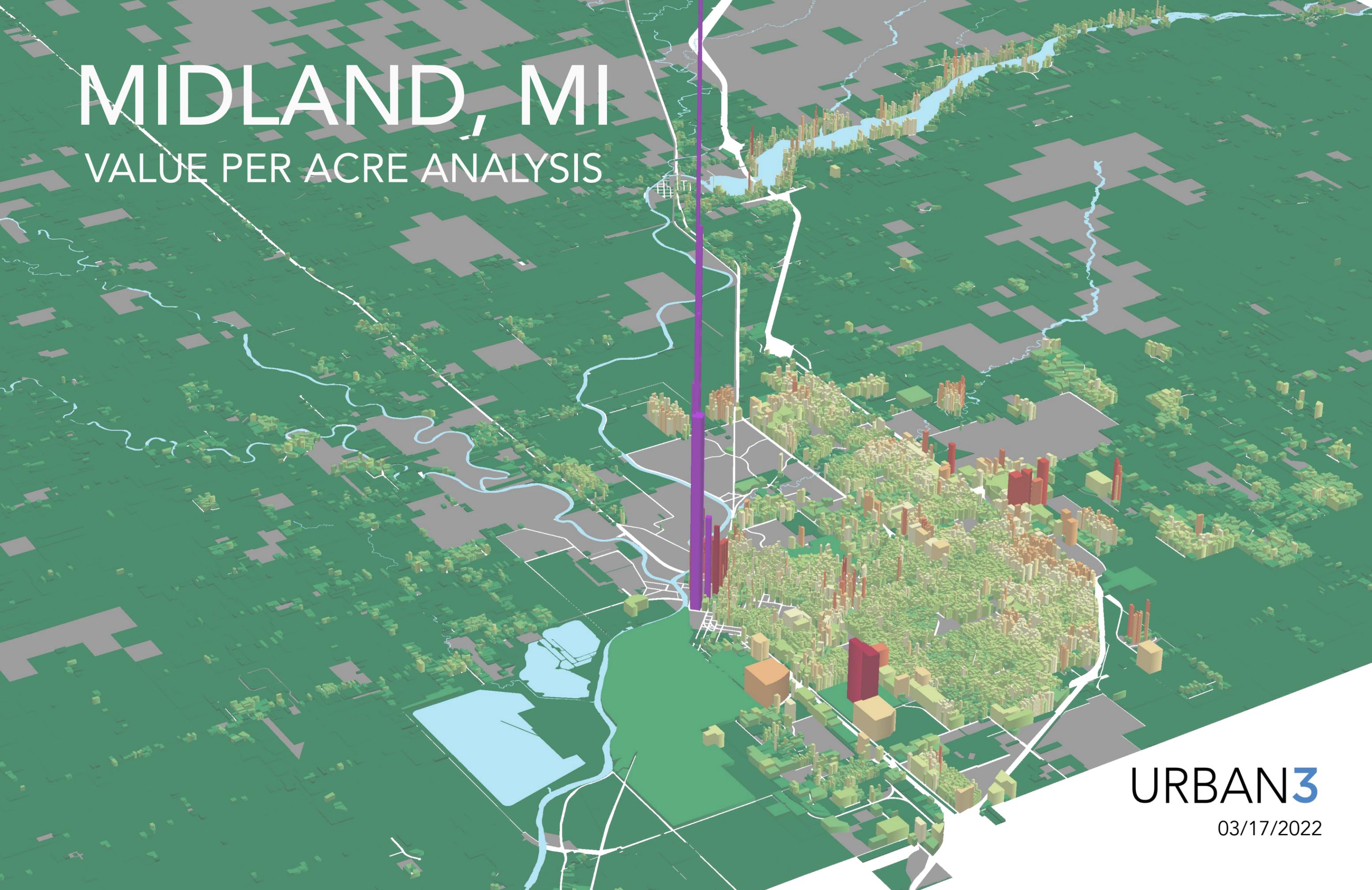


MIDLAND, MI

VALUE PER ACRE ANALYSIS



URBAN3

03/17/2022

INTRODUCTION

Midland is a small city in Midland County, MI, located near the crook of the thumb on the Michigan mitt. Known as the “City of Modern Explorers”, Midland has a rich history with an industrial presence at its backbone. Midland hosts several Fortune 500 companies, but is most well known as the home of Dow Chemical. Founded in 1897, Dow’s presence has enabled Midland to grow to the size it is today.

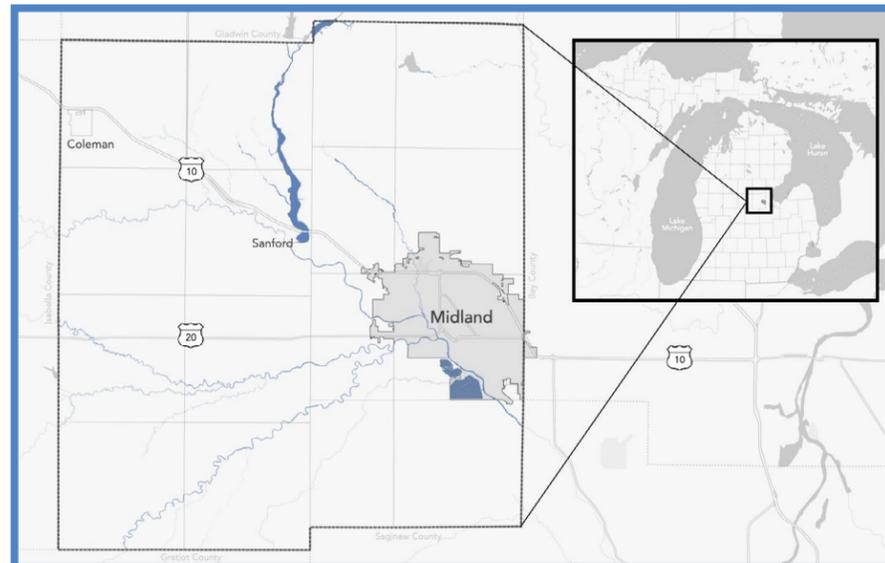


Figure 2.1 - Location of Midland in Midland County, MI

Urban3 was commissioned by the City of Midland and realtors to conduct an Economic Analysis in order to assist the community better understand the financial impacts of existing and potential development patterns. We utilized property tax data and our 3D value per acre model as a foundation to demonstrate potential property tax production from certain patterns within the city. Each parcel was processed, analyzed, and visualized to better understand how different types of properties, in different parts of the community, can impact property tax revenue.



Figure 2.3 - Downtown Midland, 1920's

Midland’s population grew quickly throughout the 20th century, spurring a significant amount of development across the city. Though Midland’s population has remained relatively constant over the last two decades, compared to its neighbors it has the potential to become the most-populous city in the Great Lakes Bay region.

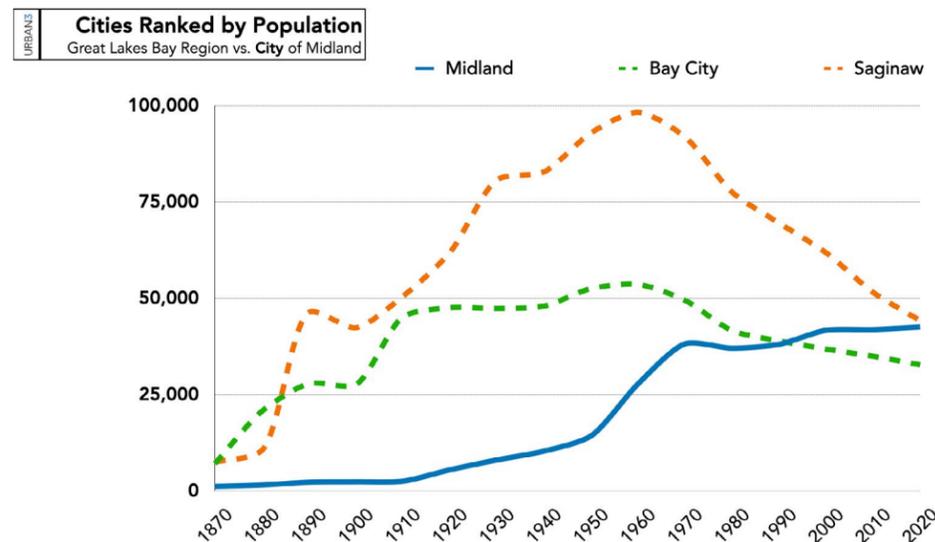
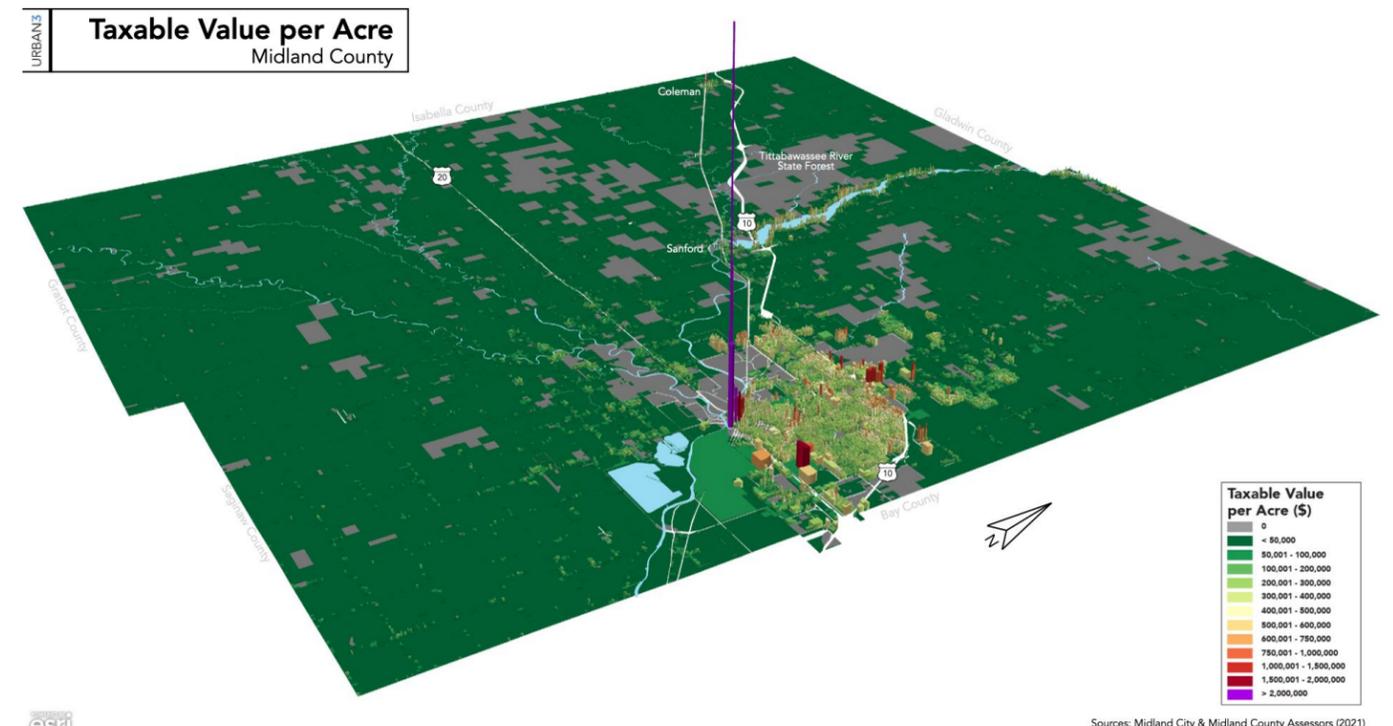


Figure 2.2 - Population in the Great Lakes Bay tri-city region



esri

Sources: Midland City & Midland County Assessors (2021)

Figure 2.4 - Property tax value per acre model for Midland County, MI

UNDERSTANDING LOCAL FINANCE

Property tax is tied to what a community builds and an important revenue stream for local governments in Michigan. The pie chart on the right shows the significant role of property tax in Midland's budget, making up one-third of the General Fund.

Michigan's tax system deviates from many other states in that it employs equalization as part of the assessment process. Simply put, market values are first reduced by 50% to obtain the assessed value. Then, assessed values may be adjusted if the average level of assessment falls above or below the 50% level of true cash value, resulting in the State Equalized Value. Finally, any applicable exemptions are subtracted and the tax rate is applied, resulting in the property's tax bill.

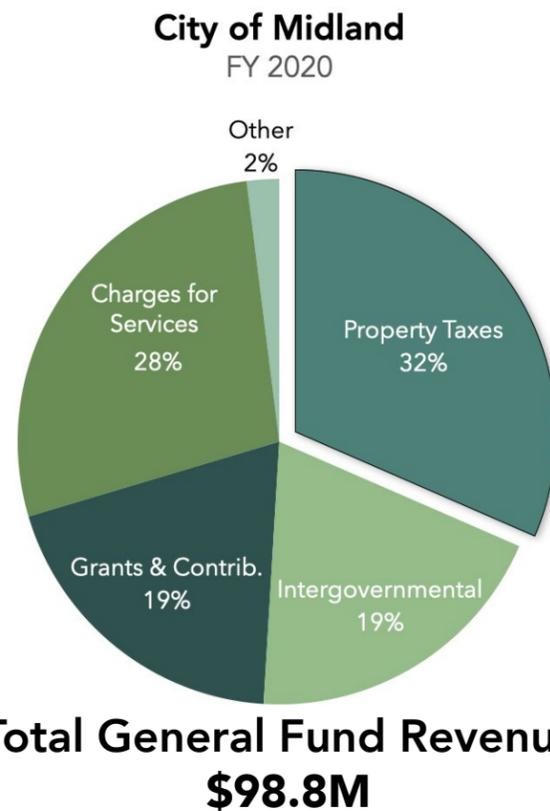


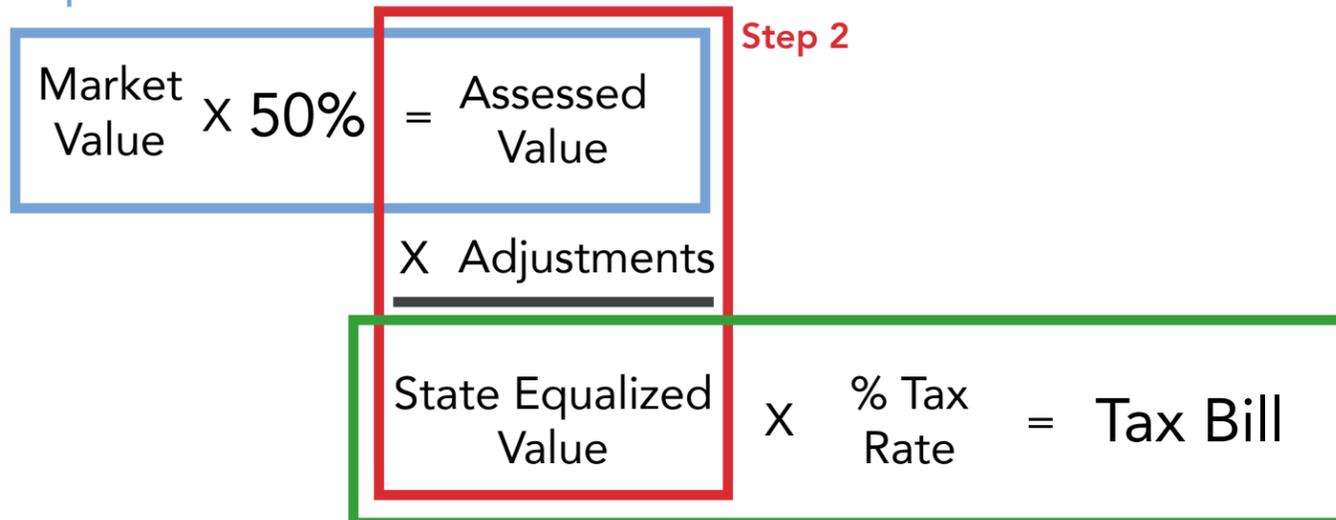
Figure 3.1 - Revenue sources for the City of Midland

Mapping property tax production is tantamount to understanding how Midland pays for municipal services and infrastructure. When government revenue generation varies geographically, we can draw comparisons to other spatially relevant facts, such as patterns of development, demographics, and public investment. Put simply, how land is used directly affects its tax productivity. As such, analyzing the source of government revenues, and the patterns they come from, is critical to planning a strong financial future.

The map below displays the distribution of taxable land (green) and nontaxable land (gray). Visualizing the amount of taxable and nontaxable land is important to understand what portion of land is responsible for generating revenue for a city and what portion is primarily consuming resources.

Large swaths of Midland's nontaxable land is located downtown, an area that otherwise supports a higher tax value per acre than elsewhere in the community. Many of these exempt areas contain vital amenities that serve the community such as parks. However, it also includes large stretches of surface parking, which typically has a lower return rate than other land uses.

Step 1



Step 3

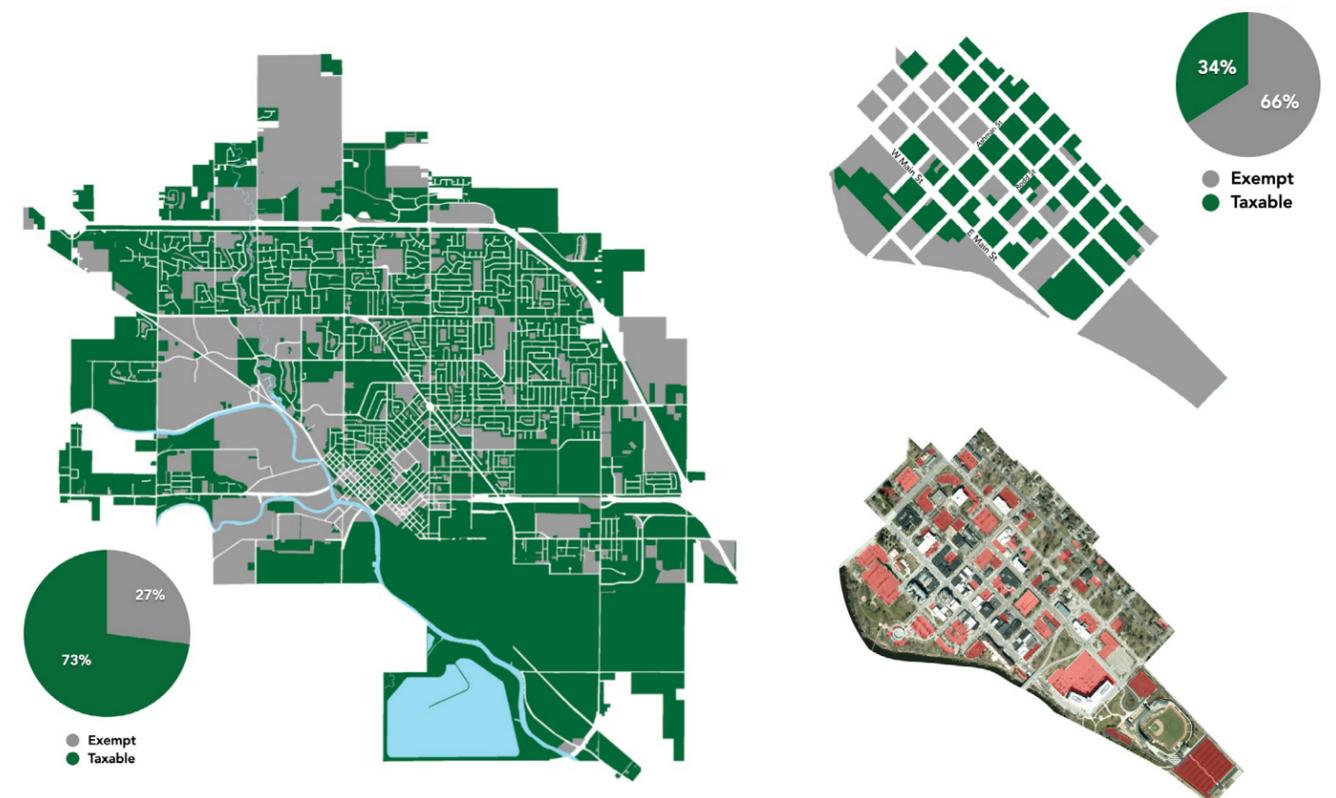
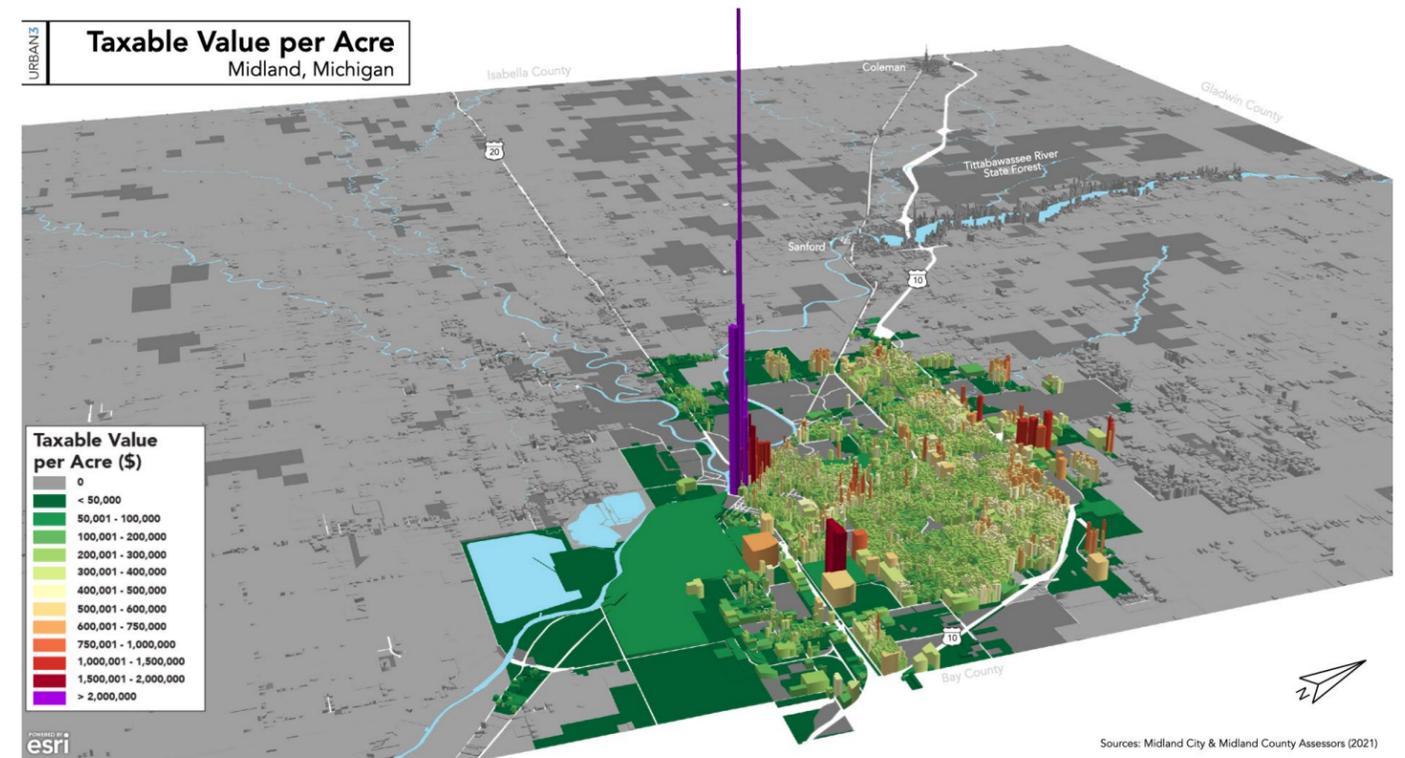


Figure 3.2 - Taxable land in the City of Midland and comparison of parking downtown

VALUE PER ACRE

Urban3's analysis focuses on the "per acre" metric as a unit of productivity. Cities and counties contain a finite amount of land, and how that land is used has a direct effect on municipal coffers. This metric normalizes total revenues and 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 the gallon is used as a standardized measure, not the tank. Therefore, "miles per gallon", not "miles per tank" is common practice to gauge efficiency. We apply the same principle to measure the financial productivity of various development types across a community.

Expansive developments with large footprints are typically more expensive to service with public utilities. Thus, examining only a development's total tax production overlooks the amount of land and other public resources consumed in order to produce revenue. In the Total Taxable Value map, large parcels of land across the county appear yellow, orange, and purple (colors representing high values). But when we compare this to the Value per Acre map, many of these large parcels no longer stand out. Instead, the "per acre" metric highlights the parcels that yield high property tax rates relative to their size.



Total Taxable Value

Value per Acre

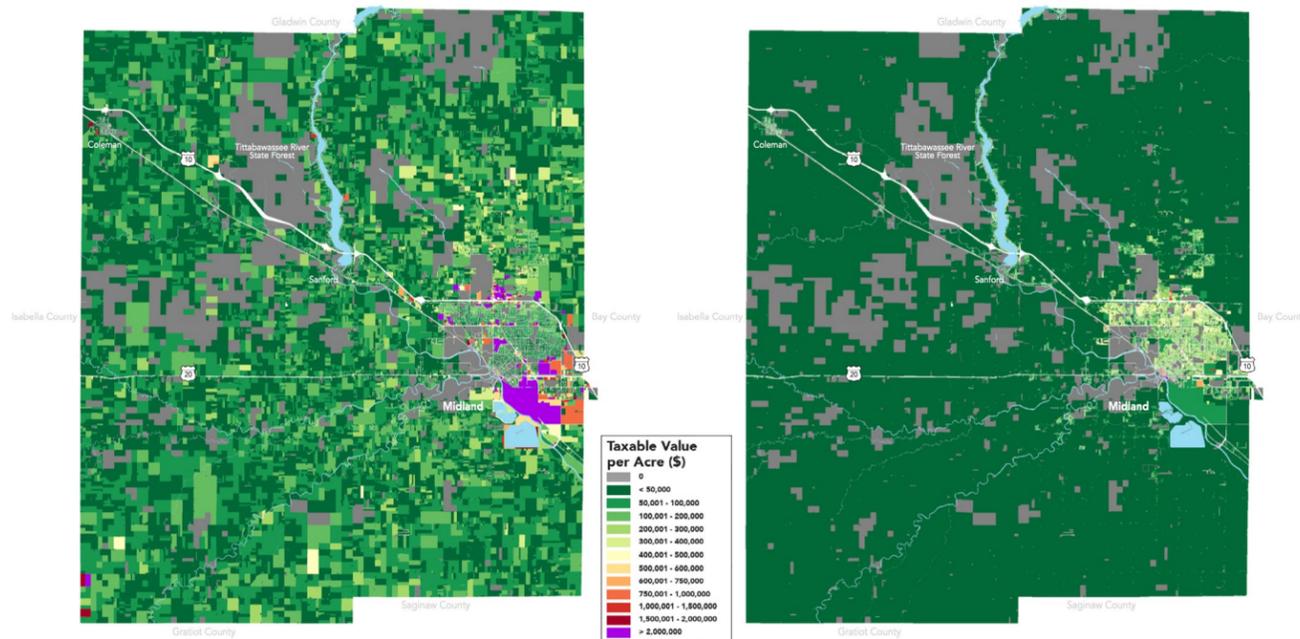


Figure 4.1 - Total taxable value and Value per Acre models for Midland County, MI

Figure 4.2 Property tax value per acre model for the City of Midland

Midland's Value per Acre model reveals how productive the downtown is compared to the rest of the city. This can be attributed to the productive development around Main Street, which contains a variety of commercial, multifamily, and mixed-use developments. However, the rest of the city is less productive per acre. Midland is primarily a single-family home residential community, which typically have lower productivity when compared to denser residential types.

Although local industries are major tax contributors for Midland, when examined through the "per acre" lens, these large developments do not perform well. For example, the Dow Mixhifan Operation's Industrial Park (I-Park) in the southeast appears dark or light green, the lowest ranks on our value per acre scale. Although I-Park's total tax production is quite high, its "per acre" productivity is low due to its massive land consumption.

LAND CONSUMPTION

Visualizing the built infrastructure in a city provides valuable insight in how we conceptualize city expenses and certain land use decisions. The following visualizations show the concentration of roads, buildings, and parking downtown and in the Center City, both of which are major commercial centers for Midland.

Buildings are the primary source of property tax revenue yet only consume 18 acres in downtown Midland and 30 acres in the Center City. We also see that surface parking takes up the largest share of the built environment, which measures to a combined total of 100 acres in these two areas out of 350 acres (28%).

Surface parking occupies nearly half of all infrastructure in Midland's downtown. Of this area, 53% of surface lots are taxable.

In the Center City, surface parking consumes two-thirds of the built environment. 72% of surface lots in the Center City are taxable.

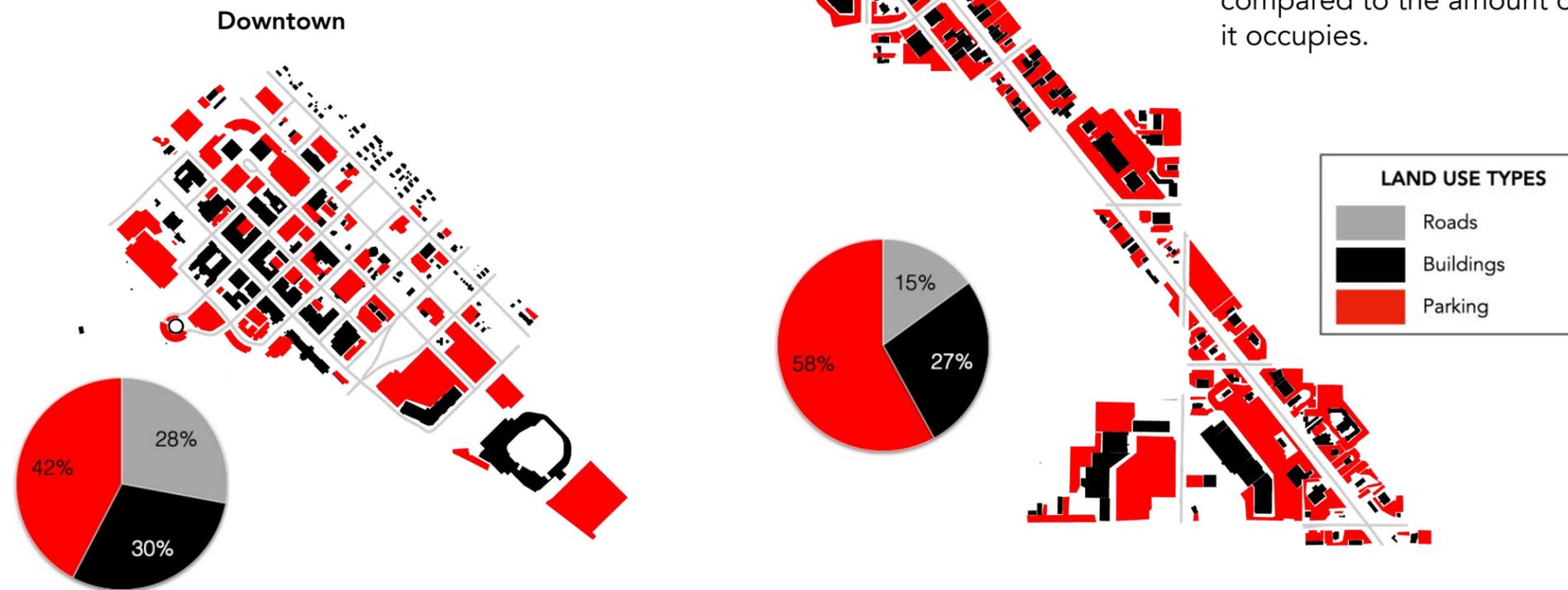


Figure 5.1- Land consumption of the built environment in Downtown and Center City of Midland

These statistics suggest a large opportunity cost to develop zoned commercial land into surface parking. The images on the right help us further understand the relationship between land consumption and productivity/expenses of certain land uses within the City of Midland.

Once again, we can see that although Parking and Driveways consume 1.5 square-miles of the city, its financial return is miniscule. Meanwhile, buildings contribute a much higher return compared to the amount of space it occupies.

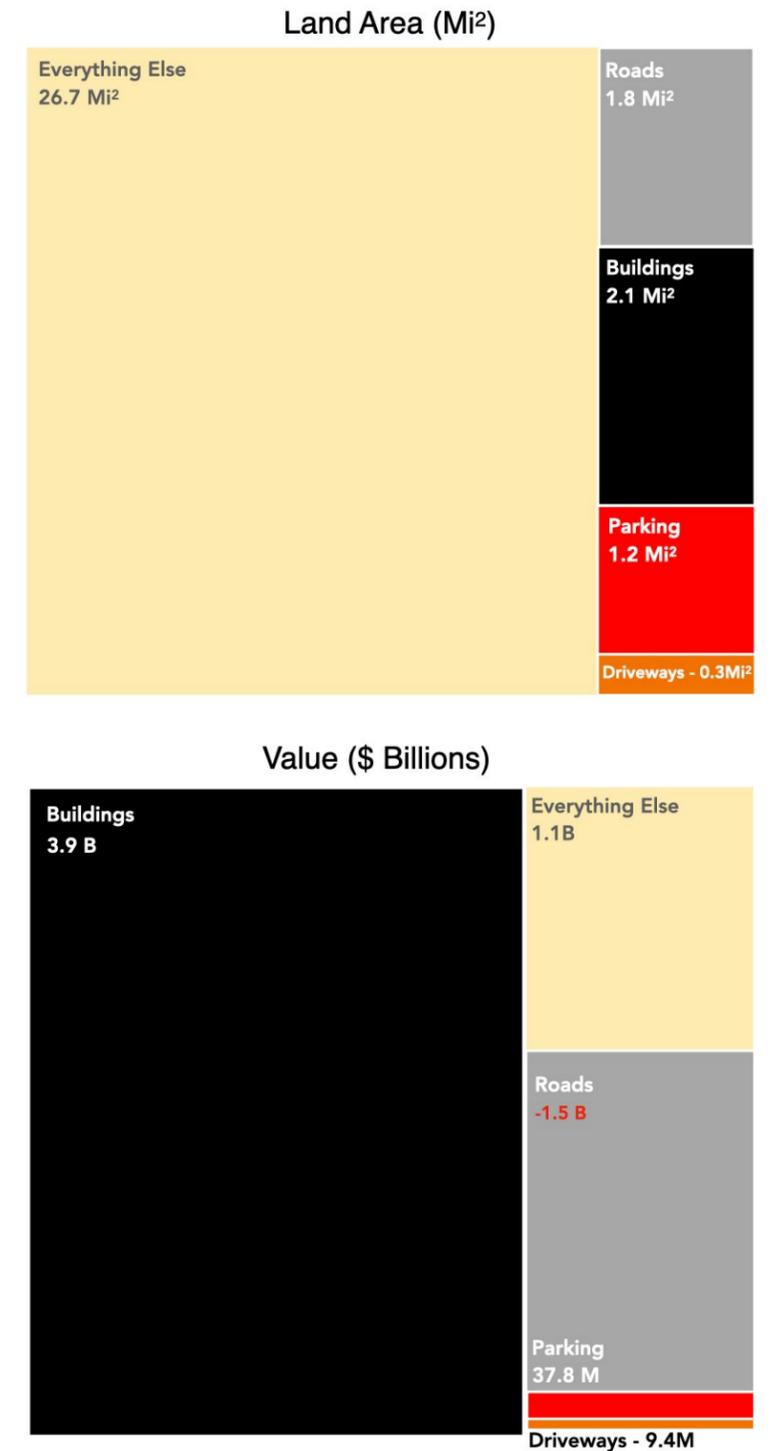


Figure 5.2 Comparison of land consumption versus associated productivity/expenses for the City of Midland

PROJECTIONS: THE CIRCLE

Urban3 was tasked with projecting different development potential changes in Midland to help the city visualize the impacts of different land use decisions. In the following sections, we examine the impacts of potential development projects as part of the Center City Redevelopment Plan. First, we examine the "Circle", one of Midland's oldest commercial districts.

The Circle was built in the mid-20th century, and was originally intended to engage Midlanders by allowing them to window shop as they slowly drove around the circle. But as the auto age emerged, the Circle was altered to adapt to different traffic patterns. However, this land use decision was largely responsible for the demise of the commercial district. A major part of the Center City Redevelopment Plan includes modifying the Circle to improve traffic safety and make it more pedestrian and bicycle friendly.

The images below represent different levels of development changes in the Circle. The first shows our Value per Acre model as the Circle is seen presently. The second adds the changes that are outlined in the Redevelopment Plan. And finally, the third visualizes how the Circle might look if we incorporated a small amount of infill on surface parking. If all of these changes were implemented, the Circle's productivity could increase by \$6.1 million while only altering 8% of the total land area.



Figure 6.1 - The Circle, 1966

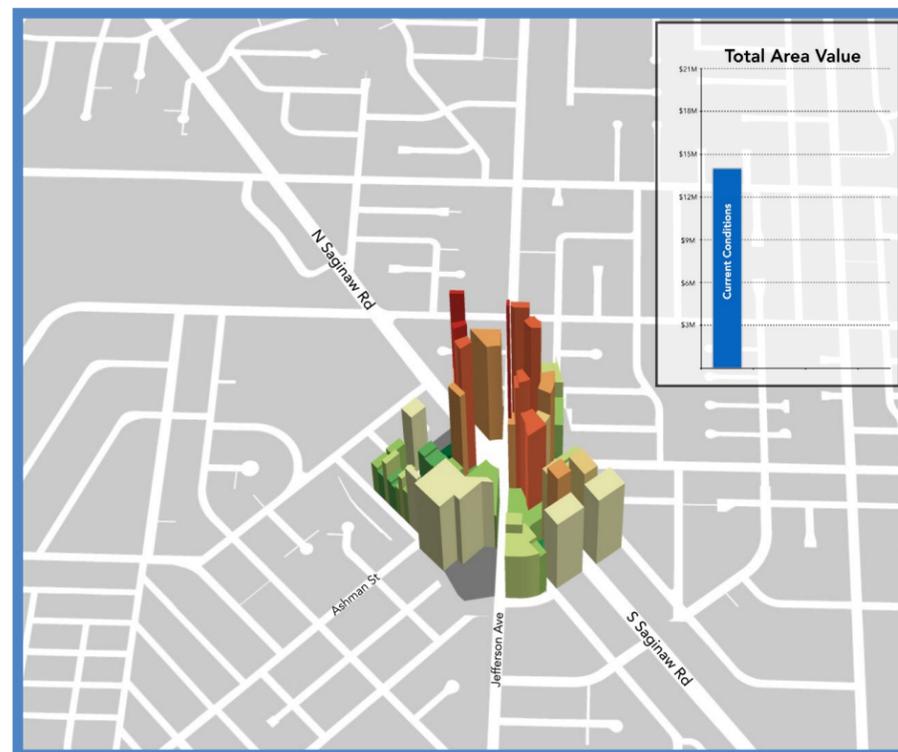


Figure 6.2 - Current value per acre productivity of the Circle



Figure 6.3 - Change in productivity based on Redevelopment Plan



Figure 6.4 - Change in productivity incorporating parking infill

PROJECTIONS: CENTER CITY

The Center City Redevelopment Plan extends through the Saginaw Road Corridor, another commercial district in Midland. The corridor is also dominated with auto-oriented developments and contains a surplus of surface parking. A major part of this Redevelopment Plan is to rejuvenate the corridor by improving pedestrian and bicyclist access and building a variety of new commercial, retail, and multifamily residential developments.

Urban3 modeled projections for the potential projects that are outlined in the Redevelopment Plan, as seen in Figure 7.2. The purple spikes towering over the rest of the area are multifamily and mixed-use units, revealing how productive these development types can be. From the development plan alone, Urban3 projects that the corridor could increase its value by \$12.6 million.

The final stage of Urban3's analysis involved converting a small subset of surface parking into a parking garage to demonstrate how much more productive an area could be if land was used more efficiently. In this scenario, the amount of parking is not changed, just reimagined as a multi-story garage. The results from this scenario added \$12.9 million to the Center City's total value. Combined with the Redevelopment Plan projections, the corridor's value could increase by \$25.5 million while only altering 5% of the total land area.



Figure 7.1 - Current value per acre productivity of the Center City



Figure 7.2 - Change in productivity based on Redevelopment Plan

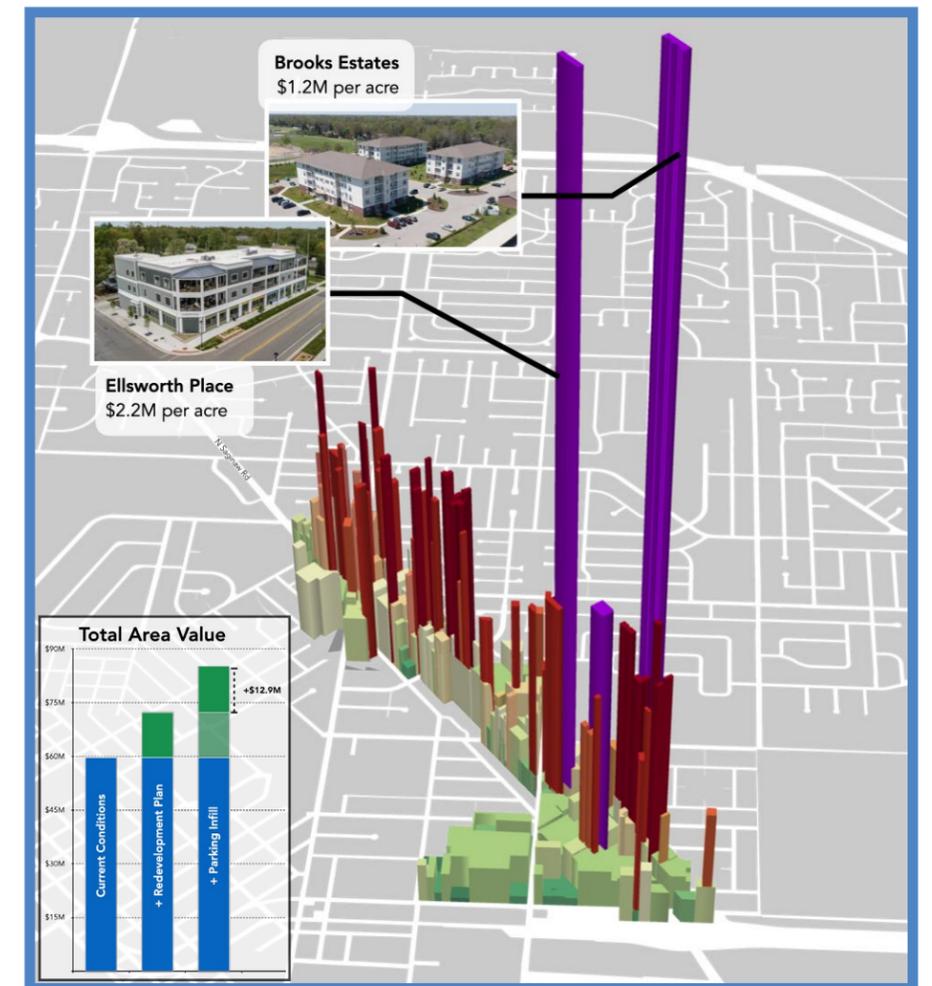


Figure 7.3 - Change in productivity incorporating parking infill

PROJECTIONS: DOWNTOWN & BEYOND

DOWNTOWN

Though downtown Midland has bustling activity at its center, this intensity dissipates along its northern periphery. We can see this by looking at the building footprints (Figure 8.1) and highlighting that although these areas are zoned downtown, they are underutilized. Urban3 filled in some of these gaps with commercial and missing middle housing, such as townhouses or duplexes. These changes added a total of \$32 million to Midland's overall value.

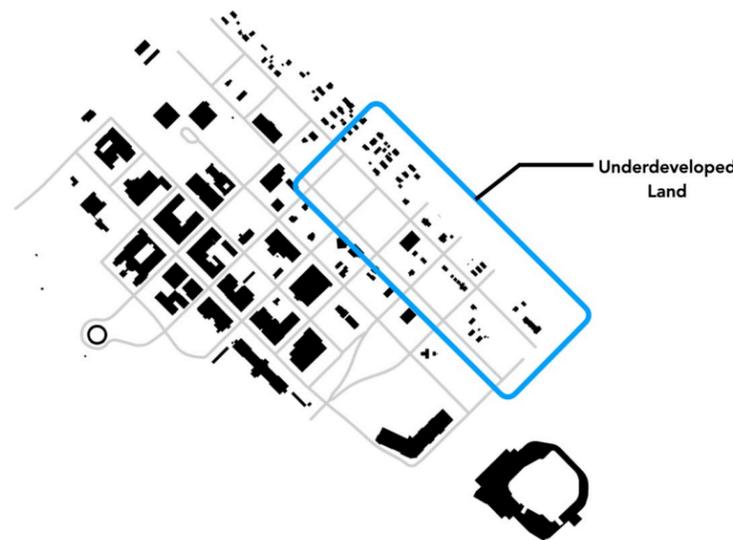


Figure 8.1 - Building footprints highlighting gaps in development in downtown Midland

MIDTOWN & ELSEWHERE

Like most American cities, access to affordable housing is a struggle for Midland. In order to visualize how adding affordable housing units can benefit the city's economy, Urban3 experimented with a variety of potential residential choices, such as townhouses and duplexes, small apartment complexes, and accessory dwelling units throughout the city. We placed an emphasis on Midtown as an area that connects downtown to the Center City, but also expanded these projections beyond this area. These projections added approximately 1,500 new residential units, and a staggering \$460 million to Midland's total value.

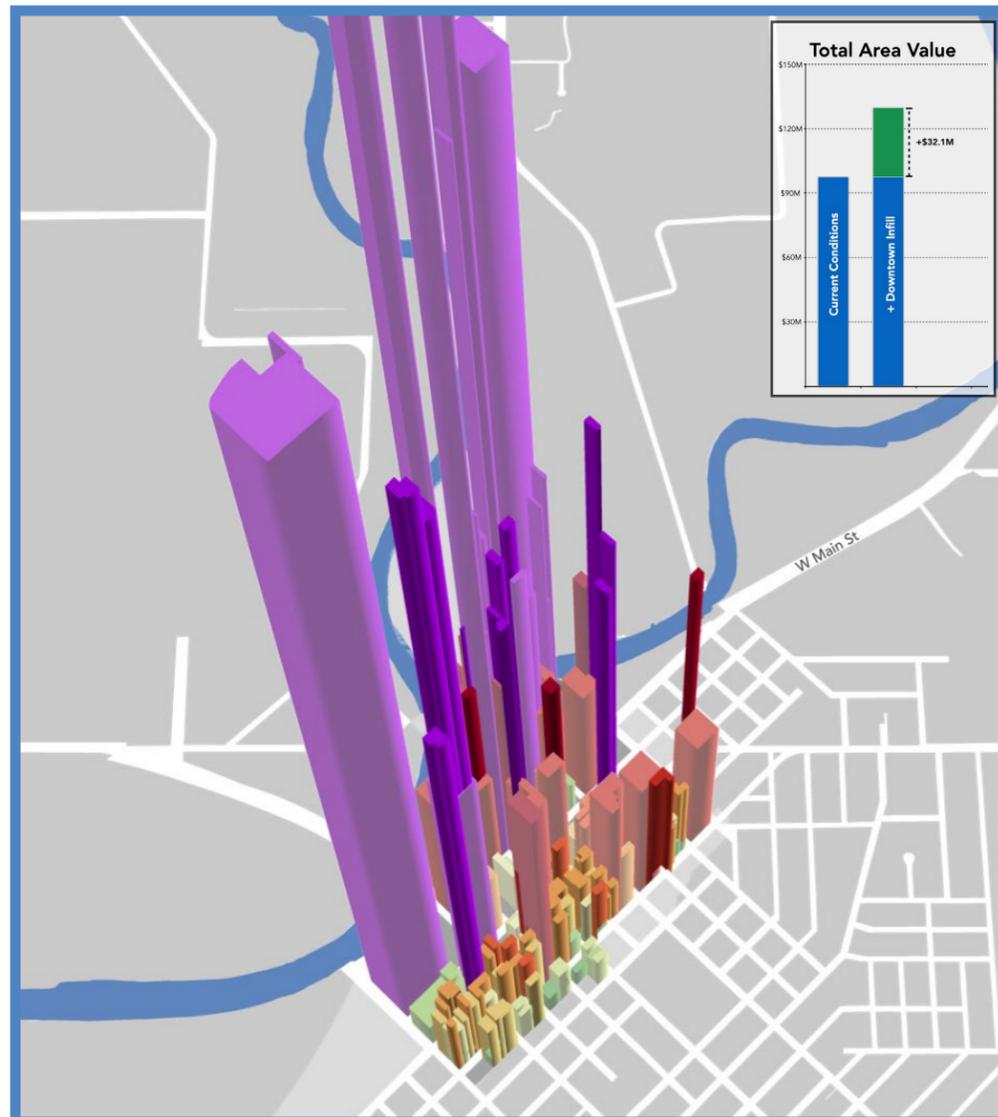


Figure 8.2 - Projections for downtown Midland

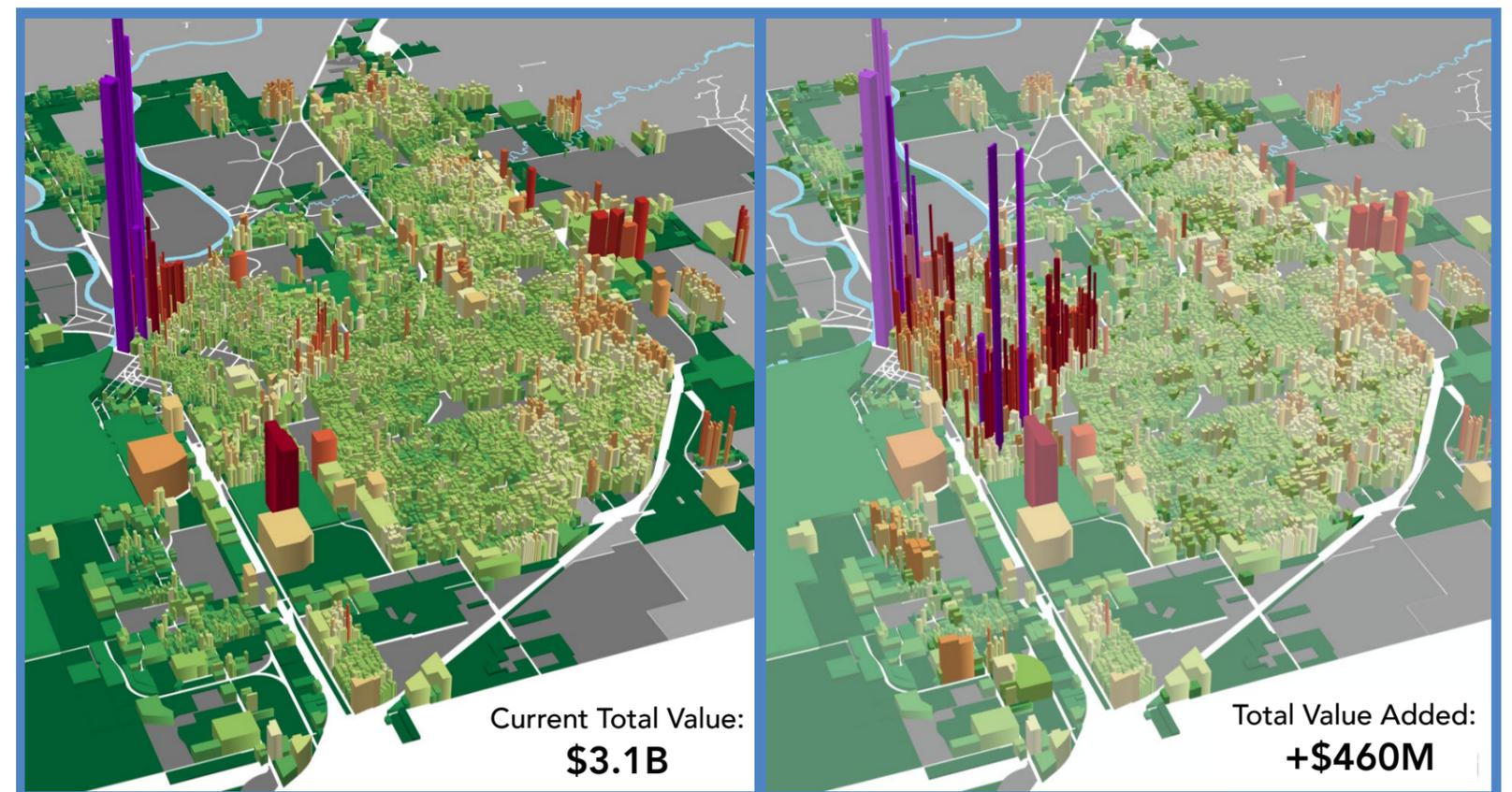


Figure 8.3 - Urban3 projections for the City of Midland

TAKEAWAYS

KNOW YOUR COSTS, AND MAP THEM.

Buildings are a major source of revenue for Midland, as they are for most cities. If town infrastructure is an expense, the buildings it services should generate enough property tax to cover the cost. In Midland's commercial districts, parking consumes the most space yet generates the least amount of revenue. Parking is just one example that demonstrates how visualizing costs can help us conceptualize them, which can help cities understand how land is being used and what portion is primarily consuming resources.

LITTLE FOOTPRINT, BIG IMPACT.

The less infrastructure a building utilizes, the less it costs the city to service. Midland's productive downtown is a prime example where denser development of mixed-use and commercial buildings produce the majority of revenue for the city. Midland already has several great examples of this type of development, as shown on the right. Continuing this style of development will help Midland increase its tax revenue and allow the city to provide the many services its residents depend on.



Craft Hemp Company
Commercial Downtown
\$1.5M per acre



Ginis Goldsmiths
Commercial in the Circle
\$2.1M per acre



The H Residence
Mixed Use Downtown
\$31.5M per acre

Figure 9.1 - Selected high performing properties with small footprints

CONTINUE WORKING TOWARDS FUTURE VISIONS.

The Center City Redevelopment Plan is an excellent start to rethinking and rebuilding what Midland has the potential to become. Urban3's projections were built off the themes identified in the early work of the City Modern master planning process, which included mixed-

use neighborhoods, improved corridor development, and equitable development in historically under-invested areas of the city. Our analysis shows that even small-scale changes could add significant value to Midland. These projections will help city planners understand how different developments impact a city's ability to generate revenue.



Figure 9.2 - Center City Redevelopment Plan projections including parking infill

CREDITS AND ATTRIBUTIONS

All data used in this analysis and report, unless otherwise noted, was provided by The City of Midland and Midland County. All maps are created with ESRI software.

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Data-driven storytelling

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