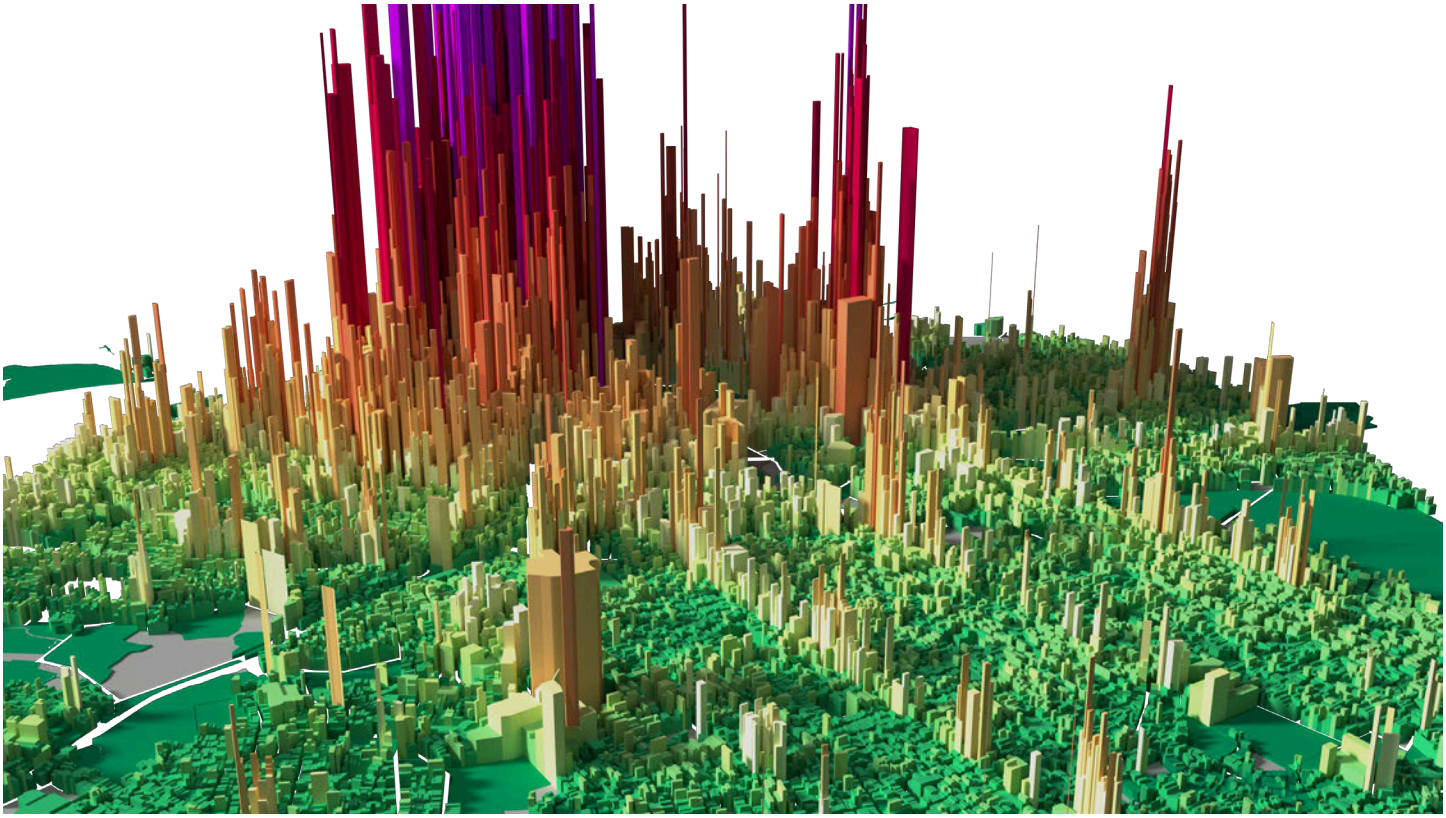
Julian moved to Asheville and saw the dilapidated state of the downtown against the backdrop of the stunning Blue Ridge Mountains and began to dream. In the early 1990s, Downtown Asheville, like many downtowns, faced an uncertain future after years of neglect and disinvestment. Its vacant storefronts and empty streets repelled visitors and locals alike, despite the beautiful scenery. The city had lost its soul.

Julian had inherited a family fortune and decided to invest his money into the people and places that, with a little help, could reinvigorate downtown. Despite cries of "that's impossible" and "that'll never work here," Julian created the development company Public Interest Projects in 1990 and tapped Pat Whalen to take the lead. Mr. Whalen focused 75% of the $15 million portfolio on fixing buildings, and the remaining 25% was invested in entrepreneurs as a revolving fund. The investments focused on catalytic projects with a focus on making downtown more liveable as a neighborhood. Julian wasn't afraid to get down in the weeds—he picked up trash and fixed park benches, but he also had a crystal clear, big-picture vision. He knew that investing in restaurants, local media outlets, mixed-use buildings, and a self-help credit union would gradually create a self-sustaining ecosystem that would attract downtown residents, invite tourists, and help small businesses thrive. Together, these ingredients brought Downtown Asheville back to life (Figure 2).

Urban3 was created at Public Interest Projects to share the lessons of community revitalization and explain the importance of municipal economics to communities across the country.

Figure 2. A building in downtown Asheville before (left) and after (right) revitalization
Source: urbanthree.com

About the Author



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.

Introduction to Springfield

Springfield is the third most-populous city in southwest Missouri. Known as the "Queen City of the Ozarks," Springfield is surrounded by the lush landscape of the Ozark Mountains.

Springfield is a city rich in history. Officially incorporated in the 1830s, the city was an important landmark along the Trail of Tears and was host to several significant Civil War battles. Springfield is also recognized as the birthplace of Route 66, where traces of the historic highway still remain throughout the city.

Figure 3. Springfield in the early 1900s
Image source: news-leader.com

Annexation has also been a significant part of Springfield's history. In 1870, the construction of the St. Louis-San Francisco railroad prompted the development of a new city, North Springfield (present day Commercial Street). Soon after, North Springfield was absorbed into the city. Between 1953 and 1976, significant population growth drove the acquisition of county land, where city boundaries expanded from 17- to 65-square miles. Today, Springfield encompasses a total of 80-square miles, and its steady growth continues to spark debates about future land annexation.

"Today, [Springfield's] steady growth continues to spark debates about future land annexation."

Understanding Local Finance

To understand the fiscal health of a community, we must first understand the underlying tax structure of the area to uncover the relationship between land use decisions and revenue production. When public revenues vary geographically, we can draw comparisons to other spatially relevant facts, such as patterns of development, demographics, and public investment. Put simply, land use directly affects a parcel's tax productivity. As such, analyzing both the source of government revenues and the patterns from which they originate is critical to planning a strong financial future.

In the United States, tax systems vary by state and municipality. In Missouri, sales and property taxes are an important revenue stream for local governments. The revenue and expenditure pie charts (Figure 4) break down the 2022 General Fund revenues for the City of Springfield. Over 40% of Springfield's General Fund revenue comes from sales taxes, and 7% from property taxes. Combined, sales and property taxes make up a total of 51% of Springfield's revenue, nearly $200 million.

The financial flow diagram (Figure 5) highlights Springfield's Operating Budget and how revenues are dispersed across the city's operating expenses. Here we can see how Charges for Services and Sales Taxes are major revenue sources for the city, while General Government Operating Expenses, Clean Water (wastewater infrastructure), and Public Works are a few of the city's largest expenses.

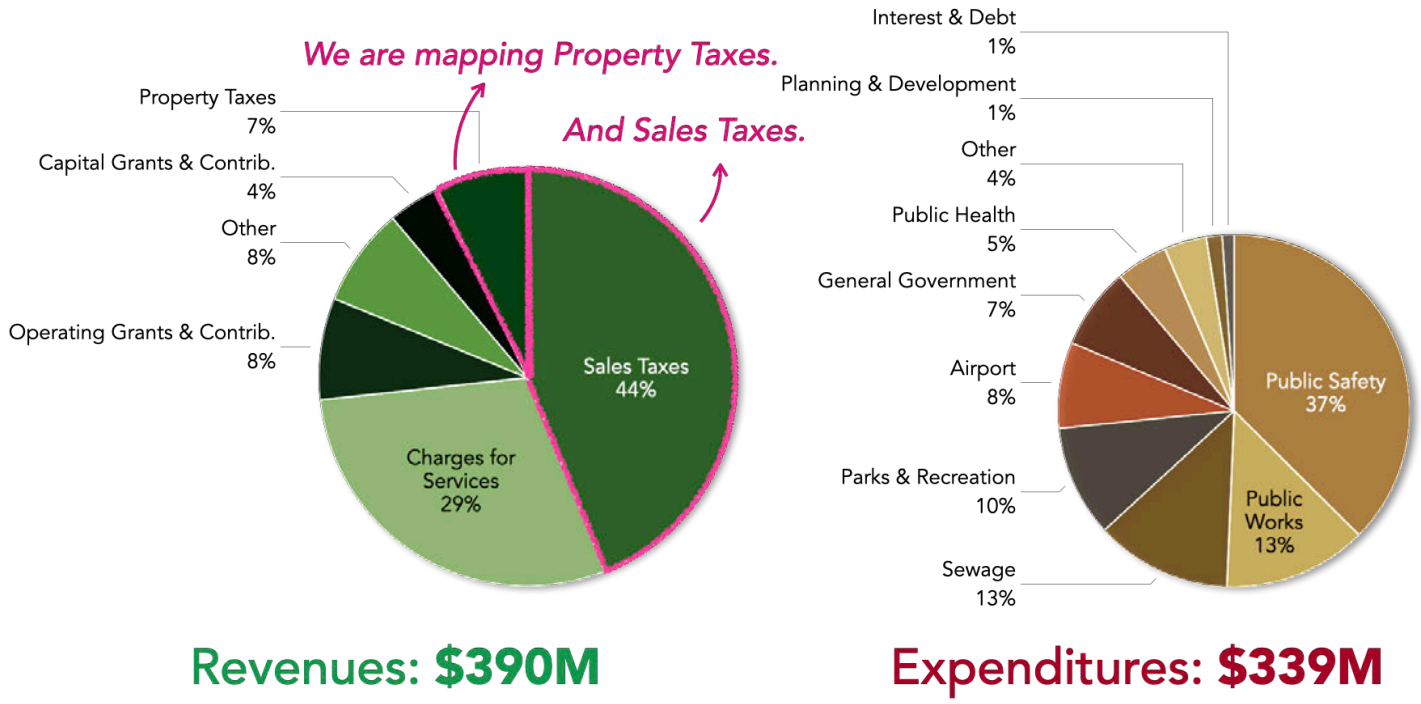


Figure 4. Springfield's General Fund budget
Source: City of Springfield, MO Annual Comprehensive Financial Report 2022

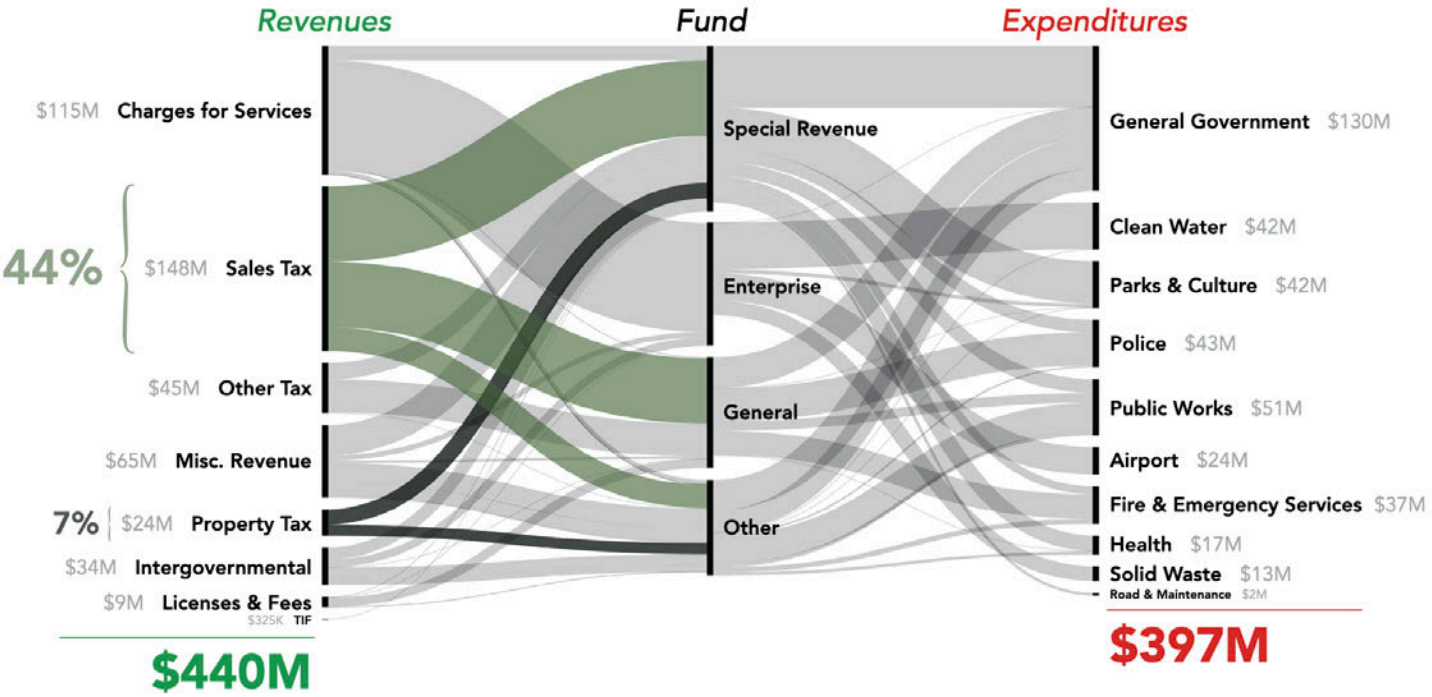


Figure 5. Springfield's financial flow diagram (which includes all funds)
Source: City of Springfield, MO FY 2023-2024 Adopted Budget

Taxable Value

Urban3's work focuses on mapping and visualizing tax data and utilizing the "per acre" metric as a unit of productivity. Cities are finite areas of land, and how that land is used has a direct effect on municipal coffers. The "per acre" metric normalizes tax values into a direct "apples-to-apples" comparison utilizing land consumed as a unit of productivity. Put another way, different cars have differently sized gas tanks, so, when looking at the efficiency of a vehicle, the gallon is used as the standard measure, not the tank. Therefore, "miles per gallon" is common practice to gauge efficiency, not "miles per tank." We apply the same principle to measure the financial productivity of various development types across a community.

Taxable Value vs. Value Per Acre

The 2D images of the County (Figure 6 and Figure 7) illustrate the difference between Taxable Values and Value per Acre of parcels in Greene County. Figure 6 reflects how we typically view and understand tax production. While parcels with the largest footprints often produce the highest dollar amount in revenue, they also carry the highest costs in regards to public utilities (i.e., streets, sewer, water). Thus, examining a development's total tax production overlooks the amount of land and other public resources that are consumed in order to produce revenue.

Utilizing the "per acre" metric (Figure 7 and Figure 8) shifts values to reveal properties that yield high property tax rates relative to their size. In the two-dimensional representation below, the urban development of Spring-

Figure 6. Greene County's total value in 2D

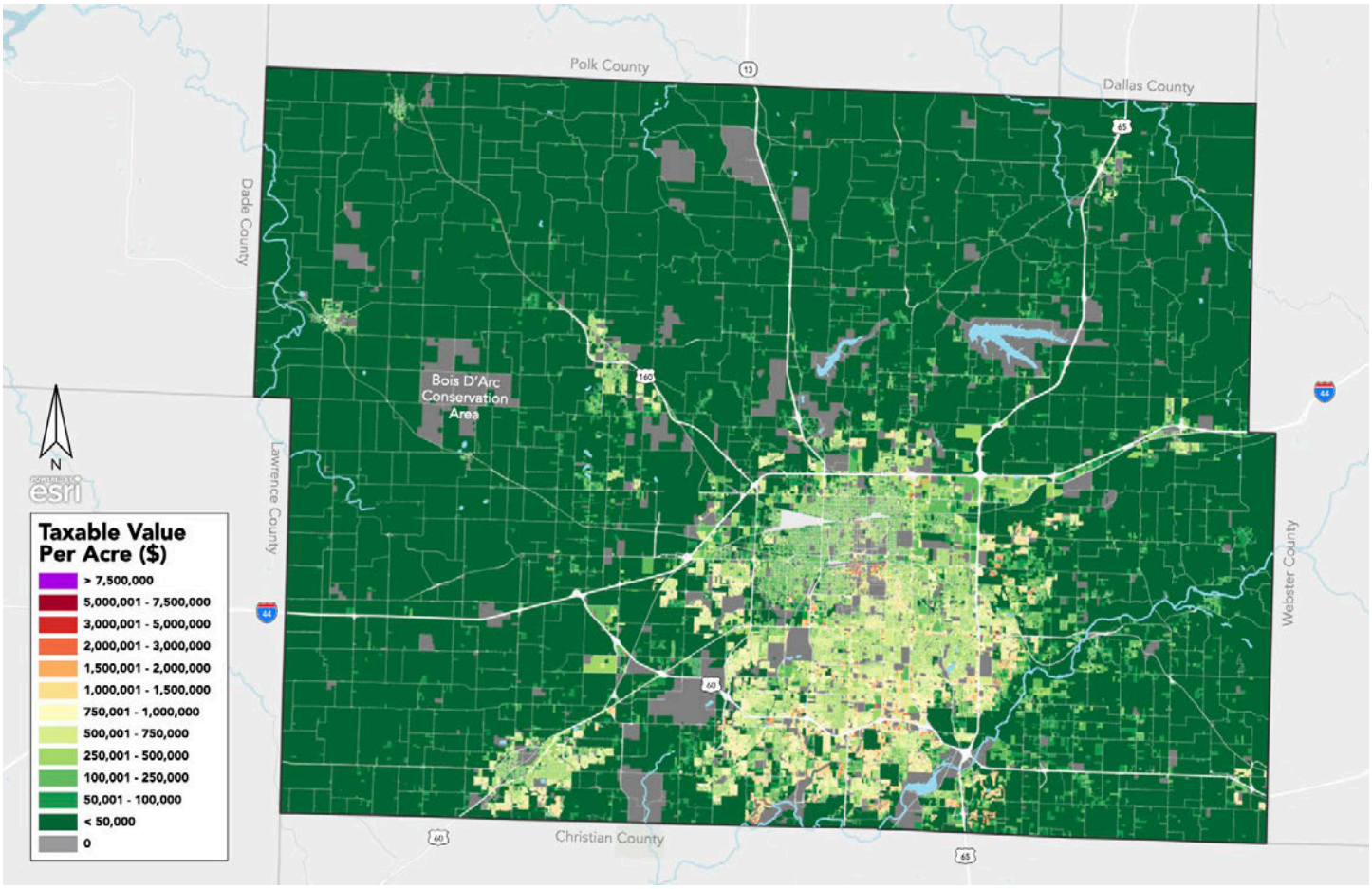


Figure 7. Greene County's Value Per Acre (VPA) in 2D

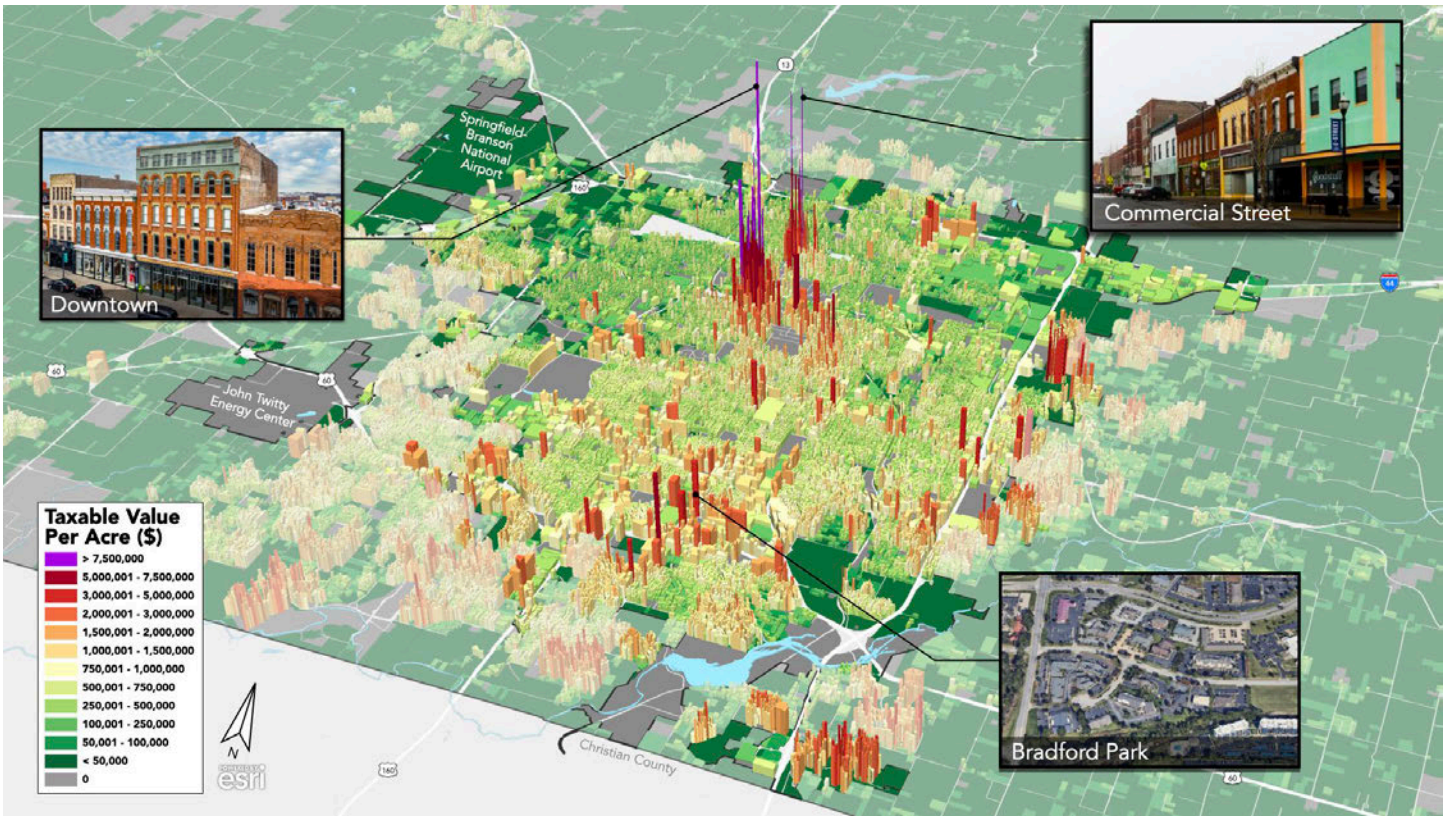


Figure 8. City of Springfield's Value Per Acre (VPA) in 3D

field is immediately apparent in the otherwise dark-green agricultural parcels that dominate the surrounding Greene County.

When viewing Springfield's Value per Acre model in three dimensions, we can start identifying themes across various land use decisions. Immediately, the eye is directed to the tall purple spikes of Springfield's downtown and to the slightly smaller spikes along Commercial Street. These historic areas possess a number of modest but potent two- and three-story mixed-use properties that house both commercial and residential properties. We can also examine the newer growth that has spread across the city, where light-greens, yellows, and oranges indicate primarily single family homes and big box commercial buildings.

These themes can be categorized in order to draw conclusions about specific land use decisions. In the Property Tax Revenue Per Acre by Building Type chart (Figure 9), we can compare the performances of "low density," "medium density," and "high density" residential, commercial, and mixed-use properties. This reveals a clear correlation that high density development is significantly more productive than less dense land uses.

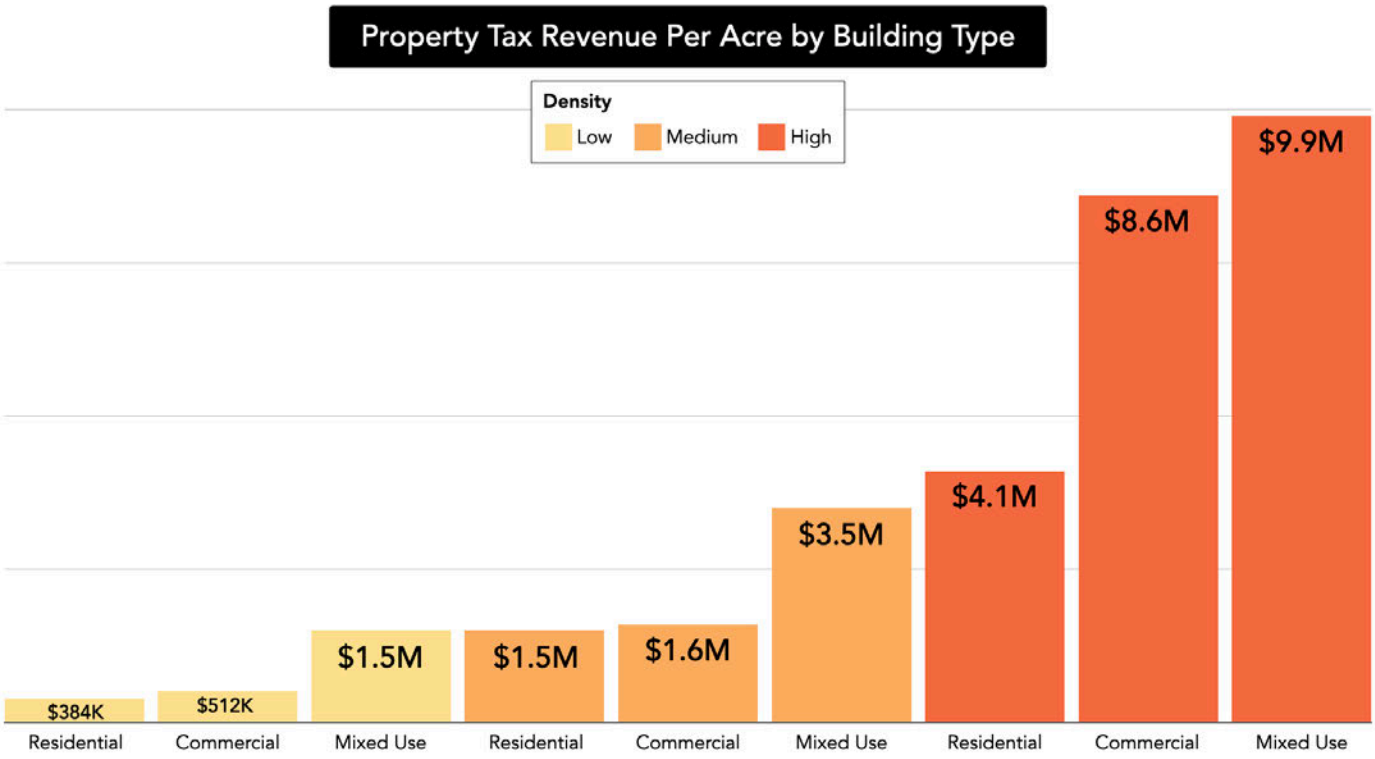


Figure 9. Examples demonstrating financial productivity

Sales Tax Per Acre

While property taxes are an important source of revenue for Springfield, sales tax plays an even more significant role. Similar to the property tax model, sales tax productivity is dependent on how land is used in different commercial development patterns. By understanding how different commercial property development patterns influence sales tax productivity, Springfield decision-makers can make knowledgeable choices about what development patterns to encourage.

The sales tax per acre model (Figure 10) is estimated by assigning sales revenue from the Missouri Department

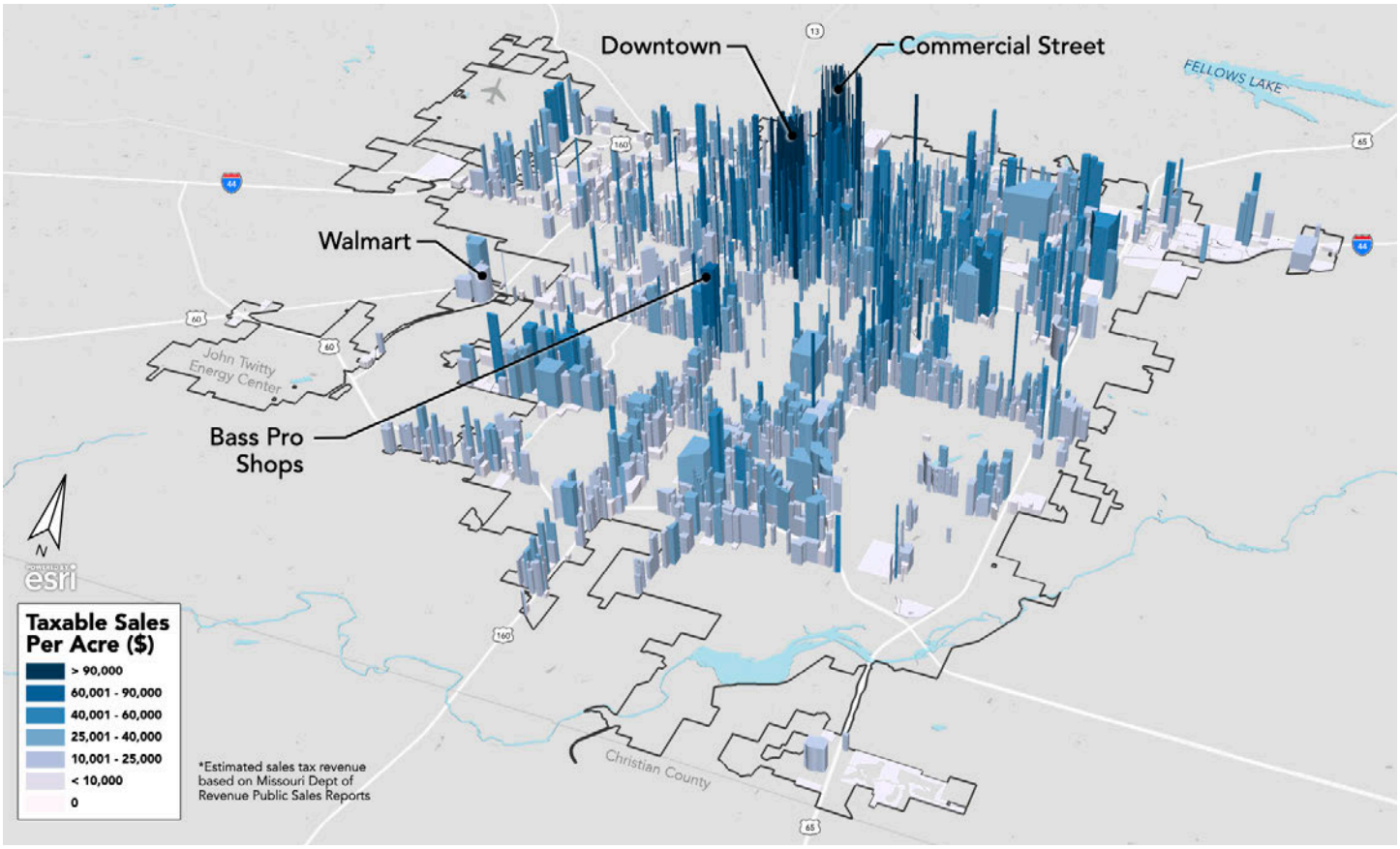


Figure 10. 3D model showing sales tax value per acre for City of Springfield

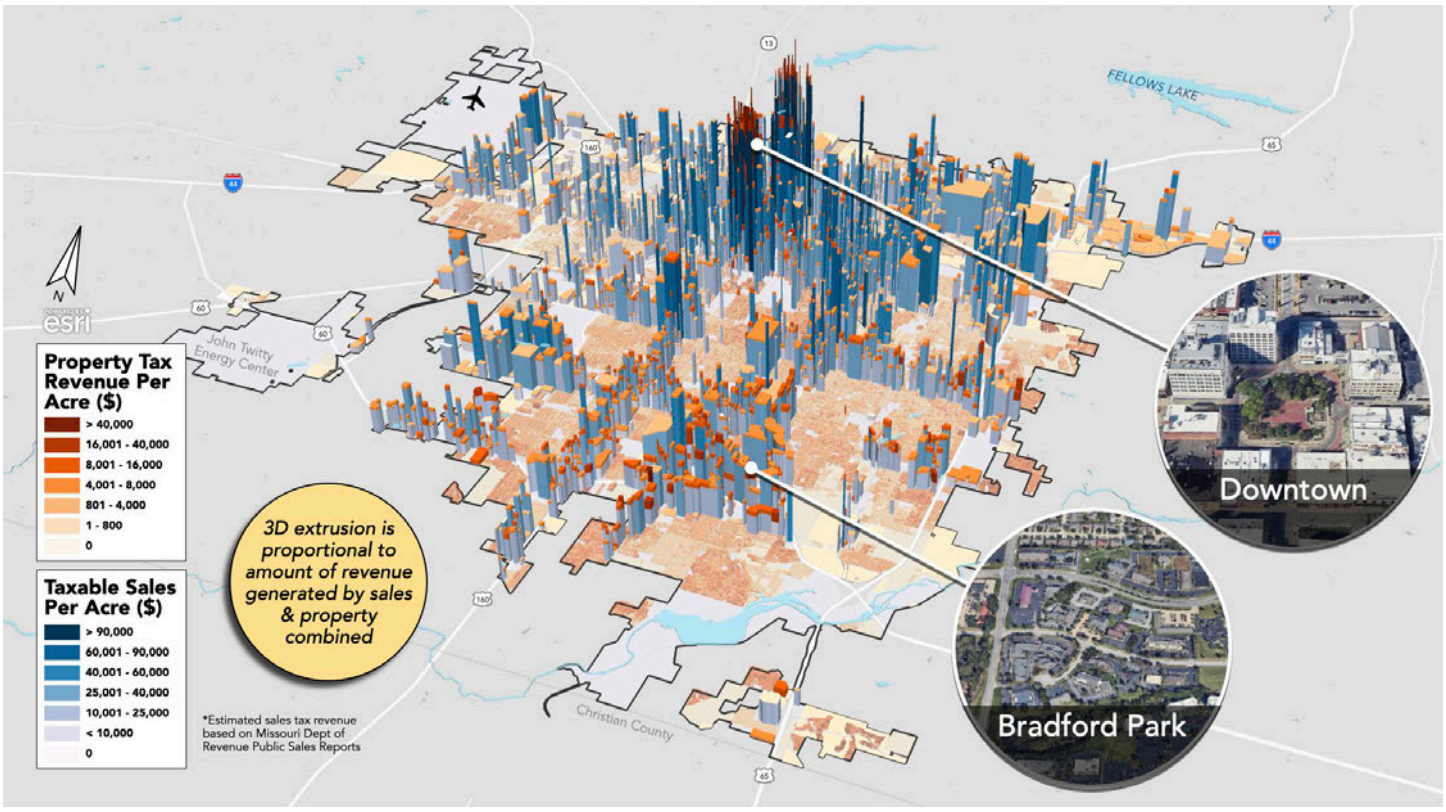


Figure 11. 3D model showing property tax value per acre stacked on top of sales tax value per acre for City of Springfield

of Revenue to parcels based on their current land use. As shown in the model, most tax-producing businesses are located along busy auto-oriented corridors like Campbell Avenue and Sunshine Street. It is important to note that the sales tax per acre model is only an approximate snapshot of sales productivity, as annual sales taxes are subject to external economic forces and Urban3 did not model each business's revenue amount to protect their confidentiality.

To get a better sense of how land use patterns affect Springfield fiscally, Urban3 combined both the property (orange) and sales (blue) taxes in the stacked model (Figure 11). Despite the fact that a huge amount of auto-oriented big-box and industrial commercial centers exist throughout the city, the dense development of Downtown and Commercial Street still provides the most potent sales tax productivity. Commercial districts like Bradford Park, while not as productive per acre as the downtown, still produce a significant portion of total sales taxes. A downside of this development typology is that it requires sizable areas of land to be allocated to car-oriented features like parking, diluting productivity.

Since sales taxes are a significant source of evenue in Springfield's operating budget, it is crucial to understand how land use plays a role.

Infrastructure Analysis

Planimetric Data

Planimetric data is used to create surface level maps of Earth's features, excluding topographic features. The planimetric map (Figure 12) approximates Springfield's land use classifying land in four categories: parking, roads, buildings, and other land. The majority of Springfield's land area falls in the "Other" category, which contains all land that is undeveloped and/or forested. Parking is another significant portion of Springfield's land area. Although it is a necessary (and often required) land use to accommodate car-owners, parking improve-

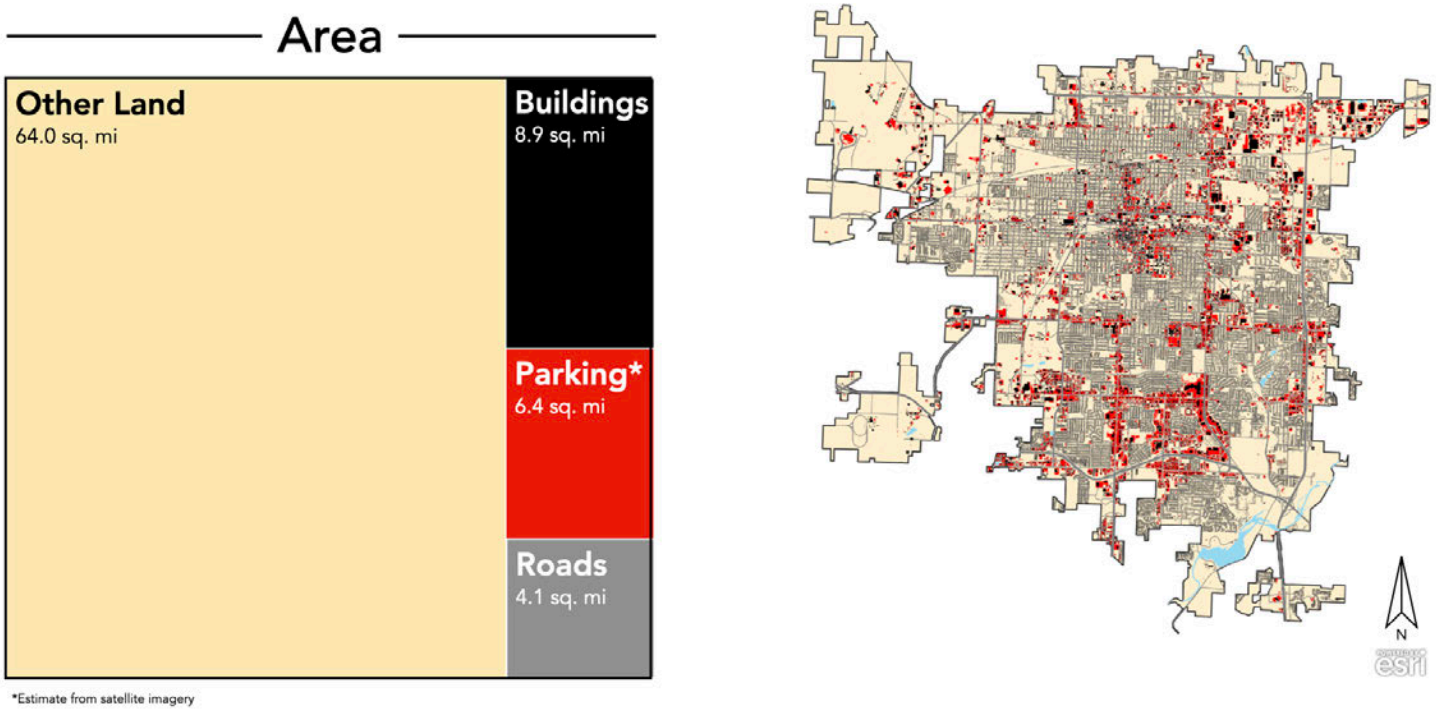


Figure 12. Tree map demonstrating Springfield's total land area by coverage type

ments do not increase property values as much as buildings. Parking also increases a city's impervious surface area, which ultimately adds stress to the city's stormwater infrastructure through increased stormwater runoff. This creates an opportunity cost for property owners, developers, and local governments - groups who typically want property values rising and yielding better returns.

Urban Growth

Springfield experienced rapid growth in the mid-20th century, but its population is still steadily increasing today. In order to accommodate this growth, Springfield has continued to annex land in surrounding counties. With each annexation, cities usually attempt to strategically incorporate fiscally productive land, however, they also acquire infrastructure systems and the responsibility of maintaining those depreciating assets. This is precisely what has happened in Springfield, where suburban growth outside of city limits has prompted the expansion of its infrastructure systems into an "Urban Service Area" (Figure 13).

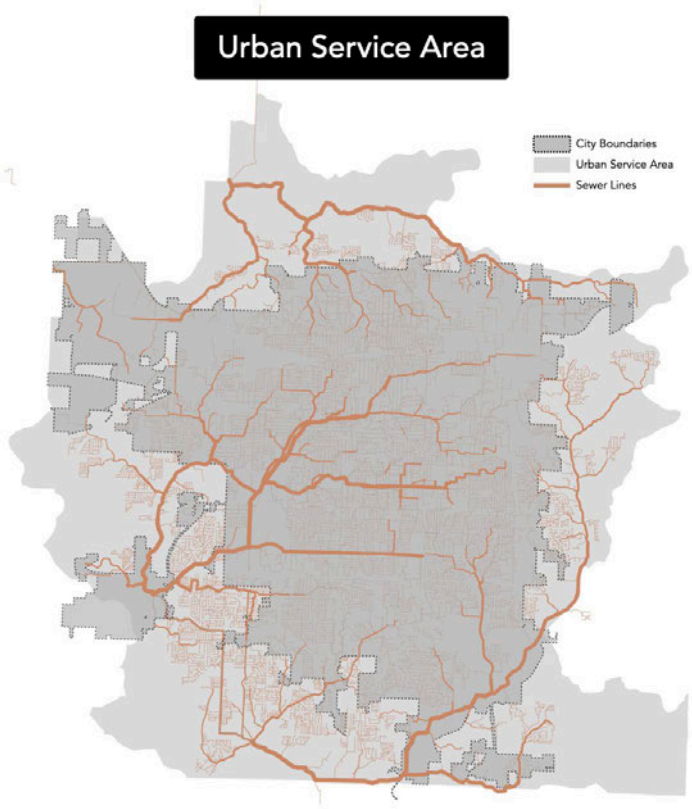


Figure 13. Springfield's current sewer line infrastructure

Lifecycle Costing

When a community builds infrastructure, they are typically responsible for maintaining that infrastructure in perpetuity. Lifecycle costing is an approach to infrastructure planning that annualizes the accumulated costs of a unit of infrastructure to a yearly amount. By taking into account the complete costs associated with maintaining and operating these systems year after year, Urban3 calculates an annualized lifecycle cost that forecasts how much a city should be spending each year in order to keep up with their infrastructure needs.

Return on Investment

To see the return on investment of annexation and land use choices, Urban3 compiled the city's current annual spending from the budget documents of each infrastructure system. These estimates combine the numbers from the 2022 Operating Budget and the average spending of relevant infrastructure projects reported in the 2022 Capital Improvement Plan. The following images (Figure 14 and Figure 15) outline how much the city is currently spending on each infrastructure system, compared to the annualized lifecycle cost of that system.

The main takeaway from the analysis is that the City of Springfield is currently underfunding its infrastructure needs every year. The road and sidewalk systems have the widest gap between current and lifecycle spending needs, where estimated lifecycle costs are nearly twice that of current spending. The gap between wastewater current and needed spending is approximately $16 million, and the total deficit for all systems combined is about $64 million annually. Springfield's water system is currently owned and operated by a private company, City Utilities. Because the city is not liable for this system, it is excluded from Urban3's cost estimates.

Like the revenue per acre models, these annualized lifecycle costs were mapped per acre to visualize the impact of different land uses (Figure 17). The black and red per acre model (Figure 17) is the result of netting infrastruc-

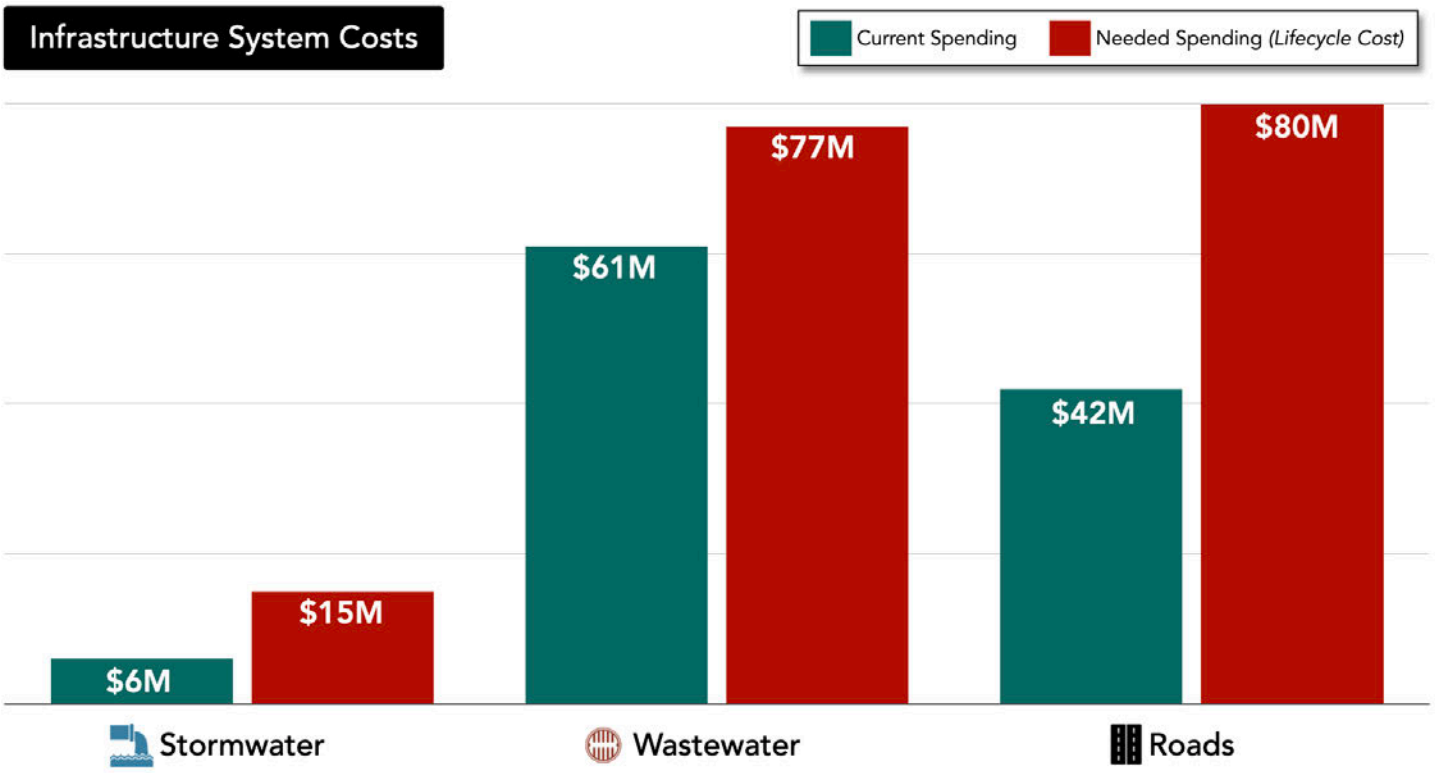


Figure 14. Springfield's current vs. needed spending by infrastructure type

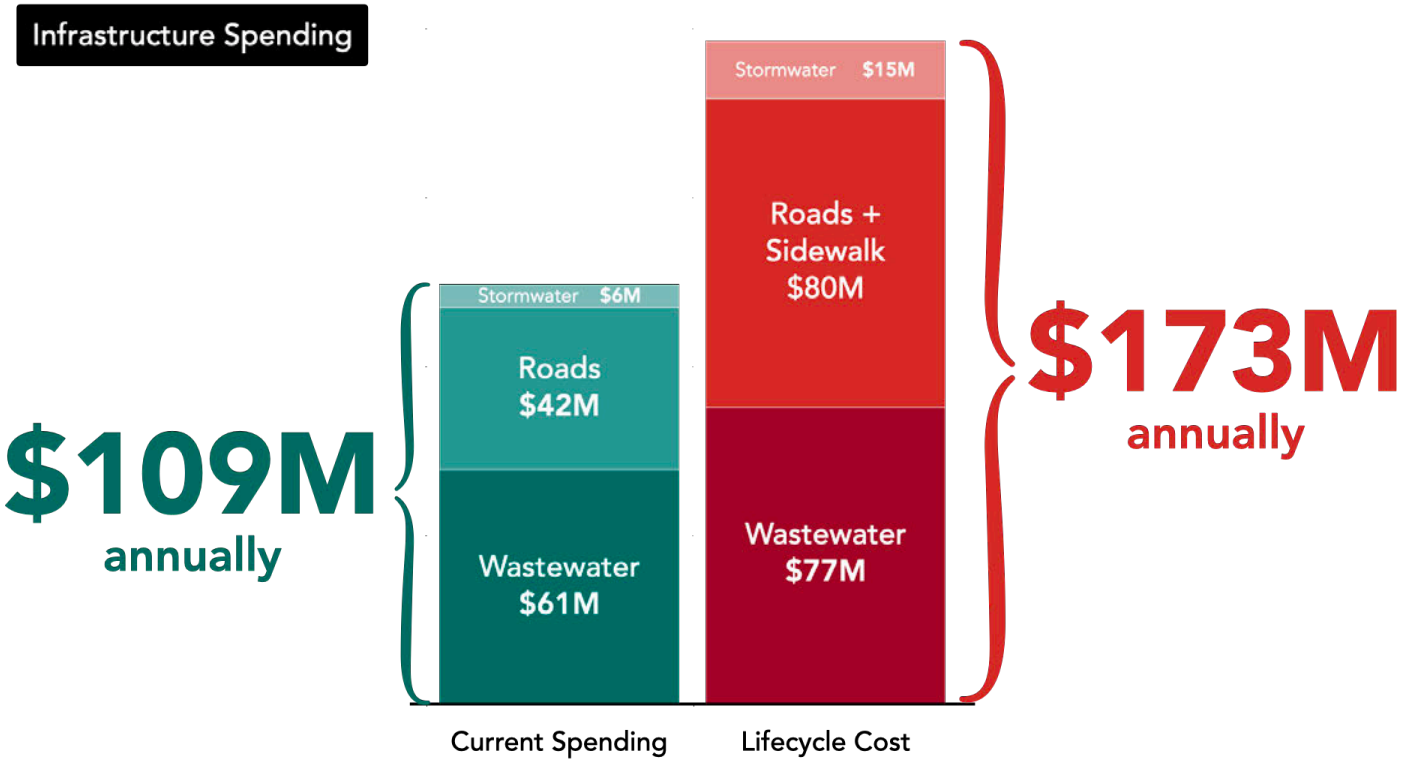


Figure 15. Combined infrastructure spending and cost numbers of all infrastructure types
Source: City of Springfield, MO FY 2023-2024 Adopted Budget

ture revenues against expenditures. The model demonstrates with black areas where expected revenues exceed costs.

From the model, we can gather that development types that net positive almost always contain some form of commercial or sales-tax producing agent. Much like the sales tax model, Springfield's commercial corridors are immediately visible. However, Springfield's downtown and Commercial Street still remain the most potent with consistently net-positive returns.

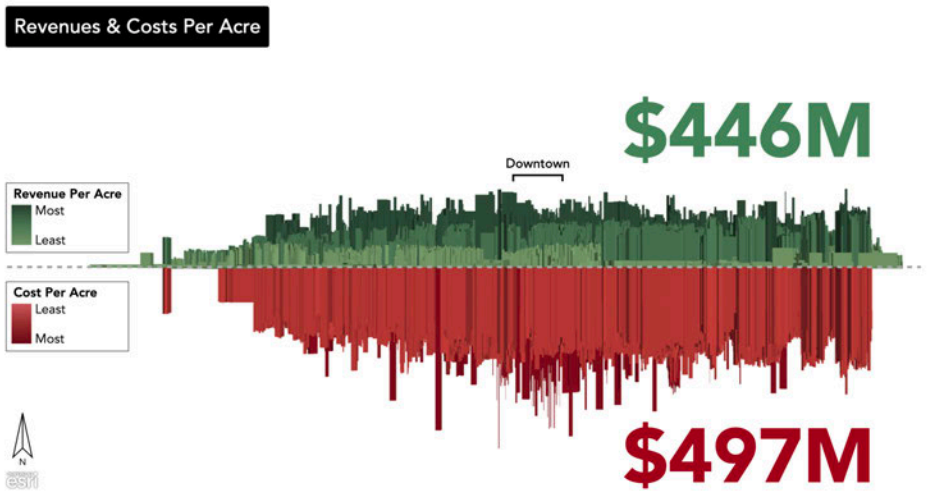


Figure 16. Springfield's 3D return on investment model viewed from the side

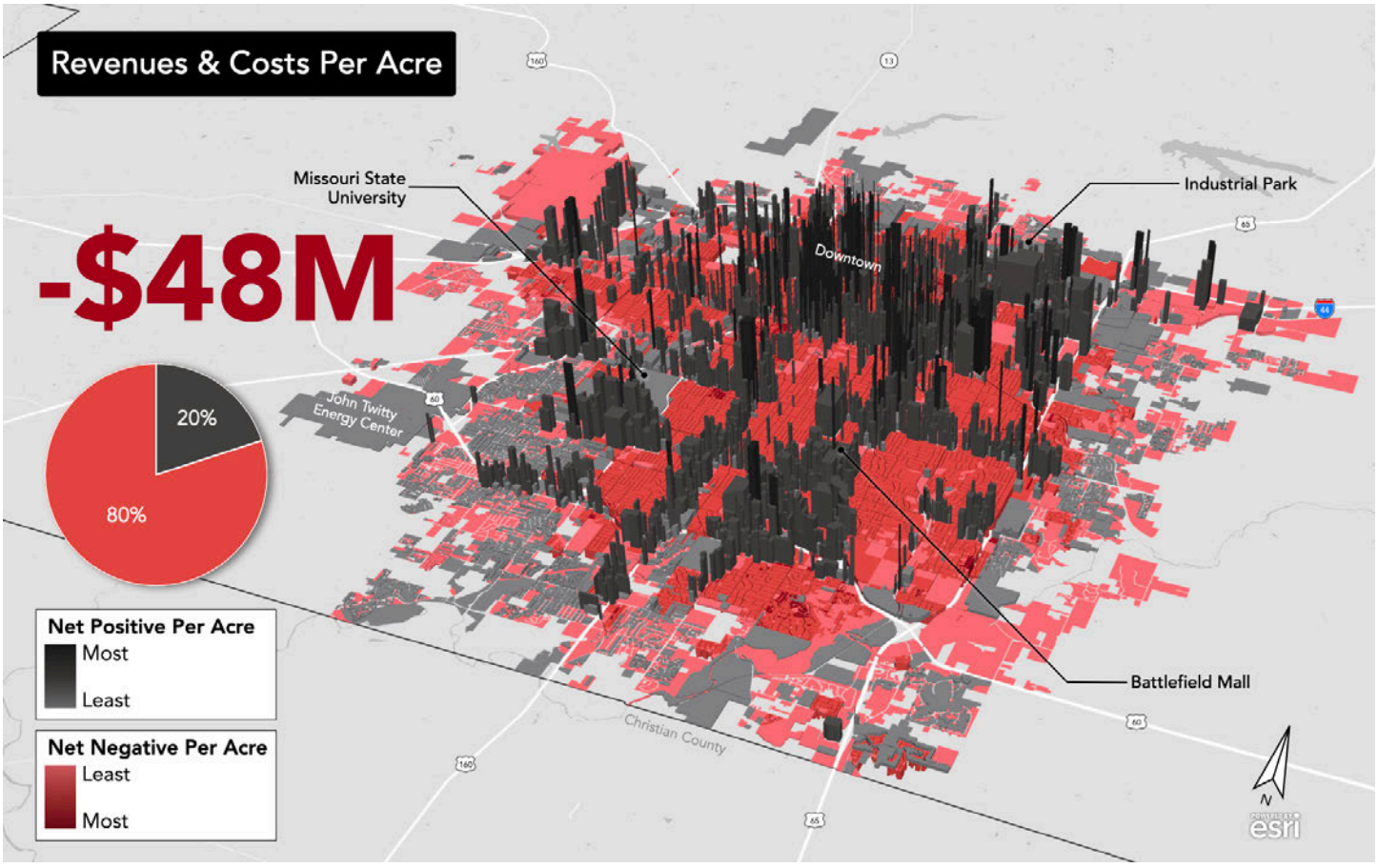


Figure 17. 3D model showing net revenues and costs per acre in Springfield

"Springfield's downtown and Commercial Street still remain the most potent with consistently net-positive returns."

Key Takeaways

How can we increase our Return on Investment?

Understand the Impact of Different Land Use Decisions

Inspecting the Value Per Acre (VPA) and Return on Investment (ROI) models helps communities link fiscally productive areas with their associated land use types. The bar graphs by zoning type (Figure 18) compare the per-acre net revenues and expenditures for operating and maintaining various zoning land uses. Single family housing has more potential to drain resources, while Mixed Use properties are significantly more fiscally productive.

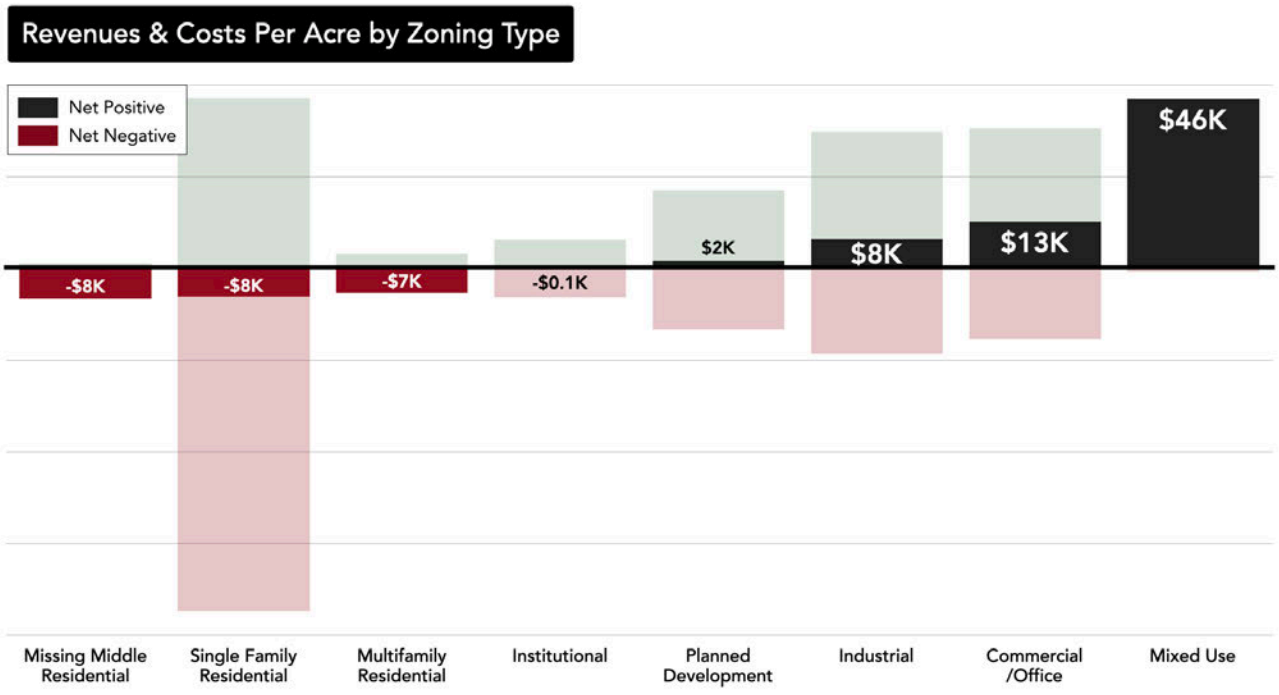


Figure 18. Springfield's net revenues and costs by zoning type

Increase Density

Allowing greater density is a simple, but not necessarily easy, way to increase Value Per Acre (VPA). Essentially, allowing for greater density on a property means that greater value can be generated on that property. This means the value number in the "value divided by acres" equation will go up, while the acres will stay the same. This yields a higher VPA and greater productivity. And it doesn't mean there has to be a dramatic increase in density. Adding even one or two units or one or two stories has a dramatic effect on productivity. Density increases often come in the form of zoning regulation changes.

How can we minimize our costs and increase our Return on Investment?

Encourage Infill Development

Many places have a plethora of vacant properties in their urbanized area. These properties have roads, water pipes, sewer pipes, and other infrastructure in their vicinity that can serve them. Though these vacant properties may not be directly consuming things like water or sewer services, the physical infrastructure is still present. And the vacant properties pay so little in property tax that they don't cover the maintenance costs of these facilities. Extrapolated out over a city or county, these vacant properties pose a major financial strain. Jurisdictions should take steps to reduce vacant properties and encourage infill development. The infrastructure is already there, why not get more tax revenue from it? This may be done by reducing development fees in certain areas, by creating investment incentives, or even by implementing a TIF (Tax Increment Financing).

Consider the Long Term

Whether it's revenue stagnation or crumbling infrastructure that has reached the end of its life, cities must keep the long term in mind. As individuals, we can move any day and we know that the future is unpredictable. However, a city can reasonably predict that whoever lives there in the future will want good quality roads and functioning utilities, so every city decision must take into account long term impacts.

How can we leverage special revenue?

Sales Tax

The development of auto-oriented commercial properties often requires large amounts of land to satisfy parking minimums, which requires more city investment in infrastructure to service those districts. On the other hand, cities can reduce the amount they need to invest in a commercial property by eliminating parking minimums, allowing for smaller commercial parcels. Most importantly, because these developments would consume less land, they would produce more sales and property tax per acre. By minimizing infrastructure expenses and maximizing potential tax revenue, Springfield can improve their return on investment (ROI).

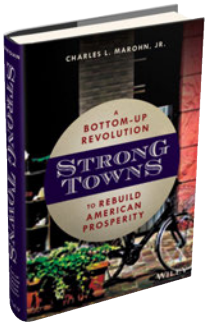
Expanded Readings

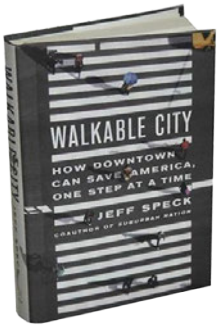
Strong Towns: *A Bottom-Up Revolution to Rebuild American Prosperity*
Charles L. Marohn, Jr.

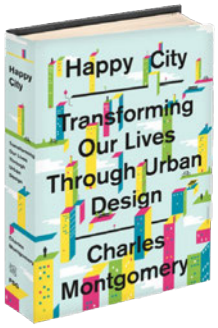
Walkable City: *How Downtown Can Save America, One Step at a Time*
Jeff Speck

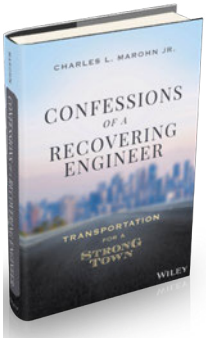
Happy City: *Transforming Our Lives Through Urban Design*
Charles Montgomery

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









URBAN3

Data-driven storytelling

Principal	Joe Minicozzi, AICP
Chief Analyst	Phillip Walters
Project Manager	Adam Carr, AICP
Analyst II	Leah Handwerger
Graphics Specialist	Brooke Robinson

All maps are created with ESRI software, and all data used in this analysis and report (unless otherwise noted) was provided by Google Maps and the Greene County Assessor's Office.

urbanthree.com