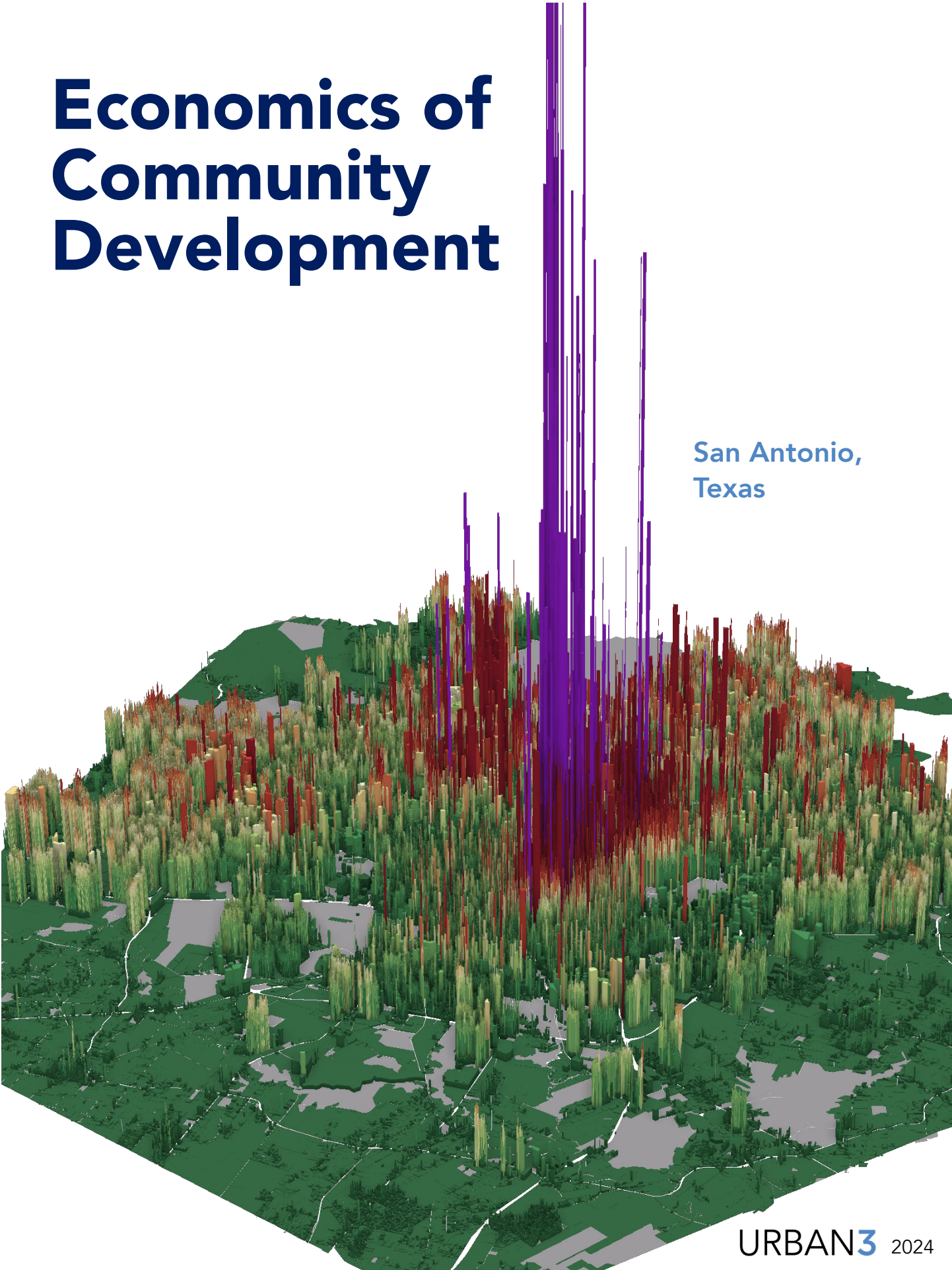


Economics of Community Development

San Antonio,
Texas



Glossary

Annexation

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

Assessed Value

The valuation of a real estate asset that determines the amount of property tax applicable to it.

Assessment Ratio

Using a fraction of a property's market value to determine the assessed or taxable value.

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.

Median Adjusted Sale Ratio

The sale ratio for each group in the analysis divided by the overall median sale ratio of the entire sample. This helps account for shifts in the broader housing market over time and makes it more reliable to compare assessment variation from one year to another.

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.

Sale Ratio

A property's assessed value divided by its sale price. Over-assessment, and resulting over-taxation, occurs when the sales ratio is greater than 1. Under-assessment, and resulting under-taxation, occurs when the sales ratio is less than 1. A perfect assessment is when the sale ratio equals 1.

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

- Glossary ii
- History of Urban3 & the Rebirth of Asheville iv
- About the Author v
- Introduction to San Antonio 6
- Understanding Local Finance 6
 - Budget: General Fund Overview 7
- Value Per Acre 9
 - Productivity Ratios 12
 - Taxable vs. Exempt Land 12
- Land Use Types 13
- Infrastructure Analysis 15
 - Average Infrastructure Spending 16
- Return on Investment 17
- Legacy of Redlining 21
- Equity in Assessment 22
 - Sale Ratio 22
 - Sale Deciles 24
 - Assessment Accuracy: Median Sale Ratio 24
 - Assessment Fairness: Median Adjusted Sale Ratio 24
 - Assessment Gap 26
- Zip Code Comparison 27
- Expanded Readings 29

History of Urban3 & the Rebirth of Asheville

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

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.

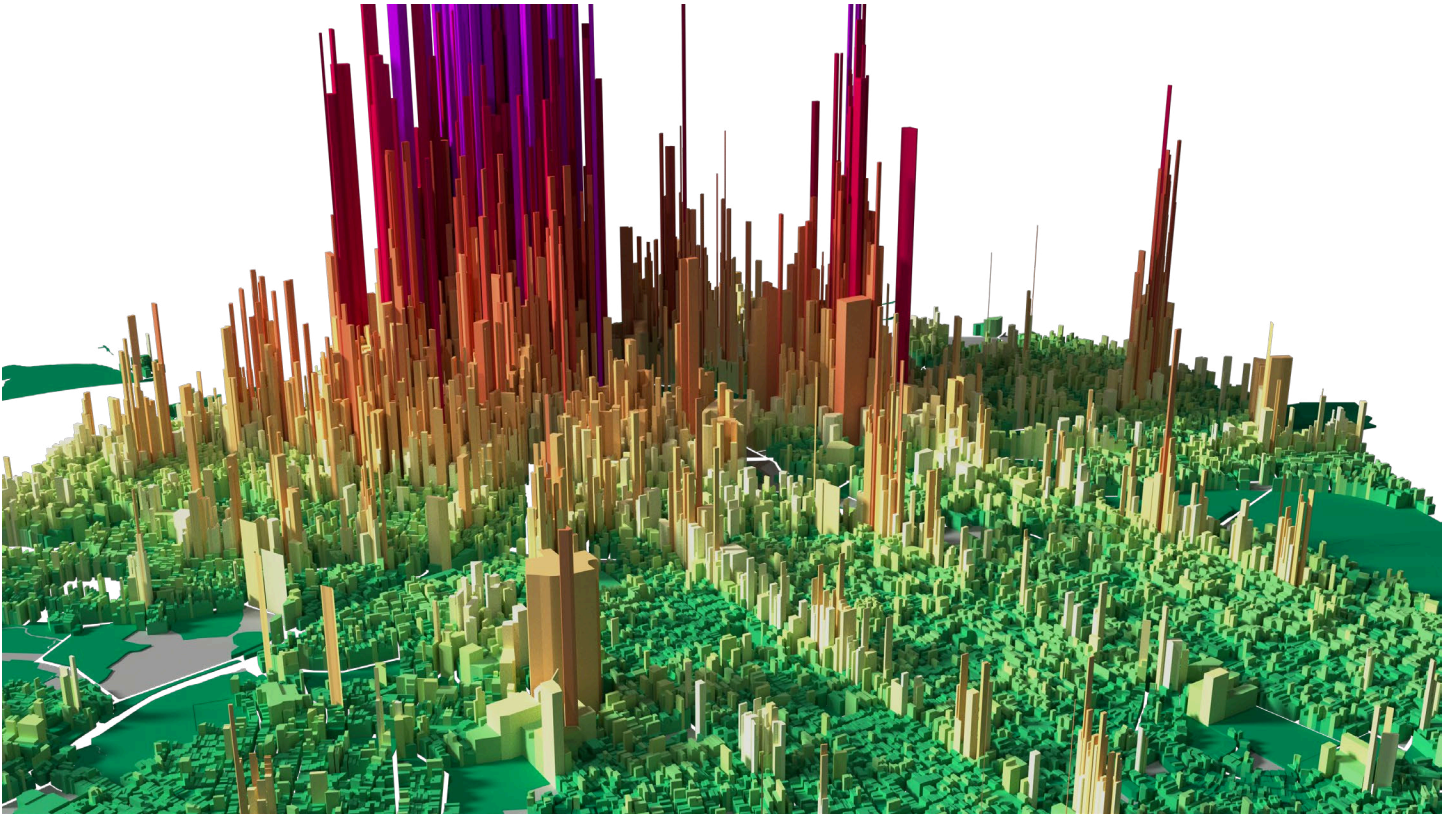


Figure 1. Julian Price



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 San Antonio

The City of San Antonio, Texas is home to over 1.4 million people and located in the south central region of the state (Figure 3). San Antonio is the seat of Bexar County and the focal point of the metropolitan area. The area was first settled as a Spanish mission and outpost in 1718. It was then chartered as a civil settlement in 1731 as part of the Spanish Empire. From 1821 to 1836, San Antonio was part of the Mexican Republic, and then the Republic of Texas, before Texas became a part of the United States.

San Antonio's land area is approximately 500 square miles. As one of the largest cities in the state and country, San Antonio faces numerous challenges related to effective land use planning and sustainable development. The City, and broader region, must make important decisions regarding future development to maintain and improve quality of life for residents and the overall economic health of the city.

The following report highlights the results of several analyses conducted by Urban3 to understand the development patterns, equity challenges, and economic health of the area. The results of these analyses can be used to make informed decisions on future development, improve equity, and enhance overall livability for residents.



Figure 3. Historic photo in front of the Riverwalk Plaza Hotel
Image source: USTA Digital Collections

Understanding Local Finance

To understand the financial health of a community, we must begin by understanding the underlying tax structure. Most communities rely on a mixture of revenues, primarily from taxes, user fees, and state and federal government. Taxes tend to comprise a large share of local revenue. Communities use these funds to run their government, pay for public services, and build and maintain infrastructure. When available, spatial data allows Urban3 to map and visualize both tax revenue and infrastructure costs, an approach we call "geoaccounting." We use geoaccounting to uncover the relationship between land use decisions and public revenue production.

When public revenues vary geographically, comparisons can be made to other spatially relevant factors, such as development patterns, commuting patterns, and public investment. Analyzing both the source of government revenues and the patterns they come from is critical to planning for a strong financial future.

The Bexar Central Appraisal District (CAD) is responsible for assessing and assigning the value of real property at



$$\begin{array}{c}
 \text{Market Value} \\
 \swarrow \text{or} \\
 \text{Capped Homestead Value}
 \end{array}
 - \text{Exemptions} = \text{Taxable Value} \times \text{Tax Rate} = \text{Tax Bill}$$

Figure 4. How taxes in Texas are calculated
 Source: Bexar County, TX

least once every three years. (Figure 4) Depending on the number of market transactions in a given area and other conditions, properties can be revalued every year. The market value assigned by the CAD is what is used to calculate the tax bill for each property. However, some properties, in particular those that are the primary residence of the property owner, may have their tax bills lowered. This happens in two main ways: value growth caps and exemptions. Properties that are the primary residence of the property owner, also called homestead, are not allowed to grow by more than 10% in value from one year to the other. This is the value growth cap. In addition to having the value growth limited each year, jurisdictions may offer additional reductions to the value of a property. For example, Bexar County and the City of San Antonio offer an exemption of \$5,000 or 10% of the value, while the San Antonio Independent School District (ISD) offers an exemption of \$100,000 and 0.1%. Additional exemptions are offered for people over the age of 65, people with a disability, and others.

Budget: General Fund Overview

The pie charts in Figure 5 offer an overview of the 2023 City of San Antonio General Fund. Property taxes are the single largest source of revenue for the City, contributing more than a quarter of the revenues. Sales tax, utility fees, and grants are also significant revenue sources.

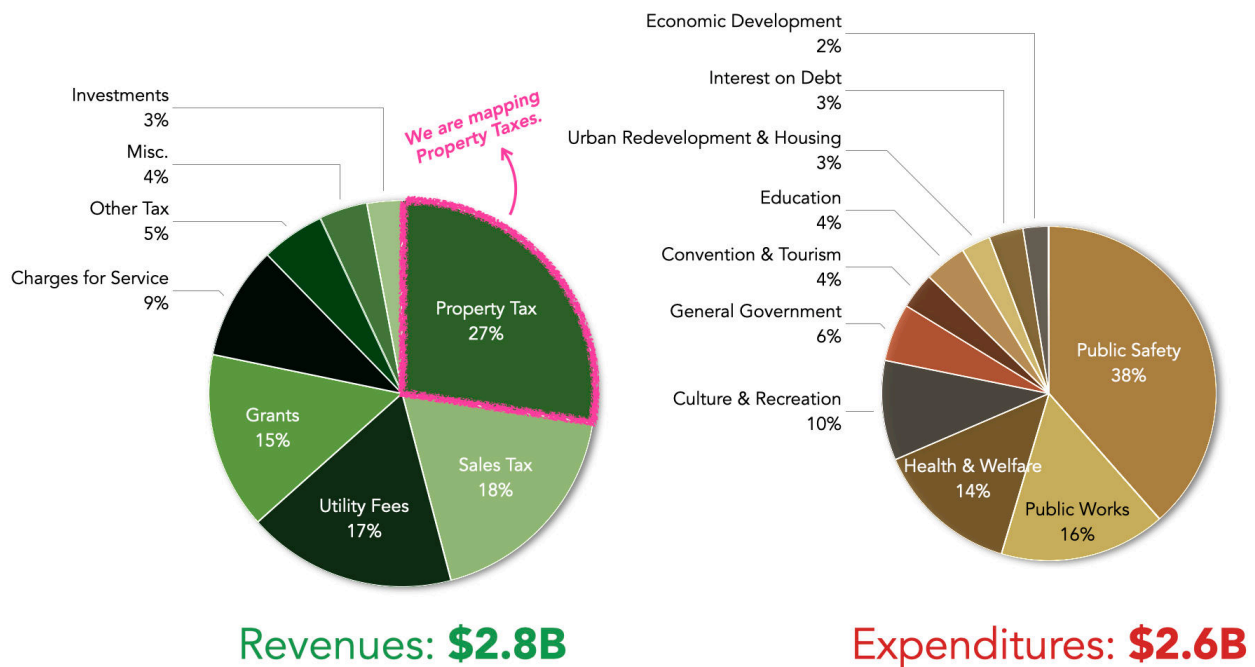


Figure 5. City of San Antonio 2023 Operating Budget
 Source: City of San Antonio Annual Comprehensive Financial Report (2023)

Value Per Acre

Total value is one way to analyze the overall value of a city, but when it comes to understanding economic productivity, it is not always the most useful. Urban3’s analysis focuses on the “per acre” metric as a unit of productivity. After all, cities and counties are, at their simplest, finite areas of land. How that land is used has a direct effect on municipal budgets. The per acre metric normalizes total revenues and tax values, creating direct “apples-to-apples” comparisons utilizing land consumed as a unit of productivity.

Using value per acre (VPA) to compare properties is like using miles per gallon (MPG) to compare cars. When comparing cars, the miles a car can go per tank isn’t typically referenced because it reflects the size of the tank, not how efficient the engine is. We apply the same principle to measure the financial productivity of various development types across a community.

The 2D maps in Figure 8 illustrate the difference between total market value and market Value Per Acre of parcels in Bexar County. When we normalize taxable value by acre, we are able to compare the value productivity of different land use patterns and building typologies.

From here, we turn to 3D visualization of the Value Per Acre Model to get a better understanding of property value productivity in San Antonio and Bexar County (Figure 9). The productivity of

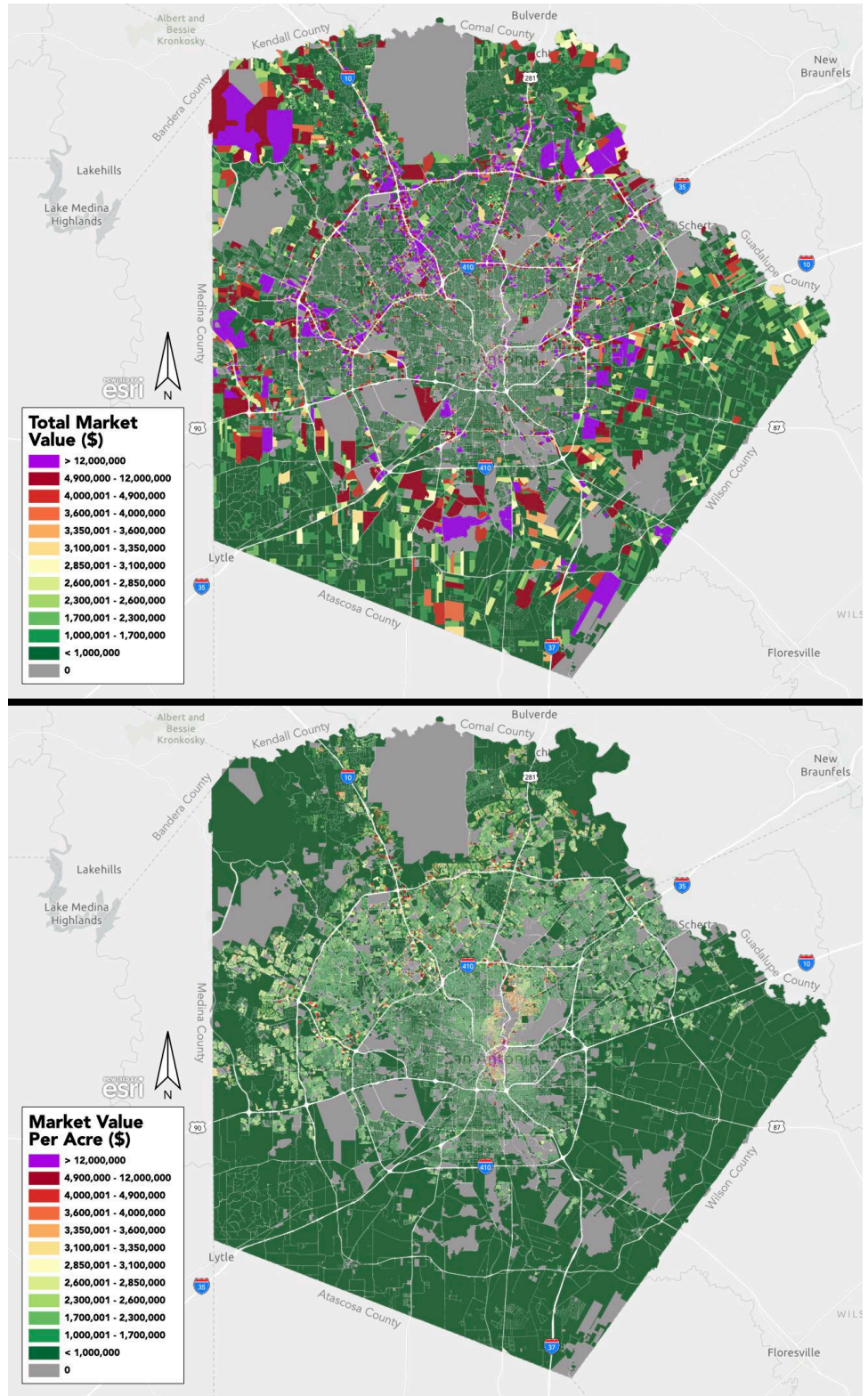


Figure 8. Total taxable value (top) versus taxable Value Per Acre (bottom) of Bexar County
Source: Bexar County Appraisal District (BCAD) (2023)

downtown San Antonio is striking, shooting off of the map. Zooming in, we can see other areas of productivity, such as the Tribute at the Rim and areas to the north of downtown. Meanwhile, lower density residential and commercial areas around the core of the city drop off in value per acre productivity.

“The per acre metric normalizes total revenues and tax values, creating direct “apples-to-apples” comparisons utilizing land consumed as a unit of productivity.”

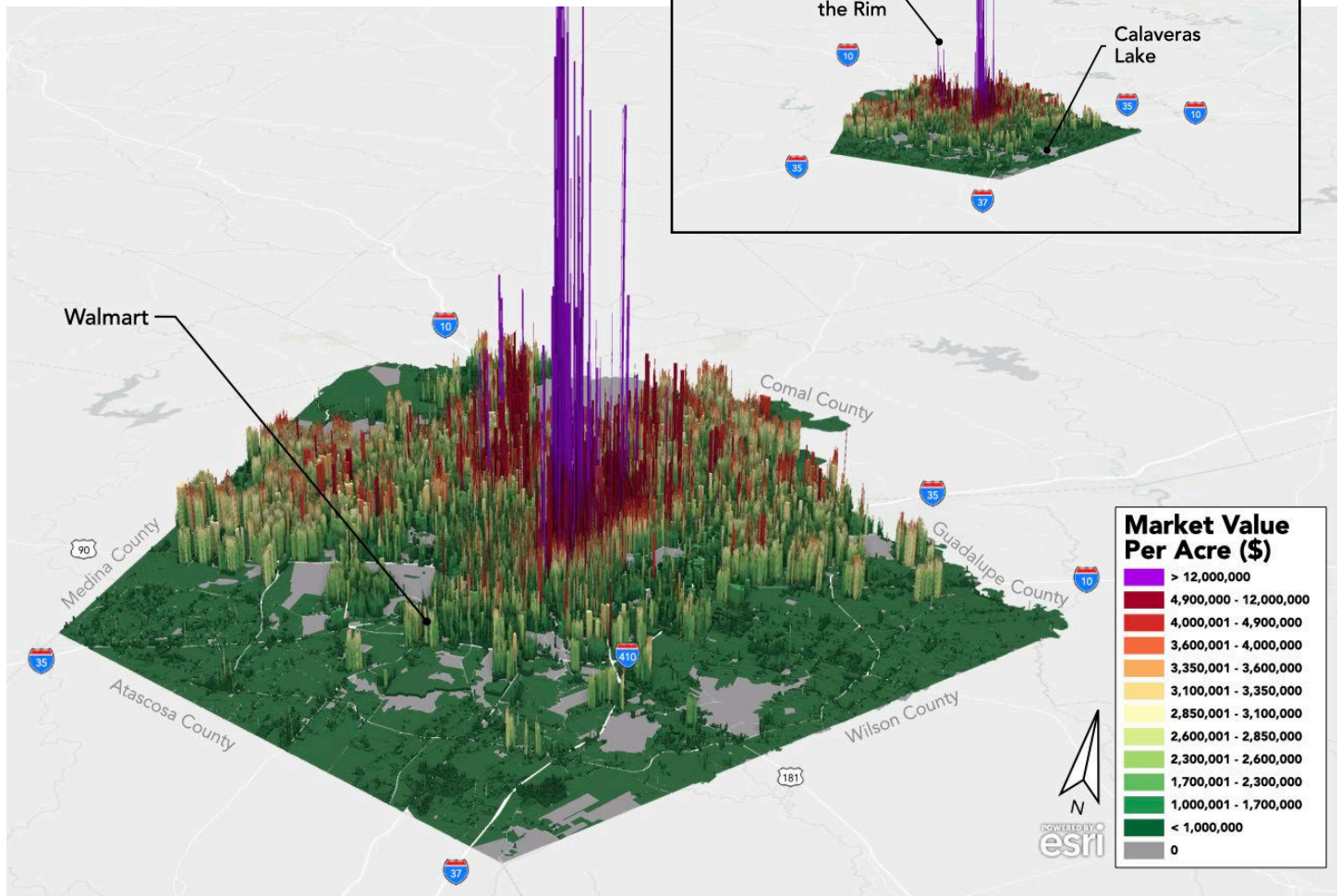
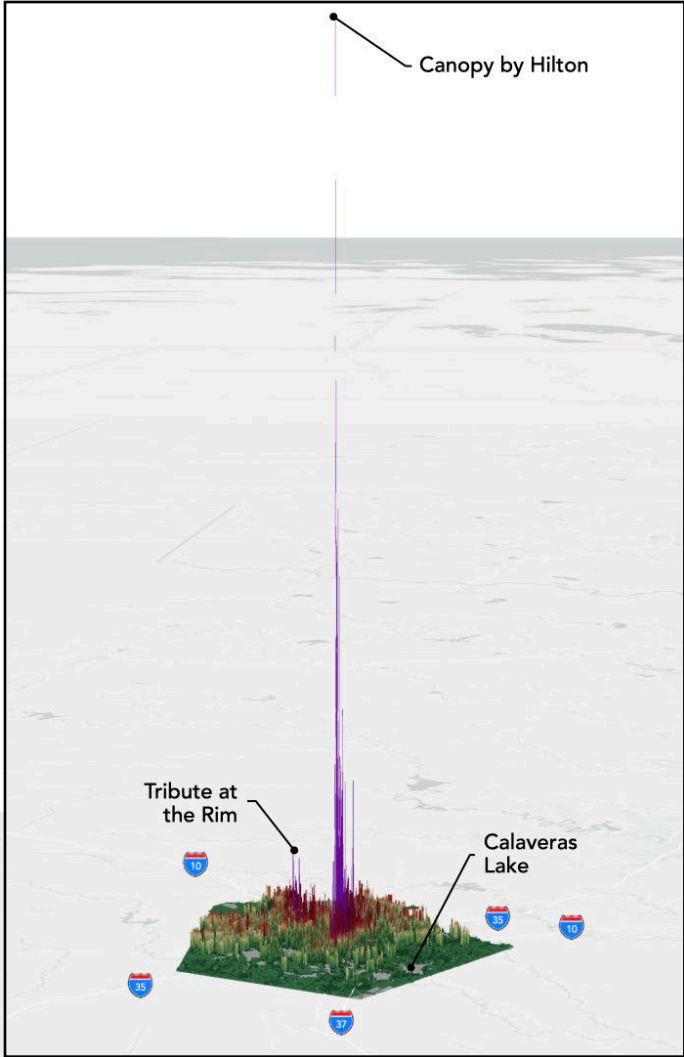


Figure 9. Three dimensional Value Per Acre model of Bexar County, wide view (top) and close up view (bottom)
 Source: Bexar County Appraisal District (BCAD) (2023)

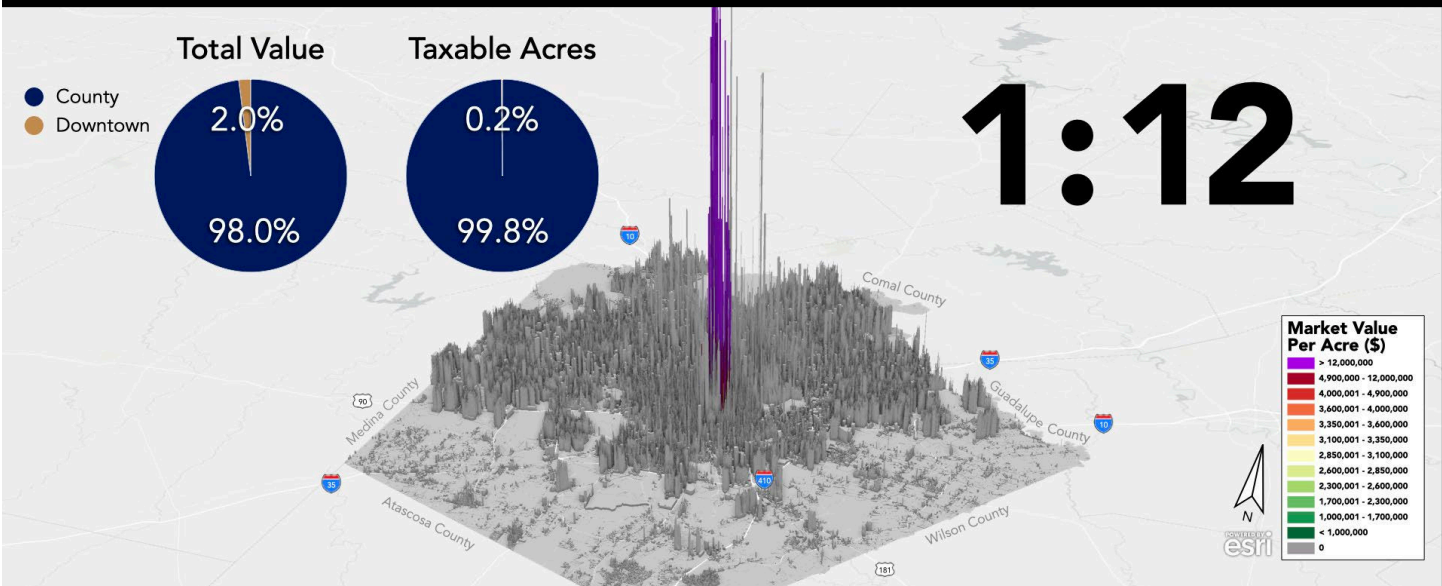
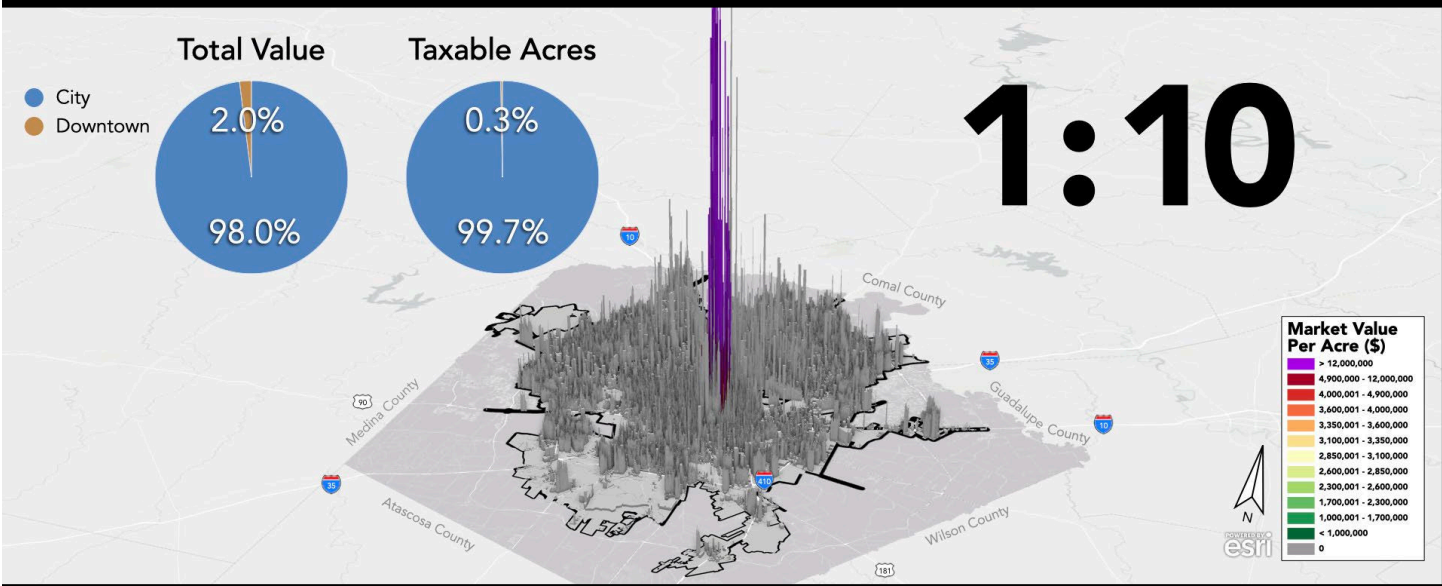
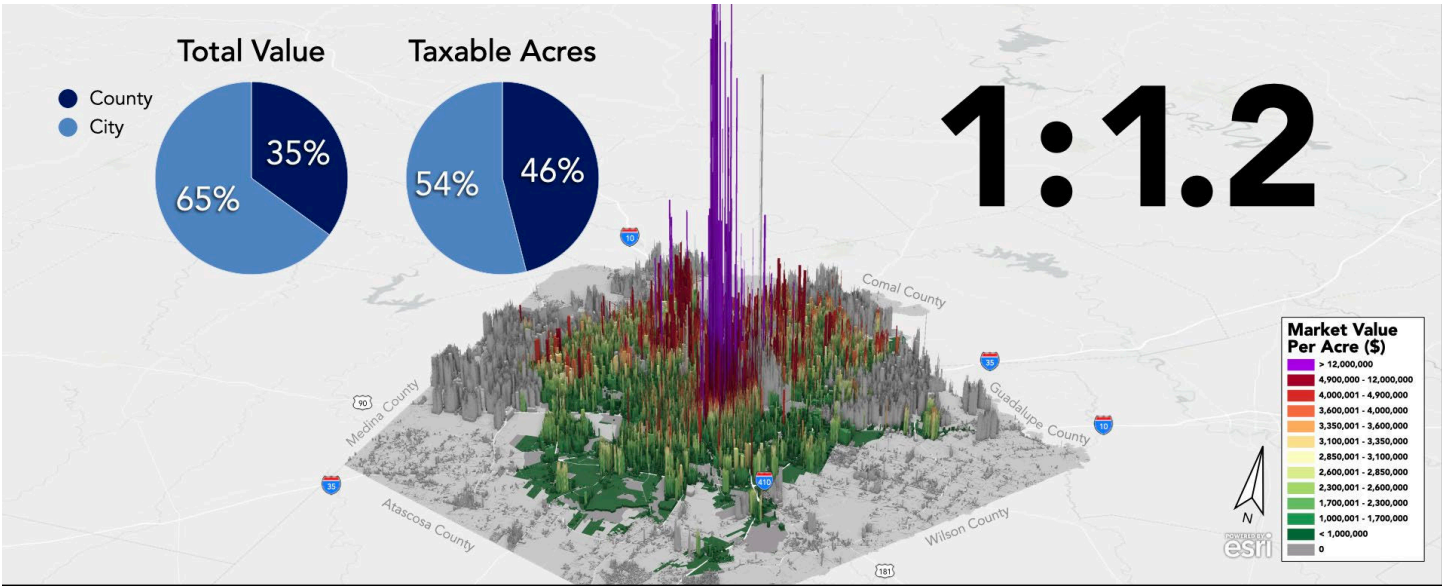


Figure 10. Ratios comparing the taxable area and taxable value of the City to the County (top), Downtown to the City (middle), and Downtown to the County (bottom)
 Source: Bexar County Appraisal District (BCAD) (2023)

Productivity Ratios

Visual representations in Figure 10 comparing the ratio of value to land area between Bexar County and the City of San Antonio helps to shed light on the relative magnitude of economic productivity that San Antonio and its downtown have for the region. San Antonio is 1.2 times as productive as the county as a whole. Downtown San Antonio is 10 times as productive as the city, and 12 times as productive as the county. Downtown's strong productivity relative to the city and the county is striking. This shows the value that the downtown brings in terms of property tax revenue generation to not just the city, but the county as well.

Taxable vs. Exempt Land

Figure 11 shows the comparison of taxable versus nontaxable land in San Antonio. A significant amount (27%) of land in the city does not produce property tax revenue to support the provision of city services. However, this is neither a bad or a good thing. It is something for the city to be aware of and means that the remaining 73% of land that is taxable should be valued and used with intentionality.

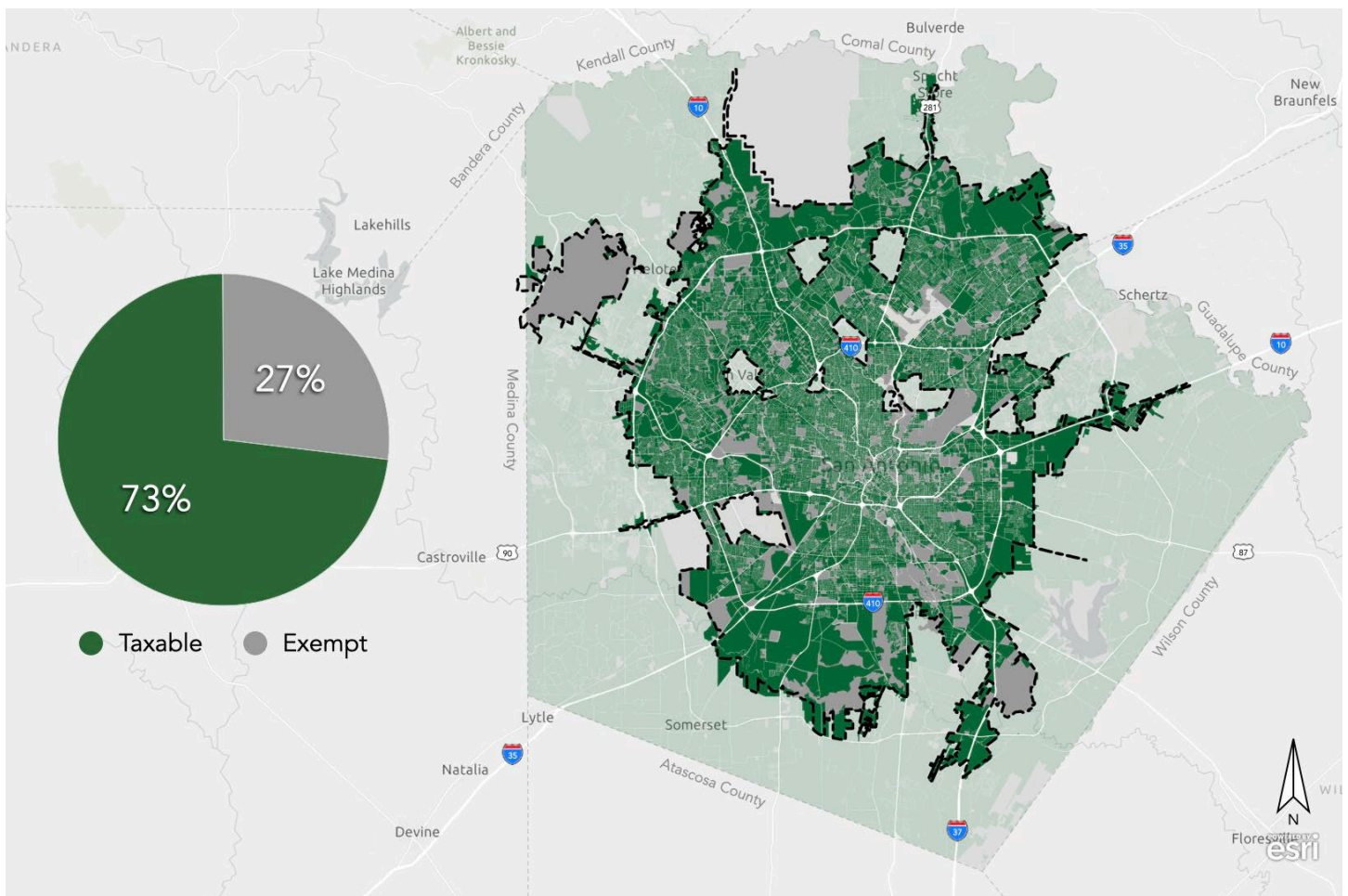


Figure 11. Taxable vs. exempt land in San Antonio
Source: Bexar County Appraisal District (BCAD) (2023)

Land Use Types

The high-level Value Per Acre Model for San Antonio gives us a great perspective on how different areas of the city compare in terms of productivity, but from here we can dig into individual properties to understand trends across land use types and how they compare to each other.

There are three general housing types Urban3 analyzed in the Value Per Acre Model. These include single family, missing middle, and multifamily. Single family homes in San Antonio come in various shapes and sizes on properties with widely varying acreages. On average, though, single family homes in San Antonio generate \$1 million per acre in value. Missing Middle housing, generally considered small- to medium-sized housing with multiple units as coined by Opticos design, generates, on average, \$1.4 million per acre in value. Multifamily housing generates, on average, \$2.4 million per acre in value. The chart in Figure 12 displays some examples of what these housing types look like.

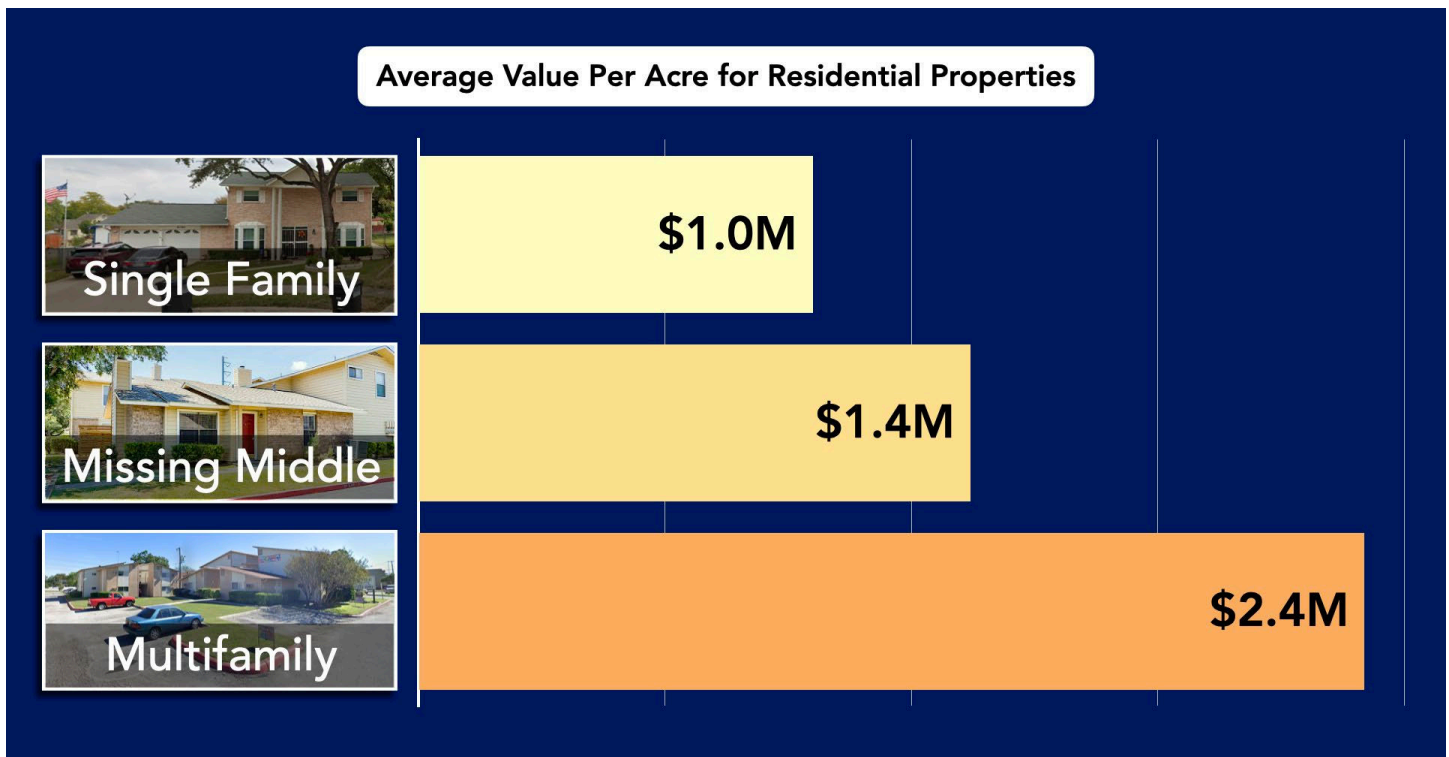


Figure 12. Average value per acre for residential properties
Source: Bexar County Appraisal District (BCAD) (2023), Google Maps

Commercial properties in San Antonio, similar to residential properties, have varying sizes and acreages, which results in a wide range in value per acre. How car-oriented the property use is typically has a large impact on the value per acre of the development. For example, commercial uses with extensive parking lots have relatively low value per acre values, like the Northwoods Shopping Center and the Huebner Oaks Center, are close to the Missing Middle or multifamily housing average (Figure 13). Other properties like the Tower Life Building and the PNC Tower, which have significantly more building area compared to parking, are getting value per acre numbers into the tens of millions of dollars (Figure 14).



Figure 13. Value per acre of several shopping malls in San Antonio
 Source: Bexar County Appraisal District (BCAD) (2023), Google Maps



Figure 14. Value per acre of several downtown high rise buildings San Antonio
 Source: Bexar County Appraisal District (BCAD) (2023), Google Maps

“Commercial uses with extensive parking lots have relatively low value per acre values.”

Infrastructure Analysis

Now that we have an understanding of the revenue implications of San Antonio's development pattern, we can move on to analyzing the city's road and stormwater networks and costs associated with maintaining them. Urban3 uses a different methodology when it comes to considering the costs of infrastructure systems by taking into account the complete lifecycle costs associated with maintaining and operating these systems year after year. Once a jurisdiction puts infrastructure in the ground, it is typically responsible for maintaining that infrastructure in perpetuity.

First, in Figure 15, we consider the road and stormwater networks that San Antonio is responsible for. The two systems vary in scale, but each is significant. Looking at the annual lifecycle cost for these systems, we get an understanding of the budgetary commitment required for their maintenance.

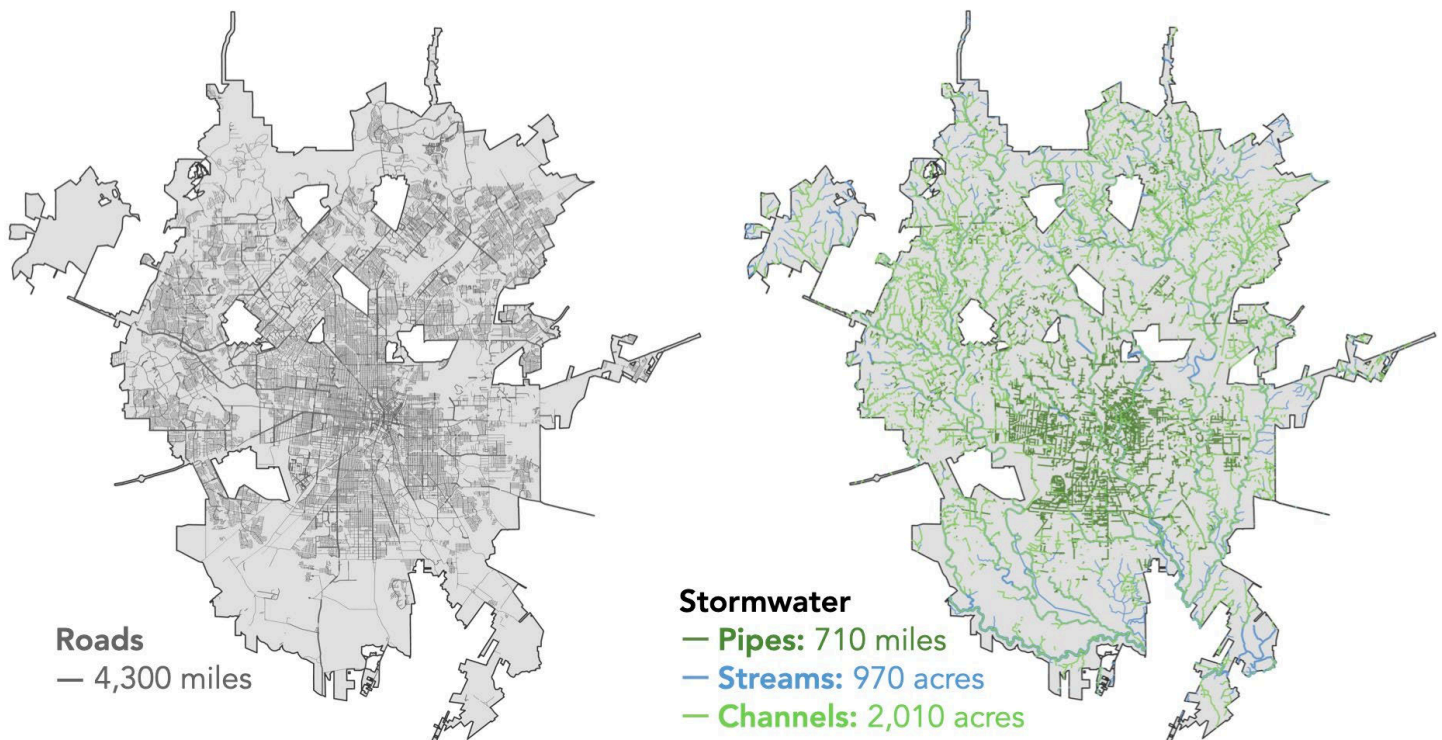


Figure 15. Maps showing the City's road and stormwater infrastructure
Source: San Antonio's 2023 Annual Comprehensive Financial Report (ACFR), City of San Antonio Budget (2024), San Antonio 2024-2029 Capital Improvements Plan

It is also important to consider infrastructure obligations and how they have changed. Figure 16 shows the change in road build and rebuild cycles over time. The key takeaway is that once a road is built, it must be maintained and rebuilt over and over. Any new roads that are added to the system only increase the infrastructure maintenance obligations of San Antonio. These obligations stack up over time and lead to greater and greater liabilities that must be accounted for. In essence, road maintenance obligations are forever.

Road Maintenance Load and Rebuild Schedule

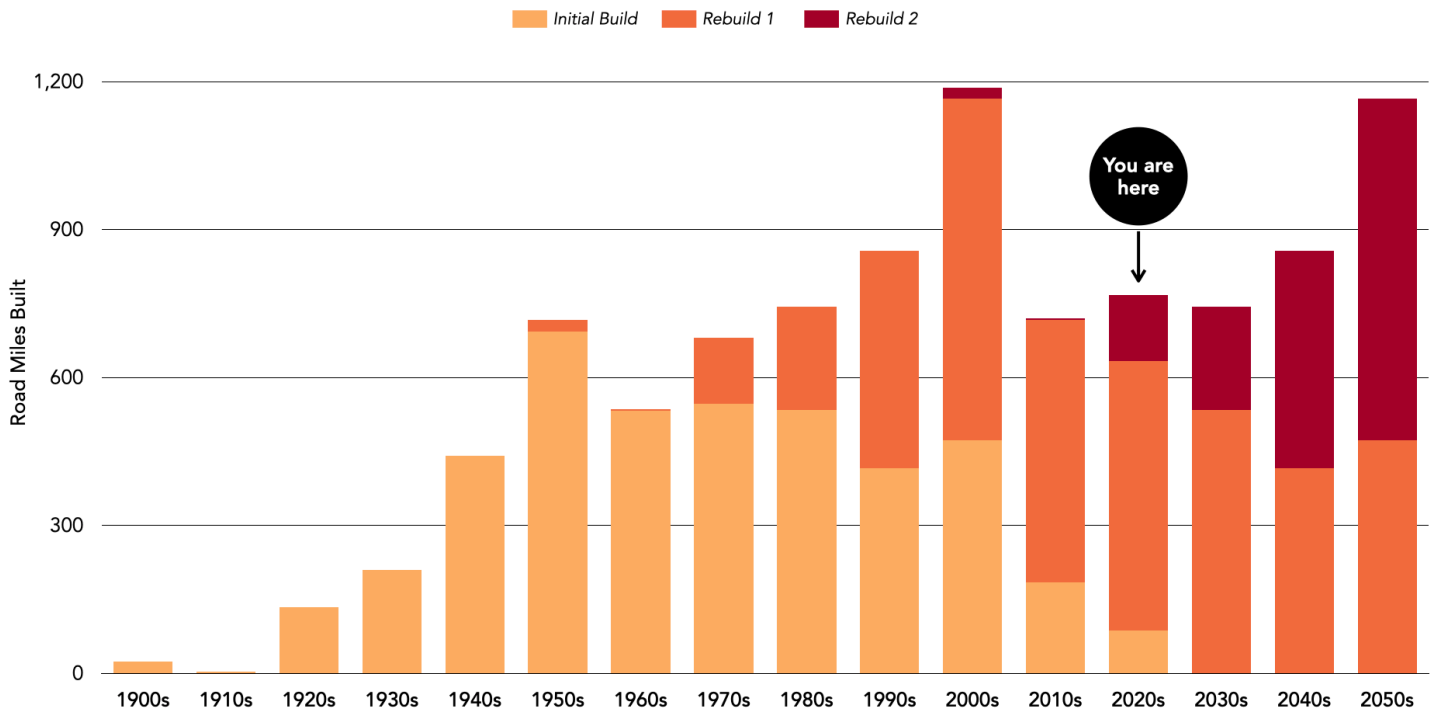


Figure 16. Conceptualized chart showing the past, present, and future of San Antonio’s road mile liability
Source: City of San Antonio (2024), Urban3 Estimates

Average Infrastructure Spending

These bar charts show the difference in the city’s current annual spending for operating, maintaining and replacing the road and stormwater systems, and Urban3’s estimates for this annual spending taking into account lifecycle costs. There is an ongoing cost for annual maintenance, but periodically there will be major expenses for large capital investments - i.e. replacing a bridge or building a new stretch of road - that should be considered in the annual budgeting for the system. This last portion, adding infrastructure, actually increases the future expenditures through expanding the current system. We don’t want to compare that to maintaining the current system, so if we remove that piece, we can see that the systems aren’t keeping up with the required expenditure to maintain them.

San Antonio spends \$93 million each year on the stormwater system. However, based on Urban3’s analysis

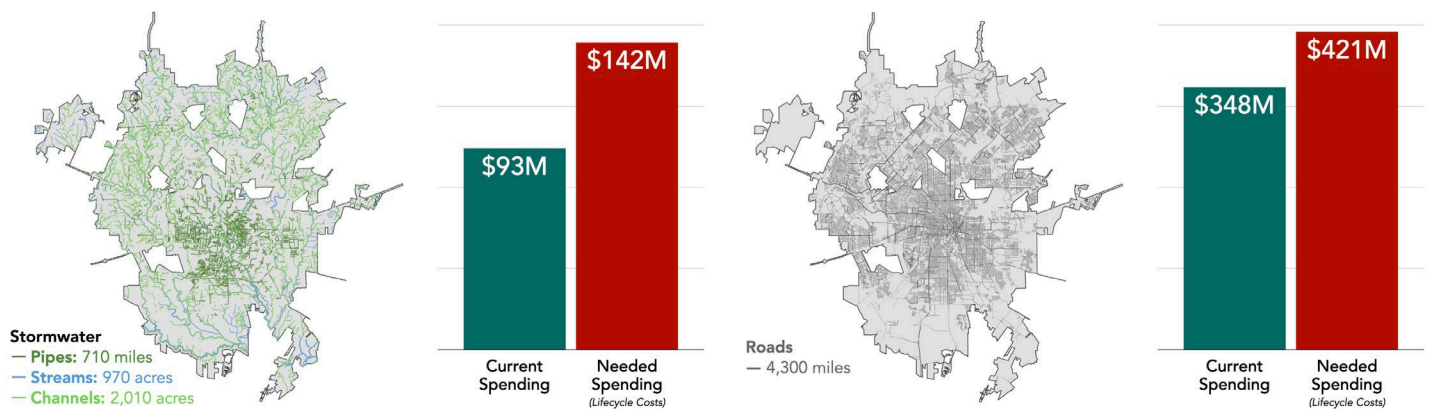


Figure 17. San Antonio’s stormwater (left) and road (right) infrastructure current and needed spending
Source: SA’s 2023 Annual Comprehensive Financial Report (ACFR), City of SA Budget (2024), SA 2024-2029 Capital Improvements Plan

(Figure 17), the City should be spending \$142 million each year, nearly a \$50 million difference. Regarding road network maintenance, San Antonio spends \$348 million each year. Similar to the stormwater system, Urban3’s analysis suggests the City should be spending \$421 million each year, a \$73 million difference. The discrepancies in spending will lead to decreased levels of service and the potential for increased disruption in these systems over time.

Return on Investment

After analyzing the city’s budget and incorporating Urban3’s infrastructure cost estimates (Figure 18), we spatialize both revenues and costs to produce a map that can be used to understand how different land uses come with different levels of revenue and costs. When we net out revenues and costs and per acre them, we see the impact that different land uses have on productivity across the city. Figure 19, Figure 20, & Figure 21 show the progression of revenues versus costs to net for the stormwater system.

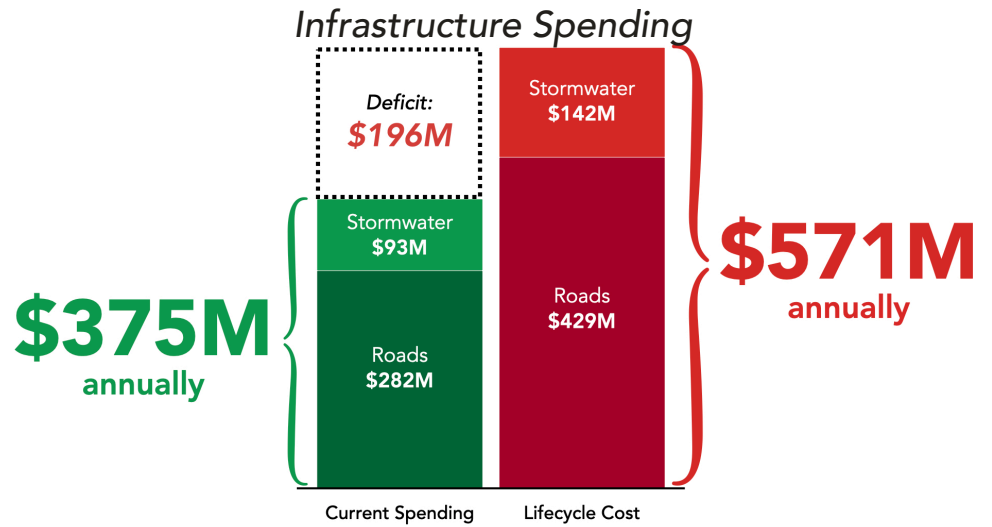


Figure 18. San Antonio’s infrastructure spending
Source: City of San Antonio Comprehensive Financial Report (2023), Urban3 Estimates

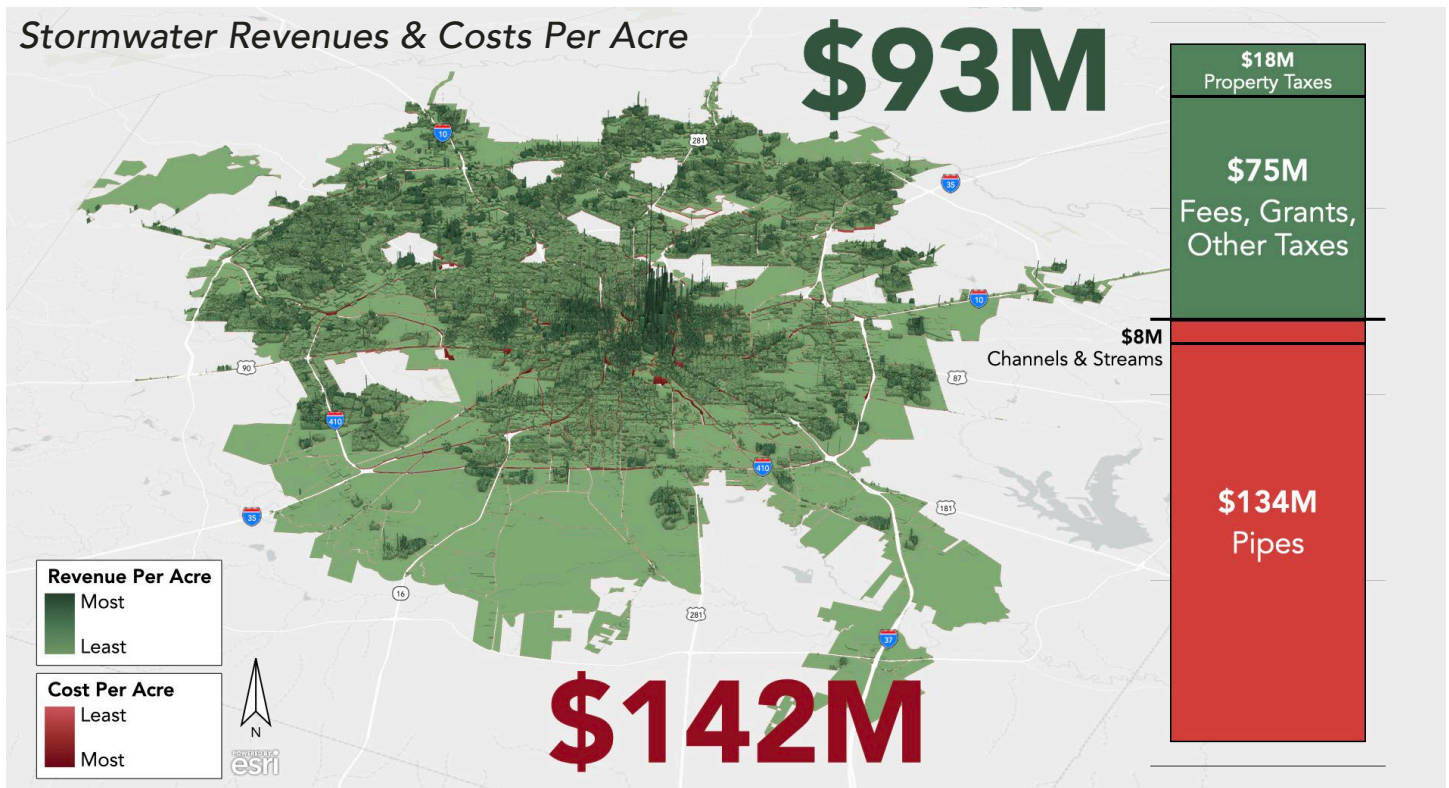


Figure 19. Stormwater infrastructure
Source: City of San Antonio Comprehensive Financial Report (2023), Urban3 Estimates

Stormwater Revenues & Costs Per Acre - Side View

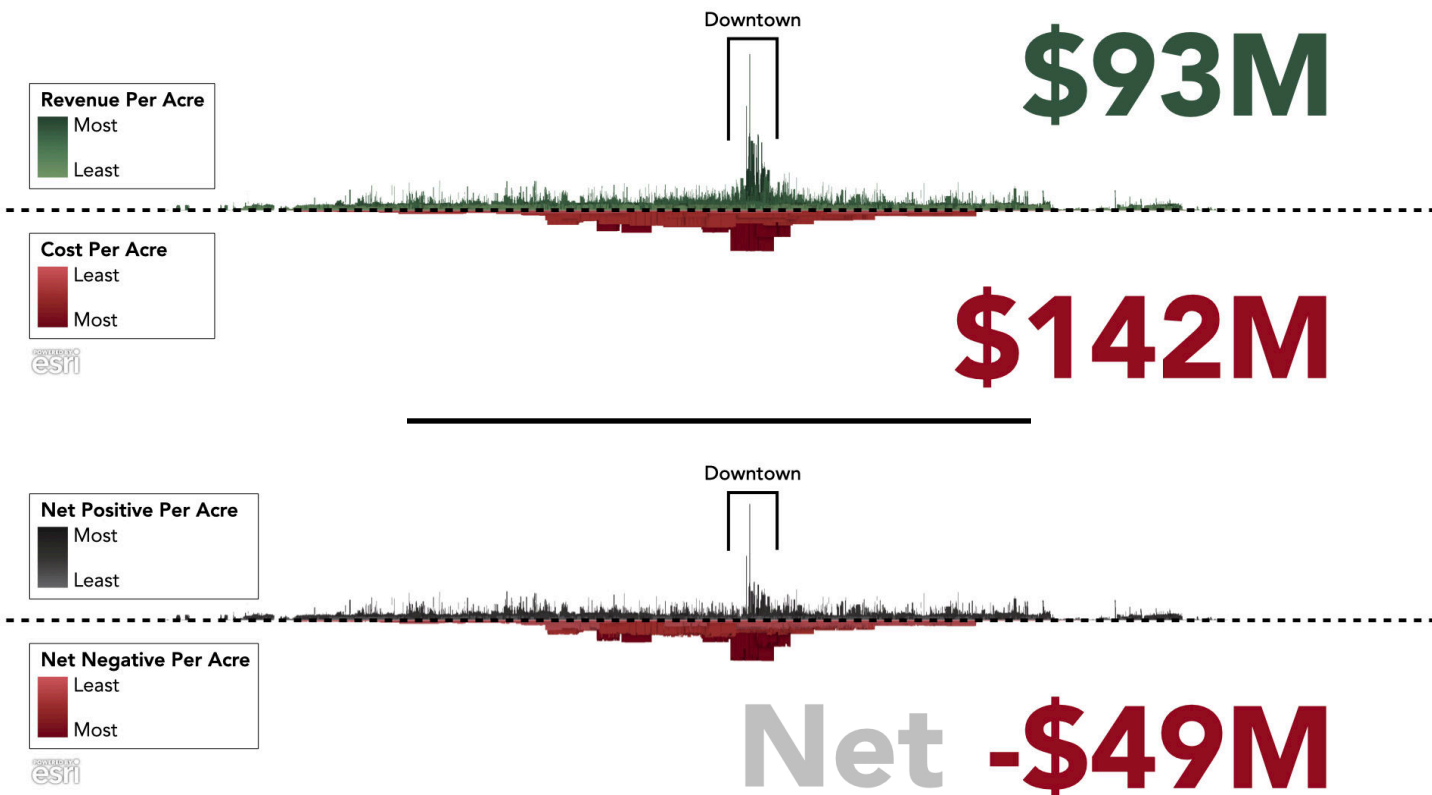


Figure 20. Stormwater infrastructure viewed from the side
Source: City of San Antonio Comprehensive Financial Report (2023), Urban3 Estimates

In this analysis, Urban3 only had access to roads and stormwater data. Missing from the analysis are water and sewer systems that often contribute significant infrastructure liability to urbanized areas. Without these two systems incorporated in the analysis, some interesting patterns emerged when mapping the revenues and costs associated with development in San Antonio. For example, in the model showing the net of stormwater revenues and costs (Figure 21), we see that areas in and around Downtown are often the most net-negative. Areas in the northern suburbs, meanwhile, appear to be net positive.

However, this is a result of the significant stormwater pipe infrastructure present in the Downtown area compared to the northern suburbs, which have almost no stormwater pipe.

Compare this with the model showing the net of road revenues and costs (Figure 22). There is a more even

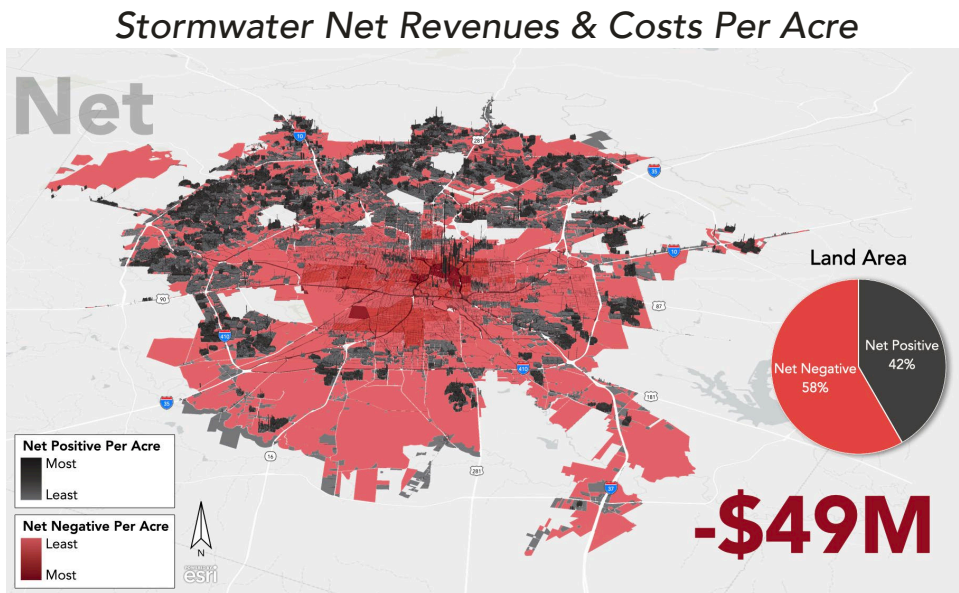


Figure 21. Stormwater infrastructure: net position
Source: City of San Antonio Comprehensive Financial Report (2023), Urban3 Estimates

Road Net Revenues & Costs Per Acre

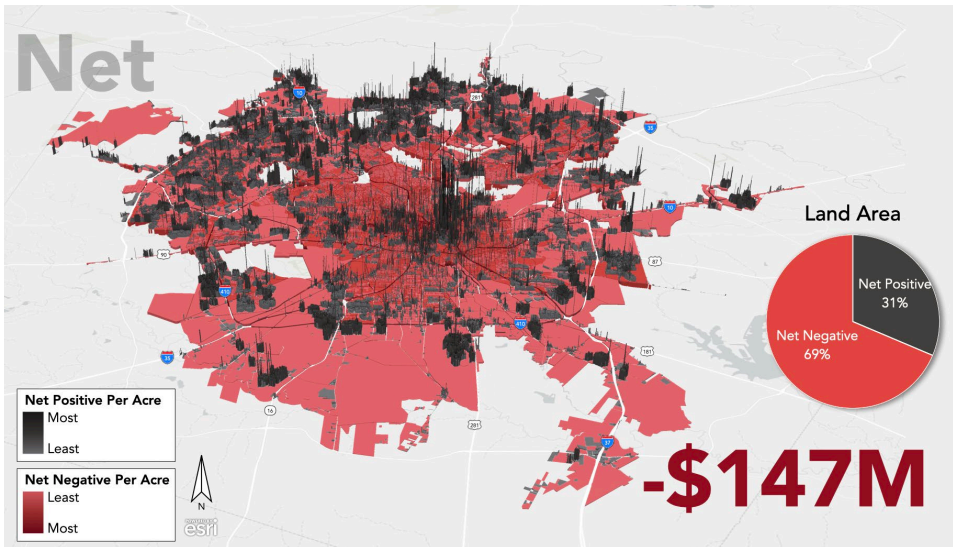


Figure 22. Road infrastructure: net position
Source: City of San Antonio Comprehensive Financial Report (2023), Urban3 Estimates

distribution of net positive areas versus net negative areas around the city because the intensity of road infrastructure is more evenly spread across San Antonio. Combining the two models in Figure 23, we see how potent certain areas of Downtown are compared to areas with lower density development patterns. We summarize these results by generalized land use categories in Figure 24.

There are some lower-density development patterns that perform relatively well based on our analysis and we can also see the incredible productivity of development in Downtown. However, without the water and sewer systems included in the analysis, we can't as definitively conclude what land uses are truly the best or worst for San Antonio's long-term financial health.

Aggregate Revenues & Costs Per Acre

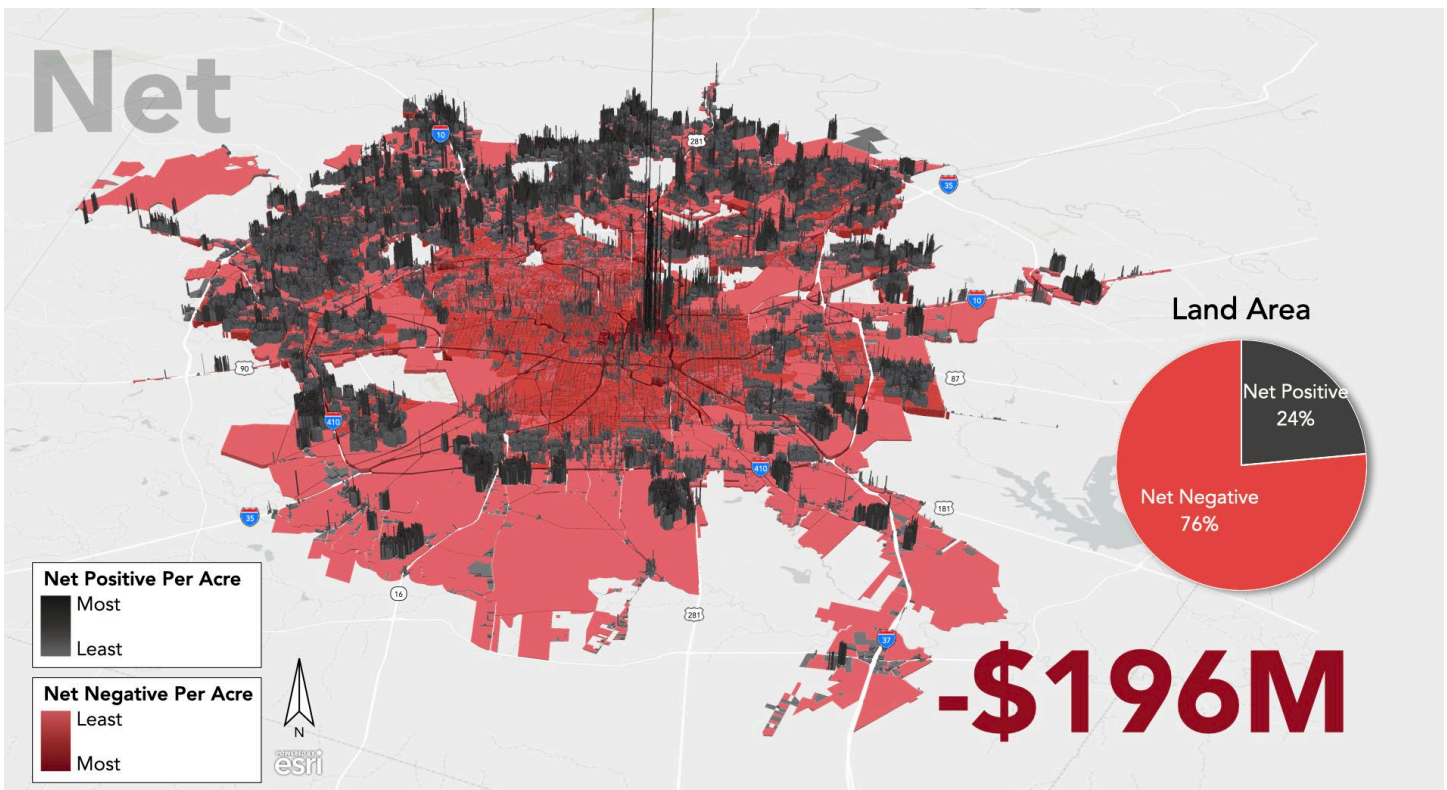


Figure 23. Aggregate infrastructure: net position
Source: City of San Antonio Comprehensive Financial Report (2023), Urban3 Estimates

Net Infrastructure Revenue by Building Type



Figure 24. Net infrastructure revenue by building type matrix (top) and bar chart (bottom)
 Source: City of San Antonio Comprehensive Financial Report (2023), Urban3 Estimates, Bexar County Assessor 2023, Google Maps

Legacy of Redlining

In the 1930s, communities with populations over 50,000 around the United States were mapped to determine which areas of cities were safe or unsafe for banks to provide home equity loans in. However, these maps exhibited extremely racist tendencies and led to many Black, Hispanic, and Immigrant communities without the ability to access financing to purchase or renovate homes. These maps, produced by a federal agency called the Home Owners' Loan Corporation (HOLC), came to be known as "redlining maps" because the areas deemed hazardous to provide loans in were colored red (Figure 25). These often corresponded to areas with high concentrations of Black people, Hispanic people, and/or Immigrants. Meanwhile, areas that were mostly occupied by White people were mapped as green or blue.

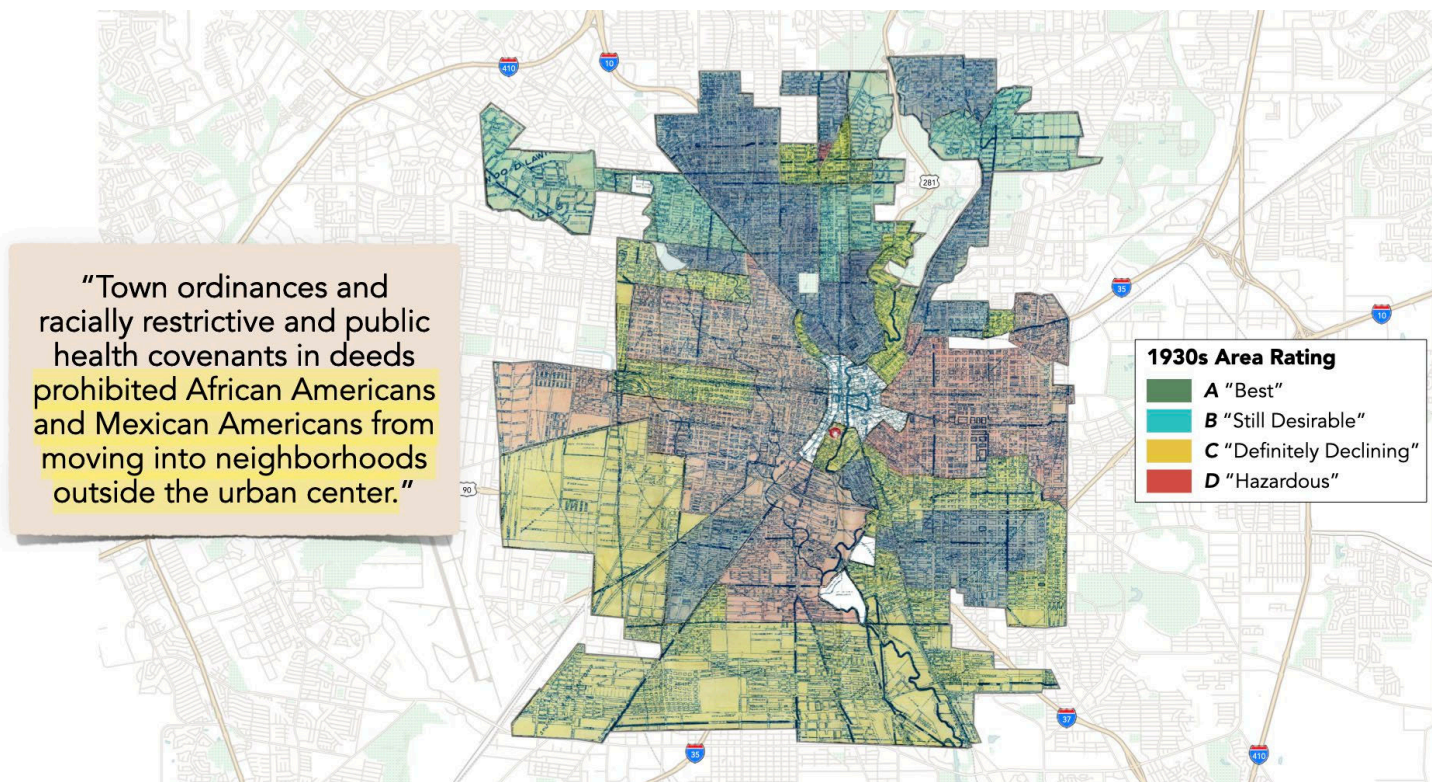


Figure 25. Historic redlining map of San Antonio
Source: dsl.richmond.edu

Though this practice was banned in 1968, the repercussions of this policy can still be seen today, particularly when considering property value productivity. Urban3 overlaid the historic HOLC redlining map for San Antonio on the Value Per Acre Model to see how single family properties in the various zones compare (Figure 26). A clear differentiation can be seen between properties that were in green and blue map zones versus yellow and red map zones. The nearly \$1 million per acre difference, on average, between blue and yellow zones shows a significant impact that the lack of access to formal home equity had in San Antonio decades after the policy was eliminated.

"The nearly \$1 million per acre difference, on average, between blue and yellow zones shows a significant impact that the lack of access to formal home equity had in San Antonio."

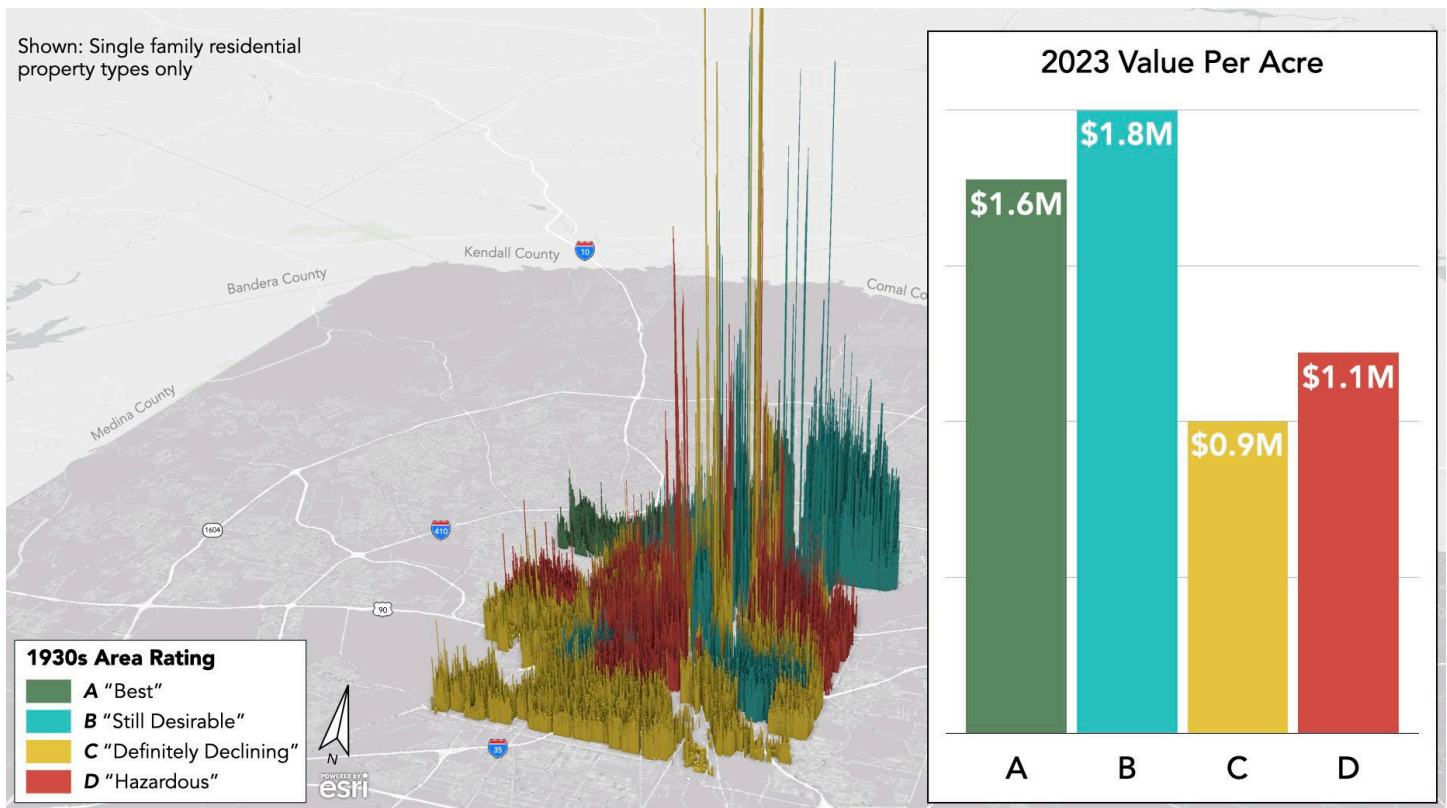


Figure 26. Historic redlining map of San Antonio overlaid with the City's 3D Value Per Acre model
 Source: *dsl.richmond.edu*, Bexar County Appraisal District (BCAD) (2023)

Equity in Assessment

This section summarizes the results from the property assessment equity analysis for Bexar County, TX. The quality of property assessment is vital in gauging the fairness and accuracy of the assessment process, ensuring equitable treatment across different groups. It's essential to recall that the property tax bill, a key outcome for property owners, is computed by considering the appraised value of the property, accounting for exemptions, and then multiplying the result by the applicable tax rate. In evaluating the property tax system, a comparison between the assessed values assigned by Bexar County and the actual sale prices of properties becomes instrumental. This comparative analysis serves as a crucial metric for assessing both the fairness and accuracy of the property tax system.

The accuracy of an assessment matters because fair market value is by law the correct basis for tax payments per the State of Texas Property Tax Code (Sec. 23.01). This is challenging in Texas because property sales information is not publicly available with Texas being a non-disclosure state. As a result, Multiple Listing Service (MLS) sales records provided by Realtors are the only comprehensive source of data to conduct this analysis. This underlying data cannot be shared publicly to preserve personal privacy, so only high level statistics and patterns can be generated to help understand assessment variation and accuracy.

Sale Ratio

The sale ratio, a pivotal metric in this analysis, is derived by dividing the assessed value of a property by its corresponding sale price. This fundamental calculation enables the evaluation of property assessments in relation to actual market transactions. Overassessment, leading to an increased tax burden, occurs when the assessed value exceeds the property's actual sales price. In such cases, the sale ratio surpasses 1. Conversely, underas-



 <table border="1"> <tbody> <tr> <td>Appraised Value:</td> <td>\$190,800</td> </tr> <tr> <td>Selling Price:</td> <td>\$150,000</td> </tr> <tr> <td>Sales Ratio</td> <td>1.27</td> </tr> </tbody> </table>	Appraised Value:	\$190,800	Selling Price:	\$150,000	Sales Ratio	1.27	 <table border="1"> <tbody> <tr> <td>Appraised Value:</td> <td>\$351,400</td> </tr> <tr> <td>Selling Price:</td> <td>\$350,000</td> </tr> <tr> <td>Sales Ratio</td> <td>1.00</td> </tr> </tbody> </table>	Appraised Value:	\$351,400	Selling Price:	\$350,000	Sales Ratio	1.00	 <table border="1"> <tbody> <tr> <td>Appraised Value:</td> <td>\$1,278,100</td> </tr> <tr> <td>Selling Price:</td> <td>\$2,450,000</td> </tr> <tr> <td>Sales Ratio</td> <td>0.52</td> </tr> </tbody> </table>	Appraised Value:	\$1,278,100	Selling Price:	\$2,450,000	Sales Ratio	0.52
Appraised Value:	\$190,800																			
Selling Price:	\$150,000																			
Sales Ratio	1.27																			
Appraised Value:	\$351,400																			
Selling Price:	\$350,000																			
Sales Ratio	1.00																			
Appraised Value:	\$1,278,100																			
Selling Price:	\$2,450,000																			
Sales Ratio	0.52																			

Figure 27. Sale ratio examples
Source: Urban3

assessment, resulting in a reduced tax burden, occurs when the assessed value falls below the actual sales price, leading to a sale ratio below 1. By law the goal of the assessment process is to match market values to assessed values that determines how much each property owner must contribute to paying for services.

A perfectly accurate assessment is achieved when the assessed value aligns precisely with the sale price, resulting in a sale ratio of 1. It is important to note that this analysis exclusively considers properties that were sold during the studied time period, as the sale ratio relies on actual property sales data for its computation. By dividing homes into ten equally sized groups of similar values, or deciles, the analysis of sales ratio can be improved to provide more insight into fairness than a county wide statistic.

Given in Figure 27 are some contextual examples of homes and their appraised and sale prices which established a visual framework for evaluating the sale ratio in terms of fair, over, or under taxing based on assessment.

Sale Deciles

When evaluating the effectiveness of property assessment, identifying issues related to fairness and accuracy can be challenging when applying statistical tests to the entire sample of properties sold in a given year. Consequently, it becomes essential to disaggregate the dataset into smaller segments to assess the fairness and accuracy of different groups in comparison to one another. Dividing the sales into deciles forms the base for a comprehensive understanding of the sales ratio concept and its implications for property assessments.

Sale deciles are computed by dividing the total number of property sales in a given year into ten equal buckets, or deciles based on the range of property sale prices. This process allows for a systematic categorization of sales, creating ten distinct groups that represent different segments of the market, shedding light on sale patterns in these segments. A visual framework for dividing the housing stock into deciles is given in Figure 28. From here, the sales ratios are calculated for the properties in each decile and the median is used to describe the average for each decile. We can then plot these ten sale ratio values on a chart as the dependent variable, using the sale price as the independent variable. Analyzing the shape of these charts provides insight into how fair and accurate property assessment is in a given year.

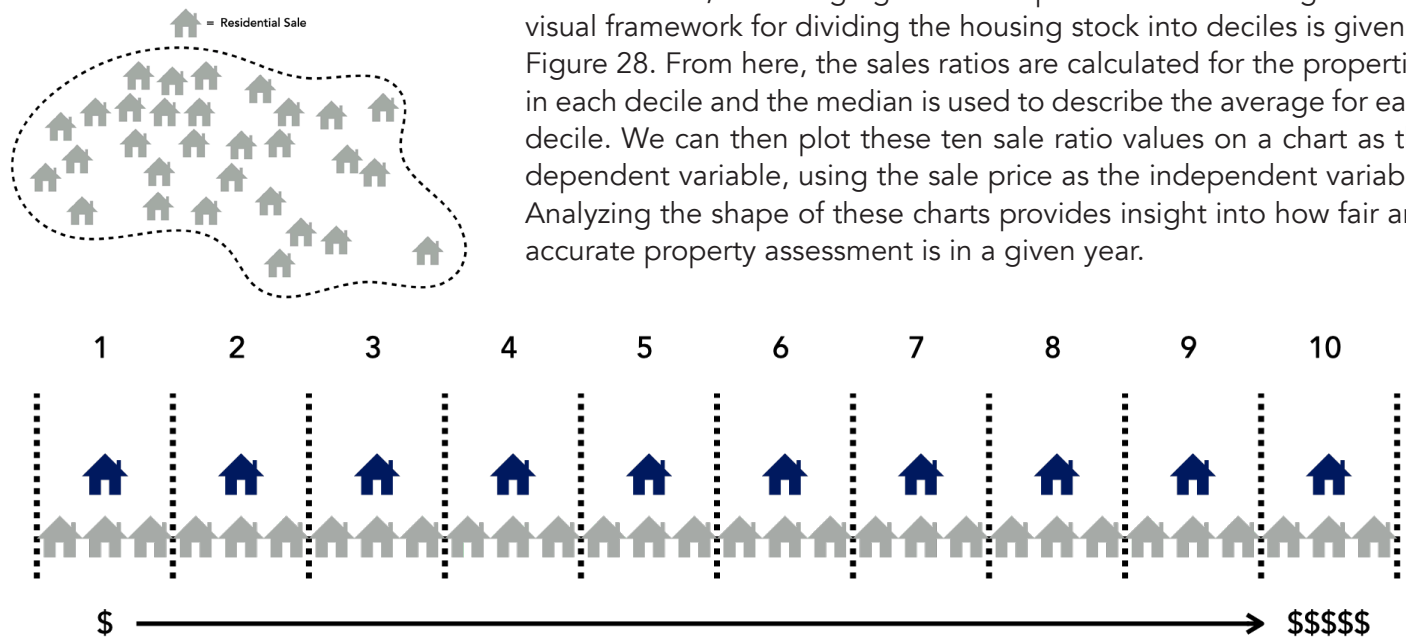


Figure 28. Sale deciles are computed by ordering the homes by ascending sale price and then dividing into 10 equal groups
Source: Urban3

Assessment Accuracy: Median Sale Ratio

Figure 29 shows the sale ratio charts for years 2017 to 2023 in Bexar County. Here, we can see a dotted line set at 1 on each chart. As described above, this represents a perfectly accurate assessment and is the goal. Deviations from 1 lead to either overassessment or underassessment, and the position of a given point on the chart helps us determine if a decile was, on average, overassessed or underassessed. With multiple sale ratio curves, we can compare assessment accuracy over time. There are clear variations between how the deciles are assessed in a given year and then how those deciles are assessed over time.

Assessment Fairness: Median Adjusted Sale Ratio

A helpful process for comparing sale ratio curves across years is to calculate what is called the median adjusted sale ratio for each decile. This takes the overall median sale ratio for all sales in a given year and sets that value as the new "1," or what was a reasonable sale ratio given various factors impacting the real estate market. The results of determining the median adjusted sale ratio for each decile in a given year can be seen in Figure 30. These charts are helpful for determining how fair the assessment was over time.

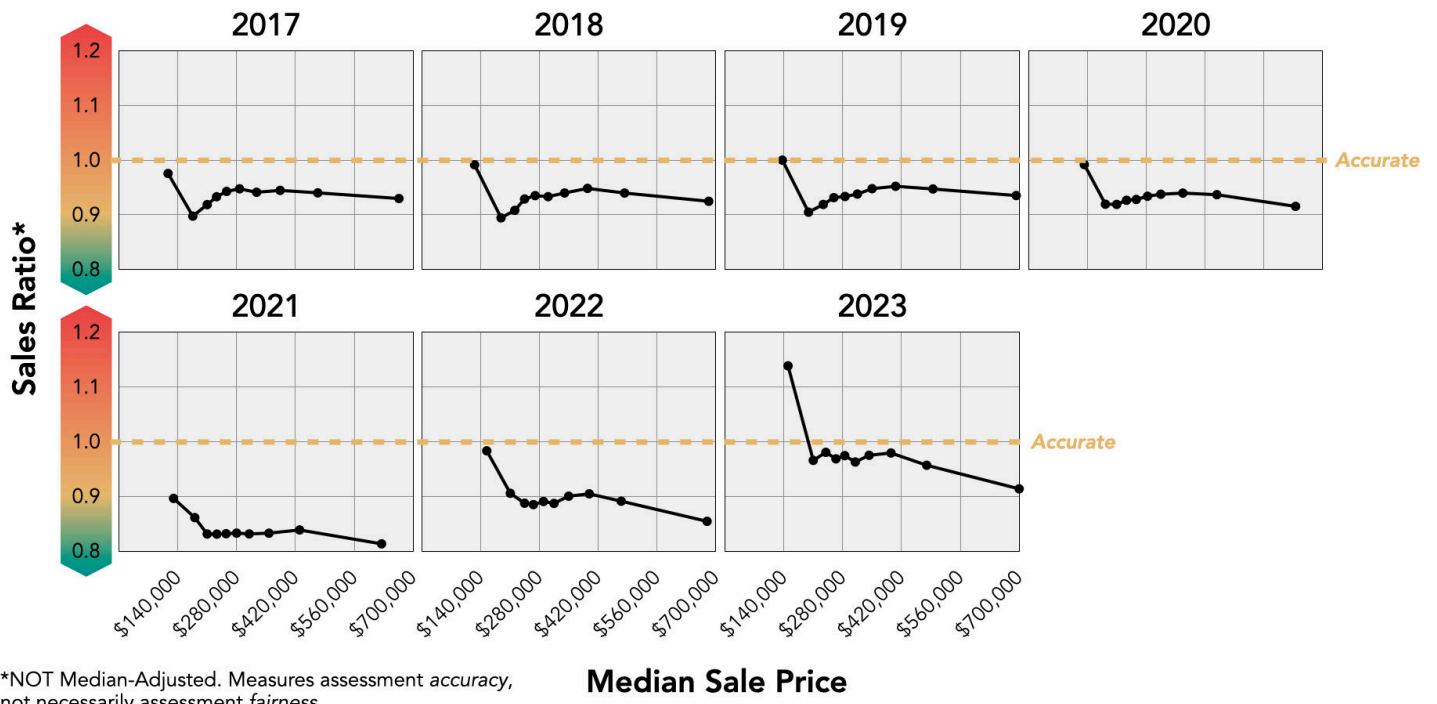


Figure 29. Assessment accuracy in Bexar County, 2017-2023
 Source: Texas A&M Real Estate Research Center (2023), Bexar CAD (2023)

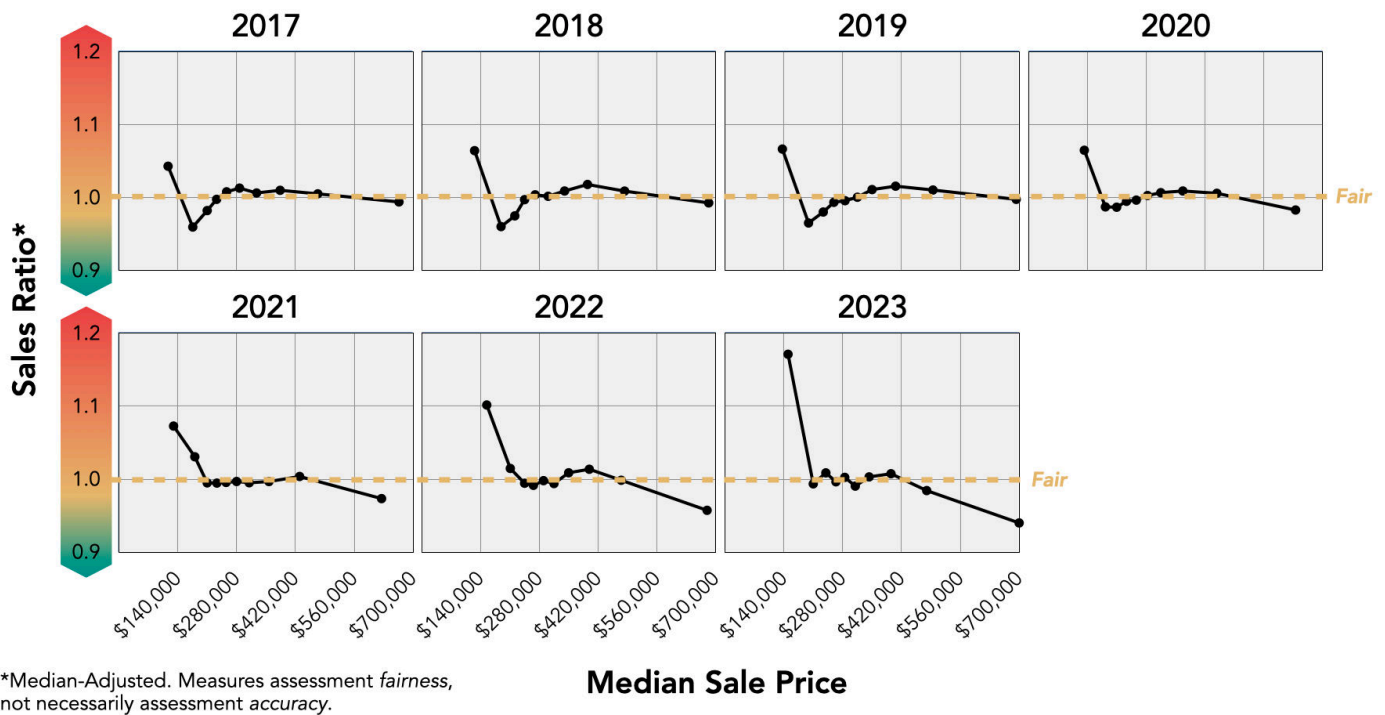


Figure 30. Assessment fairness in Bexar County, 2017-2023
 Source: Texas A&M Real Estate Research Center (2023), Bexar CAD (2023)

After reviewing the charts, it is clear that the lowest sale value decile is consistently overassessed relative to all other deciles. This means that homeowners of the lowest value homes are consistently having their homes overvalued, and therefore overtaxed, relative to all other homeowners. Additionally, owners of the most valuable

homes have consistently had their homes undervalued, and therefore undertaxed, relative to other homeowners. The difference is most striking in 2022 and 2023. There is a consistent pattern of underassessment in the second and third deciles in years 2017-2020. This can be attributed to the increasing demand for these types of homes, coupled with a scarcity of housing stock in this category, leading to considerable price pressure in the market. However, this pattern has shifted in recent years, where the middle deciles are tending more towards fair assessment.

“The homeowners of the lowest value homes are consistently having their homes overvalued, and therefore overtaxed, relative to all other homeowners.”

Assessment Gap

Discrepancies in assessed values relative to sale prices can highlight inequities in property tax burdens. Over-assessment (overtaxation) in lower deciles can lead to these homeowners paying more than their fair share of taxes, while underassessment (undertaxation) in higher deciles shifts the tax burden away from wealthier property owners.

Figure 31 shows the same disparity in property tax burden across different segments of property values. Homeowners with the least expensive homes (homes between the first and second deciles) are overpaying \$41 million in property taxes in 2023 (highlighted in orange). On the other hand, the later deciles (all homes from second to tenth deciles) are saving \$551 million in property taxes in 2023 (highlighted in teal). Addressing these discrepancies can help achieve a more equitable distribution of property tax burdens.

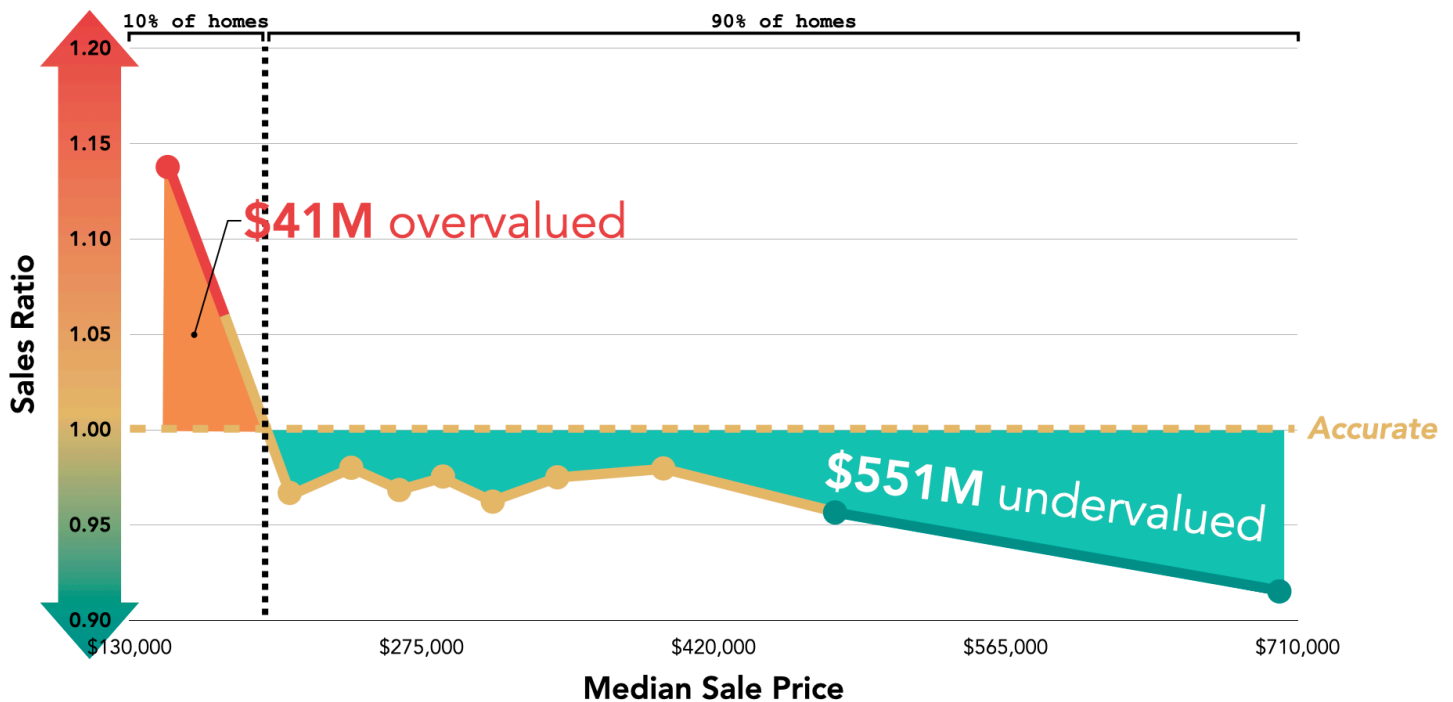


Figure 31. Bexar County's 2023 sale ratio curve
 Source: Texas A&M Real Estate Research Center (2023), Bexar CAD (2023)

Zip Code Comparison

In comparing sales across several zip codes in San Antonio with historical redlining maps, this section focuses on observing sale ratio patterns in areas historically categorized by the HOLC under different desirabilities for investment/color codes and their current trends, examining any lingering effects of historical redlining practices.

For this analysis, the focus was on Alamo Heights (zip code 78209), historically designated as “Blue” or “Still Desirable” by the HOLC, and South Side (zip code 78214), is mostly labeled as “Yellow” or “Definitely Declining” and partly “Red” or “Hazardous.” Figure 32 shows the redlining map with the two zip codes highlighted. According to the 2020 Census data, Alamo Heights has a predominantly white population (60% white, 34% Hispanic, and the remainder other racial groups), while South Side is primarily Hispanic (88% Hispanic, 11% white, and the rest other racial groups). Figure 33 shows the racial dot density map with zip codes in consideration highlighted.

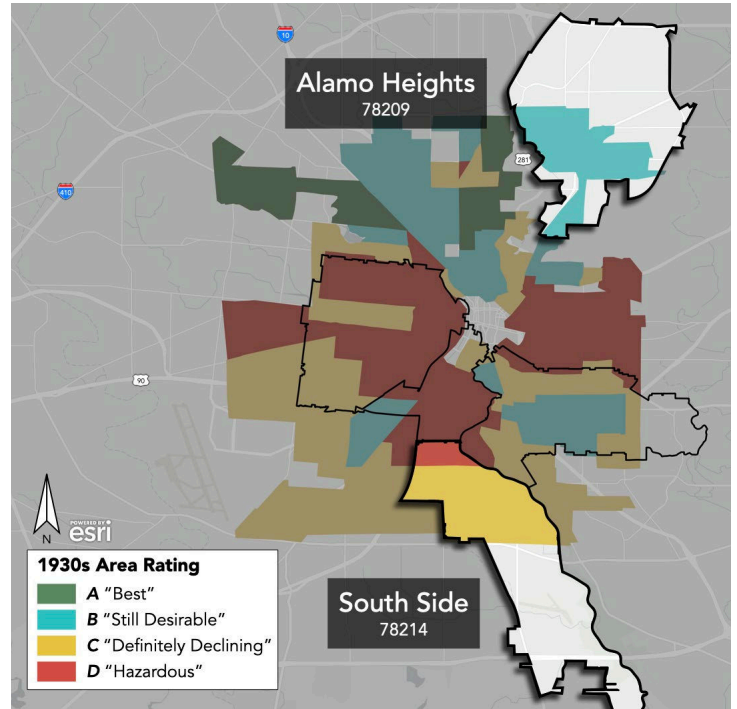


Figure 32. San Antonio's redlining map overlaid with two current zip codes
Source: BCAD (2023), University of Richmond, HOLC

In Alamo Heights, where the median home sale price is \$566,000, 36% of homes are underassessed, 25% are overassessed, and the remaining 39% are fairly assessed, resulting in a median sale ratio of 0.98 for the zip code. Conversely, in South Side, where the median home sale price is \$172,000, 15% of homes are underassessed, 37% are fairly assessed, and 48% are overassessed, yielding a median sale ratio of 1.09. This suggests that homes in South Side are generally overassessed compared to those in Alamo Heights. Figure 34 illustrates the same.

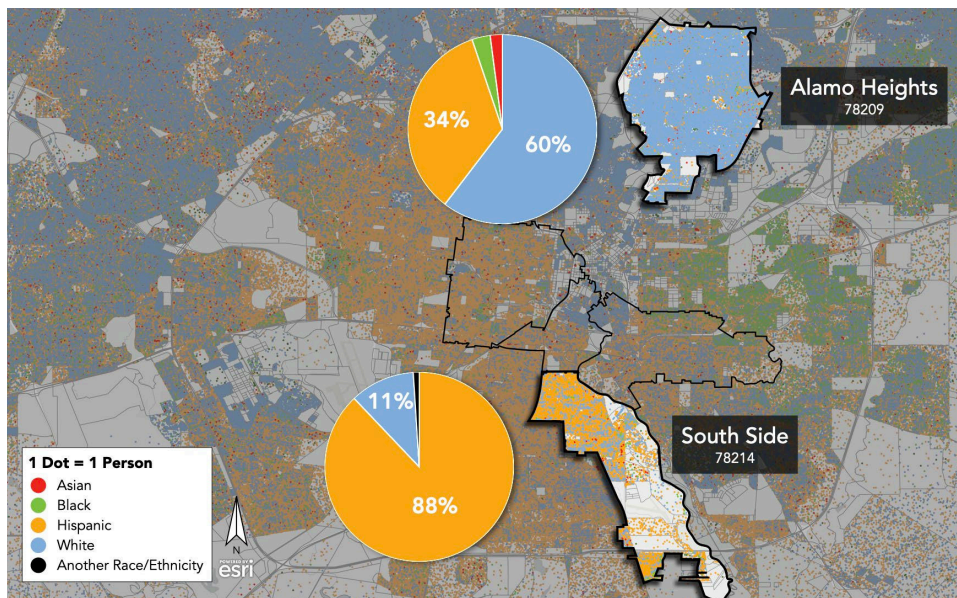


Figure 33. Racial & ethnicity dot map highlighting Alamo Heights and South Side
Source: Texas A&M Real Estate Research Center (2023), Bexar CAD (2023), American Community Survey (2022), US Census (2020)

This analysis underscores the consequences of historical injustices in homeownership today, where disparities in property assessments reflect past discriminatory practices. Addressing these disparities is essential for promoting equitable property valuation practices that support housing stability and economic well-being across diverse communities.

This analysis underscores the consequences of historical injustices in homeownership today, where disparities in property assessments reflect past discriminatory practices. Addressing these disparities is essential for promoting equitable property valuation practices that support housing stability and economic well-being across diverse communities.

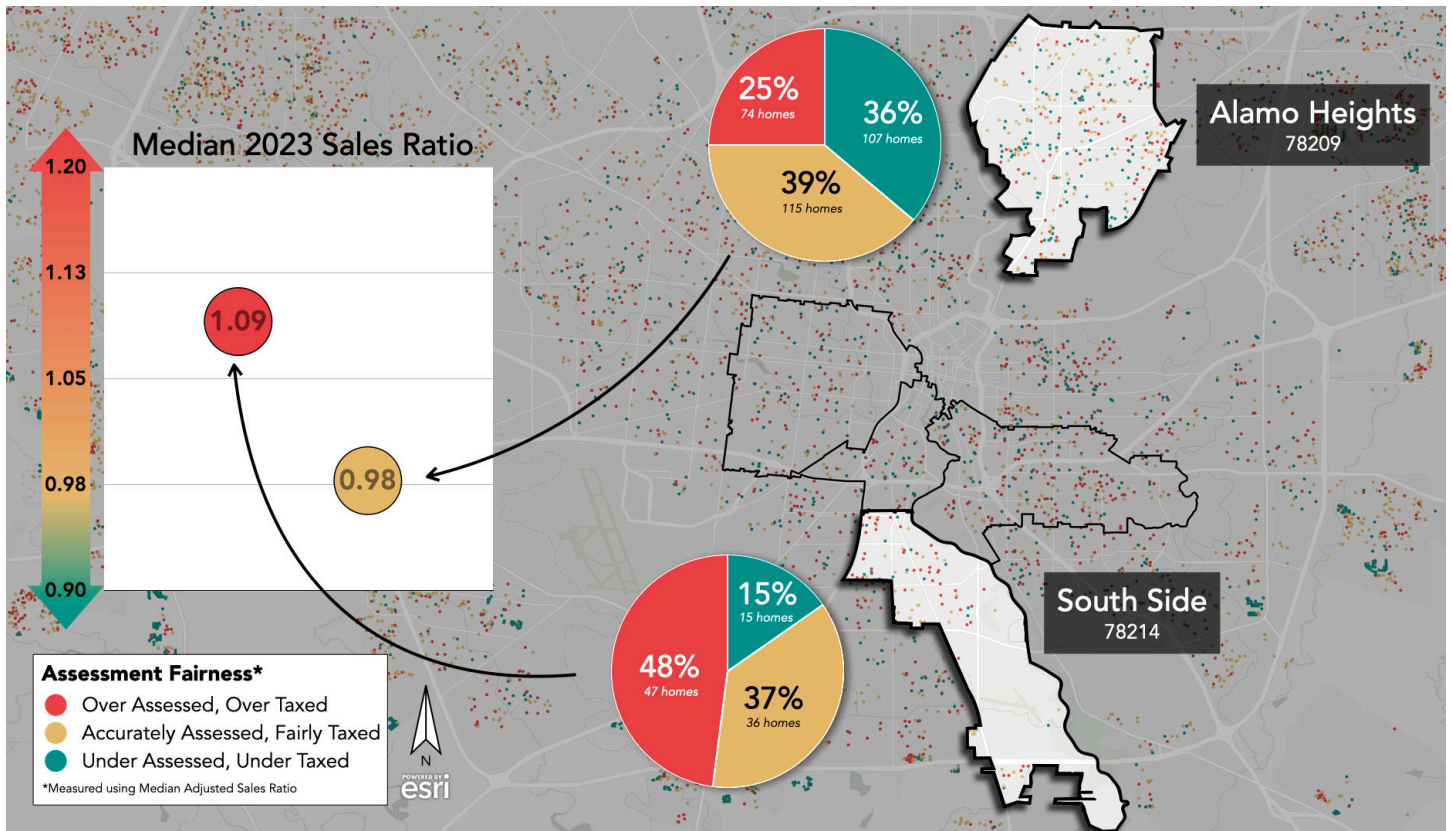


Figure 34. Comparing the median sale ratios of Alamo Heights and South Side
 Source: Texas A&M Real Estate Research Center (2023), Bexar CAD (2023)

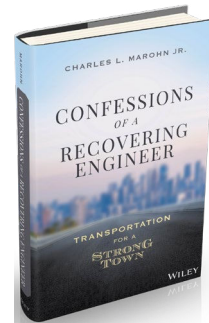
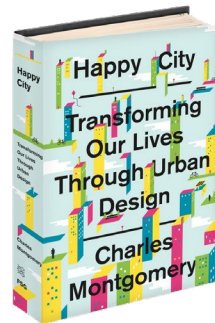
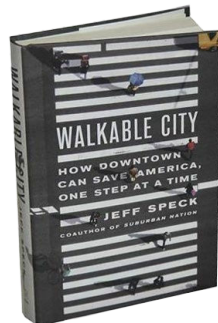
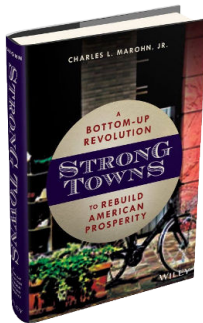
Expanded Readings

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 I	Gurleen Kuar
Data Scientist/Developer	Alex Devoid
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 the City of San Antonio, Texas.

urbanthree.com