POLICY INSIGHTS

AARO'S STUDY OF CENTRAL TEXAS' GROWTH OVER THE LAST TWO DECADES

Excerpts from *Lookback to Roadmap* Qualitative Research and *Envision Central Texas: Looking Back and Glancing Forward* Quantitative Report

CENTRAL TEXAS
CATALYST SUMMIT 2023

ENVIRONMENTAL INSIGHTS

Central Texas stands at the crossroads of extensive development and the imperative of environmental sustainability, prompting a crucial regional conversation. See **Figure 6**, in *Envision Central Texas: Looking Back and Glancing Forward*, for 2001 to 2021 development over land. The region has experienced significant urban growth, particularly along highway corridors, indicative of economic dynamism and expanded opportunities. See **Figure 15** for a delineation of these corridors.

However, this growth comes at a price, manifesting in environmental costs such as the expansion of impervious cover, raising concerns about hydrological impacts and the urban heat island effect. See **Figure 19** for a map illustrating the intensely developed landscape through patterns of impervious cover and tree canopy. Monitoring development along these corridors is essential to mitigate its intense effects and preserve the region's natural environment.

The evolving landscape, as depicted in **Figure 22**, *Agricultural and Rangeland and Acreage Lost from 2001 to 2021*, tells a story of adaptation and change in agricultural lands and rangeland. While cropland has witnessed increases, losses in hay and pasture, possibly influenced by factors like drought, underscore the challenges faced by working lands. The transitions in rangeland use underscore the dynamic nature of the region, emphasizing the need to understand and manage these changes to maintain ecological balance and food production capacity.

Water use patterns and future needs present a nuanced picture of progress and challenges (see **Figure 24** for *Historic Municipal Water Use per Capita* and **Figure 26** for *Projected Supply Needs in 2050 and 2070 by Water Utility*). The substantial growth in total water use raises sustainability concerns, yet the decline in per capita municipal water use signals a positive trend toward increased water use efficiency. The projection of future water needs underscores the need for tailored water management strategies, recognizing regional disparities and the impacts of climate change on water resources.

> "We've got to find a way to ensure that we have plenty of water here in Central Texas. We all need it to live, and we need it to grow and to be sustainable. There's only so much rainfall that occurs in the watershed, and there's not really a way to change that."

The concerns raised by participants of AARO's qualitative study, *Lookback to Roadmap*, regarding water availability add depth to the narrative. Participants emphasized the critical need to ensure abundant water in Central Texas, essential for living, growth, and sustainability. Challenges in water management, including issues related to Texas water rights, fragmented water planning entities, and uncertainties in modeling future water availability amid climate change, were highlighted. Participants also expressed concerns about the impact of land use and development patterns, insufficient funding for land conservation, and the complexities of county land use authority and state laws governing growth.

> "We don't have a mechanism that facilitates regional water planning today. River authorities have split jurisdiction. You have cities as retail providers. You have groundwater districts. There's a patchwork. Nothing exists right now to bring decision makers together around water within the region. Organizationally, I think it's a real opportunity whose time has come."

As Central Texas leaders grapple with these complexities, recognizing both achievements in efficiency and the hurdles posed by ongoing growth, it becomes evident that each decision shapes not only the present but also the environmental legacy for future generations.

HOUSING INSIGHTS

Despite ongoing housing development, the affordability gap remains a significant issue for our region, contributing to the displacement of residents who are being pushed away from job opportunities and their historical communities. **Figure 43**, from *Envision Central Texas: Looking Back and Glancing Forward*, displays census tracts identified as at-risk for gentrification and displacement over the past two decades. In our *Lookback to Roadmap* qualitative analysis of the region's growth, Central Texas Leaders acknowledged the broader implications of this issue, expressing concerns about the limited planning tools and powers of counties to effectively address housing challenges. The rising costs in Austin are perceived as driving people to surrounding areas, raising questions about how these communities can avoid facing similar challenges.

> "If you think about the five-county area, the costs in Austin are driving people out. How do those areas not just become infected by the same challenges that we have."

The high cost of housing has created urgency to create more affordable housing options. This concern is underscored by insights from **Table 29** outlining the housing mix as a percentage of total housing units for the missing-middle category in various counties from 2000 to 2021. The table reveals the evolution of the missing-middle housing mix, incorporating single-family attached townhomes, duplexes, small multifamily, and mid-size multifamily with fewer than 50 units. These housing units offer diverse options that can promote density, walkability, and transit-oriented development.

Notably, the I-35 corridor is recognized as the current hub for the growth of missing-middle housing units. A shift from single-family homes to missing-middle housing types in more parts of the region is needed to address the demand for affordable housing in neighborhoods proximate to valued destinations. See **Figure 36**. Moreover, the fact that median gross rents increase substantially in the Austin suburbs, as well as northern San Antonio counties, adds another layer of complexity to the housing landscape. This phenomenon underscores the need for a comprehensive approach that considers not only affordability but also the dynamics of rent increases in specific regions. See **Figure 38**.

In the rush to address housing needs, participants interviewed in our qualitative study expressed apprehension that other critical considerations may be sidelined.

> "There's this urgency around housing that trumps everything, whether it's community voice, the environment, displacement. All these decisions have adverse effects but those are ignored because we need the housing, right?"

One key aspect for greenfield housing development is the geography of future water needs, found in **Figure 26**. A second key aspect is transportation as an added expense to the household of Central Texans. To see increased average commute time to work, see **Table 16**. For change in traffic volume along the I-35 corridor, see **Figure 28**.

In terms of collaboration on regional housing issues, AARO sees the current moment as an opportune time for individuals and groups engaged in similar efforts to unite.

MOBILITY INSIGHTS

> "Every time we put money into I-35 or transit or more trails and sidewalks, it seems like it's an all or nothing solution. Having it be more of a blended solution has been very, very slow."

AARO's Qualitative Analysis of Regional Growth, *Lookback to Roadmap*, highlighted the perceived disjointed nature of projects, emphasizing a lack of a shared vision for how these disparate initiatives fit together. The importance of transit projects, such as Project Connect, was underscored by participants, recognizing their critical role in enhancing mobility. However, opinions about transit varied widely across the region, reflecting the diverse perspectives and needs of different communities. Reflecting on the dynamics of regional transportation planning, participants highlighted the tension between the needs and priorities of urban areas versus more suburban and rural areas. A participant from a smaller community said, "We don't have any support in terms of transportation or mass transit transportation."

Leaders voiced apprehensions about development patterns exacerbating inequitable growth patterns, particularly as housing affordability diminishes, pushing residents further from the urban core. **Figure 43** displays census tracts identified as at-risk for gentrification and displacement over the past two decades. On a positive note, housing-plus-transportation costs have improved in the periphery of Austin and San Antonio's urban cores, as well as along the I-35 corridor. This suggests some progress in locating housing and jobs in closer proximity in these areas as well as increased road capacity. Refer to **Figure 44** for the housing-plus-transportation cost index based on average commute times and median gross rent prices.

At the same time, transportation and congestion remain paramount concerns for Central Texas leaders in the face of regional growth. While the development of new highway infrastructure has contributed to improved commute times in some areas, increased traffic counts suggest persistent congestion challenges. Refer to **Figure 27** for changes in average commute times by census tract in the Central Texas and San Antonio regions, demonstrating fluctuation, initially improving with new infrastructure development but peaking again as residents move from Austin's urban core to adjacent counties. Refer to **Figure 28** for insights into the change in average daily traffic counts.

The concentration of development along highway corridors reflects the region's economic dynamism and expanded opportunities. Refer to **Figure 15** for an illustration of these corridors, providing insights into a post-highway construction boom in development. A key positive aspect is the significant increase in job accessibility in Travis and Williamson counties, showcasing economic growth. Refer to **Table 20** for details on job accessibility within different time thresholds and **Figure 30** for a depiction of the change in job accessibility between 2002-2010 and 2010-2020. Refer to **Figure 31** for a heat map of the Central Texas and San Antonio regions, showing the density of four-way intersections.

This growth is also not without its environmental costs, as seen in the expansion of impervious cover impacting hydrological systems and contributing to the urban heat island effect. Refer to **Figure 19** for a visual representation of the intensely developed landscape through patterns of impervious cover and tree canopy. Concerns were also raised about the potential for the region to go into non-attainment status for air quality, with implications for transportation planning, funding, and health issues. This adds another layer of complexity to the region's growth challenges, necessitating a holistic approach that considers not only mobility but also environmental and health impacts.

SOCIAL EQUITY INSIGHTS

In our *Lookback to Roadmap* qualitative analysis of the region's growth, Central Texas Leaders expressed a deep concern regarding equity. Participants highlighted the profound challenges of displacement, with many individuals from East Austin now residing in areas like Pflugerville, Round Rock, Cedar Park, and Elgin. See **Figure 43**, from *Envision Central Texas: Looking Back and Glancing Forward*, for census tracts identified as at-risk for gentrification and displacement over the past two decades regionally and in the San Antonio area.

Figure 40 depicts the geographic trends in the share and change-in-share of Black (not Hispanic) residents by census tract. Through time, Black residents have been displaced from east and central Travis County to northern cities, like Pflugerville, as well as into Williamson County. **Figure 42** displays census tracts in eastern downtown Austin that also indicate an outflow of Hispanic residents. For White and Asian geographic trends, see **Figure 39** and **Figure 41** respectively.

> "The problem is, it can't be by chance that no matter where you look, you see these disparities by race."

Racial inequities were identified as pervasive across various issues, providing insights into a systemic problem. The acknowledgment that disparities by race are not mere chance emphasizes the need for targeted efforts to address and rectify these imbalances. A participant emphasized the importance of sustaining affordability in a place, recognizing the historical exclusion of communities of color from homeownership opportunities. This reflects a commitment to breaking systemic barriers and ensuring that housing solutions actively promote inclusivity and economic empowerment. See **Figure 45** for *Percent of the total population living at or below the 100% federal poverty level*.

> "There are very specific areas where low-income families are concentrated. We need more place-based interventions or we're not going to have any economic and racial diversity left in this town."

There were concerns expressed that the urgency surrounding housing needs might overshadow other critical equity considerations. The fear is that in the rush to provide more housing, factors like community voice, environmental impacts, and the consequences of displacement may be overlooked, leading to adverse effects on the affected communities. One consideration is the geography of future water needs, found in **Figure 26**. A second key aspect is transportation as an added expense to the household of vulnerable Central Texans. See **Figure 44** for *Housing and transportation cost index based on average commute times and median gross rent prices adjusted to 2021 Dollars*.

In terms of collaboration on regional housing issues, participants recognized the multifaceted social equity concerns among Central Texas leaders, ranging from the impacts of displacement to the systemic challenges of racial inequities. There is a clear call for comprehensive and inclusive approaches that prioritize community well-being, environmental sustainability, and the preservation of economic and racial diversity.

EXTRACTED TABLES AND FIGURES

TABLE 16

Average commute time to work in minutes by county. Source: U.S. Census.

Average Commute to Work (Minutes)	2000	2013	2018	2021
Central Texas				
Bastrop	37	34	33	35
Burnet	30	28	26	27
Caldwell	31	32	32	33
Hays	27	29	29	30
Travis	23	24	25	26
Williamson	28	26	27	28
San Antonio				
Bexar	24	24	24	25
Comal	26	30	31	32
Guadalupe	24	25	25	28
Kendall	29	27	29	27

TABLE 20

Job accessibility by auto within 30 and 60 minutes in Central Texas counties. Source: LODES, University of Texas.

Job Accessibility (Thousands)	2002		2010		2015		2020	
Minutes	**30**	**60**	**30**	**60**	**30**	**60**	**30**	**60**
Bastrop	2,846	6,068	3,250	7,001	3,714	8,166	4,050	9,053
Burnet	170	3,936	242	4,795	261	5,831	320	6,781
Caldwell	552	3,460	625	4,029	810	4,794	931	5,425
Hays	10,121	19,237	11,649	22,555	13,158	26,447	14,833	30,019
Travis	143,538	153,709	168,692	181,435	199,056	214,744	225,865	243,862
Williamson	37,026	44,789	44,630	53,898	54,256	65,266	62,523	75,101

TABLE 29

Missing-middle housing mix as a percentage of total housing units, summarized by county. Source: U.S. Census.

Population Share: Asian (Not Hispanic)	2000	2009	2013	2015	2018	2021
Central Texas						
Bastrop	0.004	0.007	0.008	0.008	0.009	0.008
Burnet	0.003	0.005	0.004	0.003	0.008	0.006
Caldwell	0.003	0.003	0.002	0.002	0.01	0.009
Hays	0.008	0.01	0.01	0.01	0.01	0.02
Travis	0.04	0.05	0.06	0.06	0.07	0.07
Williamson	0.03	0.04	0.05	0.06	0.06	0.08
San Antonio						
Bexar	0.02	0.02	0.02	0.03	0.03	0.03
Comal	0.004	0.007	0.007	0.01	0.01	0.01
Guadalupe	0.008	0.01	0.02	0.02	0.02	0.02
Kendall	0.002	0.004	0.008	0.007	0.009	0.01

FIGURE 6

2001 NLCD Land Cover (Developed in Red, Rangeland in Purple, Agriculture in Brown, Forest in Green) and 2001 to 2021 Development in Yellow. Hay and Crop merged into Agriculture, Shrub and Grassland merged into Rangeland, all Forest classes combined. Source: NLCD.

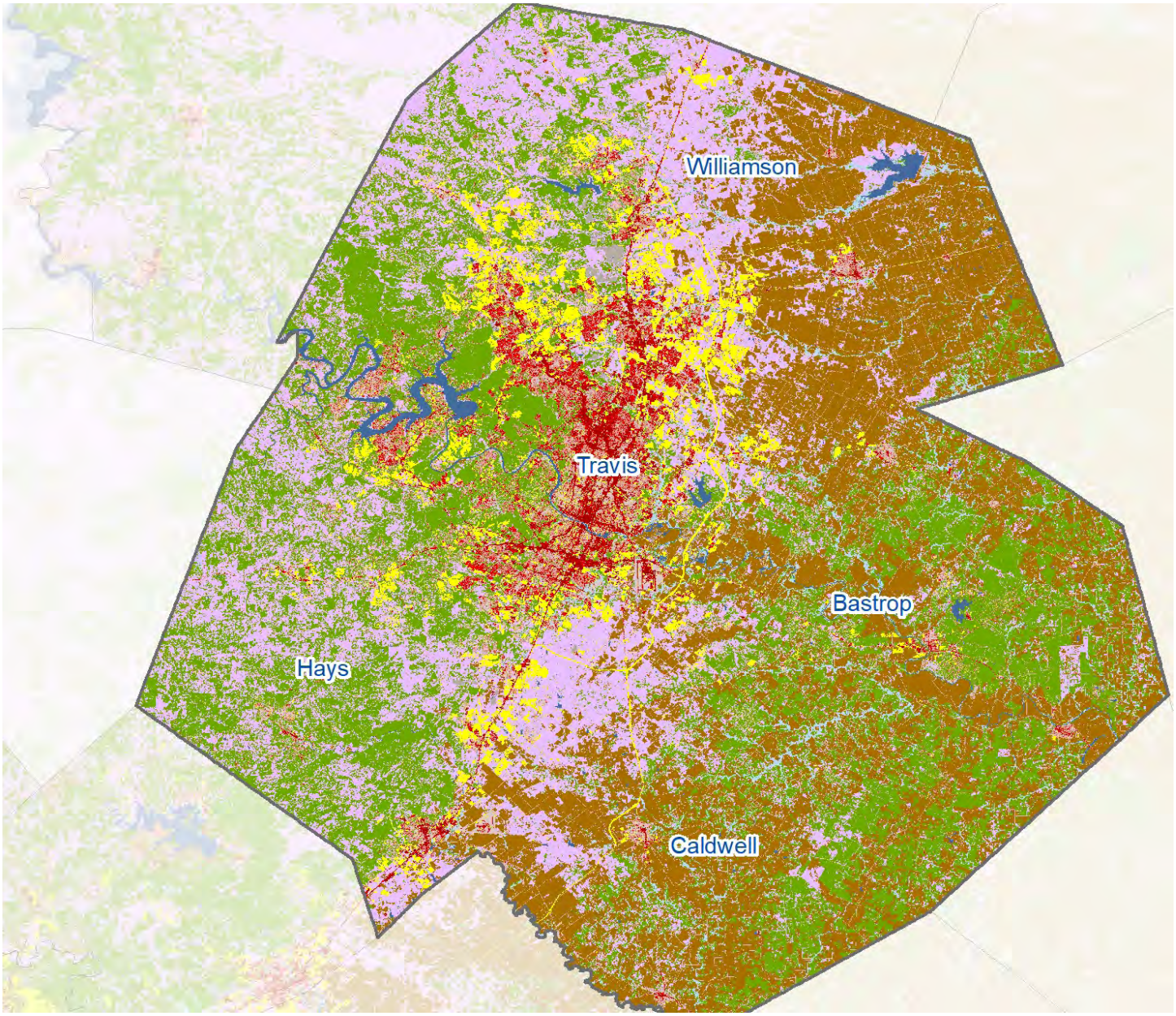


FIGURE 15

Highway Corridors and Development across Central Texas. Source: authors.

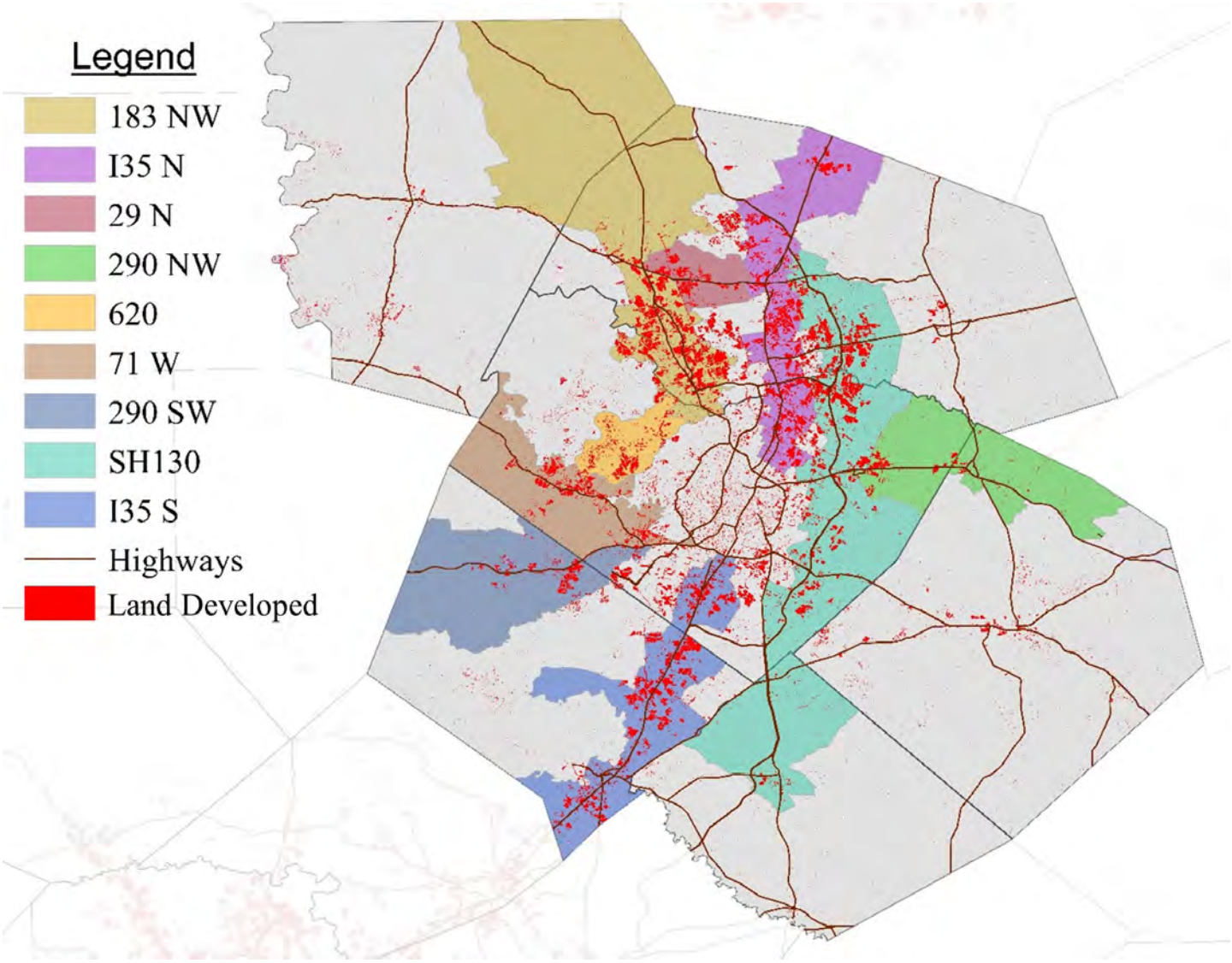


FIGURE 19

Impervious Cover and Tree Canopy In 2001/2011 and Change to 2021. Source: NLCD.

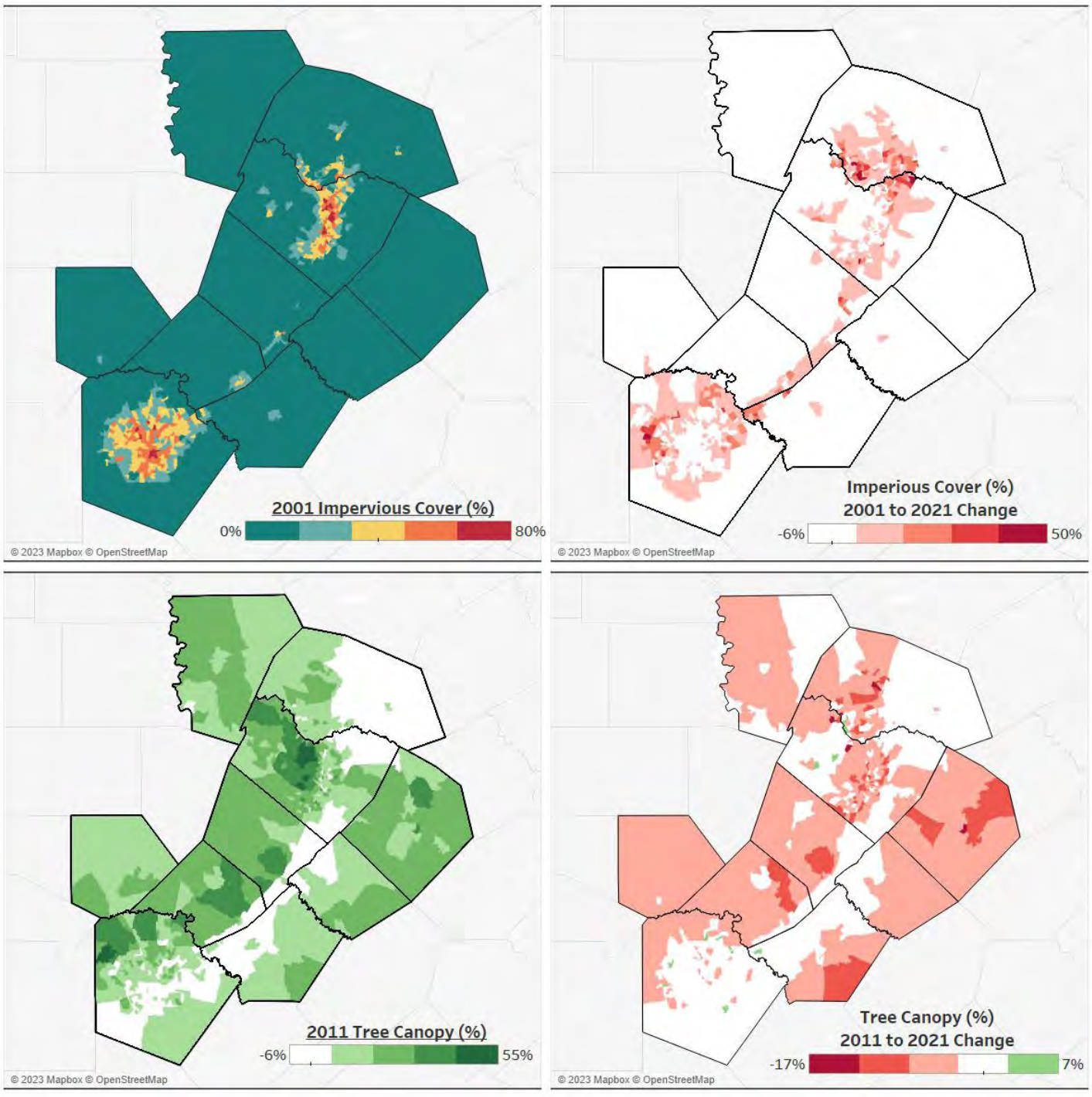


FIGURE 22

2001 Agricultural and Rangeland and Acreage Lost from 2001 to 2021. Source: NLCD.

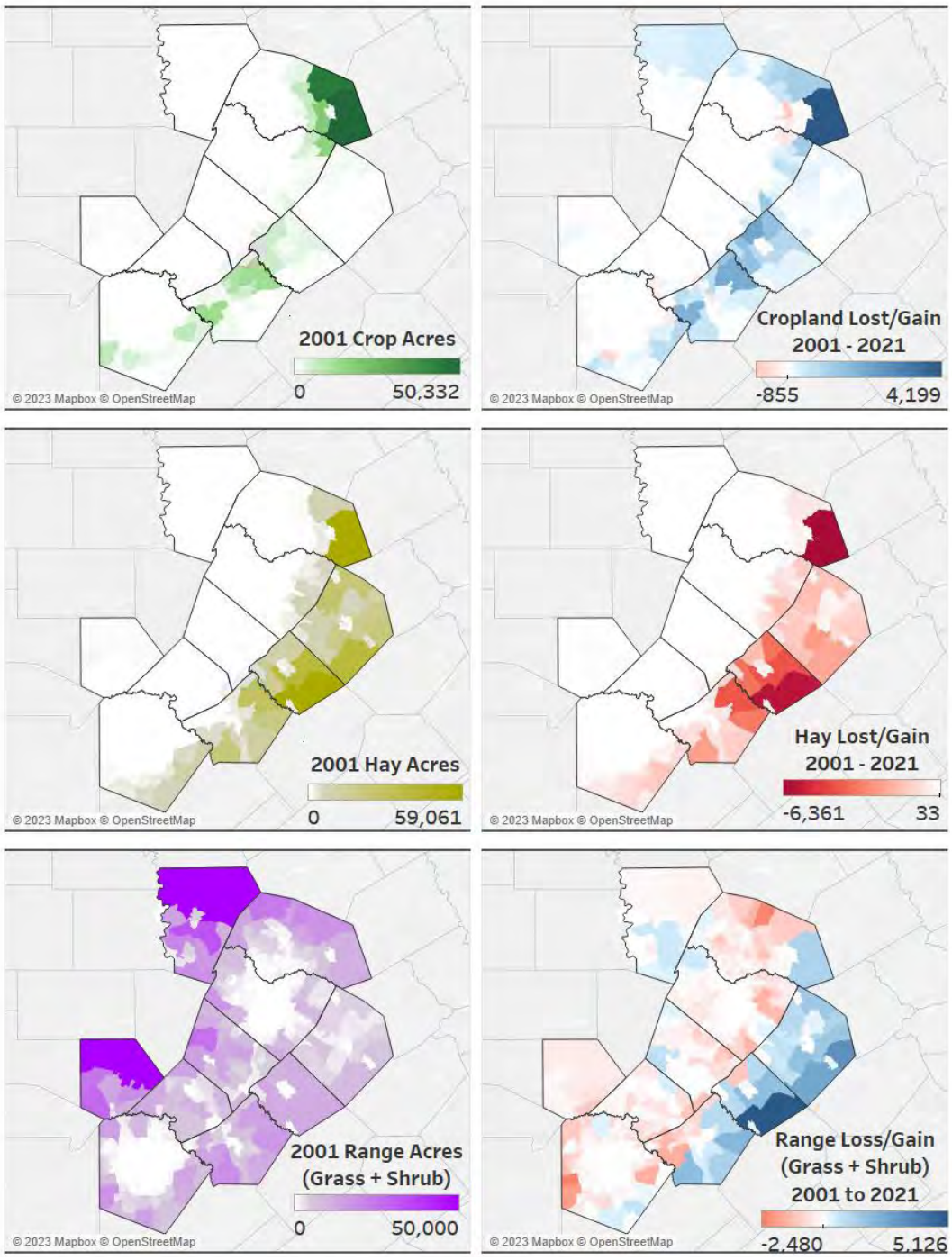


FIGURE 24

Historic Municipal Water Use per Capita, by County with total volume as line thickness. Source: TWDB.

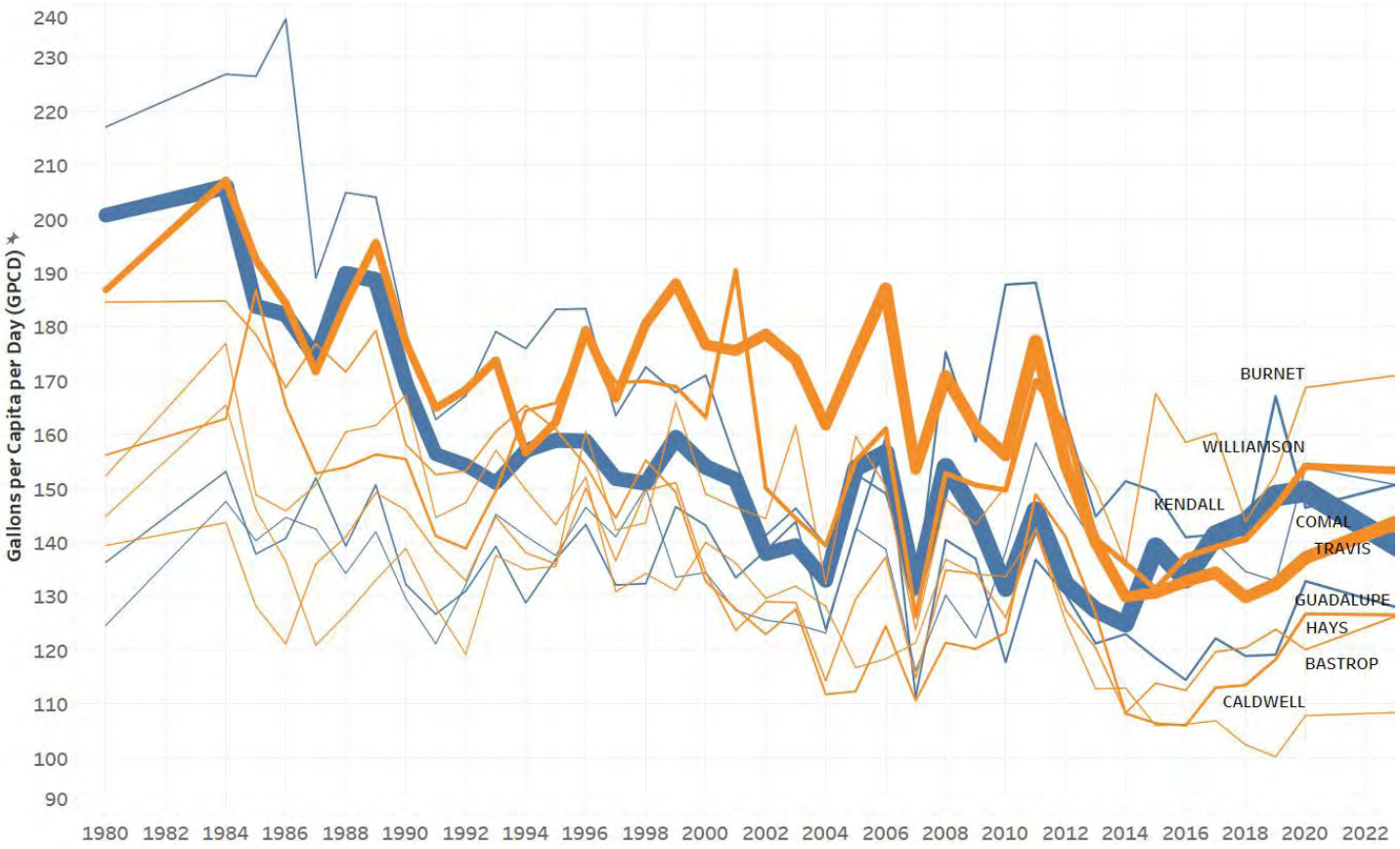


FIGURE 26

Projected Supply Needs in 2050 and 2070 by Water Utility; circle size reflects population served by the utility in 2050/70. Source: TWDB.

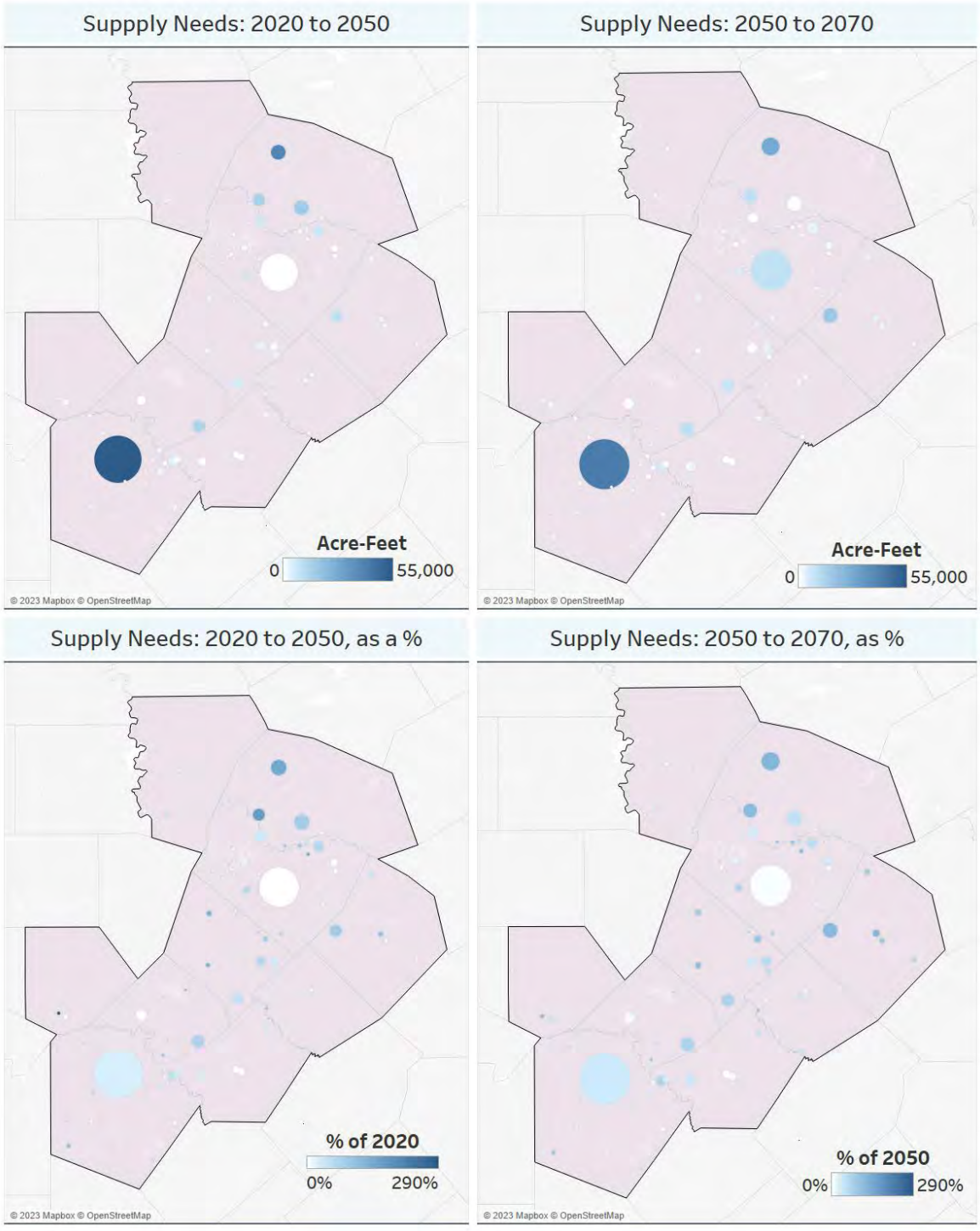


FIGURE 27

Average commute time to work in Minutes. Source: U.S. Census.

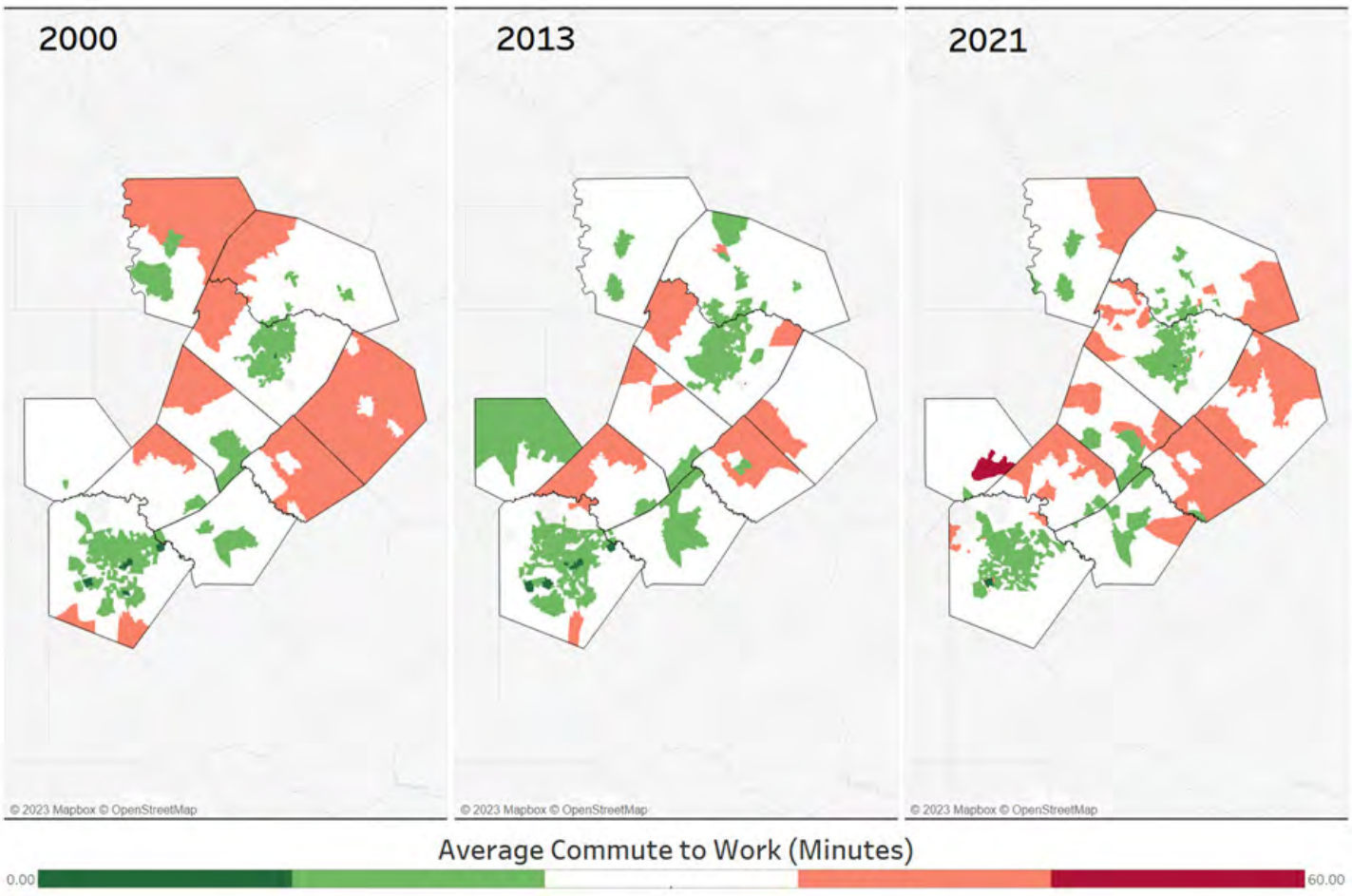


FIGURE 28

Change in average daily traffic counts. Source: NaNDA

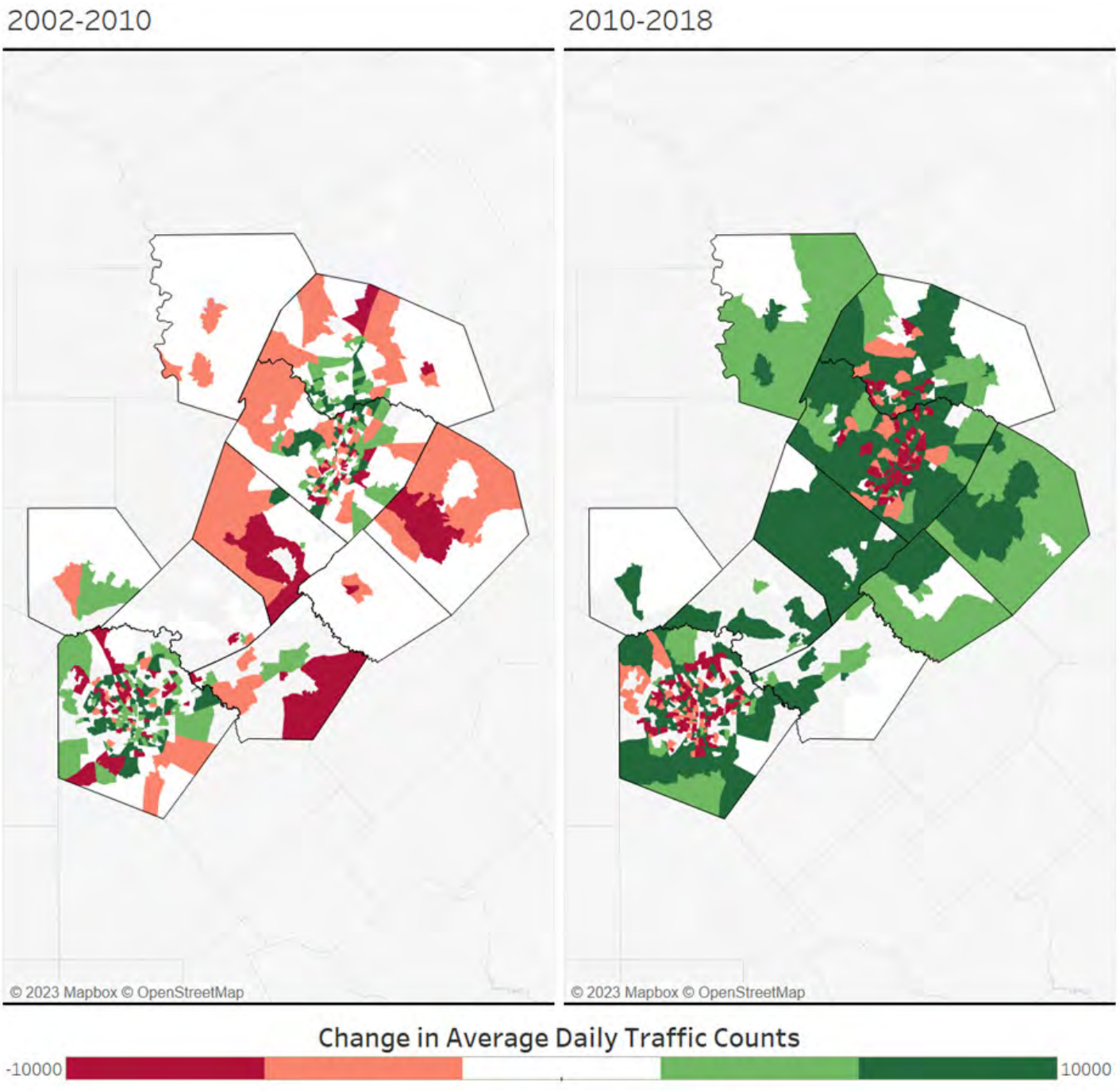


FIGURE 30

Change in job access by auto over time within 30-minute and 60-minute travel time thresholds. Source: LODES, University of Texas.

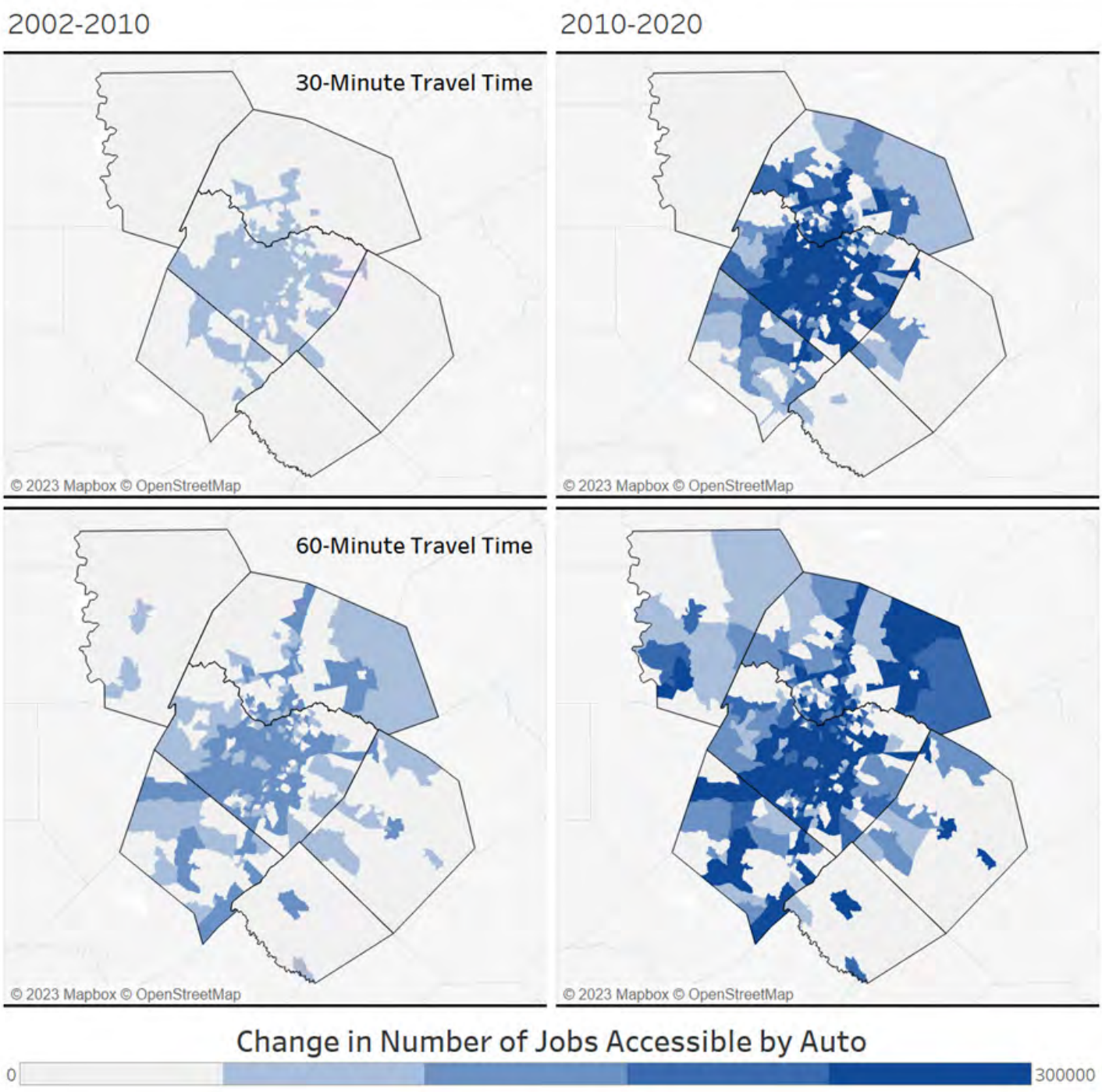


FIGURE 31

Total and four-way intersection clusters. Source: U.S. Census TIGER.

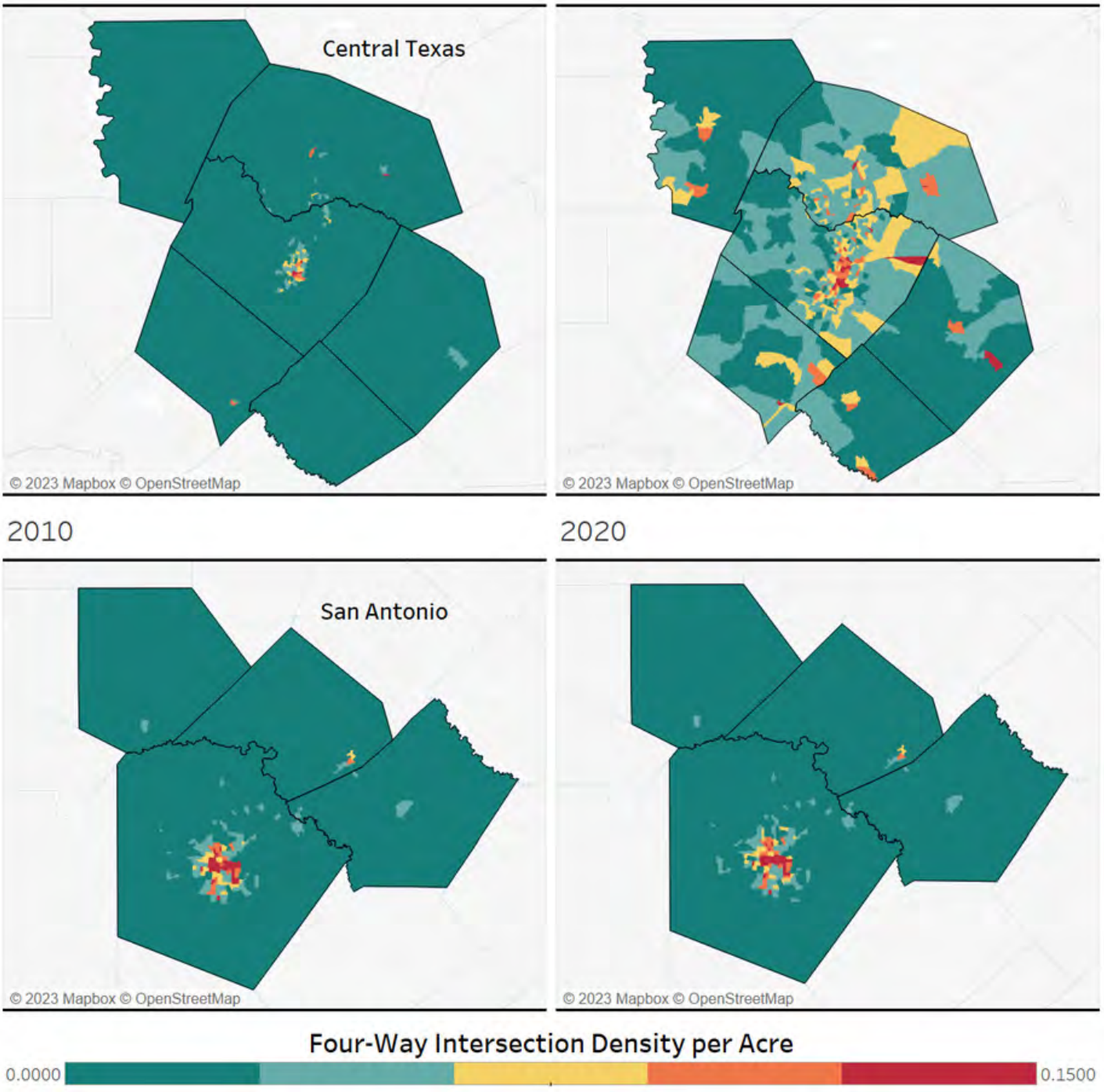


FIGURE 36

Percent of total housing units that comprise the missing-middle. Housing units include townhomes, duplexes, small multifamily, and medium multifamily under 50 units. Source: U.S. Census.

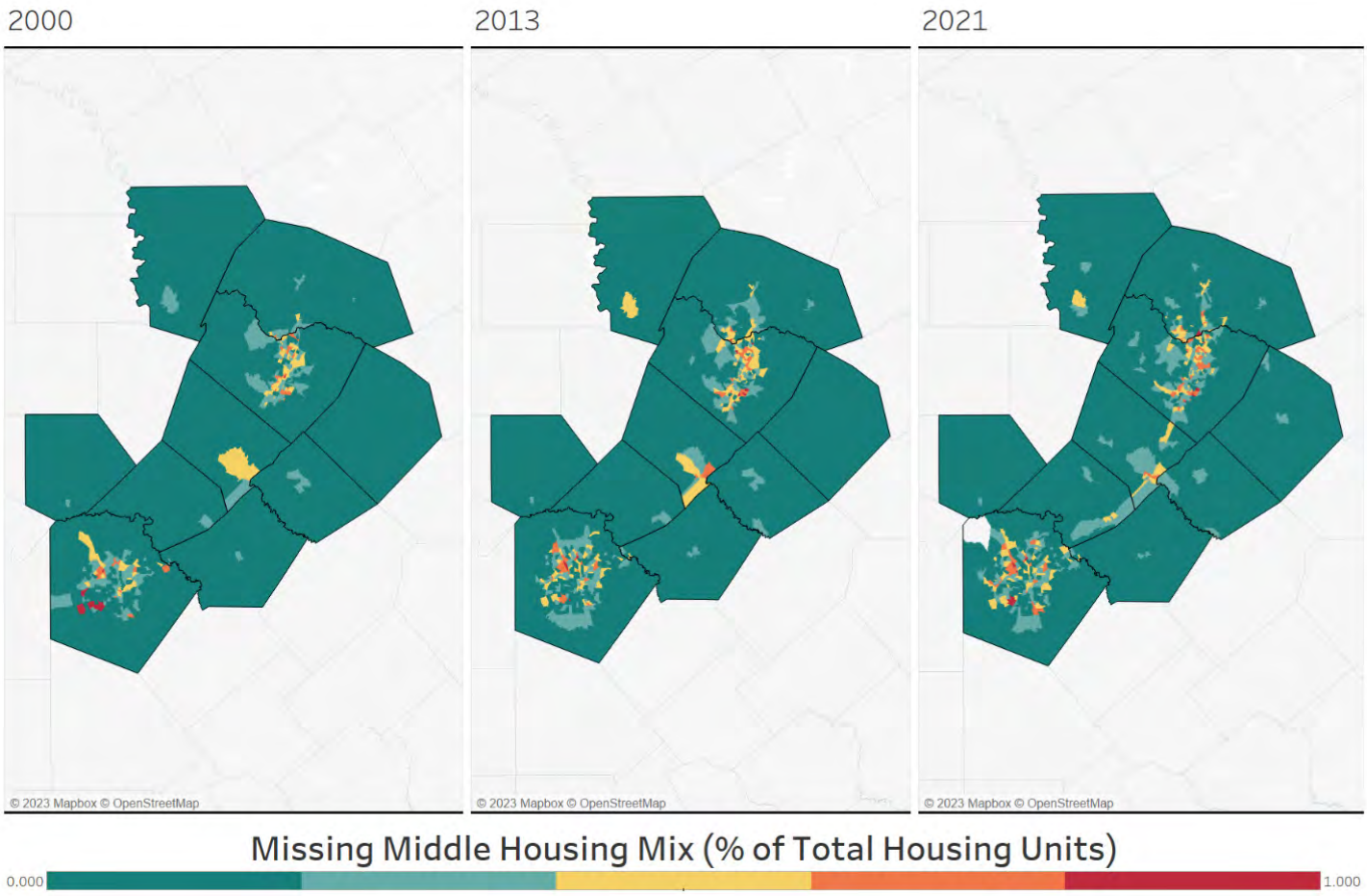


FIGURE 38

Median gross rent adjusted to 2021 dollars. Source: U.S. Census.

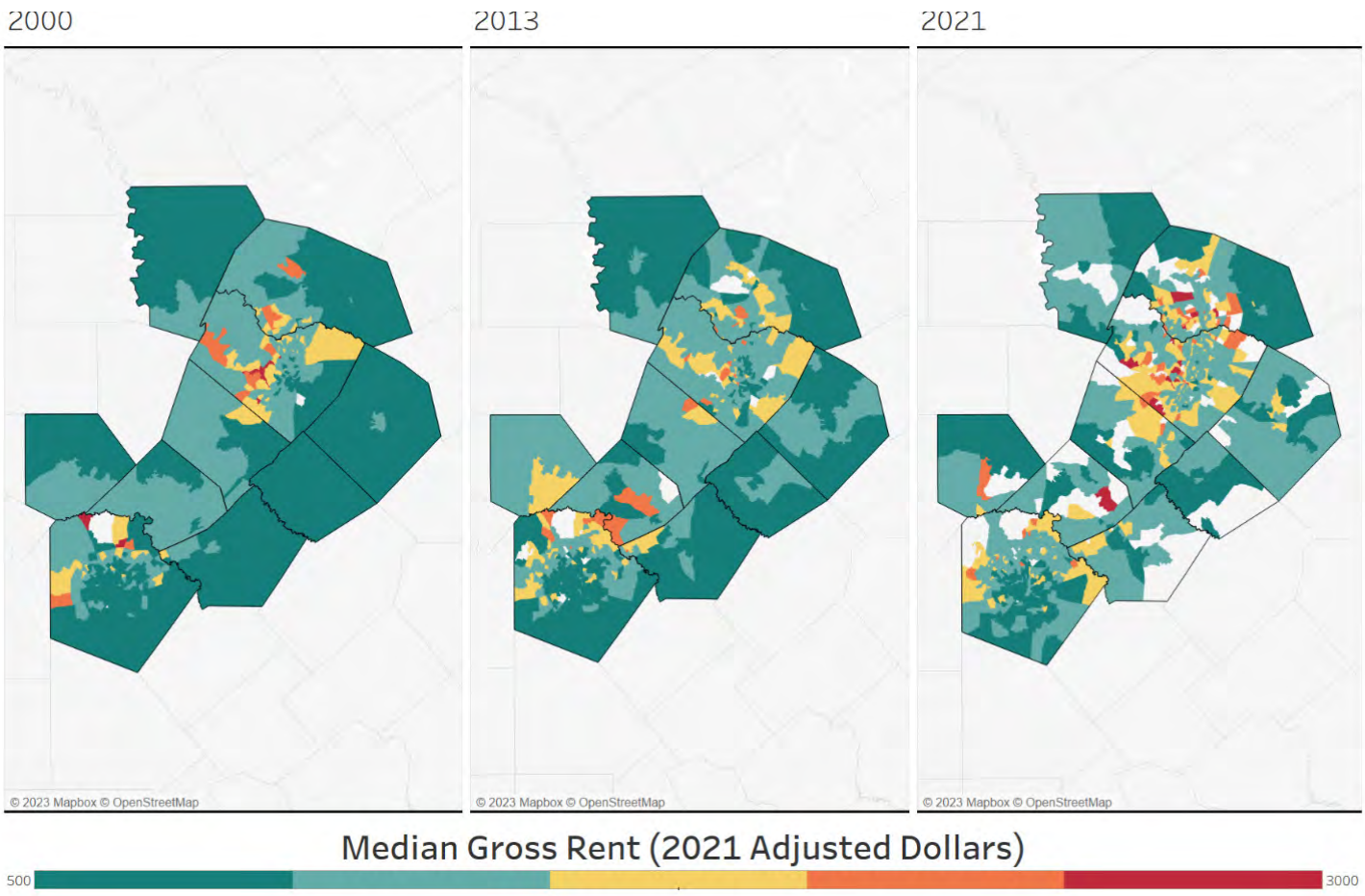


FIGURE 39

Share and change in share of White population (not Hispanic) between 2000 and 2021. Source: U.S. Census.

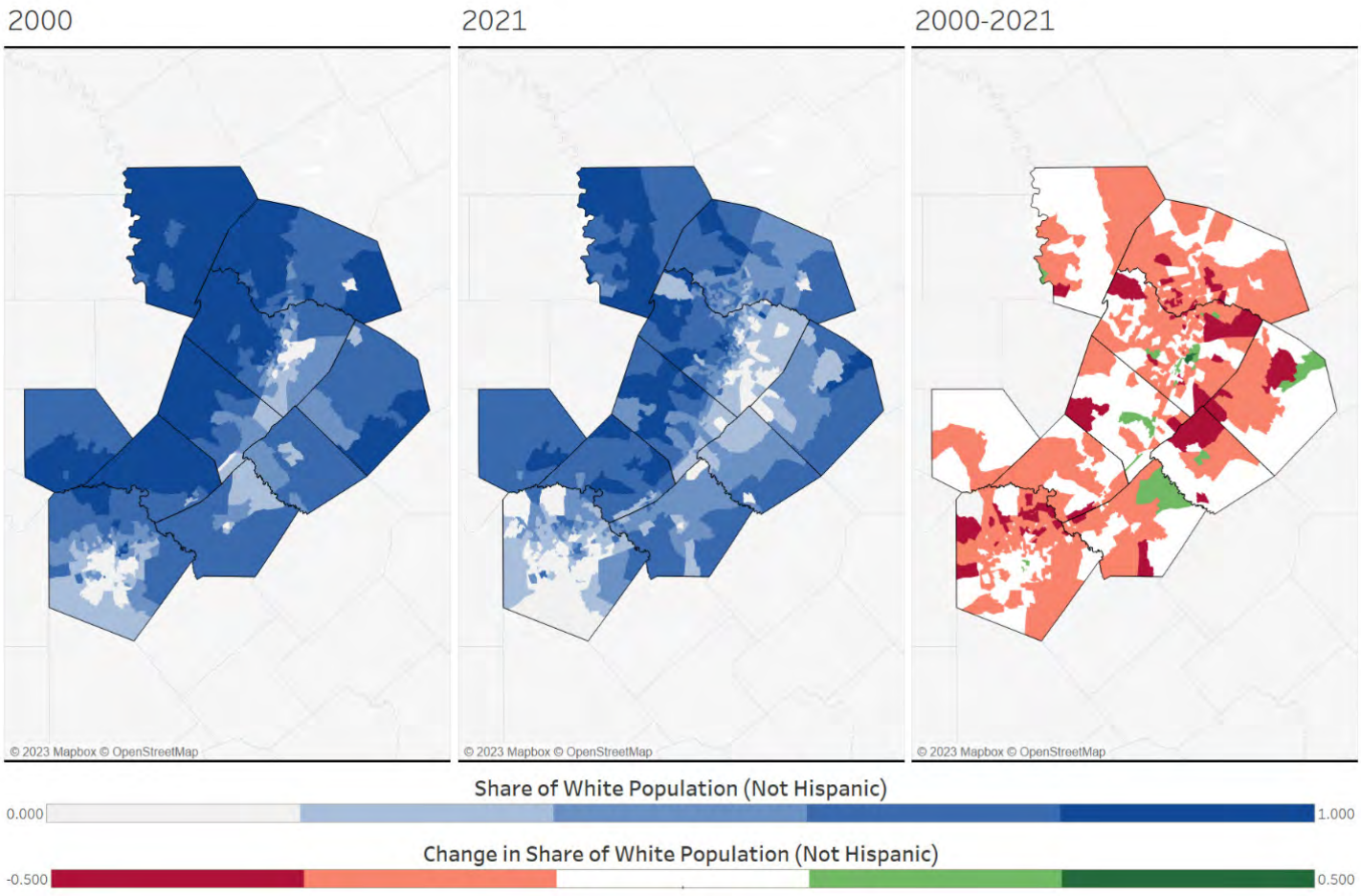


FIGURE 40

Share and change in share of Black population (not Hispanic) between 2000 and 2021.
Source: U.S. Census

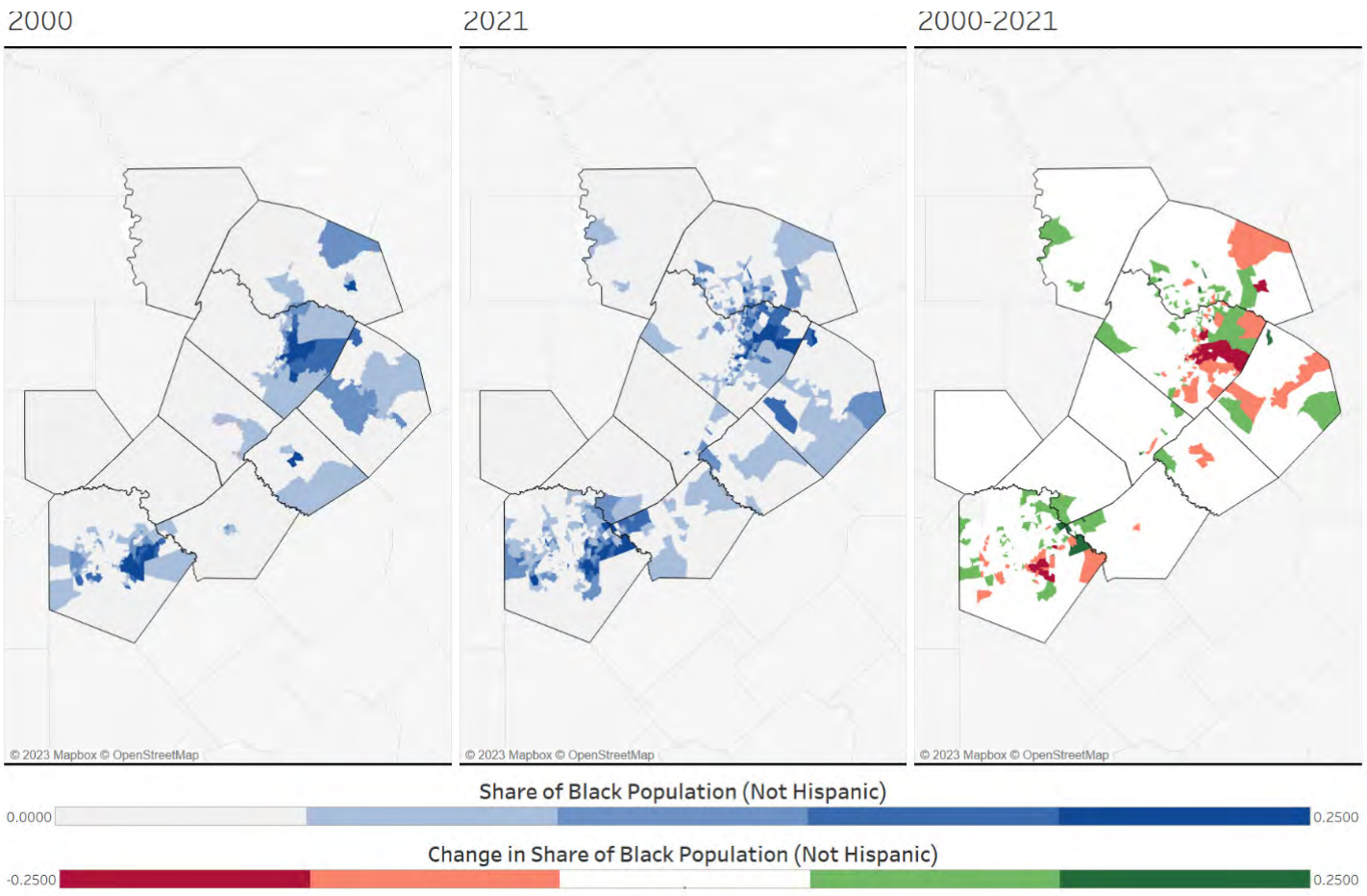


FIGURE 41

Share and change in share of Asian population (not Hispanic) between 2000 and 2021. Source: U.S. Census

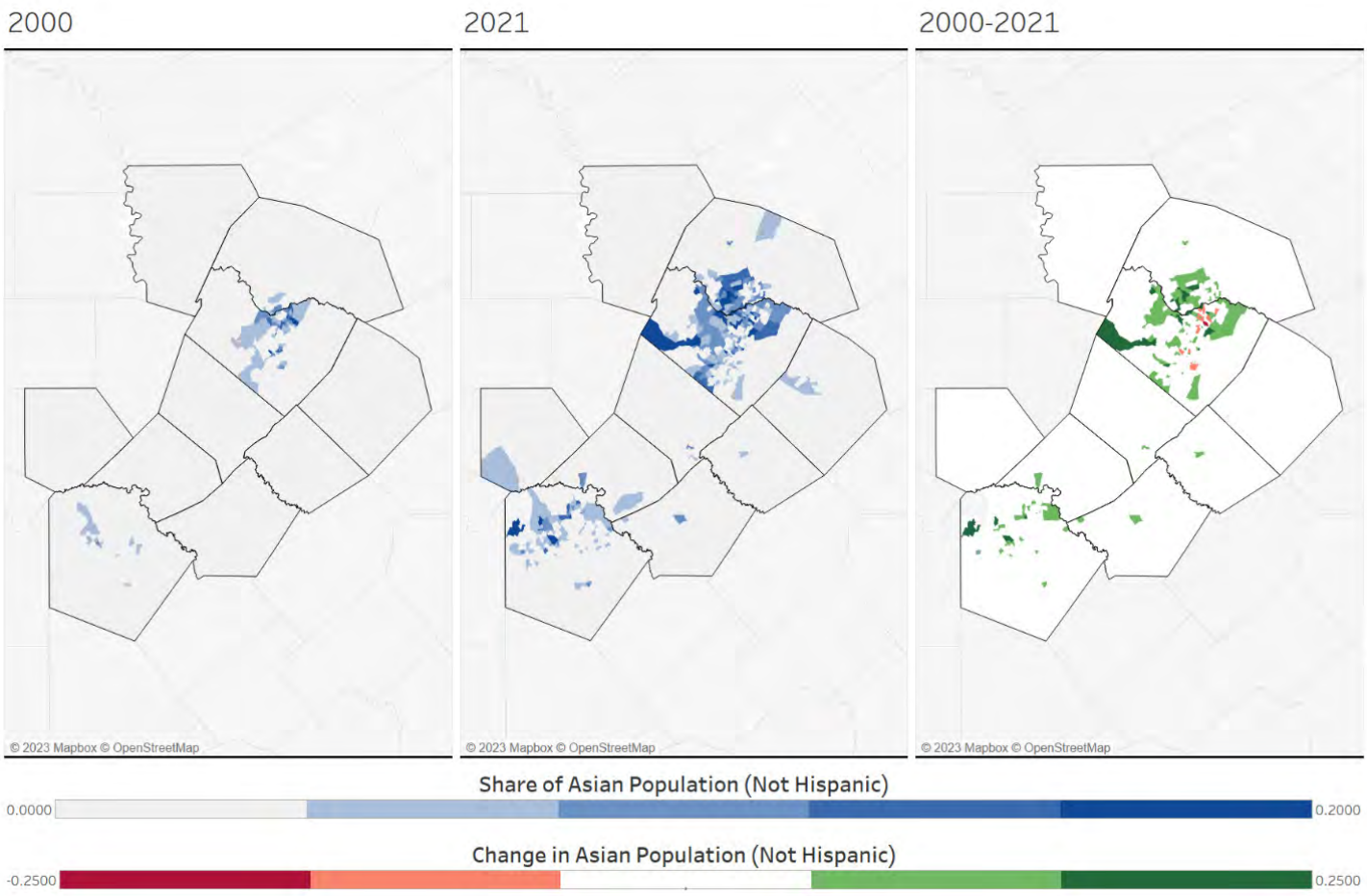


FIGURE 42

Share and change in share of Hispanic population between 2000 and 2021.
Source: U.S. Census

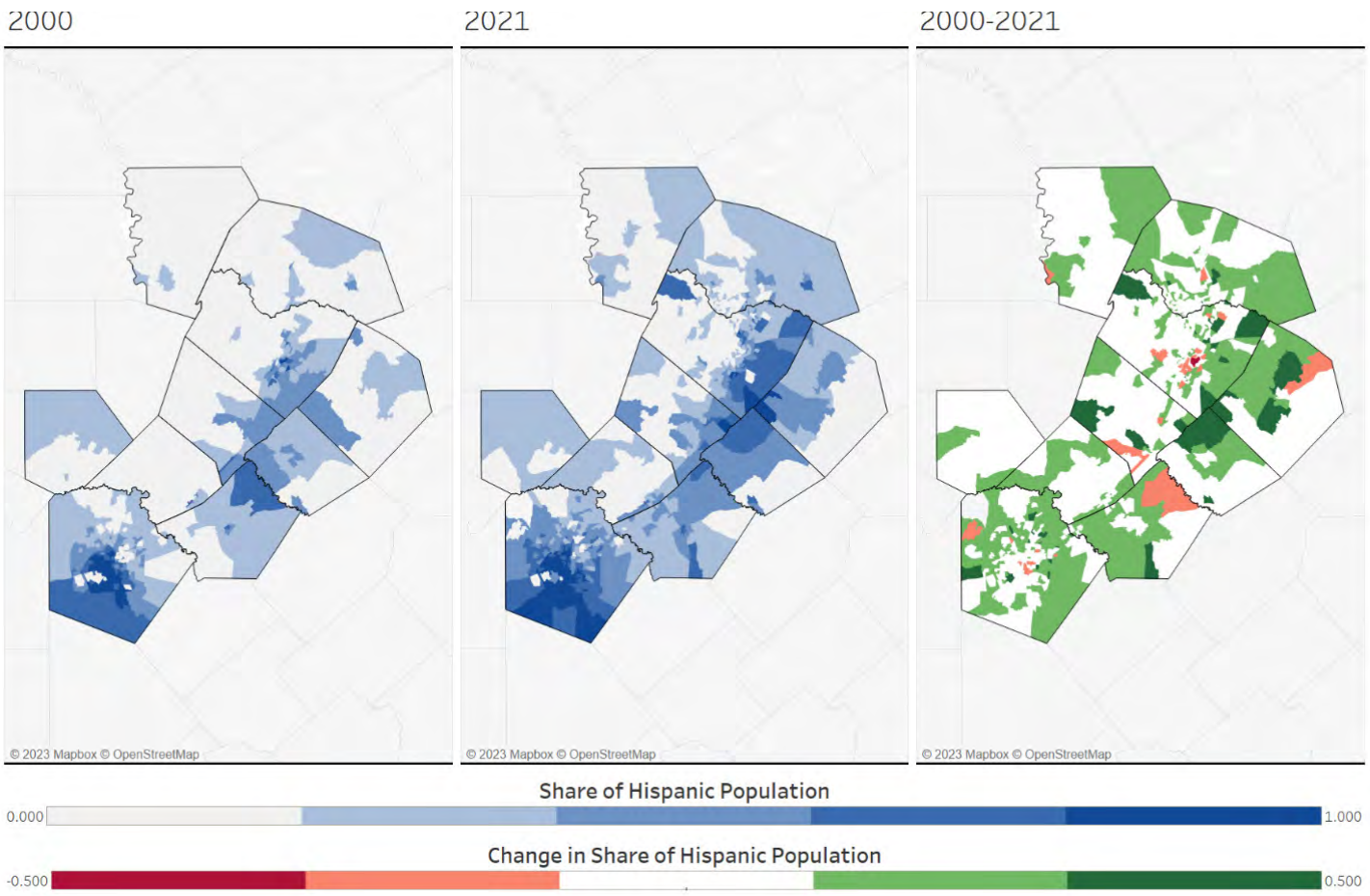


FIGURE 43

Census tracts at-risk for gentrification based on median income, home value, and education level. Source: U.S. Census

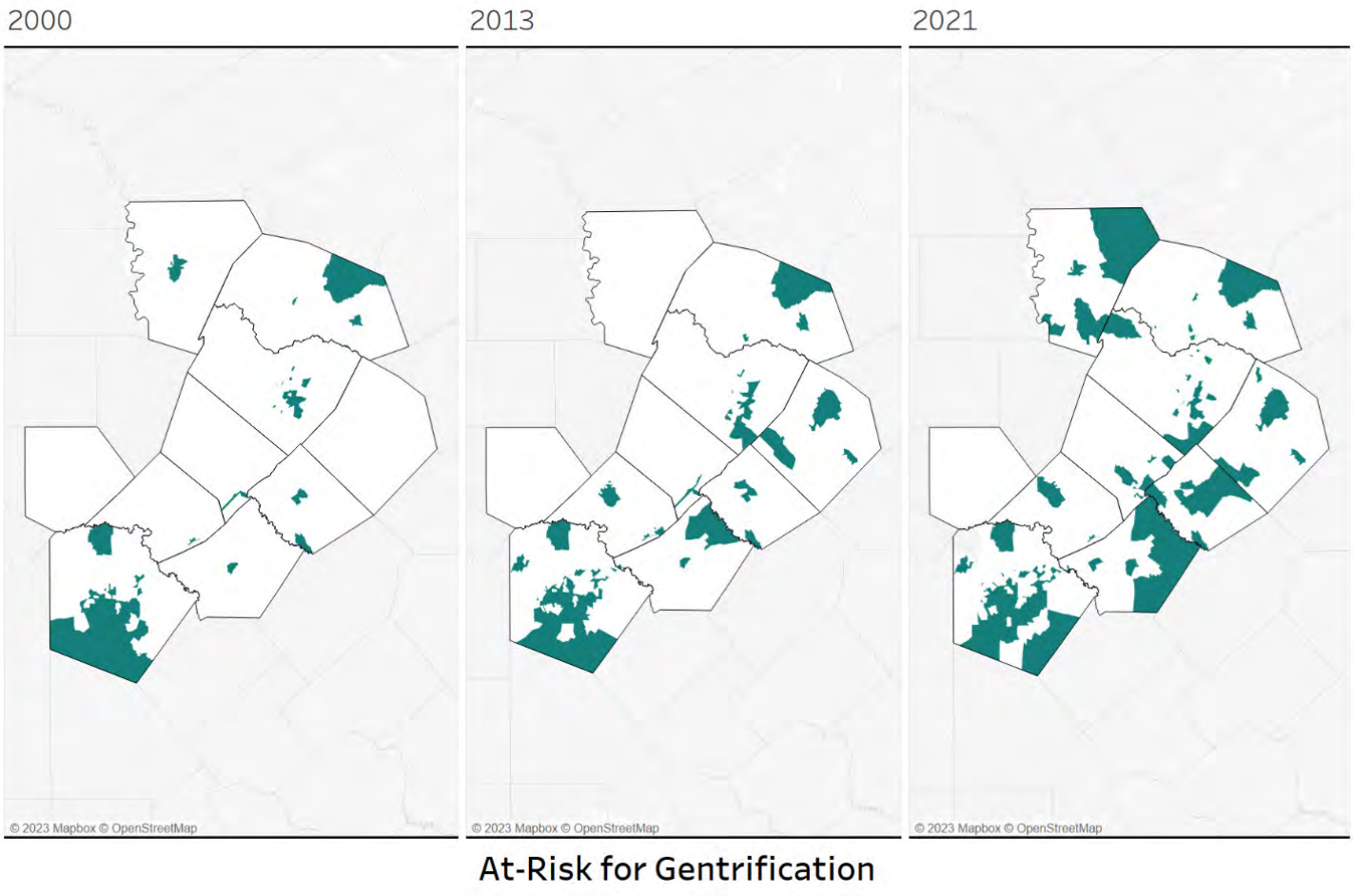


FIGURE 44

Housing and transportation cost index based on average commute times and median gross rent prices adjusted to 2021 Dollars. Source: U.S. Census.

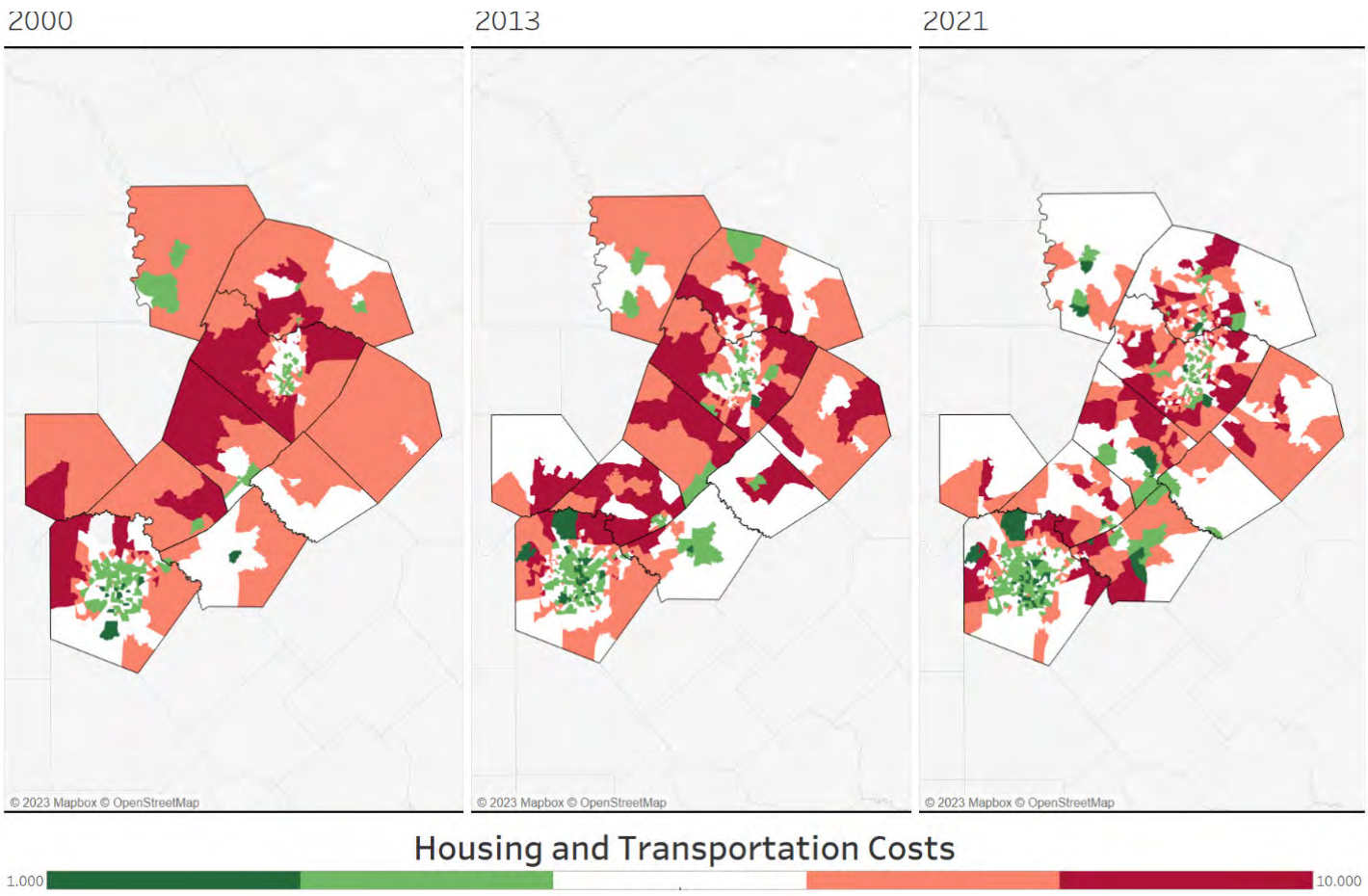
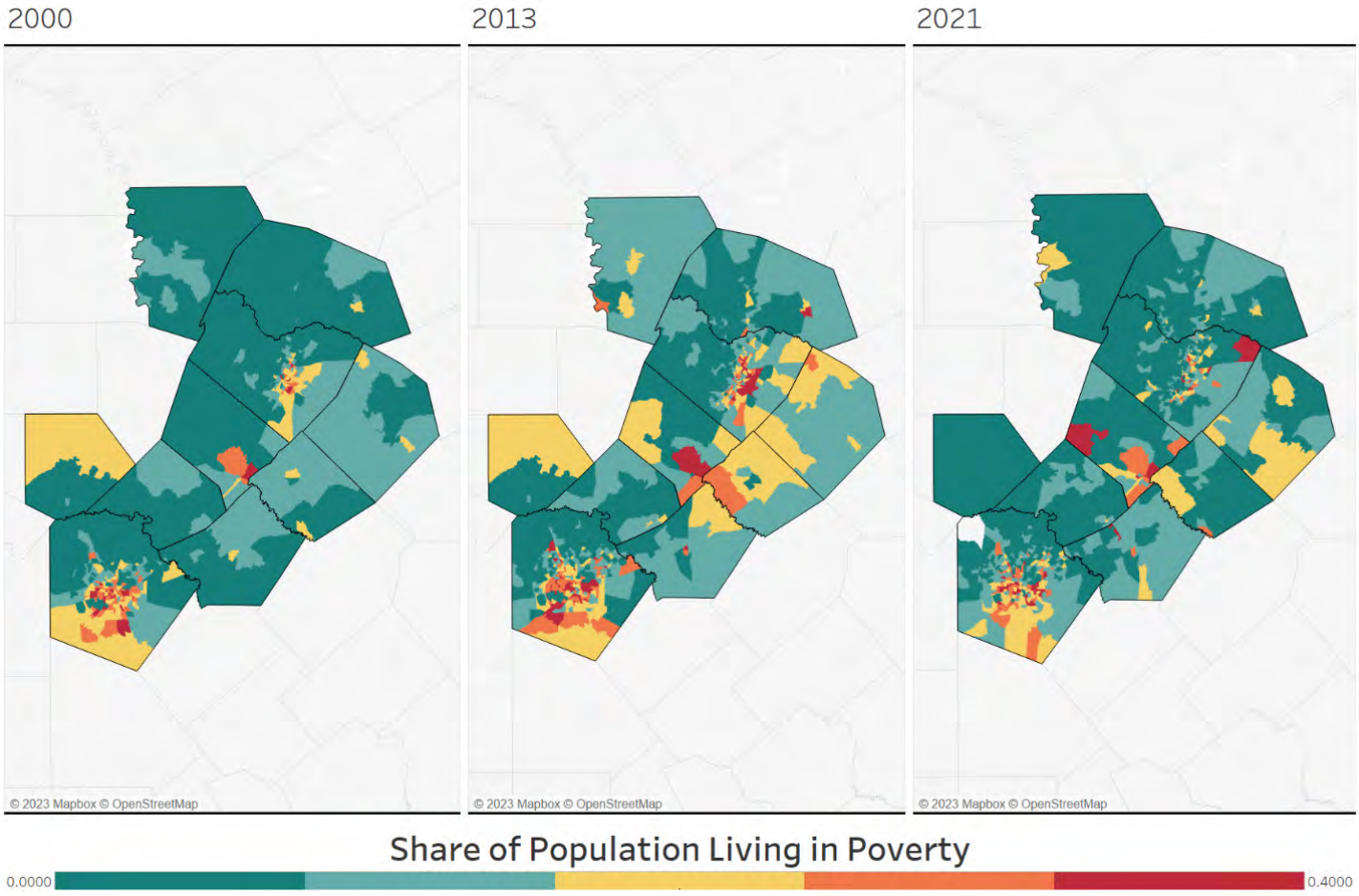


FIGURE 45

Percent of the total population living at or below the 100% federal poverty level.
Source: U.S. Census

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